

**Program & Abstracts**

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# 8<sup>th</sup> Asia-Pacific Travel Health Conference

**Protecting Travelers to and from East Asia**

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**October 20 (wed) ► 23 (sat), 2010**  
**Nara, Japan**

14th Annual Meeting of Japanese Society of Travel and Health



Asia-Pacific Travel Health Society

\*This program and abstract booklet is supported by Tokyo Club



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Dr. Toshimasa Nishiyama, Convenor  
On behalf of the Organizing Committee  
Professor and Chairman, Department of Public Health, Kansai Medical University

Welcome to Nara, a stop on the Silk Road, for the 8th Asia-Pacific Travel Health Conference.

As a former capital of Japan, Nara's historic legacy makes it a fitting place for the conference. Indeed, this year marks the 1300th anniversary of Nara becoming Japan's capital. Nara is also the site of Todaiji Temple, home to the most iconic statue of Buddha, and Horyuji Temple, site of the world's oldest wooden structure.

On a continued basis, the world has become a smaller place. While most of us prefer to show our cultures, this smaller world also includes risks. One of those risks is the widespread disperse of bacteria and viruses. The main purpose of this event is to explore and learn about those risks.

Meanwhile, we hope all of our guests will explore and learn about Japan and its surrounding area. We are sure you will find many fascinating things. And please do not be afraid to ask your hosts about what you experience. After all, this event is meant to be a learning opportunity about many subjects.

We hope you enjoy your stay with us.



Dr. Atsuo Hamada, Co-Convenor  
Professor and Director, Travellers' Medical Center  
Tokyo Medical University Hospital, Tokyo, Japan



Dr. Ritsuro Sakurai, Chief Fundraiser  
Chairman of Nara Seibu Hospital



Dr. Kazunobu Ouchi

On behalf of the Scientific Committee

Professor and Chairman, Department of Pediatrics, Kawasaki Medical School

This is a first fantastic event as never before has an international meeting on travel medicine in Japan. The Asia Pacific Travel Health Society plays a leading and active part in this region.

The conference is based on a stimulating scientific program, focusing on a wide range of travel health issues facing to the Asia Pacific region. This growing and dynamic region in economy and travel rouses our interest in the emerging health problem of travelers, so we highlighted the main theme as Protecting Travelers to form East Asia for the detailed focus on specific regional area and issues.

The conference is sure to provide a wide range of concurrent sessions to help the new comer to become familiar to travel and tropical medicine with excellent reviews in relevant topics by famous experts and also provide experienced practitioners with many symposiums and workshops for searching current issues.

This conference represents a combined initiative of the Asia Pacific Travel Health Society and the Japanese Society of Travel and Health. We believe we will share the best ideas and thinking, and reach the best practice.



Dr. Mikio Kimura

Head, 2nd Department of Internal Medicine,  
Shin-Yamanote Hospital, Japan Anti-Tuberculosis Association





### Organizing Committee

Chair: Toshimasa Nishiyama (Japan)  
Co-Chair: Eli Schwartz (Israel)  
Co-Chair: Atsuo Hamada (Japan)  
Akihiro Furukawa (Japan)  
Hitoshi Koga (Japan)  
Nobuaki Matsuo (Japan)  
Hirofumi Okoshi (Japan)  
Ritsuro Sakurai (Japan)  
Shuzo Kanagawa (Japan)  
Kyoko Namikawa (Japan)  
Hiroshi Inoue (Japan)

### Scientific Committee

Chair: Kazunobu Ouchi (Japan)  
Co-Chair: Santanu Chatterjee (India)  
Co-Chair: Tony Gherardin (Australia)  
Co-Chair: Annelies Wilder-Smith (Singapore)  
Shinji Fukushima (Japan)  
Hideho Gomi (Japan)  
Kosuke Haruki (Japan)  
Takaaki Ishida (Japan)  
Toshihiro Koga (Japan)  
Shigeru Masuyama (Japan)  
Yasuhide Nakamura (Japan)  
Takashi Nakano (Japan)  
Nahoko Sato (Japan)  
Yuki Tada (Japan)  
Shoko Umemura (Japan)  
Hiroshi Watanabe (Japan)  
Fumihiro Yamasawa (Japan)

Advisor Mikio Kimura (Japan)

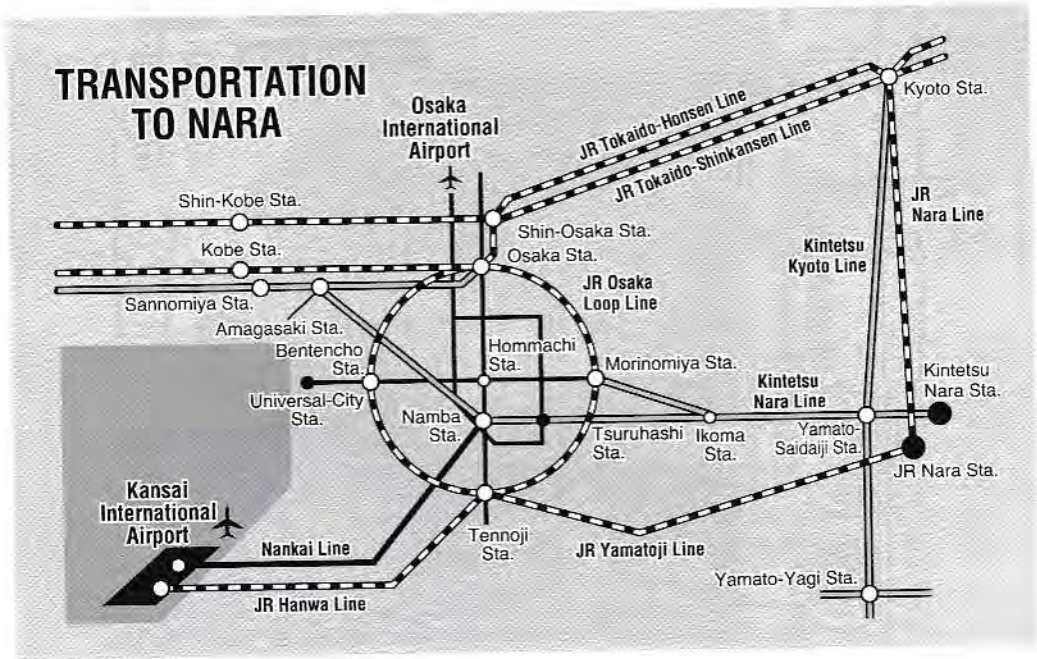
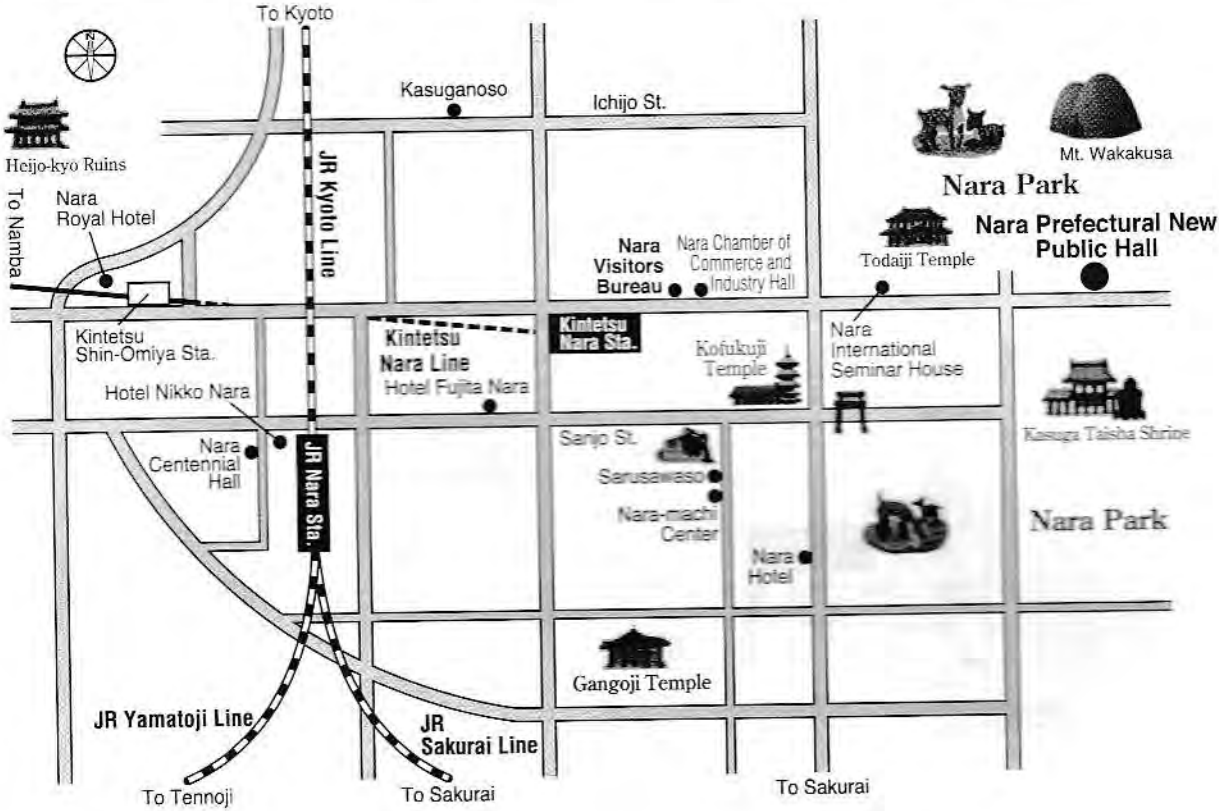
### Secretariat of 8th Asia-Pacific Travel Health Conference

Department of Public Health, Kansai Medical University  
10-15 Fumizono-cho, Moriguchi City, Osaka, Japan 570-8507  
Tel: +81 6 6992 1001 (Ex.2515) Fax: +81 6 6992 5194  
E-mail: sec-8apt@takii.kmu.ac.jp  
Person in charge: Mikiko Yamaguchi



**Nara Prefectural New Public Hall (Nara-ken Shin Kokaido)**

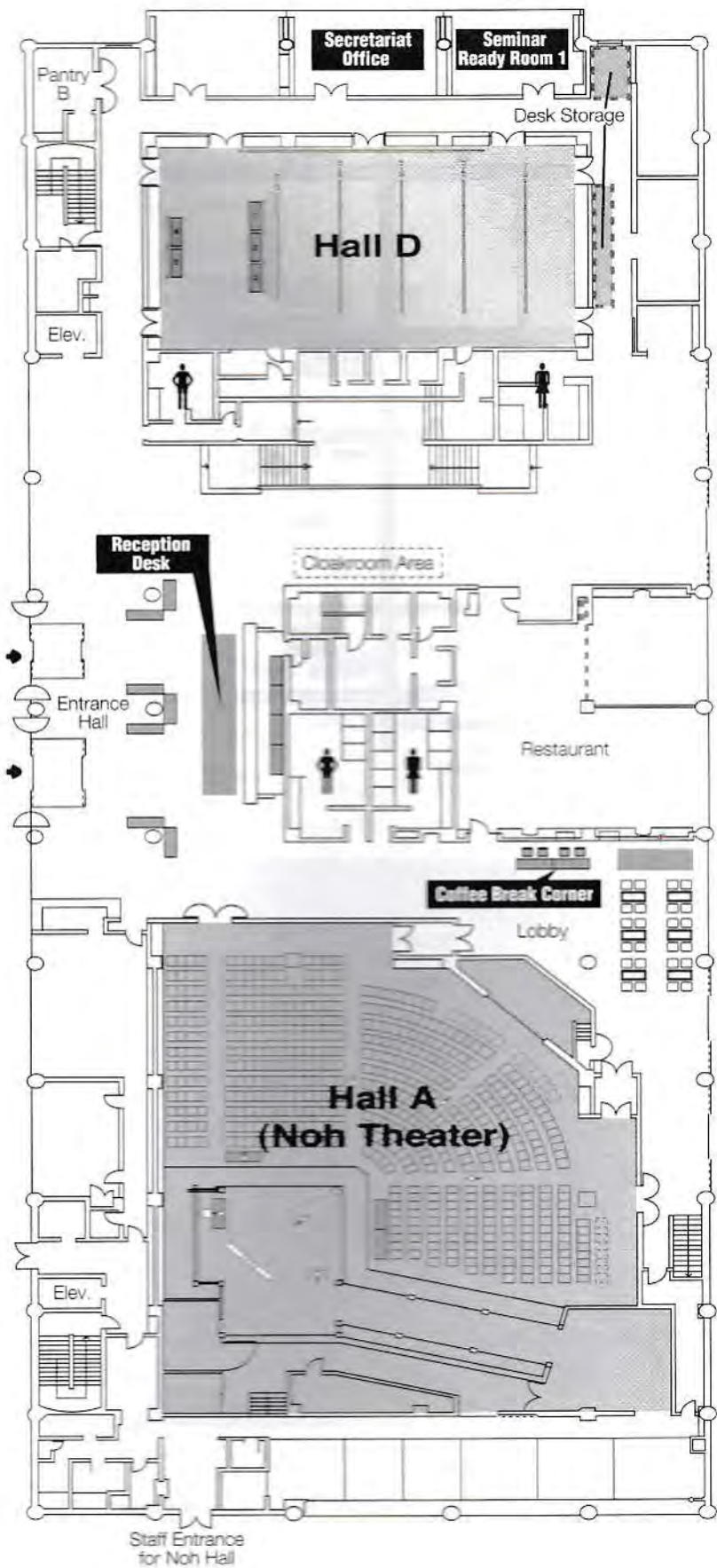
101, Kasugano-cho, Nara City, Nara, Japan 630-8212 Tel: +81 742 27 2630 Fax: +81 742 27 2634



For details on shuttle buses from hotels to stations and Nara Prefectural New Public Hall, please consult the pocket-sized program guide.



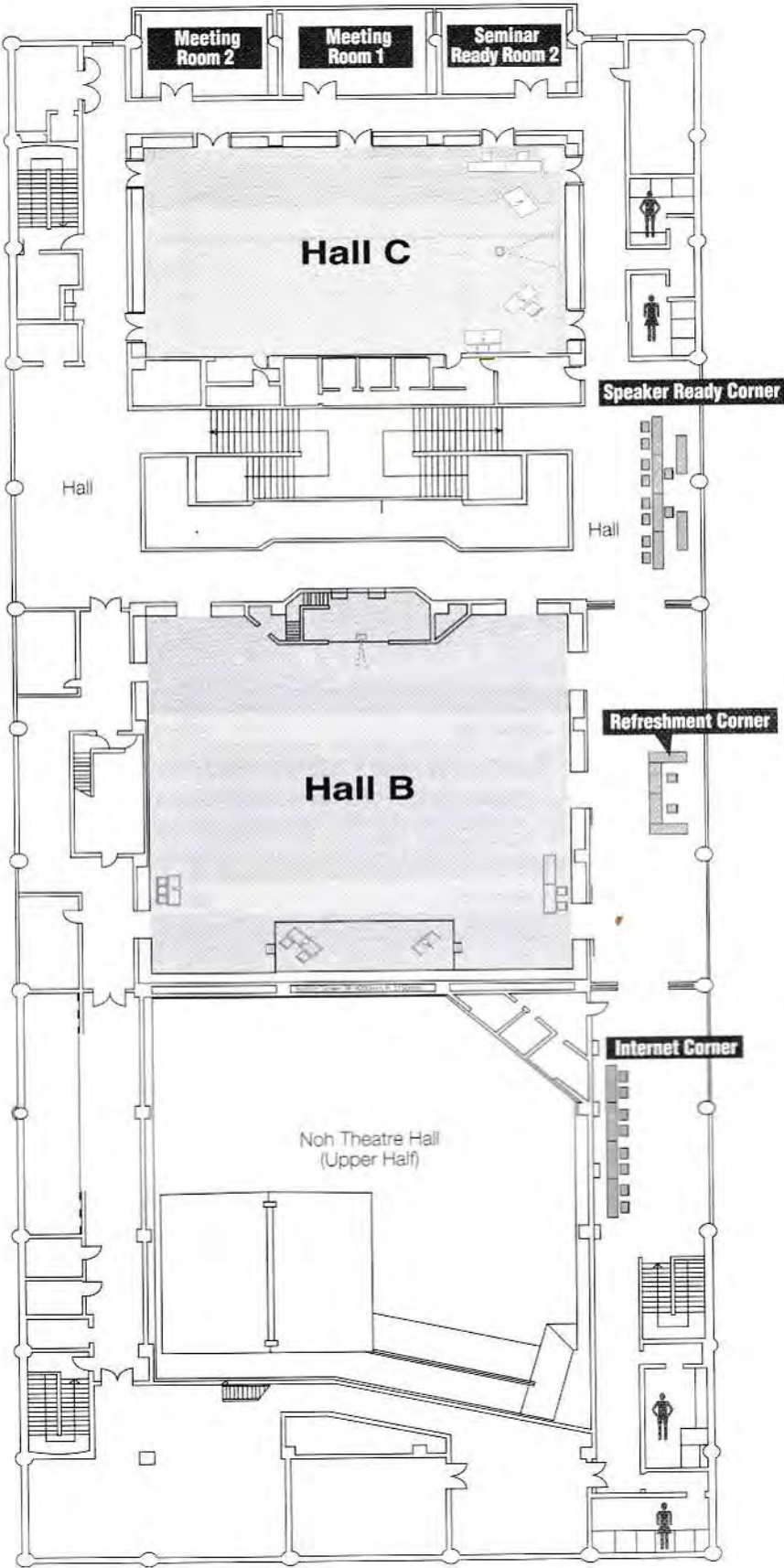
1st Floor







2nd Floor





Thursday, October 21

S=Symposium, W=Workshop, DIF=Destination in Focus, FC=Free Communications, JL=Japanese Language

| Hall A (Noh Theater)                                                                                                                                                           | Hall B                                                                                                                                                                                        | Hall C                                                                                                                                                                                                                   | Hall D             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          | Poster Notice Open |
|                                                                                                                                                                                | 8:15-8:45<br><b>Meet The Experts</b><br>Chair: Mikio Kimura<br>• Eric Caumes                                                                                                                  | 8:15-8:45<br><b>Meet The Experts</b><br>Chair: Hiroshi Watanabe<br>• Hans D. Nothdurft                                                                                                                                   |                    |
| 9:00-10:30<br><b>Plenary 1: Travel Medicine in Asia-Pacific</b><br>Chairs: Eli Schwartz, Toshimasa Nishiyama<br>• Mitsuhiro Ushio<br>• John Clemens<br>• Robert Steffen        |                                                                                                                                                                                               |                                                                                                                                                                                                                          | 8:00-10:30         |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |
| 11:00-12:30<br><b>S1: Malaria</b><br>Chairs: Bradley Connor, Shigeyuki Kano<br>• Srivicha Krudsood<br>• Shigeyuki Kano<br>• Jay Keystone                                       | 11:00-12:30<br><b>FC1</b><br>Chairs: Eyal Meltzer, Kazuto Kanetake<br>• Craig Thornley<br>• Mugen Ujita<br>• Kosuke Hanuki<br>• Yurichi Ohgusa<br>• Minako Jan Yoshikawa<br>• Kazumi Takesako | 11:00-12:30<br><b>JL-S1: Travel Clinic ABC: Principles of Travel Medicine</b><br>Chairs: Hiroshi Watanabe, Shuzo Kanagawa<br>• Toshio Kon (Leo A. T. King)<br>• Hitoshi Kikuchi<br>• Kiyonori Takada<br>• Shuzo Kanagawa | Poster             |
|                                                                                                                                                                                | 12:45-13:45<br><b>Luncheon Seminar 1 (sanofi pasteur)</b><br>Chairs: Victor Carey, Atsuo Hamada<br>• Joseph Torresi • Alain Bouckennooghe<br>• Robert Steffen                                 |                                                                                                                                                                                                                          |                    |
| 14:00-15:30<br><b>S2: Food-Borne Disease in Asia-Pacific</b><br>Chairs: Gopinath B. Nair, Rie Ogiwara<br>• Santanu Chatterjee<br>• Joseph Torresi<br>• Bradley Connor          | 14:00-15:30<br><b>S3: Water-Related Hazards</b><br>Chairs: Eyal Leshem, Hitoshi Koga<br>• Eyal Leshem<br>• Thanasawat Chaiyakul<br>• Hidehiko Domoto                                          | 14:00-15:30<br><b>S4: Medical Emergencies</b><br>Chairs: Hideo Gomi, Hirofumi Okoshi<br>• Toshiki Shimada<br>• Paulo M. Alves<br>• Zenjiro Harima                                                                        | 10:30-17:00        |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |
| 16:00-17:30<br><b>S5: Vector-Borne Infections and Travelers</b><br>Chairs: Srivicha Krudsood, Eiichi Okuzawa<br>• Eli Schwartz<br>• Annelies Wilder-Smith<br>• Martin Haditsch | 16:00-17:30<br><b>W1: Rabies: Modern Prevention of an Ancient Disease</b><br>• Deborah Briggs<br>• Terapong Tantawichien                                                                      | 16:00-17:30<br><b>DIF1: China / Mongolia</b><br>• Zhiyong Liu<br>• Changwei Zhan                                                                                                                                         | Exhibition         |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |
|                                                                                                                                                                                | 17:45-18:30<br><b>Evening Seminar 1 (MSD K.K.)</b><br>Chair: Seiichi Nanni<br>• Randall N. Hyer                                                                                               | 17:45-18:30<br><b>Evening Seminar 2 The Chemo-Sero-Therapeutic Research Institute (KAKETSUKEN)</b><br>Chair: Akira Hashizume<br>• Taro Kamigaki                                                                          | 9:00-17:00         |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |
|                                                                                                                                                                                |                                                                                                                                                                                               |                                                                                                                                                                                                                          |                    |





Friday, October 22

S=Symposium, W=Workshop, DIF=Destination in Focus, FC=Free Communications, JL=Japanese Language

| Hall A (Noh Theater)                                                                                                                              | Hall B                                                                                                                                                                 | Hall C                                                                                                                                                                       | Hall D |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                                                              |        |
| 8:15-8:45                                                                                                                                         |                                                                                                                                                                        |                                                                                                                                                                              |        |
| Meet The History<br>Chair: Nobuaki Matsuo<br>• Tomo Ishimura                                                                                      |                                                                                                                                                                        |                                                                                                                                                                              |        |
| 9:00-10:30                                                                                                                                        |                                                                                                                                                                        |                                                                                                                                                                              |        |
| Plenary 2: Battling Old Foes<br>Chairs: Santanu Chatterjee, Akira Ishii<br>• Alan Magill<br>• Gopinath B. Nair<br>• John Simon                    |                                                                                                                                                                        |                                                                                                                                                                              |        |
|                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                                                              |        |
| 11:00-12:30                                                                                                                                       | 11:00-12:30                                                                                                                                                            | 11:00-12:30                                                                                                                                                                  |        |
| S6: Eosinophilia in Travelers<br>Chairs: Frank von Sonnenburg, Kosuke Haruki<br>• Haruhiko Maruyama<br>• Pornthep Chanthavanich<br>• Eyal Meltzer | S7: Nursing Professionalism<br>Chairs: Sheila C.K. Hall, Shoko Umemura<br>• Hiroko Sakaguchi<br>• Sheila C.K. Hall<br>• Irrngard Bauer                                 | FC2<br>Chairs: Martin Haditsch, Kozo Kawasaki<br>• Michael Wirtzberger<br>• Shieh Ying-tua<br>• Masamune Kuno<br>• Yoshikura Haraguchi<br>• George Okuda<br>• Airi Takashima |        |
|                                                                                                                                                   | 12:45-13:45                                                                                                                                                            |                                                                                                                                                                              |        |
|                                                                                                                                                   | Luncheon Seminar 2<br>(GlaxoSmithKline K.K.)<br>Chair: Mikio Kimura<br>• Jay Keystone • Herwig Kollaritsch                                                             |                                                                                                                                                                              |        |
| 14:00-15:30                                                                                                                                       | 14:00-15:30                                                                                                                                                            | 14:00-15:30                                                                                                                                                                  |        |
| S8: Travel Vaccinations<br>Chairs: Anthony Gherardin, Takashi Nakano<br>• Anthony Gherardin<br>• Frank von Sonnenburg<br>• Mikio Kimura           | S9: Respiratory Disease<br>Chairs: John Simon, Hideki Yamamoto<br>• Wirongrong Chierakul<br>• Poh-Lian Lim<br>• Hans D. Nothdurft                                      | S10: Health Problems in Altitude<br>Chairs: Qadar Pasha, Shigeru Masuyama<br>• Masayuki Hanaoka<br>• Qadar Pasha<br>• Ri-Li Ge                                               |        |
|                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                                                              |        |
| 16:00-17:30                                                                                                                                       | 16:00-17:30                                                                                                                                                            | 16:00-17:30                                                                                                                                                                  |        |
| W2: Dermatology in Travel Medicine<br>• Eric Caumes<br>• Eli Schwartz                                                                             | FC3<br>Chairs: Joseph Torresi, Kei Kasahara<br>• Moritoshi Iwagami<br>• Atsushi Kinoshita<br>• Akiko Hiramoto<br>• Natsuko Takui<br>• Tatsuya Fujii<br>• Yuji Ishikawa | DIF2: Indonesia<br>• Levina Pakasi<br>• Anthony Gherardin                                                                                                                    |        |
|                                                                                                                                                   | 17:45-18:30                                                                                                                                                            | 17:45-18:30                                                                                                                                                                  |        |
|                                                                                                                                                   | Evening Seminar 3<br>(Novartis Pharma K.K.)<br>Chair: Mitsuhiro Ushio<br>• Deborah Briggs                                                                              | Evening Seminar 4<br>(Mitsubishi Tanabe Pharma Corporation)<br>Chair: Takashi Nakano<br>• Tomohiko Takasaki                                                                  |        |
|                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                                                              |        |
|                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                                                              |        |



Saturday, October 23

S=Symposium, W=Workshop, DIF=Destination in Focus, FC=Free Communications, JL=Japanese Language

| Hall A (Noh Theater) |                                                                                                                                                                                                               | Hall B      |                                                                                                                                                               | Hall C      |                                                                                                                                                                                                                 | Hall D                               |                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|
| 8:00                 |                                                                                                                                                                                                               | 8:15-8:45   | <b>Meet The Experts</b><br>Chair: Atsuo Hamada<br>• Robert Steffen                                                                                            | 8:15-8:45   | <b>Meet The Experts</b><br>Chair: Shigeyuki Kano<br>• Alan Magill                                                                                                                                               |                                      |                                 |
| 9:00-10:30           | <b>Plenary 3:<br/>Emerging Infectious Disease</b><br>Chairs: Annelies Wilder-Smith, Keiichi Mikasa<br>• Duane Gubler<br>• Poh-Lian Lim<br>• Nobuhiko Okabe                                                    |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 | <b>Poster</b><br>8:00-10:30          | <b>Exhibition</b><br>9:00-14:00 |
| 10:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 | <b>Poster Session</b><br>10:30-11:30 |                                 |
| 11:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |
| 11:30-13:00          | <b>S11: Medical Interpreting<br/>in Multicultural Society</b><br>Chairs: Som-arch Wongkhomthong,<br>Yasuhide Nakamura<br>• Yasuhide Nakamura • Cheng-Shu Yang<br>• Nobuaki Matsuo<br>• Som-arch Wongkhomthong | 11:30-13:00 | <b>S12: HIV and Sexually<br/>Transmitted Infections</b><br>Chairs: Karin Leder, Kazuo Miyamura<br>• Taro Yamamoto<br>• Karin Leder<br>• Annelies Wilder-Smith | 11:30-13:00 | <b>JL-S2: Corporate Traveler</b><br>Chairs: Satoshi Hagiwara, Toshihiro Koga<br>• Koichi Kawano<br>• Takamitsu Oikawa<br>• Bungo Uchino                                                                         |                                      |                                 |
| 13:00                |                                                                                                                                                                                                               | 13:15-14:15 | <b>Luncheon Seminar 3<br/>(Novartis Pharma K.K.)</b><br>Chair: Kazumasa Uchi<br>• Robert Steffen<br>• Bradley Connor                                          |             |                                                                                                                                                                                                                 |                                      |                                 |
| 14:00                |                                                                                                                                                                                                               | 14:30-15:15 | <b>DIF3: Thailand</b><br>• Watcharapong Piyachaiwong<br>• Terapong Tantawichien                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |
| 14:30-15:15          | <b>APTHS General Assembly</b>                                                                                                                                                                                 |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |
| 15:00                | <b>15:15-15:50 CLOSING CEREMONY</b>                                                                                                                                                                           |             |                                                                                                                                                               |             | <b>Doors Open</b>                                                                                                                                                                                               |                                      |                                 |
| 16:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               | 16:00-18:30 | <b>An Open Seminar in Japanese<br/>– in Commemoration of the 8th<br/>Asia-Pacific Travel Health<br/>Conference –<br/>“For Worry-free Overseas Travel”</b><br><br>第8回アジア太平洋渡航医学会<br>開催記念公開講座<br>「安心して海外旅行に行くために」 |                                      |                                 |
| 17:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |
| 18:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |
| 19:00                |                                                                                                                                                                                                               |             |                                                                                                                                                               |             |                                                                                                                                                                                                                 |                                      |                                 |





## ~ Opening Ceremony ~

Wednesday, October 20  
Hall A (Noh Theater)  
16:00 - 17:00

Master of Ceremony: Hitoshi Koga (Japan)

|               |                                                                                                                                                                                                  |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15:30         | <b>Doors Open</b>                                                                                                                                                                                |
| 16:00 - 16:20 | <b>Opening Remarks</b><br>-Toshimasa Nishiyama, Organizing Committee Chair (Japan)                                                                                                               |
|               | <b>Remarks by Guest Speakers</b><br>-The Honorable Shogo Arai, Governor of Nara Prefecture<br>-His Excellency Tetsuya Endo, Ambassador of Japan<br>-Dozen Ueno, Abbot Emeritus at Todaiji Temple |
| 16:25 - 17:00 | <b>Okura-style Kyogen Performance: SUSUGIGAWA</b><br>Sengoro Shigeyama, Shigeru Shigeyama, Yasushi Maruishi, Moriynki Yamashita                                                                  |

## ~ Welcome Get-Together ~

The Welcome Get-Together will take place immediately following the Opening Ceremony  
from 17:00 - 19:00 at the Garden  
(or in the second-floor Hall B in the event of rain).

Master of Ceremony: Takaaki Ishida (Japan)

## ~ Closing Ceremony ~

Saturday, October 23  
Hall A (Noh Theater)  
15:15 - 15:50

Master of Ceremony: Hitoshi Koga (Japan)

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15:15 - 15:50 | <b>Remarks by Organizing Committee Representative</b><br><b>Closing Remarks</b><br>-Toshimasa Nishiyama, Organizing Committee Chair<br><b>Announcement of Excellent Poster Presenter Award</b><br><b>Announcement of Excellent Oral Presenter Award</b><br><b>Remarks by Asia-Pacific Travel Health Society</b><br>-Eli Schwartz, President<br><b>Remarks by The International Society of Travel Medicine</b><br>-Alan Magill, President<br><b>Remarks by 9th Asia-Pacific Travel Health Conference Representative</b><br>-President-Elect, Annelies Wilder-Smith |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|





## To All Participants

### Registration

#### 1. Location

1st floor of Nara Prefectural New Public Hall

#### 2. Registration Hours

|                   |               |
|-------------------|---------------|
| October 20 (Wed.) | 13:00 - 19:00 |
| October 21 (Thu.) | 08:30 - 17:00 |
| October 22 (Fri.) | 08:00 - 17:00 |
| October 23 (Sat.) | 08:00 - 14:30 |

#### 3. Registration Fees

|                          | <b>Late Registration</b><br>From October 1st and On- site |
|--------------------------|-----------------------------------------------------------|
| Medical Doctor / Dentist | JPY 40,000                                                |
| Non-Doctor *             | JPY 35,000                                                |
| Student                  | JPY 25,000                                                |
| Accompanying Person      | JPY 15,000                                                |

\* Non-Doctor: including nurse, pharmacist, medical technologist, company representative, medical interpreter/translator, etc.

Credit card payment will be available. (VISA, AMEX, JCB, UC, DC, Diners)

#### Cancellation

No cancellation/No refund after your registration.

If you would like to cancel your registration, please contact us with a Registration Inquiry Form through our online registration.

### Name Tag

Please wear your name tag at all times during the conference.

### Program & Abstracts

Additional Program & Abstracts booklets are available (for a nominal fee of ¥2000) at the reception desk.

### Certificate of Attendance

Individual certificates of attendance are included in the delegate conference bag.

### Message board

A message board will be available in front of reception desk.

### Cloakroom Area

1st floor cloakroom area will be available.

|                   |               |
|-------------------|---------------|
| October 20 (Wed.) | 13:00 - 20:00 |
| October 21 (Thu.) | 08:00 - 19:00 |
| October 22 (Fri.) | 08:00 - 19:00 |
| October 23 (Sat.) | 08:00 - 16:00 |



Meal Service

Lunch will be provided at the Luncheon Seminars in the form of lunch boxes, which will be handed out. Whilst efforts will be made to provide sufficient numbers of lunch boxes, please understand that there may not be enough lunch boxes to go around. If this does occur, we ask for your cooperation in organizing your own lunch at one of the nearby food outlets.

The time and place where lunch boxes will be handed out are as follows:

|                                              |                   |               |        |
|----------------------------------------------|-------------------|---------------|--------|
| Luncheon Seminar 1<br>(sanofi pasteur)       | October 21 (Thu.) | 12:45 - 13:45 | Hall B |
| Luncheon Seminar 2<br>(GlaxoSmithKline K.K.) | October 22 (Fri.) | 12:45 - 13:45 |        |
| Luncheon Seminar 3<br>(Novartis Pharma K.K.) | October 23 (Sat.) | 13:15 - 14:15 |        |

Internet Corner

An Internet Corner is available near Hall B.

Two computer terminals are available, and you are free to bring your own computer to connect via wireless LAN.

|                   |               |
|-------------------|---------------|
| October 21 (Thu.) | 09:00 - 17:00 |
| October 22 (Fri.) | 09:00 - 17:00 |
| October 23 (Sat.) | 09:00 - 14:00 |

Coffee Break Corner

A Coffee Break Corner is available in front of Hall A (Noh Theater).

|                   |                               |
|-------------------|-------------------------------|
| October 21 (Thu.) | 10:30 - 11:00 / 15:30 - 16:00 |
| October 22 (Fri.) | 10:30 - 11:00 / 15:30 - 16:00 |
| October 23 (Sat.) | 10:30 - 11:30                 |

Refreshment Corner

Drinks are available at the Refreshment Corner in front of Hall B.

|                   |               |
|-------------------|---------------|
| October 21 (Thu.) | 09:00 - 17:00 |
| October 22 (Fri.) | 09:00 - 17:00 |
| October 23 (Sat.) | 09:00 - 14:00 |

Smoking

Smoking is prohibited in all public areas of the venue.

Cellular Phones

Please switch off your cellular phones or set them to silent mode while you are attending the conference.



## Presentation Guidelines

### Guidelines for Chairs

1. Please be seated in the Next Chairs' Seats located at the front right of your session room at least 15 minutes prior to your session starts.
2. We request for your cooperation to ensure that your session proceeds according to the prescribed time schedule.
  - Free Communication Sessions: Each presentation will be up to 10-minutes in length with 5 minutes for questions and discussion.
3. Please note those speaking in Hall A (Noh Theater) must wear slippers on the stage. (We will have some available for you.) Please remove your shoes and put on slippers first, before setting foot on the stage.

### Guidelines for Speakers

1. Allocated time for presentations
  - Free Communication Sessions: Each presentation will be up to 10-minutes in length with 5 minutes for questions and discussion.
  - Plenary Lectures and Symposia: Please follow the instructions from the Chairs.
  - Excellent free communication presentations will be honored at the Closing Ceremony from 15:15 on October 23.
2. Speaker Ready Corner
  - 1) Please make sure you have finished registering your presentation data at the Speaker Ready Corner at least one hour (for early morning presentations 40 minutes) prior to the commencement of your allocated speaking time.
  - 2) The Speaker Ready Corner is located on the second floor.

| Date           | Hour          |
|----------------|---------------|
| Oct. 20 (Wed.) | 13:00 - 18:00 |
| Oct. 21 (Thu.) | 08:00 - 18:00 |
| Oct. 22 (Fri.) | 08:00 - 18:00 |
| Oct. 23 (Sat.) | 08:00 - 14:00 |
- 3) Please be seated in the Next Speakers' Seats located at the front right of your session room at least 15 minutes prior to your session starts.
3. Data of your PC Presentation
  - 1) Only PC-based presentations will be allowed and a LCD projector will be provided at the meeting venue. Please note that there are no other projectors (such as 35mm slide projectors) at the venue.
  - 2) The LCD projector resolution is XGA (1,024 x 768) with single screen projection. Please take this into account when designing your presentation.
  - 3) Your presentation file name should be named as <Session Number><Name>.ppt.
  - 4) Please do not include sound effects in audio tracks.





4. Speakers who will give presentations in Hall A (Noh Theater)

Please note those speaking in Hall A (Noh Theater) must wear slippers on the stage. (We will have some available for you.) Please remove your shoes and put on slippers first, before setting foot on the stage.

5. PC Facilities

There are two ways to deliver your presentation.

1) If you use the Secretariat's PCs:

- Speakers wishing to bring their presentation data with them should bring it copied onto a data transfer medium (CD-R or USB memory stick).
- Please use default fonts (Times New Roman, Arial, Tahoma, etc.) in order to avoid incompatibilities.
- PCs supplied by Secretariat have the Windows XP operating system and PowerPoint 2003 and 2007 installed.

|          |                                |
|----------|--------------------------------|
| Software | PowerPoint 2003, 2007 and 2010 |
| Fonts    | Default fonts                  |

- You must do a virus sweep yourself in advance.
- Please test your presentation on a different computer that is not part of your immediate workgroup and that does not have your specialized software installed to ensure that your presentation data works properly.
- If you have prepared the presentation data on a Macintosh, you are advised to bring your own laptop to the conference.

2) If you bring your own PC:

- You must check in advance that the PC you are going to bring with you has a mini d-sub 15-pin port. (See Figures 1 and 2)
- You must also bring an AC power adapter to make sure that you do not run out of battery power to your PC during your presentation or while preparing to go on stage.

3) Please also bring a 2-parallel-prong power plug pin converter (See Figure 3) to make sure you can plug your PC power cord into the 2-parallel prong wall sockets in Japan.



Figure 1  
Connection cable



Figure 2  
Port your PC must have (mini d-sub 15-pin)



Figure 3  
2-parallel-prong power plug pin converter



Guidelines for Poster Presentations

1. Schedule

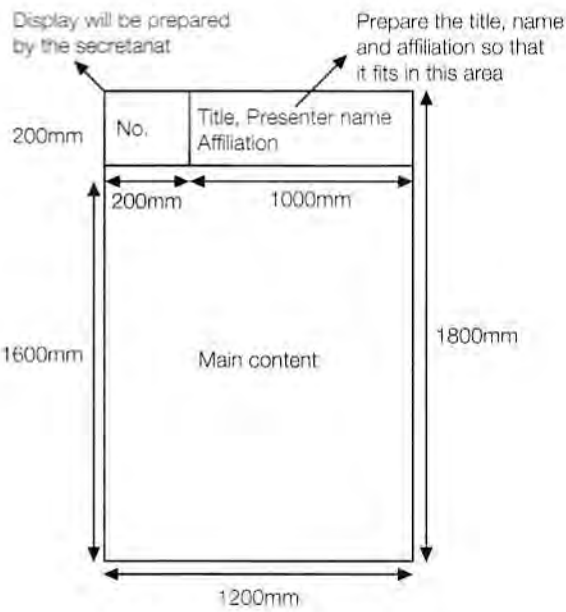
Poster Presenters are asked to place their posters at the designated space and to follow the schedule below.

| Date           | Setup         | Session       | Removal       |
|----------------|---------------|---------------|---------------|
| Oct. 20 (Wed.) | 13:00 - 19:00 |               |               |
| Oct. 21 (Thu.) | 09:00 - 10:30 |               |               |
| Oct. 22 (Fri.) |               |               |               |
| Oct. 23 (Sat.) |               | 10:30 - 11:30 | 11:30 - 14:00 |

- The presenters are expected to be ready for a question and answer session from 10:30 to 11:30 on October 23 in front of your poster panel.
- Excellent poster presentations will be honored at the Closing Ceremony from 15:30 on October 23.

2. Poster Presentations

- 1) Poster Size: 1,200mm(W) x 1,800mm(H).
- 2) Each should prepare the title, presenter's name, and affiliation (1,000(W) x 200(H)).
- 3) Pushpins will be provided for each panel.
- 4) Please prepare your poster to fit in the poster board size.









## Thursday, October 21

| Time                        | Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Location                 |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>MTE</b><br>08:15-8:45    | <b>Meet The Experts</b><br>Chair: Mikio Kimura (Japan)<br>Eric Caumes (France)<br><br>Chair: Hiroshi Watanabe (Japan)<br>Hans D. Nothdurft (Germany)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hall B<br><br><br>Hall C |
| <b>PL1</b><br>09:00-10:30   | <b>Plenary 1</b><br><b>Travel Medicine in Asia-Pacific</b><br>Chairs: Eli Schwartz (Israel), Toshimasa Nishiyama (Japan)<br><i>International Cooperation and Travel Medicine</i> – Mitsuhiro Ushio (Japan)<br><i>Regional Development of Vaccines: the Case of Cholera Vaccine</i> – John Clemens (Korea)<br><i>Travel Health Priorities – Gaps</i> – Robert Steffen (Switzerland)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hall A<br>(Noh Theater)  |
| <b>S1</b><br>11:00-12:30    | <b>Symposium 1</b><br><b>Malaria</b><br>Chairs: Bradley Connor (USA), Shigeyuki Kano (Japan)<br><i>Drug Resistance and Implications for Treatment and Prevention</i> – Srivicha Krudsood (Thailand)<br><i>Vivax Malaria in Asia-Pacific Region</i> – Shigeyuki Kano (Japan)<br><i>Malaria Prevention in the Long-Term Traveler</i> – Jay Keystone (Canada)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hall A<br>(Noh Theater)  |
| <b>FC1</b><br>11:00-12:30   | <b>Free Communication 1</b><br>Chairs: Eyal Meltzer (Israel), Kazuto Kanetaka (Japan)<br><i>Outbreak at Altitude: An Aircraft-Associated Norovirus Outbreak Continuing over Multiple Flight Sectors</i> – Craig Thornley, Jackie Rapana, Gail Greening (New Zealand)<br><i>Imported Tungiasis: A Report of 2 Japanese Cases</i> – Mugen Ujii, Nozomi Takeshita, Yasutaka Mizuno, Yasuyuki Kato, Shuzo Mizuno, Rie Yotsu, Takeshi Tamaki, Toshiniko Hayashi, Koichiro Kudo (Japan)<br><i>Reviewing Activities of Our Research Group that Introduces Unlicensed Medicines for Tropical and Parasitic Diseases</i> – Kosuke Haruki, Toshiyuki Miura, Hanahiko Maruyama, Mikio Kimura (Japan)<br><i>Schistosomiasis Japonica: Clinical Surveillance on Newly Found and Known Endemic Foci in the Philippines</i> – Y. Chigusa, T. Inoue, M. Kirinoki, N. Hayashi (Japan), N.L. Arevalo, L.S. Sunico, N.P. Boldero, E.A. Villacorte, J.A.A. Solon (The Philippines), T. Agatsuma (Japan), P. Rivera, O. Saniel, L.R. Leonardo (The Philippines)<br><i>Dengue Virus Infection in Bali: A Challenge to a Popular Tourist Destination in Southeast Asia</i> – Minako Jen Yoshikawa, Mitsuaki Nishibuchi (Japan)<br><i>Multilingual Medical Questionnaires (MMQ) System</i> – Kazumi Takesako, Kiyomi Takizawa (Japan) | Hall B                   |
| <b>JL-S1</b><br>11:00-12:30 | <b>Japanese Language – Symposium 1</b><br><b>Principles of Travel Medicine</b><br>Chairs: Hiroshi Watanabe (Japan), Shuzo Kanagawa (Japan)<br><i>Pre-Travel Consultations and the Selection of Prophylactic Measures for Travelers</i> – Toshio Kon (Leo A. T. King) (Japan)<br><i>Travel Clinic and Regional Network</i> – Hitoshi Kikuchi (Japan)<br><i>Infectious Disease in Returning Travelers</i> – Kiyonori Takada (Japan)<br><i>The Present Condition of Travel Clinic and Future Issue</i> – Shuzo Kanagawa (Japan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Hall C                   |
| <b>LS1</b><br>12:45-13:45   | <b>Luncheon Seminar 1</b><br><b>Sponsored by sanofi pasteur</b><br>Chairs: Victor Carey (Australia), Aisuo Hamada (Japan)<br><i>Flavivirus Infections in Travelers</i> – Joseph Torresi (Australia)<br><i>IMQJEV™, The Novel Single Dose Japanese Encephalitis Vaccine</i> – Alain Bouckennooghe (Singapore)<br><i>Enteric Infections in Travellers – Needs for Immunization</i> – Robert Steffen (Switzerland)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hall B                   |



## Thursday, October 21

| Time                       | Program                                                                                                                                                                                                                                                                                                                                                                            | Location                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>S2</b><br>14:00-15:30   | <b>Symposium 2</b><br><b>Food-Borne Disease in Asia-Pacific</b><br>Chairs: Gopinath B. Nair (India), Rie Ogiwara (Japan)<br><i>Enteric Fever</i> – Santanu Chatterjee (India)<br><i>Hepatitis A and E in International Travelers</i> – Joseph Torresi (Australia)<br><i>Post-Infectious Complications of Travelers' Diarrhea</i> – Bradley Connor (USA)                            | Hall A<br>(Noh Theater) |
| <b>S3</b><br>14:00-15:30   | <b>Symposium 3</b><br><b>Water-Related Hazards</b><br>Chairs: Eyal Leshem (Israel), Hitoshi Koga (Japan)<br><i>Leptospirosis/Schistosomiasis</i> – Eyal Leshem (Israel)<br><i>Marine Injuries</i> – Thanasawat Chaityakul (Thailand)<br><i>Decompression Illness</i> – Hideharu Domoto (Japan)                                                                                     | Hall B                  |
| <b>S4</b><br>14:00-15:30   | <b>Symposium 4</b><br><b>Medical Emergencies</b><br>Chairs: Hideo Gomi, Hirofumi Okoshi (Japan)<br><i>Cabin Health: Emergency Cases and Medical Backup</i> – Toshiki Shimada (Japan)<br><i>Telemedicine in In-Flight Medical Events</i> – Paulo M. Alves (USA)<br><i>Evacuation and Insurance</i> – Zenjiro Harima (Japan)                                                         | Hall C                  |
| <b>S5</b><br>16:00-17:30   | <b>Symposium 5</b><br><b>Vector-Borne Infections and Travelers</b><br>Chairs: Srivicha Krudsood (Thailand), Eiichi Okuzawa (Japan)<br><i>Dengue Fever In Travelers – A Clinical Update</i> – Eli Schwartz (Israel)<br><i>Chikungunya: A Problem for Travelers?</i> – Annelies Wilder-Smith (Singapore)<br><i>Tick-Borne Encephalitis and Travelers</i> – Martin Haditsch (Austria) | Hall A<br>(Noh Theater) |
| <b>W1</b><br>16:00-17:30   | <b>Workshop 1</b><br><b>Rabies: Modern Prevention of an Ancient Disease</b><br>Deborah Briggs (USA)<br>Terapong Tantawichien (Thailand)                                                                                                                                                                                                                                            | Hall B                  |
| <b>DIF1</b><br>16:00-17:30 | <b>Destination in Focus 1</b><br><b>China / Mongolia</b><br>Zhiyong Liu (China)<br>Changwei Zhan (China)                                                                                                                                                                                                                                                                           | Hall C                  |
| <b>ES1</b><br>17:45-18:30  | <b>Evening Seminar 1</b><br><b>Sponsored by MSD K.K.</b><br>Chair: Seiichiro Nanri (Japan)<br><i>Hepatitis B Transmission and Vaccination Update</i> – Randall N. Hyer (USA)                                                                                                                                                                                                       | Hall B                  |
| <b>ES2</b><br>17:45-18:30  | <b>Evening Seminar 2</b><br><b>Sponsored by The Chemo-Sero-Therapeutic Research Institute (KAKETSUKEN)</b><br>Chair: Akira Hashizume (Japan)<br><i>Influenza Pandemic (H1N1) 2009: Lessons Learned and Future Challenges</i> – Taro Kamigaki (Japan)                                                                                                                               | Hall C                  |





## Friday, October 22

| Time                      | Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Location                |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>MTH</b><br>8:15-8:45   | <b>Meet The History</b><br>Chair: Nobuaki Matsuo (Japan)<br><i>The Ancient City of Nara: Urban Planning and Its Implication</i> – Tomo Ishimura (Japan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hall A<br>(Noh Theater) |
| <b>PL2</b><br>9:00-10:30  | <b>Plenary 2</b><br><b>Battling Old Foes</b><br>Chairs: Santanu Chatterjee (India), Akira Ishii (Japan)<br><i>Malaria in Asia-Pacific</i> – Alan Magill (USA)<br><i>Cholera – Revisited</i> – Gopinath B. Nair (India)<br><i>Japanese Encephalitis</i> – John Simon (China)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Hall A<br>(Noh Theater) |
| <b>S6</b><br>11:00-12:30  | <b>Symposium 6</b><br><b>Eosinophilia in Travelers</b><br>Chairs: Frank von Sonnenburg (Germany), Kosuke Haruki (Japan)<br><i>Not Only Fish: Japanese Delicacies and Eosinophilia</i> – Haruhiko Maruyama (Japan)<br><i>Unusual Parasitic Infections in Asia</i> – Pornthep Chanthavanich (Thailand)<br><i>A Clinical Approach to the Traveler with Eosinophilia</i> – Eyal Meltzer (Israel)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hall A<br>(Noh Theater) |
| <b>S7</b><br>11:00-12:30  | <b>Symposium 7</b><br><b>Nursing Professionalism</b><br>Chairs: Sheila C. K. Hall (UK), Shoko Umemura (Japan)<br><i>Role of Nurse in Quarantine Station in Japan</i> – Hiroko Sakaguchi (Japan)<br><i>Travel Medicine from the Perspective of Nursing Professionals</i> – Sheila C.K. Hall (UK)<br><i>The Role of Nurses in Travel Medicine from the Viewpoint of Travelers' Behaviour and Activities at the Destination</i> – Irmgard Bauer (Australia)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Hall B                  |
| <b>FC2</b><br>11:00-12:30 | <b>Free Communication 2</b><br>Chairs: Martin Haditsch (Austria), Kozi Kawasaki (Japan)<br><i>History of Repatriation with Fixed Wings Aircraft</i> – Michael Wimsperger (Austria)<br><i>Medical Evacuation of a Case of TB Spondylitis from Vietnam</i> – Shieh Ying-hua, Chan Hsiao-wen, Li Ju-li (Taiwan)<br><i>Difficult Repatriation Case from Indonesia, a 44-Year-Old Man, Resuscitate State of VF/AMI</i> – Masamune Kuro, Noritomi Nishimura (Japan)<br><i>The Role of Medicine in Areas Hit by Disaster – Including the Significance of the Disaster Medicine Compendium</i> – Yoshikura Haraguchi, Kozi Tomoyasu, Hosei Nishi, Disaster Medicine Compendium Editing Team, Japan<br><i>Implementation of Network System in Travel Clinic Work</i> – George Okuda, Hiroshi Hasebe, Takahiro Sakuma (Japan)<br><i>The Industrialization Policy of Healthcare and the Medical Interpreter Training in Korea, and the Issue of Them</i> – Aiki Takashima, Aguri Shigeno (Japan) | Hall C                  |
| <b>LS2</b><br>12:45-13:45 | <b>Luncheon Seminar 2</b><br><b>Sponsored by GlaxoSmithKline K.K.</b><br><b>Protecting Your Travelers Against Malaria and Hepatitis</b><br>Chair: Mikio Kimura (Japan)<br><i>Imported Malaria: A Failure of Prevention</i> – Jay Keystone (Canada)<br><i>Hepatitis A and B: Epidemiology and Vaccines</i> – Herwig Kollaritsch (Austria)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Hall B                  |
| <b>S8</b><br>14:00-15:30  | <b>Symposium 8</b><br><b>Travel Vaccinations</b><br>Chairs: Anthony Gherardin (Australia), Takashi Nakano (Japan)<br><i>Travel Vaccines – Current Options and Priorities</i> – Anthony Gherardin (Australia)<br><i>Flu Vaccine for Travelers: Is it Necessary and Do We Have the Right Products?</i> – Frank von Sonnenburg (Germany)<br><i>Matching International Practice for Japanese Travelers</i> – Mikio Kimura, Takashi Nakano (Japan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Hall A<br>(Noh Theater) |





## Friday, October 22

| Time                       | Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Location               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>S9</b><br>14:00-15:30   | <b>Symposium 9</b><br><b>Respiratory Disease</b><br>Chairs: John Simon (China), Hideki Yamamoto (Japan)<br><i>Melioidosis in Travelers</i> – Wirongrong Chierakul (Thailand)<br><i>Influenza in Travelers</i> – Poh-Lian Lim (Singapore)<br><i>Tuberculosis in Travelers: Risk and Screening</i> – Hans D. Nothdurft (Germany)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hall B                 |
| <b>S10</b><br>14:00-15:30  | <b>Symposium 10</b><br><b>Health Problems in Altitude</b><br>Chairs: Qadar Pasha (India), Shigeru Masuyama (Japan)<br><i>Adaptation to High Altitude in Sherpas: Genetic Contributions of the Polymorphisms in the Angiotensin – Converting Enzyme Gene and the Endothelial Nitric Oxide Synthase Gene</i> – Masayuki Hanaoka (Japan)<br><i>How Much of the Infection Between Genetics and Environment Aggravates a Disease During Travel?</i> – Qadar Pasha (India)<br><i>Study of Three Types of Zoonosis in Tibetan Antelopes and Their Dermatozoon</i> – Ri-Li Ge, Haisheng Wu, Hongjian Chen, Ning Yang, Yi Zheng (China)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hall C                 |
| <b>W2</b><br>16:00-17:30   | <b>Workshop 2</b><br><b>Dermatology in Travel Medicine</b><br>Eric Caumes (France)<br>Eli Schwartz (Israel)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hall A<br>(No Theater) |
| <b>FC3</b><br>16:00-17:30  | <b>Free Communication 3</b><br>Chairs: Joseph Torresi (Australia), Kei Kasahara (Japan)<br><i>Phylogeographic Analysis of Mitochondrial DNA Sequences of Plasmodium Vivax and its Application to Travel Medicine</i> – Moritoshi Iwagami, Megumi Fukumoto (Japan), Weon-Gyn Kho (Korea), Pilarita T. Rivera (The Philippines), Kano Shigeyuki (Japan)<br><i>Effects of Antimalarial Drugs on the Electrocardiographic QT Interval Modeled in the Isolated Perfused Guinea Pig Heart System</i> – Atsushi Kinoshita, Harumi Yamada, Hajime Kotaki, Mikio Kimura (Japan)<br><i>New Antimalarial Drug Developmental Research – Antimalarial Synthetic Endoperoxides</i> – Akiko Hiramoto, Hye-Sook Kim, Akira Sato, Masayuki Morita, Kazuaki Okada, Tatsuya Wakimoto, Kazuki Kamai, Wen Jiang, Osamu Hiraoka, Satoru Kawai, Yusuke Wataya (Japan)<br><i>The Role of Private Companies in the Development and Popularization of Long Lasting Insecticidal Nets</i> – Natsuko Takui, Yasuhide Nakamura (Japan)<br><i>Seroconversion, Antibody Persistence, and the Safety after Multiple Vaccinations Administered within a Short Period</i> – Tatsuya Fujii, Kazunobu Ouchi, Mikio Kimura (Japan)<br><i>Development of Vero Cell Derived Japanese Encephalitis Vaccine in Japan</i> – Yuji Ishikawa, Takafumi Hirata, Ichiro Ogura, Masahiko Kuranaga, Yoichi Ogata, Hideki Nakamura, Hiroyuki Yokote (Japan) | Hall B                 |
| <b>DIF2</b><br>16:00-17:30 | <b>Destination in Focus 2</b><br><b>Indonesia</b><br>Levina Pakasi (Indonesia)<br>Anthony Gherardin (Australia)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Hall C                 |
| <b>ES3</b><br>17:45-18:30  | <b>Evening Seminar 3</b><br><b>Sponsored by Novartis Pharma K.K.</b><br>Chair: Mitsuhiro Ushio (Japan)<br><i>Rabies: Informing Travelers about Safe Travel</i> – Deborah Briggs (USA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hall B                 |
| <b>ES4</b><br>17:45-18:30  | <b>Evening Seminar 4</b><br><b>Sponsored by Mitsubishi Tanabe Pharma Corporation</b><br>Chair: Takashi Nakano (Japan)<br><i>Vero Cell-Derived Inactivated Vaccine Licensed for Japanese Encephalitis</i> – Tomohiko Takasaki (Japan)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Hall C                 |





## Saturday, October 23

| Time                        | Program                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Location                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>MTE</b><br>8:15-8:45     | <b>Meet The Experts</b><br>Chair: Atsuo Hamada (Japan)<br>Robert Steffen (Switzerland)<br><br>Chair: Shigeyuki Kano (Japan)<br>Alan Magill (USA)                                                                                                                                                                                                                                                                                                                  | Hall B<br><br><br>Hall C |
| <b>PL3</b><br>9:00-10:30    | <b>Plenary 3</b><br><b>Emerging Infectious Disease</b><br>Chairs: Annelies Wilder-Smith (Singapore), Keiichi Mikasa (Japan)<br><i>Increased Spread of Epidemic Arboviral Disease in Southeast Asia: Regional Trends and Prospects for the Future</i> – Duane Gubler (Singapore)<br><i>Respiratory Disease Threats</i> – Poh-Lian Lim (Singapore)<br><i>Pandemic Influenza Outbreak in Japan</i> – Nobuhiko Okabe (Japan)                                          | Hall A<br>(Noh Theater)  |
| 10:30-11:30                 | <b>Poster Session</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             | Hall D                   |
| <b>S11</b><br>11:30-13:00   | <b>Symposium 11</b><br><b>Medical Interpreting in Multicultural Society</b><br>Chairs: Som-arch Wongkhomthong (Thailand), Yasuhide Nakamura (Japan)<br><i>Medical Interpreting in Japan</i> – Yasuhide Nakamura (Japan)<br><i>Medical Interpreting in Taiwan</i> – Cheng-Shu Yang (Taiwan)<br><i>Medical Problems of Inbound Tourists in Japan</i> – Nobuaki Matsuo (Japan)<br><i>Medical Tourism in Thailand</i> – Som-arch Wongkhomthong (Thailand)             | Hall A<br>(Noh Theater)  |
| <b>S12</b><br>11:30-13:00   | <b>Symposium 12</b><br><b>HIV and Sexually-Transmitted Infections</b><br>Chairs: Karin Leder (Australia), Kazuo Miyamura (Japan)<br><i>Regional Trends in HIV – Overview Epidemiology of HIV/AIDS in Asia-Pacific Region</i> – Taro Yamamoto, Takeshi Yoda (Japan)<br><i>Travelers' Risks of Sexually Transmitted Disease</i> – Karin Leder (Australia)<br><i>Travel Related Issues for HIV Positive Travelers</i> – Annelies Wilder-Smith (Singapore)            | Hall B                   |
| <b>JL-S2</b><br>11:30-13:00 | <b>Japanese Language – Symposium 2</b><br><b>Corporate Traveler</b><br>Chairs: Satoshi Hagiwara (Japan), Toshihiro Koga (Japan)<br><i>Health Care of Overseas Employees During a Pandemic</i> – Koichi Kawano, Hitoshi Miyake, Akihiro Yoshida (Japan)<br><i>Healthcare Support System for Office Workers Located Abroad</i> – Takamitsu Oikawa (Japan)<br><i>Two Cases of Infectious Diseases Required to Transfer to Third Countries</i> – Bungo Uchino (Japan) | Hall C                   |
| <b>LS3</b><br>13:15-14:15   | <b>Luncheon Seminar 3</b><br><b>Sponsored by Novartis Pharma K.K.</b><br>Chair: Kazunobu Ouchi (Japan)<br><i>Influenza – Neglected Travel Health Risk: Neglected Travel Vaccine</i> – Robert Steffen (Switzerland)<br><i>Preventing Meningococcal Disease in Travelers</i> – Bradley Connor (USA)                                                                                                                                                                 | Hall B                   |
| <b>DIF3</b><br>14:30-15:15  | <b>Destination in Focus 3</b><br><b>Thailand</b><br>Watcharapong Piyaphanee (Thailand)<br>Terapong Tantawichien (Thailand)                                                                                                                                                                                                                                                                                                                                        | Hall B                   |
| 14:30-15:15                 | <b>APTHS General Assembly</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hall A<br>(Noh Theater)  |
| 15:15-15:50                 | <b>Closing Ceremony</b><br>Excellent Poster Presenter Award<br>Excellent Oral Presenter Award                                                                                                                                                                                                                                                                                                                                                                     | Hall A<br>(Noh Theater)  |
| 16:00-18:30                 | <b>An Open Seminar in Japanese – in Commemoration of the 8th Asia-Pacific Travel Health Conference – “For Worry-free Overseas Travel”</b>                                                                                                                                                                                                                                                                                                                         | Hall C                   |



# Plenary Speakers

8th Asia-Pacific  
Travel Health  
Conference

Protecting Travelers to and from East Asia





## Plenary Speakers



### Mitsuhiro Ushio

Dr. Mitsuhiro Ushio started his career as a Chief Technician of Health Promotion and Disease Prevention Division at the Atsugi Public Health Center, operated by the Kanagawa Prefectural Government. In 1984, he became a Technical Official at the Office of Port Health Administration, Food Sanitation Division, of the Environmental Health Bureau at the Ministry of Health and Welfare.

He assumed the position of Associate Professional Officer at WHO/WPRO for 2 years in October of 1985. Following his return to Japan, he became the Director of the Public Health Division, Health and Environmental Affairs Department for the Hiroshima Prefectural Government, then moved on to the Health Policy Bureau of the Ministry of Health, Labor and Welfare as Deputy Director, the Department of Health and Welfare in Ibaraki Prefecture as the Director-General of Hospital Guidance Division for the Ministry of Health, Labor and Welfare as an Advisor of Health Planning and then became the Director of Policy Planning at the International Food Safety Planning Division at the Department of Food Sanitation for the same ministry.

Since the turn on the century, he had been working for different divisions in the ministry. In 2005, he became the Director of Departmental Medical Services at the National Hospital Organization. In 2007, he became a counselor of the Department of Food and Safety, Pharmaceutical and Food Safety Bureau at the Ministry of Health Labor and Welfare. He is currently an Executive Technical Advisor to the Director General of the Human Development Department of Japan's International Cooperation Agency.



### John Clemens

Dr. John D. Clemens, Director General of the International Vaccine Institute (IVI), is an international expert on the evaluation of vaccines in developing countries. A graduate of Stanford (B.S.) and Yale (M.D.) Universities, Dr. Clemens is U.S.-Board Certified in Internal Medicine, and received his post-doctoral research training in clinical epidemiology at Yale. From 1983-88, he served as a research scientist at the International Centre for Diarrhoeal Disease Research, Bangladesh, where he led the first efficacy trial of an oral vaccine against cholera, and where he conducted additional research on measles vaccine. After returning to the U.S., he served as Chief of the Epidemiology Section of the Center for Vaccine Development of the University of Maryland, and then as Chief of the Epidemiology Branch of the National Institute of Child Health and Human Development, U.S. National Institutes of Health (NIH). While at NIH he was the Director of the first WHO Collaborating Centre for Vaccine Evaluation in Developing Countries. In 1999 he became the first Director-General of the IVI, a position which he continues to hold. During his tenure at the IVI, the IVI has grown from 10 to over 160 staff, its annual budget has increased from under

\$2 million to over \$30 million, and the IVI has established field research programs on vaccines against enteric infections, invasive encapsulated bacterial infections, Japanese encephalitis, and dengue fever, and on vaccine safety in 28 developing countries of Asia, Africa, and Latin America. Dr. Clemens serves as an Adjunct Professor at the Johns Hopkins Bloomberg School of Public Health and at the Seoul National University School of Public Health.

In addition to field evaluations of vaccines, Dr. Clemens' research has focused on innovative methodological approaches to evaluating vaccines in developing country populations, and to generating evidence needed for policy decisions about vaccine introduction in developing countries. He has conducted clinical studies of vaccines against cholera, enterotoxigenic *Escherichia coli*, typhoid fever, pneumococcus, tuberculosis, *Haemophilus influenzae* type b, measles, and Japanese encephalitis. His work in the developing world has included studies in Bangladesh, Chile, China, Egypt, India, Indonesia, Mozambique, Pakistan, Thailand, and Vietnam. He has published over 300 original, peer reviewed articles, and serves on the editorial boards of several international journals. He is an elected member of the American Epidemiology Society and a Fellow of the American College of Epidemiology and of the Infectious Disease Society of America. Over the past 15 years he has served on several WHO Steering Committees, including committees for enteric vaccines, vaccine epidemiology, and vaccine safety. He served as a member of the Board of the GAVI Alliance from 2007-2009, and in 2010 was the recipient of the Sabin Gold Medal.



### Robert Steffen

Robert Steffen, Emeritus Professor, is now concentrating on research projects at the University of Zurich Centre for Travel Medicine, where until 2008 he was the Head of the Division of Epidemiology and Prevention of Communicable Diseases in the Institute of Social and Preventive Medicine and Director of the World Health Organization Collaborating Centre for Traveller's Health.

He is an Adjunct Professor in the Epidemiology and Disease Prevention Division of the University of Texas School of Public Health in Houston, TX and a Honorary Fellow of the Australasian College of Tropical Medicine. He is the Editor-in-Chief of the Journal of Travel Medicine and has published more than 350 papers, book chapters, monographs – mainly in the field of travel medicine. For 12 years each, he presided the Swiss Influenza Pandemic Planning Committee and the Expert Committee for Travel Medicine; he was Vice-President of the Federal Commission on Vaccination and of the Swiss Bioterrorism Committee.





## Alan Magill

Colonel Alan J. Magill is the Director of the Division of Experimental Therapeutics at the Walter Reed Army Institute of Research (WRAIR) in Washington DC, USA. He leads this organization of 100 people focusing on new drug development for the treatment and prophylaxis of malaria and new treatment options for cutaneous leishmaniasis. He is also the Research Coordinator for the Anti-Parasitic Drugs Research Program for the United States Military Infectious Disease Research Program (MIDRP). He is an Associate Professor of Medicine and an Associate Professor of Preventive Medicine and Biometrics at the Uniformed Services University of the Health Sciences (USU) in Bethesda, Maryland. He is the current President of the International Society of Travel Medicine (2009-2011), a Medical Editor of the 2010 and 2012 CDC Health Information for International Health ("yellow book"), past President of the American Society of Tropical Medicine and Hygiene Clinical Group, faculty member for the Gorgas Course in Clinical Tropical Medicine in Lima, Peru, and Lead Editor for the 9th edition of Hunter's Tropical Medicine. He is a Fellow of the Infectious Disease Society of America and the American College of

Physicians. COL Magill is also a Program Manager at the Defense Advanced Research Projects Agency (DARPA) in Arlington, VA, USA where he currently leads a \$100 million dollar influenza vaccine development program.



## Gopinath B. Nair

G. Balakrish Nair is currently the Director of National Institute of Cholera and Enteric Diseases in Kolkata, India, acting as both the scientific and administrative head of the institute. He is listed in the faculties of the University of Calcutta, India, Mahidol University in Thailand, the University of Dhaka in Bangladesh and James P. Grant School of Public Health, BRAC University in Bangladesh.

Dr. Nair has also been on the editorial and advisory boards of scientific journals, including the World Journal of Microbiology and Biotechnology, The Journal of Clinical Microbiology (American Society for Microbiology), Microbes and Environments (The Japanese Society of Microbial Ecology), Tropical Medicine and Health (The Japanese Society of Tropical Medicine), and currently at the Journal of Health, Population and Nutrition and the Tohoku Journal of Experimental Medicine. He is an Associate Editor of the Journal "Gut Pathogens", the official journal of the International Society for Genomic and Evolutionary Microbiology (ISOGEM).

He also has been a member of many advisory committees, including the Diarrhoeal and Enteric Advisory Committee of the WHO, the Diarrhoeal Scientific Advisory Board of the Institute for One World Health in the USA, the Immuno-biological Diagnostic kits Sectional Committee MHR-19 of the Bureau of Indian Standards, to name a few.

Dr. Nair has received numerous awards in his professional field from various countries and has been involved in a great number of publications.



## John Simon

John Simon qualified from Oxford University in 1974. He subsequently specialized in Internal Medicine and Tropical Medicine and Tropical Gastroenterology and was the Gold Medalist at the Tropical Medicine Diploma course at Liverpool University.

He served in the British Army in Belize, Nepal, Hong Kong and Thailand before retiring from the army in 1986 when he was Consultant Physician at the British Military Hospital in Hong Kong.

He is the author of papers on trichinosis, malaria, typhoid, tick-borne relapsing fever, Japanese encephalitis and other subjects relating to tropical and infectious disease. He also reviews scientific papers for the Journal of Travel Medicine.

He is a Fellow of the Royal College of Physicians of both London & Edinburgh. He is a Fellow of the Hong Kong Academy of Medicine and a Fellow of the Hong Kong College of Physicians.

He is Honorary Professor in the Faculty of Medicine, Department of Microbiology at the University of Hong Kong.

He lectures in the Diploma course on Infectious Diseases.

He is an Honorary Consultant in Tropical Medicine to Princess Margaret Hospital, Hong Kong.

He is Chairman of the Scientific Committee on Vector Borne Diseases, Centre for Health Protection, Department of Health, Hong Kong and serves on the Board of Scientific Advisors to the Secretary for Health, Hong Kong Government.



### Duane Gubler

Duane J. Gubler received his Bachelors degree from Utah State University, his Masters from the University of Hawaii and his Sc.D. from Johns Hopkins School of Hygiene and Health.

In 2004, he was named the Director of and Asia-Pacific Institute of Tropical Medicine and Diseases, the Chair and Professor of the Department of Tropical Medicine of the Medical Microbiology and Pharmacology section of the John A. Burns School of Medicine at the University of Hawaii in Honolulu. In 2007, he became a member of the Program on Emerging Infection Diseases at the Duke-NUS Graduate Medical School in Singapore.

Mr. Gubler has been a part of numerous consulting boards, including the World Health Organization's Scientific Advisory Group on the Control of Neglected Tropical Diseases since 2007, and a member of the National Emerging Infection Disease Laboratories' External Advisory Committee since 2008.

He has been invited to lecture at a wide variety of conferences and other events, including nearly 20 in the last two years.

At last count, he has published 198 papers, authored 3 books, and contributed to 56 other books or proceedings, mostly in the area of Dengue fever. He also has a number of other articles in preparation.

Mr. Gubler currently lives in Singapore.



### Poh-Lian Lim

Dr Lim Poh Lian is Senior Consultant in the Dept of Infectious Diseases at Tan Tock Seng Hospital and Head of the Travelers' Health & Vaccination Clinic.

Dr Lim grew up in Malaysia. After O-levels, she went to Harvard for her undergraduate degree in Biochemistry, received her MD from Columbia, and a Masters of Public Health & Tropical Medicine from Tulane. She did her internal medicine residency training in Boston, infectious diseases fellowship in New Orleans, and is travel medicine certified from the American Society of Tropical Medicine & Hygiene (ASTMH) and the International Society of Travel Medicine (ISTM). Dr Lim holds appointments as Senior Consultant in the Ministry of Health, and Clinical Senior Lecturer at National University of Singapore. She serves as a WHO advisor for outbreaks & emerging infections, and as Singapore Site Director for GeoSentinel, the travel and tropical medicine surveillance network of ISTM.

Dr Lim moved from Seattle to Singapore in 2003. For her work during the SARS outbreak, she received the National Day Commendation Medal and the Courage Star awards. She hopes someday to go trekking in the Himalayas, join an archeological expedition and set foot on her last continent, Antarctica.



### Nobuhiko Okabe

Dr. Okabe is currently the Director of the Infectious Disease Surveillance Center at the National Institute of Infectious Disease, Tokyo, Japan. He began his career in the Department of Pediatrics at Jikei University School of Medicine, Tokyo and the Teikyo University School of Medicine. From 1978 to 1980, he was a research associate at the Pediatric Infectious Diseases unit of the Vanderbilt University School of Medicine, Nashville, Tennessee, USA. After coming back to Japan, he took a faculty position at the Pediatric Infectious Diseases Department of the National Children's Hospital in Tokyo, and then became the Director of the Department of Pediatrics at Kanagawa Nurse and Midwife College Hospital in Kanagawa. From 1991 to 1994, he was a Regional Adviser for Communicable Disease Control and Prevention, for the World Health Organization's Western Pacific Regional Office in Manila, the Philippines. After working as an Associate Professor of Pediatrics at the Jikei University School of Medicine in Tokyo, he became a member of the National Institute of Infectious Diseases. He is a member of the Board of Pediatrics (Japanese Pediatrics Society) and the Board of Infectious Disease Doctors (Japanese Society of Infectious Diseases).



# Meet The Experts & Meet The History Speakers

8th Asia-Pacific  
Travel Health  
Conference

Preventing Travelers and From Their Hosts





### Hans D. Nothdurft

German national Hans Dieter Nothdurft has been an Associate Professor for Tropical and Travel Medicine at the University of Munich, Germany since 1992, and is Director of the University Travel Clinic there. His main interests include research, teaching and clinical practice in the field of infectious diseases and tropical medicine with an emphasis on travel-related illnesses and he has served as the principal investigator in several studies investigating the safety and immunogenicity of vaccines against hepatitis A, hepatitis B, and Japanese encephalitis, as well as in the epidemiology of malaria and hepatitis E in travelers.

Dr. Nothdurft has published more than 100 scientific publications and held more than 150 presentations at national and international conferences in the fields of epidemiology, control, prophylaxis and therapy of infectious and tropical diseases, mainly in travelers.

Since 1978, he has been a consultant for, among others, the International Red Cross and for the GTZ (German Agency for Technical Cooperation) in Indonesia, Thailand, The Philippines, Bangladesh, Rwanda, Tanzania, Mozambique, Somalia and Namibia. As of 1984, he has been a permanent medical advisor to the German Red Cross in international aid and relief matters.

Dr. Nothdurft is a member of many world-renowned medical societies, and acted as chair of the Scientific Committees and Organizing Committees for several conferences held by International Society of Travel Medicine.



### Eric Caumes

Eric Caumes is a clinician (MD) certified in Dermatology and in Infectious and tropical diseases with a Master in epidemiology. He is Professor of Infectious and Tropical diseases, at the "Faculté de Médecine Pitié-Salpêtrière", "University Pierre et Marie Curie", and vice chairman of the department of infectious and tropical diseases, at the Teaching Hospital "Pitié - Salpêtrière", in Paris.

Beside travel medicine, his daily practice includes the care of HIV infected patients and of patients with tuberculosis, contagious or emerging diseases. He is involved in teaching, taking care of patients, and performing clinical research.

He lived in Nepal from 1983 to 1985 for his first steps in the field of travel medicine. He is a member of the executive board of the International Society of Travel Medicine until 2011 and of the editorial board of the Journal of Travel Medicine since 1998. He is the president of the French Society of Travel Medicine, member of the Advisory committee for Travel Medicine and Imported Diseases at the French Ministry of Health and also belongs to the pool

of experts regarding travel medicine at WHO.

He has published more than 230 peer reviewed articles (including more than 100 travel medicine articles) during the past 25 years. He served as editor of 5 books and co-editor of 7 books.

His main fields of research concern epidemiology of diseases in returned travelers, imported tropical diseases (typhoid, schistosomiasis, malaria, gnathostomiasis), skin infections (cutaneous larva migrans, skin and soft tissue infections, leishmaniasis), and sexually transmitted diseases.



### Tomo Ishimura

Tomo Ishimura was born in 1976. In 1999 he began fieldwork for his PhD dissertation in Oceania, in postgraduate course at Department of Archaeology, Kyoto University. In 2006 he gained a position as Researcher at International Cooperation Section, Department of Planning and Coordination, Nara National Research Institute for Cultural Properties, and took a PhD degree from Kyoto University in 2009. His current work is on the international cooperation for safeguarding cultural heritages in Afghanistan and Cambodia, as well as the research in the Nara Palace Site.



**Robert Steffen**

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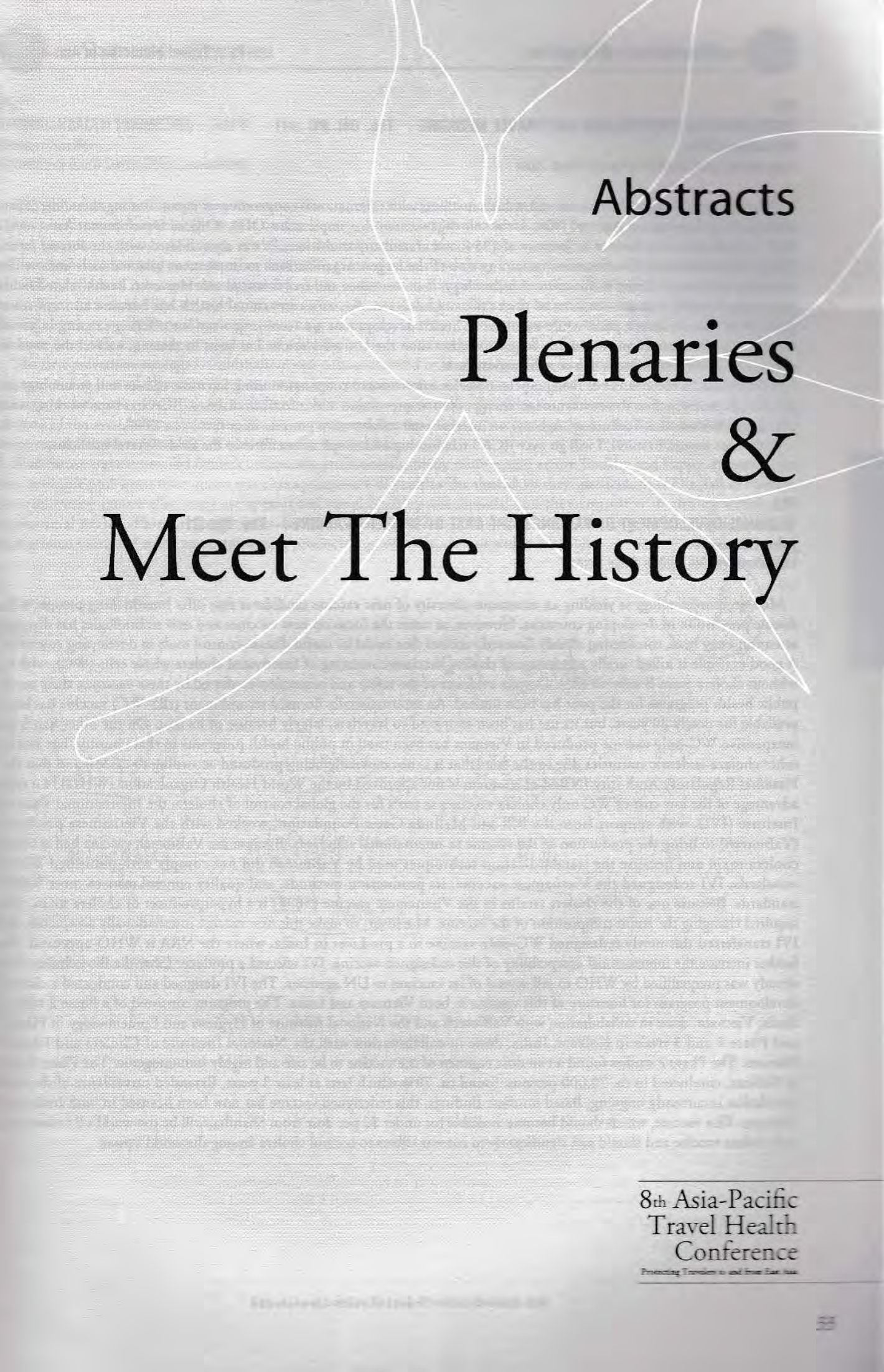
**Alan Magill**

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Abstracts

# Plenaries & Meet The History

8th Asia-Pacific  
Travel Health  
Conference

Protecting Travellers to and from East Asia





## PL1

**INTERNATIONAL COOPERATION AND TRAVEL MEDICINE Thu. Oct. 21****Mitsuhiko Ushio**

Japan International Cooperation Agency, Tokyo, Japan

There are various organizations and individuals involved with international cooperation in Japan. Among them, the Japan International Cooperation Agency, JICA, is the sole organization that implements ODA (Official Development Assistance). JICA's predecessor was formed in January of 1954, and after many transitions, it was consolidated with the former Japan Bank for International Cooperation, becoming one of the largest organizations to implement bilateral assistance while assuming cooperative duties in the areas of technology, loan assistance and free financial aid. However, health related fields are not necessarily a major concern of the entire organization. So, as international health has become an important diplomatic issue in recent years while numbers of health development aid from organizations offering existing bilateral assistance and organizations belonging to groups other than the United Nations has been increasing, we feel the need to respond to global health issues in a coordinated manner.

Furthermore, in the context of rising expectations for international cooperation using Japanese science and technology on global scale issues such as the environment, energy, disaster prevention and infectious diseases, JICA has been working with JST (Japan Science and Technology Agency) on international collaborative projects since fiscal year 2008.

With these aspects in mind, I will go over JICA's relationship and cooperative efforts in the field of travel medicine.

## PL1

**REGIONAL DEVELOPMENT OF VACCINES: THE CASE OF CHOLERA VACCINE Thu. Oct. 21****John Clemens**

International Vaccine Institute, Seoul, Korea

Modern biotechnology is yielding an enormous diversity of new vaccine candidates that offer breathtaking prospects for disease prevention in developing countries. However, at times the focus on new vaccines and new technologies has diverted attention away from considering already licensed vaccines that could be useful disease-control tools in developing countries. A good example is killed, orally administered cholera vaccines consisting of inactivated cholera whole cells (WC), with or without cholera toxin B subunit (BS). Despite evidence of the safety and protection conferred by these vaccines, their use in public health programs for the poor has been limited. An internationally licensed recombinant (rBS-WC) vaccine has been available for nearly 20 years, but its use has been restricted to travelers, largely because of its cost. On the other hand, an inexpensive WC-only vaccine produced in Vietnam has been used in public health programs in that country, but not in other cholera-endemic countries due to the facts that it is not currently being produced according to cGMP and that the National Regulatory Authority (NRA) of Vietnam is not approved by the World Health Organization (WHO). To take advantage of the low cost of WC-only cholera vaccines as tools for the global control of cholera, the International Vaccine Institute (IVI), with support from the Bill and Melinda Gates Foundation, worked with the Vietnamese producer (VaBiotech) to bring the production of the vaccine to international standards. Because the VaBiotech vaccine had residual cholera toxin and because the standardization techniques used by VaBiotech did not comply with published WHO standards, IVI redesigned the Vietnamese vaccine, its production methods, and quality control tests to meet WHO standards. Because one of the cholera strains in the Vietnamese vaccine (569b) is a hyperproducer of cholera toxin, this required changing the strain composition of the vaccine. Moreover, to make this new vaccine internationally acceptable, the IVI transferred this newly redesigned WC-only vaccine to a producer in India, where the NRA is WHO-approved. To further increase the international acceptability of this redesigned vaccine, IVI selected a producer (Shantha Biotechnics) that already was prequalified by WHO to sell several of its vaccines to UN agencies. The IVI designed and conducted a clinical development program for licensure of this vaccine in both Vietnam and India. The program consisted of a Phase 2 trial in Sonla, Vietnam, done in collaboration with VaBiotech and the National Institute of Hygiene and Epidemiology in Hanoi, and Phase 2 and 3 trials in Kolkata, India, done in collaboration with the National Institute of Cholera and Enteric Diseases. The Phase 2 studies found a two dose regimen of the vaccine to be safe and highly immunogenic. The Phase 3 trial in Kolkata, conducted in ca. 70,000 persons, found ca. 70% which lasts at least 3 years. Extended surveillance of the trial population is currently ongoing. Based on these findings, this redesigned vaccine has now been licensed in both India and Vietnam. This vaccine, which should become available for under \$2 per dose from Shantha, will be the world's first low-cost oral cholera vaccine and should add significantly to current efforts to control cholera among the world's poor.



## PL1

## TRAVEL HEALTH PRIORITIES – GAPS Thu. Oct. 21

Robert Steffen

University of Zurich Centre, Zurich, Switzerland

The goal of travel health is to keep travelers alive and free of accidents and illness.

Studies illustrate that among travelers to developing countries accidents are the most frequent cause, most due to traffic, sports (swimming, mountaineering), or violence. Mortality due to infections plays a minimal role.

Travelers' diarrhea may occur in more than 30% of travelers to developing countries, but also respiratory tract infections, including influenza, other gastrointestinal infections, and in some destinations also malaria due to *P. falciparum* are frequent risks. To reduce morbidity, we need to consider environmental and host factors to set evidence based priorities. Exposure to health risks is very different if someone plans to go shopping in New York or to work in Africa. Elderlies with pre-existing illnesses have different needs as compared to a healthy student or a family with small children.

The first preventive strategy is information; our customers need to know about risks. Risk reduction by reducing exposure, e.g. practicing personal protective measures against mosquito bites, is effective. As most cannot remember details, written recommendations are essential. Many infections are vaccine preventable decisions on whom to recommend immunization depend of the availability of vaccines, incidence rates, and severity of the infections. Lastly, medication may be indicated, be it for continued prevention, e.g. of malaria, or for the travel kit.

If all future travelers would consult competent professionals, many more would return healthy and happy. However, we face multiple problems. First, many travelers are unaware of health risks abroad, so they, particularly VFRs, fail to consult. Second, many ignore that there are specialized travel health professionals, and they consult with clinics, which give suboptimal advice. Third, to keep up-to-date with the epidemiological situation is a challenge, which needs excellent educational sources. Fourth, many important products, e.g. vaccines, are not widely available.

Memo





## PL2

## MALARIA IN ASIA-PACIFIC Fri. Oct. 22

Alan Magill

Walter Reed Army Institute of Research, Boston, USA

The Asia-Pacific region includes 37 member states from the WHO Western Pacific Region and 11 member states from the WHO Southeast Asia Region. The Asia-Pacific region is home to over one-half of the world's population. It stretches over a vast area, from China in the north, to New Zealand in the south, India in the west and French Polynesia in the east. Asia-Pacific region has some of the world's least developed countries, the most rapidly emerging economies, and highly developed countries. Of the 48 member countries, malaria remains in 20. The malaria situation in Asia-Pacific is very dynamic and evolving. Eight of 20 countries achieved a decline in annual cases of more than 50% from 2000 to 2008. An update of the malaria situation in the Asia-Pacific region including current trends will be reviewed including anti-malarial drug resistance, changing epidemiology with elimination efforts, the impact of substandard and counterfeit anti-malarial drugs in the region, the emergence of the fifth human malaria parasite, *P. knowlesi*, in Borneo, and the increasing recognition of severe and complicated *P. vivax* malaria in New Guinea. In particular, the recent identification of artemisinin therapeutic failures in Cambodia, possibly due to emerging resistance, is of particular concern as the short acting artemisinins are the critical component of artemisinin combination treatments (ACTs) that are now the mainstay of anti-malarial drug treatment around the world. Finally, current malaria chemoprophylaxis strategies appropriate, use of currently available drugs, and current popular tourist destination malaria epidemiology will be reviewed for the Asia-Pacific region. Malaria in the Asia-Pacific region is complex and ever changing. The future of global malaria likely will be determined by the actions and events of the next decade in some of the existing endemic areas of the Asia-Pacific region.

Memo



## PL2

**CHOLERA – REVISITED** Fri. Oct. 22**Gopinath B. Nair**

National Institute of Cholera and Enteric Diseases, Calcutta, India

Cholera is an acute dehydrating diarrhoeal disease caused by toxigenic strains of *Vibrio cholerae* O1 or O139. The disease prevails in areas where safe drinking water is not available and where basic sanitary processes are compromised. Recent statistics reported by the World Health Organization (WHO) clearly states that global trends in the incidence of cholera have increased steadily since the beginning of the millennium, when analyzed by 5-year periods. The African and Asian continents bear the brunt of endemic and epidemic cholera. Apart from Latin America, all other continents report either endemic or epidemic cholera and 12 countries reported imported cholera. A disturbing situation in Africa is the rising case fatality rates (CFR) due to cholera with 24 countries showing CFRs of above 1%. Zimbabwe offers the most recent example of how a country can be affected when cholera strikes.

An indicator of rampant transmission in endemic areas of cholera is the development of unique variants of *V. cholerae* O1. Recent studies indicate the appearance of El tor biotype of *V. cholerae* which carry the gene of the cholera toxin B subunit of the classical biotype. It is believed that this subtle change has introduced a change in the organism's ability to cause more severe cholera as reported from Bangladesh. Further, cholera outbreaks have become more protracted as compared to the explosive nature previously witnessed. Another new feature among strains of *V. cholerae* O1 is the rapid appearance of multiple antibiotic resistance including resistance to tetracycline which was rarely seen before. Between the two serogroups, O1 *V. cholerae* has again become the dominant type while the O139 serogroup has slowly faded prevailing only in a few countries like China and Thailand. Frequent genetic mutations especially in the CTX prophage region seen among strains of *V. cholerae* O139 since its genesis may have impacted on their decline in prevalence. The epidemiology of cholera is also witnessing a change with the incidence of cholera increasing in the age group lesser than 2 years. The licensure of a reformulated killed oral cholera vaccine manufactured in India brings in prospects of controlling the recent rampant spread of this disease in India.

Despite the grim scene in the global trends on cholera, many new insights have been obtained in the basic biology of this organism. Multiple quorum-sensing circuits function in parallel to regulate diverse activities in *V. cholerae* including, virulence, protease activity and biofilm formation. Comparative genomic analyses have demonstrated the transition from sixth to seventh pandemic strains as a "shift" between pathogenic clones belonging to the same O1 serogroup, but from significantly different phyletic lineages. In contrast, transition among clones during the present pandemic period is characterized as a "drift" between clones, differentiated mainly by varying composition of laterally transferred genomic islands, resulting in emergence of variants, exemplified by *V. cholerae* O139 and *V. cholerae* O1 El Tor hybrid clones. The major virulence genes in *V. cholerae*, which are clustered in several chromosomal regions, appear to have been recently acquired from phages or through undefined horizontal gene transfer events. Cholera toxin, the primary virulence factor produced by *Vibrio cholerae*, is encoded by CTX filamentous lysogenic bacteriophage. Evidence is accumulating that the interactions of phages with each other can also influence the emergence of pathogenic clones of *V. cholerae*. So, understanding the evolutionary events that lead to the emergence of pathogenic clones might provide new approaches to the control of cholera and other infectious diseases.

## PL2

**JAPANESE ENCEPHALITIS** Fri. Oct. 22**John Simon**

University of Hong Kong, Hong Kong, China

Japanese encephalitis has been called "A Plague of the Orient". It is a mosquito borne viral encephalitis present throughout Asia from Japan in the East to Pakistan in the West, and from Mongolia and parts of Russia in the North to Indonesia, Papua New Guinea and the Torres Straits in Australia in the South. The epidemiology will be reviewed. Transmission depends upon maintenance of a mosquito-bird-pig cycle. Control involves Culicine mosquito breeding-site eradication and safe pig farming, and possibly mass vaccination of endemic residents at risk. Serological studies have shown that only one person gets clinically ill for every 300 infected. The reasons why some people get clinically ill and others do not are unclear and will be explored. Clinical features of the illness will be discussed. There is no treatment other than good supportive care – and the mortality rate is directly related to the quality of ICU care. Many people make an incomplete recovery and are left with permanent neurological disabilities. The disease may be prevented by taking personal anti-mosquito measures and by immunization. Mouse-brain derived vaccines are now regarded as having too many adverse effects to be considered useful and several new vaccines have been developed. These will be reviewed. Japanese encephalitis rarely affects travelers but over twenty cases in travelers have been described in the literature. I shall review this literature and give vaccine recommendations for travelers.





## PL3

**INCREASED SPREAD OF EPIDEMIC ARBOVIRAL DISEASE IN SOUTHEAST ASIA: REGIONAL TRENDS AND PROSPECTS FOR THE FUTURE** Sat. Oct. 23**Duane Gubler**

University of Hawaii, John A Burns School of Medicine, Honolulu, USA

Epidemic arboviral diseases have become one of the major public health problems in many countries of Asia in the past 30 years. The pandemic of dengue/dengue hemorrhagic fever which began in Southeast Asia in the aftermath of World War II, has spread from Asia throughout the tropical world. Other related flaviviruses such as Japanese encephalitis and Zika have spread within the region causing epidemics in new geographic areas. Chikungunya, an alphavirus that have been dormant for nearly 40 years, has once again spread throughout the region. The changing epidemiology and the factors responsible for the re-emergence of these diseases and will be discussed, along with the possibility of reversing the trend of epidemic disease.

## PL3

**RESPIRATORY DISEASE THREATS** Sat. Oct. 23**Poh-Lian Lim**

Tan Tock Seng Hospital, Singapore

Respiratory diseases can pose a threat to travelers from medical and public health perspectives. But with concern about travelers functioning as agents of transmission in pandemics, respiratory diseases can also threaten serious inconvenience during travel from quarantine and isolation restrictions.

For the purpose of this talk, we will define respiratory diseases as those that affect the respiratory tract, or infections spread through airborne or droplet routes of transmission.

We can approach respiratory disease threats affecting travelers in several ways:

- 1) The risk of getting infected with a respiratory pathogen during travel.

Notable examples would include concerns about SARS, pneumonic plague or tuberculosis during long airline flights, and the recent H1N1 pandemic 2009.

- 2) Respiratory infections, and infections contracted through droplet or airborne spread that travelers can get exposed to at their travel destinations.

We will cover infections such as brucellosis, varicella, measles, pertussis, diphtheria, and meningococcal infection.

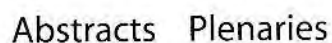
- 3) Respiratory diseases that are potentially preventable with vaccines

These vaccines, which travel medicine practitioners should address with their pre-travel patients, include pneumococcal, influenza, MMR, Tdap, varicella, meningococcal vaccines.

- 4) Other respiratory disease threats

Exacerbations of chronic underlying lung conditions can cause serious morbidity in travelers. They may be at risk in urban areas with poor air quality, or have a potentially dangerous asthma flare precipitated by infections or allergen exposure.

A thoughtful and meticulous consideration of these respiratory disease threats can benefit patients we see in our travel medicine practices as we seek to provide them the best advice and care possible.



PL3

**PANDEMIC INFLUENZA OUTBREAK IN JAPAN** Sat. Oct. 23

Nobuhiko Okabe

Director, Infectious Disease Surveillance Center, National Institute of Infectious Diseases, Tokyo, Japan

The peak of ILI in 2009 was early December and low level of ILI was seen in January-March 2010. Estimated total PI patient was more than 200 thousand, which is higher than maximum patient number of seasonal influenza, however, fatality rate was 0.15 among 100,000 population, which is the lowest group in the world. Epidemiological situation of PI in Japan will be presented.

Memo

Plenaries &amp; MTH





## Meet The History

**THE ANCIENT CITY OF NARA: URBAN PLANNING AND ITS IMPLICATION**      Fri. Oct. 22

Tomo Ishimura

Nara National Research Institute for Cultural Properties, Nara, Japan

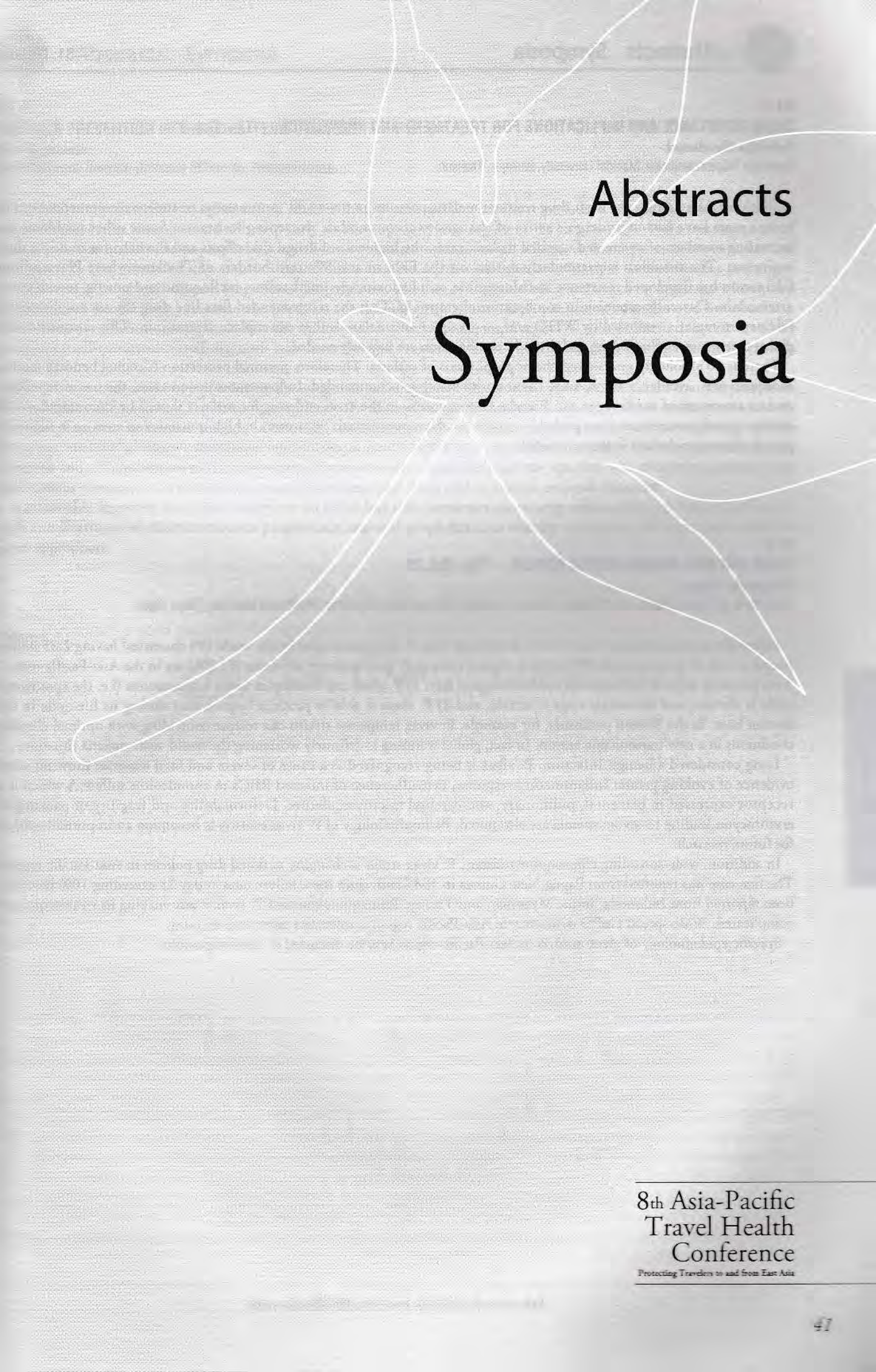
The year 2010 marks the 1300th anniversary of the city of Nara, built in 710. Nara is an ancient capital of Japan that abounds with archaeological sites and cultural heritage. Historical monuments in Nara were inscribed on the list of UNESCO World Heritage. Nara National Research Institute for Cultural Properties has conducted archaeological excavation and conservation of the sites of the Nara Palace and the city for over half a century, and the outlines of the capital in the Nara period (8th century) have gradually come to be understood.

In this presentation I will show the latest image and understanding of the Nara Capital based upon the archaeological research. The examination of archaeological remains revealed that the city was carefully planned and precisely constructed, which implies that there was a concrete urban planning and strict measuring techniques. For example, the main street of the Nara Capital was the Suzaku Boulevard, 74.5 meters wide. In the metric standard of the Nara period, one daishaku equals 0.3546 meters. Then, the width of the Suzaku Boulevard was equivalent to 210 daishaku in the ancient scale. Moreover, the width of the Suzaku Boulevard was just one-half of that of the main street in Chang-an, the ancient capital of Tang dynasty in China.

From the view of urban planning, the structure of the Nara Capital closely linked to the other ancient cities in East Asia at that time, such as Chang-an in the Tang dynasty and Shangjian Longquanfu (Ning-an) in the Kingdom of Bohai. This reflects the international relationship in the eighth century, especially political conflicts and competitions between expanding Tang dynasty and neighboring countries such as Silla, Bohai, and Japan.

Memo





Abstracts

# Symposia

8th Asia-Pacific  
Travel Health  
Conference

Protecting Travelers to and from East Asia





## S1-1

**DRUG RESISTANCE AND IMPLICATIONS FOR TREATMENT AND PREVENTION Thu. Oct. 21****Srivicha Krudsood**

Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Southeast Asia harbors the most drug resistant malaria parasites in the world. Antimalarial treatment recommendations in recent years have had to undergo a series of changes to accommodate worsening resistance. Some other problems are increasing numbers of severe and cerebral malaria cases, the high cost of drugs, side effects and the need for multiple dose regimens. The situation is particularly critical on the Eastern and Western borders of Thailand where *Plasmodium falciparum* has developed resistance to chloroquine, sulphadoxine-pyrimethamine, mefloquine and now in recent years, artemisinin. Currently artemisinin combination therapy (ACT) is the recommended first-line drug for uncomplicated *P. falciparum* malaria endorsed by WHO and no group of antimalarials that can replace artemisinin. This is considered a global emergency and new drug and drugs in combination are urgently needed.

There is no absolutely guaranteed chemoprophylaxis of malaria. Therefore, personal protection (sleeping beneath treated mosquito nets, avoidance of exposure to mosquito bites) is recommended. In low-transmission areas, the use of repellents and an awareness of any fever in the 6 weeks after exposure in the areas endemic for malaria should be encouraged. Most visitors to low transmission areas probably require no chemoprophylaxis. However, in high transmission areas or in high-risk groups chemoprophylaxis is recommended.

## S1-2

**VIVAX MALARIA IN ASIA-PACIFIC REGION Thu. Oct. 21****Shigeyuki Kano**

Department of Tropical Medicine and Malaria, Research Institute, National Center for Global Health and Medicine, Tokyo, Japan

*Plasmodium vivax* remains more widely distributed than *P. falciparum* now in the world (95 countries) having 2.85 billion people at risk of infection with 390 million clinical cases each year, majority of whom (91.0%) are in the Asia-Pacific region. Two potential aspects facilitate this epidemiological fact: 1) *P. vivax* can develop at lower temperatures (i.e. the sporogonic cycle is shorter, and the sexual stage is active), and 2) *P. vivax* is able to produce hypnozoites during its life cycle in the human host. In the Korean peninsula, for example, *P. vivax* temperate strains can relapse coinciding with optimal climatic conditions in a new transmission season. In fact, global warming is definitely worsening the world vivax malaria situation.

Long considered a benign infection, *P. vivax* is being recognized as a cause of severe and fatal malaria; showing some evidence of evoking greater inflammatory response, cytoadherence of infected RBCs to chondroitin sulfate A which is a receptor expressed in placental, pulmonary, and cerebral microvasculature. Deformability and fragility of parasitized erythrocytes leading to severe anemia are also noted. Pathophysiology of *P. vivax* malaria is becoming an important subject for future research.

In addition, wide-spreading chloroquine resistant *P. vivax* strain is changing national drug policies in Asia-Pacific region. The first case was reported from Papua New Guinea in 1989 and, since then, failure rates at day 28 exceeding 10% have also been reported from Indonesia, India, Myanmar, and Turkey. Primaquine resistant *P. vivax* is also making its treatment more complicated. Wide-spread G6PD deficiency in Asia-Pacific region is to be also taken into account.

Specific epidemiology of vivax malaria in Asia-Pacific region is to be discussed in this symposium.

**S1-3**  
**MALARIA PREVENTION IN THE LONG-TERM TRAVELER Thu. Oct. 21****Jay Keystone**

Toronto General Hospital, University of Toronto, Toronto, Canada

Long-term travelers have a higher risk of malaria than those traveling for short periods. Long-term travelers underuse personal protective measures and adhere poorly to chemoprophylaxis regimens. Even when the severe consequences of failure to utilize malaria chemoprophylaxis have been emphasized prior to travel, adherence does appear to improve. Lack of adherence to recommended antimalarials occurs for a number of reasons: reluctance to take medication for prolonged periods, fear of (or actual) adverse drug effects, forgetfulness, and cost of antimalarials. A variety of strategies have been used by long-term travelers to overcome the need for continuous prophylaxis; each one has advantages and drawbacks: i. discontinuance of chemoprophylaxis after the initial period of stay ii. sequential regimens with different drugs iii. Stand-by emergency self-treatment iv. self-diagnosis and treatment and v. seasonal chemoprophylaxis targeting high incidence periods or locations.

There is a considerable body of evidence showing that self-diagnosis of malaria has poor accuracy, and that travelers often do not utilize self-treatment regimens appropriately. In spite of the latter, several European malaria advisory committees have not found an increase in malaria in returned travelers who opt for self-treatment in relatively low risk areas. North American malaria advisory committees tend to recommend continuous prophylaxis, possibly because of medical-legal concerns and a higher degree of risk averseness. An additional concern for long-stay travelers who choose to purchase their medications overseas, is the problem of counterfeit antimalarial drugs sold in malaria endemic countries.

A reasonable approach would be to carry out an individual risk assessment concerning malaria risk and drug side effects in order to determine whether continuous prophylaxis, seasonal prophylaxis, or standby emergency self-treatment would be most appropriate.

Memo

Adin Lee Chen JAMA 2006





## S2-1

**ENTERIC FEVER Thu. Oct. 21****Santanu Chatterjee**

Consultant Physician-Travel and Tropical Medicine, Calcutta, India

Enteric fever is a significant illness among adult and paediatric populations in the developing countries with approx 21 million cases worldwide and an estimated 220,000 to 600,000 deaths annually. Though the burden of illness is on the decline in many middle-income countries, the majority of cases occur in the Indian subcontinent and SE Asia. Incidence ranges from 102 to 2,219 per 100,000 population in the subcontinent. Few reliable population-based estimates of incidence of confirmed cases are available and poor diagnostics result in underestimations. Outbreak reports and hospital based studies from the subcontinent reveal a high disease burden in both pre-school and older children. *S. typhi* is the common etiologic agent though an increasing number of cases due to *S. paratyphi A* is being reported and remain indistinguishable in terms of illness and drug resistance. Antibiotic susceptibility patterns not only vary within the countries in the region but as well within different regions in the country itself. Multidrug resistant salmonella typhi and rising numbers of fluoroquinolone resistant paratyphi A are of utmost concern.

Among international travellers, enteric fever remains an important health risk and largely a travel-related imported infection. High risk includes students and children, long-term travellers to the Indian subcontinent and especially those visiting friends and family. This VFR group needs special attention in terms of prevention and public education efforts addressing strict food and water precautions. Surveillance studies looking at travel associated typhoid data among US travellers reveal 37% cases occurring among those staying for less than 4 weeks abroad suggesting that short-term travellers to high risk areas need also to be protected. Food handlers are an important source of travel-reported enteric fever.

Improving sanitation together with food and water quality in destination countries remains the long-term prevention strategy. Vaccination is a potential control strategy and an option to control the disease in endemic regions provided we can target the vulnerable age groups. This offers modest protection for *S. typhi* only. Children under 5 years of age report a high level of protection around 80%. Recent evidence points to the Vi vaccine being not only effective in young children and also conferring herd immunity to non-vaccines in a community setting.

## S2-2

**HEPATITIS A AND E IN INTERNATIONAL TRAVELLERS Thu. Oct. 21****Joseph Torresi**

Department of Infectious Diseases, Austin Centre for Infection Research, Austin Hospital, Department of Medicine, Austin Health, The University of Melbourne, Melbourne, Australia

Hepatitis A is the most common vaccine preventable infection in travellers visiting regions with high rates of endemicity. Identifying risk factors and incidence of different travel destinations is important in developing appropriate guidelines to help prevent hepatitis A in travellers. The incidence of hepatitis A for travellers to intermediate to high risk ranges from 3.0 to 11.0/100,000 person months. The incidence is substantially higher for travellers visiting rural areas, with longer duration of travel and in travellers visiting friends and relatives, particularly in children. Destination of travel is an important factor associated with acquiring hepatitis A. The incidence on travellers to east Africa has been reported to as 14.0/100,000 person months compared to 5.8/100,000 person months for the Middle East and 5.6/100,000 person months for India.

The consequences of hepatitis A for travellers are not insignificant with individuals suffering from symptomatic disease remaining incapacitated for 4 to 10 weeks. Many will have persistent symptoms that will last for over 6 months. Fulminant hepatitis occurs in approximately 2% of travellers and the case-fatality rate is as high as 2/100,000 non-immune travellers. The mortality is higher individuals aged over 40-years.

Hepatitis A vaccine is highly effective in preventing infection. Hepatitis A vaccination induces neutralizing antibody in 54-88% of recipients by day 14 after first dose, 90% after 24 days and in 100% after 1 month. The administration of a second dose 6 to 12 months later ensures that immunity against hepatitis A is life-long. The rapid induction of neutralising anti-HAV antibody and the long-term persistence of antibody following hepatitis A immunization has made vaccination an effective strategy in outbreak settings and a suitable alternative to immunoglobulin for the 'last-minute' traveller. The introduction of hepatitis A vaccination has reduced the incidence of hepatitis A by 35 to 62% for different destinations, with the greatest reductions in travellers to Central and South America, Africa and India.

Hepatitis E virus has emerged as another important cause of enterically transmitted hepatitis (ET-hepatitis) in travellers visiting high-risk destinations. An understanding of this infection is therefore required in order to properly assess returned travellers with suspected viral hepatitis. Four genotypes of hepatitis E virus exist and although these have different geographical distributions and host specificities all are capable of causing disease in humans. In endemic countries like India, hepatitis E accounts for 70% of sporadic hepatitis in adults and has been responsible for large epidemics of ET-hepatitis in India, China, Mexico, South America, Nepal, Brazil and Mongolia. The seroprevalence rates in endemic countries ranges from 15 to 60%, although unlike hepatitis A it is relatively rare in children. Seroprevalence rates in developed countries ranges between 3 and 15% and this represents either imported disease or possibly autochthonous infection.

The infection is predominantly spread by drinking contaminated water although food-borne and vertical transmission have also been reported. The attack rate increases with age, ranging from a low 5% in individuals aged 1-4 years to 13% in 5-15 yr and 20% in persons over 15 yrs. Unlike hepatitis A person to person transmission uncommon with secondary attack rates among household contacts of patients with hepatitis E of 2% compared with 50-70% in hepatitis A. The mortality of hepatitis E ranges from 0.6 to 2.8%, although it is significantly higher in pregnant women, reaching 20% in the third trimester.

The diagnosis of hepatitis E relies on serological testing by ELISA for hepatitis E specific IgG and IgM. Although detection of IgM is relatively short lived, IgG may be detectable for up to 12 years after infection. HEV viraemia can also be detected using RT-PCR for approximately 28 days after onset of symptoms.

Prevention of hepatitis E in travellers relies on avoiding potentially contaminated water and food sources and therefore education of travellers is paramount. A vaccine is not commercially available although a recombinant protein based vaccine trialled in Nepalese soldiers produced encouraging results with a vaccine efficacy rate of 95% after 3 doses.



## S2-3

## POST-INFECTIOUS COMPLICATIONS OF TRAVELERS' DIARRHEA Thu. Oct. 21

Bradley Connor

Weill Medical College of Cornell University, New York, USA

The New York Center for Travel and Tropical Medicine, New York, USA

New York Presbyterian Hospital, New York, USA

Although most cases of travelers' diarrhea (TD) are acute and self limited, it has become apparent that in some individuals the illness may be complicated by persistent sequelae such as reactive arthritis, Guillain Barre syndrome, and post infectious irritable bowel syndrome (PI-IBS). Some studies show up to 10% of patients with TD develop chronic diarrhea, bloating, and abdominal discomfort. A diagnosis of post-infectious IBS can be made in those who meet Rome III criteria following a bout of travelers' diarrhea or infectious gastroenteritis. Enteropathogens such as Enterotoxigenic and Enteroaggregative *E. coli*, *Campylobacter* spp, *Shigella* spp and *Salmonella* spp may predispose patients to PI-IBS although PI-IBS seems to occur more frequently with *Campylobacter* spp and *Shigella* spp. The severity and duration of initial infection correlates with increased incidence of PI-IBS. Symptoms may persist for years after the initial TD episode. Increasing recognition of these post infectious complications has led to a re-assessment of TD prophylaxis.

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## S3-1

**LEPTOSPIROSIS / SCHISTOSOMIASIS Thu. Oct. 21****Eyal Leshem**

Chaim Sheba Medical Center, Tel Hashomer, Israel

As adventure tourism expands, more and more travelers are exposed to fresh water recreational activities. Among the wide spectrum of pathogens which dwell in fresh water and infect travelers, the 2 most common are leptospira and schistosoma.

Leptospirosis is a zoonosis distributed worldwide. In recent years, travel to tropical areas emerges as a risk factor for acquiring leptospirosis. Recently published data from our centre shows that travelers represent the majority of leptospirosis cases diagnosed in recent years. Transmission mostly occurs through contact with contaminated water sources. Leptospirosis has a wide spectrum of clinical manifestations ranging from a mild self-limited febrile illness to severe multi-organ failure with high mortality rates. Disease caused by *Leptospira* of the serogroup Icterohaemorrhagiae appears to frequently follow the severe course. Due to the nonspecific nature of the initial presentation, a high level of suspicion is required to make the diagnosis. Antibiotic treatment should be initiated prior to definitive diagnosis.

Schistosomiasis is a parasitic infection caused by trematodes (flukes). Schistosomiasis is increasingly encountered in travelers returning from endemic areas. Three clinical syndromes are associated with schistosomiasis: cercarial dermatitis (swimmers' itch), acute schistosomiasis, or "Katayama Syndrome" and chronic schistosomiasis. Acute schistosomiasis is a hypersensitivity reaction associated with tissue migration of the larva. The syndrome is characterized by fever, cough, rash, and other symptoms. The illness had a significant impact on the patients' daily functions and patients utilize extensive medical resources. Contrary to traditional belief, acute schistosomiasis may be a clinical manifestation of all *Schistosoma* species. We have recently described cases of acute schistosomiasis caused by *S. mekongi* acquired by Israeli travelers in Laos.

In summary, travelers to tropical areas should be educated about the risks of fresh water exposure and physicians must be aware of the different infections caused by exposure to fresh water sources.

## S3-2

**MARINE INJURIES Thu. Oct. 21****Thanasawat Chaikakul**

Naval Medical Department, Royal Thai Navy, Bangkok, Thailand

The potential for injuries caused by exposure to the ocean environment can vary from minor cuts and irritations to more serious envenomations leading to death. Vulnerable groups include local fishermen and travelers. The growing globalization of travel and increasingly popular recreational water-related tourism means that tourists are being exposed to a wider range of potential hazards. Hazards from the ocean can be classified essentially as physical, chemical, biological or microbiological hazards. Injuries associated with waterborne recreational vehicle and vessel traffic are also important causes of preventable morbidity and mortality. They may also cause additional submersion injury. Natural environmental effects such as rip currents can drown even young adults competent in swimming who may not recognize the dangers. Storm surges and tsunamis are examples of natural disasters in which the injuries may be preventable by attentive forecasting and effective warning alarm systems. The hydrostatic pressure caused by columns of water above a diver can cause potentially dramatic, direct and indirect effects of pressure on his or her body such as barotrauma and decompression illnesses. Chemical contamination of the ocean environment also affects both marine life and humans who inhabit coastal areas or who travel to these areas. Marine life in general, and some of its biological derivatives, such as marine toxins, can have a definite, measurable and damaging impact on human health. Hazardous marine life may be basically divided into 3 recognized categories which might cause: marine envenomation, marine trauma and marine poisons.

Prevention of marine injuries is an all-important safety strategy. One way is by advising travelers and local people who will be exposed to the ocean environment to be aware of those potentials for dangerous conditions.



S3-3

DECOMPRESSION ILLNESS Thu. Oct. 21

Hideharu Domoto

Maritime Staff Office, Ministry of Defense, Tokyo, Japan

Diving medicine has been classified as a minor specialized field in the current medical society. The underwater environment is unforgiving, far from the physiological conditions for human beings and even a minor misunderstanding can bring life threatening events. Needless to say that it is absolutely necessary for divers to understand basic diving physiology and medicine to protect themselves. In addition, even for general physicians, having a certain level of knowledge to deal with diving casualties appropriately seems to be essential in Asian-Pacific region where many countries carry diving-related populations.

Among many diving-related injuries, today I intend to discuss decompression illness (DCI) and related injuries. DCI is a term used to describe illness that results from a reduction in the ambient pressure surrounding a body. DCI indicates two diseases, decompression sickness (DCS) and arterial gas embolism (AGE). DCS is thought to result from gas bubbles growing in tissue or venous circulation and causing direct and indirect damage to local tissue. On the other hand, AGE results from bubbles arising from pulmonary alveoli and entering the circulation through the heart, causing tissue damage at a distance by blocking blood flow at the small arteries.

Due to the severe consequences of misdiagnosis of DCI, it is imperative that local general physicians are able to recognize the basic symptoms of DCI and seek specialized assistance immediately. After briefly summarizing the basic diving physiologies and some other frequently encountered diving-related injuries, the differential diagnosis and the treatment for DCI will be described. Especially for general physicians who are not familiar with diving medicine, what to do for DCI suspected patients will be described by showing some of the author's actually experienced clinical cases.

Memo

S3 → 1





## S4-1

**CABIN HEALTH: EMERGENCY CASES AND MEDICAL BACKUP** Thu. Oct. 21**Toshiki Shimada**

Tokyo Health Services, All Nippon Airways Co., Ltd., Tokyo, Japan

Nowadays, more than 58 million Japanese people take international flights to travel abroad, and the number of domestic passengers has reached nearly 100 million. The incidence of health troubles in flight passengers has also therefore been increasing. It is not uncommon to see passengers suddenly become severely sick on board. We reviewed the on-board medical crises of Japanese air carriers and analyzed the medical interventions.

In the unique in-flight environment, the health condition of passengers may be affected by the 1) low ambient oxygen concentration, 2) pressure changes, 3) low humidity, 4) closed space, and 5) need for maintain the same posture for prolonged periods in a confined space. Existing cardiovascular and respiratory conditions may be aggravated, and ophthalmologic, otolaryngologic and mental disorders, as well as deep vein thrombosis, may develop because of these environmental factors.

Between 2003 and 2008, 1,414 passengers (0.07%) became sick or injured on 1,901,601 flights of All Nippon Airways, with an annual mean of 235.7 cases per year. Disturbed consciousness was the most common (about 30%), followed in frequency by a feeling of being sick and dyspnea. Physician's intervention was required in 1,009 passengers, and 843 passengers (83.5%) actually received treatment or assistance from a physician and/or other medical professional(s) on board.

The International Civil Aviation Organization (ICAO) has issued specifications about the types and number of items that must equip in the Doctor's Kit on board, and about the drugs and medical tools that can be used by any medical professionals on board in case of emergency. Each ICAO member country determines the contents of the Doctor's Kit according to the ICAO specifications, in principle. The Doctor's Kit is mandatory for airplane with 60 passenger seats or more in Japan. The contents are described in detail in the instruction issued by the Ministry of Transportation in 1993. Since 2000, airline carriers have been allowed to carry potent analgesics and psychotropics in the Doctor's Kit. Now an automatic external defibrillator and pulse oximeter are also allowed on board.

Our review presents that the Doctor's Kit had been used effectively for the treatment of medical crises on board, and that the number of deaths was few. Thus, emergency medical supplies available on board were adequate in most cases. However, some items in the Doctor's Kit were not suited to the principles of current medical practice in Japan, and a review of the Kit contents is necessary. ICAO is currently proposing a revision of the Doctor's Kit to include items to protect emergency care providers from infections. We will also need to consider further review of the Doctor's Kit in Japan.

## S4-2

**TELEMEDICINE IN IN-FLIGHT MEDICAL EVENTS** Thu. Oct. 21**Paulo M. Alves**

VP Aviation and Maritime Health, MedAire, Inc., Arizona, USA

Medical events on board commercial airlines are a reality. Their frequency is relatively low, taking into account the number of passengers carried every day. Nevertheless, with increasing traffic numbers the absolute figures for in-flight medical events will increase inevitably in forthcoming years.

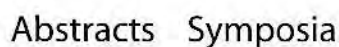
The severity of medical events may vary from minor discomfort to life-threatening situations. In either scenario, the medical resources on board are limited, while crewmembers are usually trained to basic life support and first aid levels.

This means that non-scheduled landings, or diversions, are oftentimes the only way to provide care to unstable cases in need of urgent treatment or evaluation. Diversions typically represent cost to airlines and travel disruption for passengers. The worst-case scenario is when an unnecessary diversion occurs and, after a quick evaluation, the affected passenger is immediately released. Medically trained passengers who can volunteer to assist are not always present in-flight, and usually are not trained to manage medical emergencies, particularly when outside of the hospital environment.

A structured approach must be in place in the best interest of air carriers and passengers. As with any other medical field, we need to better understand the epidemiology of in-flight medical events to design the most adequate solution for this challenge.

In the peculiar in-flight environment, telemedicine provides the best cost/benefit solution. In fact, telemedicine companies provide remote medical advice to many airlines around the world. Thanks to these companies, a much better understanding of the problem of in-flight medical emergencies is now possible, and cases are managed accordingly in real breakthrough fashion. The capabilities of a telemedicine solution only enhance in-flight medical and safety needs, in parallel to recent technological achievements in communication. Telemedicine devices specifically designed to the aviation environment are commercially available, enhancing remote diagnostic capabilities and, consequently, in-flight case management even further.

Along with technological advances, the model of handling in-flight medical cases will forever depend on accurate evaluation seasoned with experience in handling those always-challenging cases.



EVACUATION AND INSURANCE Thu. Oct. 21

Compliance & Audit, Chartis Claims Solution Japan

In this section, we will comment about some instances and recommendation, especially about “evacuation and insurance”. We consider that this theme (evacuation) is a hot topic for overseas travelers.

Memo



**S5-1****DENGUE FEVER IN TRAVELERS – A CLINICAL UPDATE Thu. Oct. 21****Eli Schwartz**

Chaim Sheba Medical Center, Tel Hashomer, Israel

Dengue Fever (DF) has evolved into one of the most important resurgent tropical diseases in the past 20 years, with an expanding geographical distribution of both the virus and the mosquito vectors, and an increased frequency of epidemics. It is estimated that 100 million cases of dengue fever, 250,000 cases of Dengue Hemorrhagic Fever (DHF) and 25,000 deaths occur annually.

The countries where dengue fever predominates are popular tourist destinations. Asia has been the most common place of acquiring dengue followed by the Caribbean and the Americas. Dengue virus infections therefore have a major impact on international travel, becoming one of the major febrile illnesses in travelers.

The clinical spectrum of the disease in travelers range from asymptomatic infection through classical DF to DHF, but rarely to fatal dengue. Capillary leakage which considered being the hallmark of DHF seems to be common in travellers with primary infection, and even in those with mild disease. Thus, contradict the concept of antibody enhancement as the cause of capillary leak.

The growing worldwide epidemic and the substantial risk of dengue fever to travelers should serve as an impetus for increased international efforts in the development of a dengue vaccine.

**S5-2****CHIKUNGUNYA: A PROBLEM FOR TRAVELERS? Thu. Oct. 21****Annelies Wilder-Smith**

Department of Medicine, National University of Singapore, Singapore

The name "chikungunya" derives from a Kimakonde word meaning "to become contorted" and describes the stooped appearance of sufferers with joint pain. Chikungunya is an acute febrile illness with sudden onset of fever and joint pains, particularly affecting the hands, wrists, ankles and feet. Most patients recover after a few days but in some cases the joint pains may persist for weeks, months or even longer. Chikungunya virus is an alpha virus and is transmitted by Aedes vectors. Chikungunya occurs in sub-Saharan Africa, south-east Asia and tropical areas of the Indian subcontinent, as well as islands in the south-western Indian Ocean. The recent outbreak in the Indian Ocean resulted in further spread to India and other South East Asian countries. The reasons for the re-emergence of chikungunya on the Indian subcontinent, and for its unprecedented incidence rate in the Indian Ocean region, are unclear. Plausible explanations include increased tourism, chikungunya virus introduction into a naive population, and viral mutation. Through importation via a viraemic traveller an outbreak occurred for the first time in Southern Europe (Italy). Epidemics of chikungunya appear to occur in waves. While chikungunya was a major risk for travellers to the Indian Ocean Islands in the years 2005-2007, the risk has again declined. In 2010, it is only occasionally observed in travellers and military personnel.



**S5-3**  
**TICK-BORNE ENCEPHALITIS AND TRAVELERS Thu. Oct. 21**

**Martin Haditsch**

Institute for Hygiene, Microbiology and Tropical Medicine, Elisabethinen Hospital, Linz, Austria

For a long time TBE was a neglected disease in both the indigenous population as well as in travellers despite the fact that the endemic areas have merely the same size as other flaviviruses like the Japanese encephalitis virus or the yellow fever virus. The situation for local people in endemic areas has improved at least in Western Europe. In the East millions of unvaccinated people are at risk, still resulting in thousands of clinical cases annually.

Having an endemic area from France in the West and Japan in the East and from Scandinavia in the North to Croatia and Mongolia in the South it is clear that some very attractive tourist destinations must be classified as risk areas to contract TBE. This gains importance due to the fact that more and more tourists are addicted to outdoor activities like hiking, biking, jogging and mountaineering. One additional fact is an enormous increase in "event tourists", i.e. people who travel (sometimes on short notice) to participate in events dedicated to sports, politics, religion and culture.

The best way of protection against TBE is vaccination. Since tick bites might transmit other diseases as well (just to mention a broad overlap with the endemic area of Borreliosis) and the vaccine is available in some countries only, protection against tick bites still is important. This can be done by behaviour, clothing and the use of repellents.

This presentation should raise the awareness against a quite common disease in local people that also might put travellers at risk of contracting a viral infection that has a CFR of 0.5-2 (maybe up to 10)% and leads to neurologic sequelae in up to 58%.

Memo





## S6-1

**NOT ONLY FISH: JAPANESE DELICACIES AND EOSINOPHILIA** Fri. Oct. 22**Haruhiko Maruyama**

Faculty of Medicine, University of Miyazaki, Miyazaki, Japan

People in Japan have a kind of belief that fresh fish and meat must be eaten raw if you want to best enjoy them. For example, in an 'izakaya', a casual type of pub restaurant for after-work drinking in Japan, you can see people happily order slices of raw chicken or bovine liver. Sashimi surely has extended its territory from marine creatures such as fish, shrimp, octopus, squid, shellfish, and whale, into freshwater fishes and terrestrial birds and animals. Whether you believe or not, not just chicken and bovine liver, sashimi of wild boar, horse, wild deer, and even snakes, could be served in restaurants in Japan. As might be easily imagined, these foods could cause parasitic infections, especially larva migrans syndrome and several fluke infections. Larva migrans syndrome is caused by parasite larvae which cannot mature in the human body. Representative parasites that cause food-borne larva migrans syndrome include *Toxocara canis*, *Ascaris suum*, *Gnathostoma doloresi*, *Angiostrongylus cantonensis*, and *Spirometra erinaceieuropaei*. Clinical symptoms depend on the organs and tissues where larvae exist, but most cases show hyper eosinophilia wherever the larvae are. A number of larva migrans cases have been found in a regular check-up showing abnormal chest X-ray findings accompanied with peripheral blood eosinophilia. Paragonimiasis and fasciolosis are also food-born parasitic diseases occurring in Japan. Paragonimiasis is characterized with pleural and/or pulmonary eosinophilic inflammation, causing cough, chest pain, and dyspnea. Infections occur when ingesting raw or undercooked wild boar meat or freshwater crabs. Fasciolosis should be suspected when patients show peripheral blood eosinophilia and abnormal liver images. Fasciolosis is usually associated with a small-scale cattle husbandry, although some patients have been reportedly infected by eating raw bovine liver. Clinical symptoms, laboratory data, and clinical images such as CT and PET of food-born parasitic diseases will be presented.

## S6-2

**UNUSUAL PARASITIC INFECTIONS IN ASIA** Fri. Oct. 22**Pornthep Chanthavanich**

Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Travelers to Asia may be exposed to environmental contamination such as food, water, sand and soil. In addition to commonly found parasitic infections, travelers may get unusual parasitic infections, such as trichinosis, angiostrongyliasis, capillariasis, creeping eruptions, gnathostomiasis, primary amebic meningoencephalitis, and schistosomiasis.

Trichinosis is caused by eating raw and undercooked pork from wild pig, game meat, and horse meat, harboring infective larvae. The clinical features are severe myalgia, periorbital edema and eosinophilia. Complicated cases may have muscle paralysis, leading to death.

Angiostrongyliasis is caused by the ingestion of raw or undercooked snails and also crabs, monitor lizards, freshwater shrimp, oysters, fish, planarians, and fresh vegetables harboring larvae. The clinical features are unbearable headache, neck stiffness, and eosinophilic cerebrospinal fluid (CSF) pleocytosis.

Capillariasis is caused by eating raw or undercooked freshwater fish harboring infective larvae. The clinical features are chronic watery diarrhea, malabsorption, and wasting.

Creeping eruption is acquired by contacting sand or soil contaminated with infective larvae of dog and cat hookworm. The clinical features are itchy red surpiginous skin elevation and possible eosinophilia. Creeping eruption may also be caused by gnathostomiasis and strongyloidiasis (larva currens). Gnathostomiasis can be acquired from eating raw or undercooked freshwater fish, frogs, and rats, harboring larvae. The clinical features are migratory swelling, but less commonly eosinophilia.

Schistosomiasis and primary amebic meningoencephalitis are acquired by exposure to freshwater containing infective-stage parasites. The clinical features of schistosomiasis are fever, fatigue, myalgia, urticaria, and gastrointestinal symptoms. The clinical features of primary amebic meningoencephalitis are abrupt onset of fever, headache, neck stiffness, and the present of pleocytosis with neutrophil predominance and amebic trophozoites in the CSF.

Travelers need to be aware of these infections and how to prevent them.



S6-3  
A CLINICAL APPROACH TO THE TRAVELER WITH EOSINOPHILIA    Fri. Oct. 22

Eyal Meltzer  
Chaim Sheba Medical Center, Tel Hashomer, Israel

Eosinophilia can result from a plethora of pathological processes including allergies, medications, autoimmune diseases neoplasms and infections. However, in developing countries, helminthic infections outweigh in importance other causes, and therefore assume a major role in eosinophilia in the returning traveler.

The diagnosis and management of helminthic infections – especially in their acute phases – lags behind that of other infectious diseases. Several problems account for this deficiency, including problems with clinical description, diagnostic tests and therapeutic agents.

1. The complex life cycle of many helminths creates an evolving symptom pattern, the details of which are only sketchily known for some helminths.
2. Classic diagnostic methods, such as stool tests for ova and serological tests perform poorly in travelers, and are inapplicable for most acute infections.
3. Treatment options for most helminths are few; their efficacy is sometimes restricted to mature worms, while immature worms may be unaffected.

These diagnostic and therapeutic dilemmas can be illustrated through important travel related infections including schistosomiasis, strongyloidiasis, hookworm infection and filariasis.

In light of these diagnostic dilemmas, many cases of travel-related eosinophilia are currently managed with empiric anthelmintic therapy. A rational, algorithmic approach, relying on judicious history, empiric therapy and selective diagnostic testing is suggested, and may provide the best current option. Future application of nucleic acid based diagnostic assays and highly specific serologies may however revolutionize the field of helminthic diagnostics, and enable a more targeted treatment approach.

Memo





## S7-1

## ROLE OF NURSE IN QUARANTINE STATION IN JAPAN Fri. Oct. 22

Hiroko Sakaguchi<sup>1,2</sup><sup>1</sup> Tokyo Airport Branch Office of Tokyo Quarantine Station, Ministry of Health, Labour and Welfare, Tokyo, Japan<sup>2</sup> Kitasato University Graduate School of Medical Sciences, Medical Care & Public Health, Sagami-hara, Japan

The quarantine system in Japan is administered under the 1951 Quarantine Law. This Act aims to prevent exotic infectious disease-causing pathogens from entering the country via marine vessels and aircrafts. It also serves to ensure that necessary measures are taken to prevent the entry of infectious diseases carried by various transportation methods. The diseases targeted by quarantine inspections include 5 viral hemorrhagic fevers, smallpox, plague and pandemic influenza.

The major duty of quarantine station staff is to inspect people as they enter Japan from overseas for infectious diseases. Supplying overseas travelers with information about pandemic and endemic diseases, sanitary conditions at their destination, relevant preventative measures, giving consultations concerning necessary vaccinations, and actually administering vaccinations are also important duties of nurses working in quarantine stations. Quarantine station is the only facility in Japan for vaccinating against yellow fever.

Few Japanese actually recognize the role of quarantine station. Many travelers go abroad without any knowledge about various diseases found at their destination and possible infectious routes. Many are also unaware of preventative measures, and processes for coping if they experience health problems. Therefore, quarantine nurses have an important responsibility to enhance the awareness of travelers by supplying useful information that will ensure a comfortable overseas visit and also help prevent a possible nationwide disease outbreak upon their return to Japan.

Another important role for nursing staff at quarantine stations is to educate airport and port personnel by helping them gain relevant knowledge and management skills regarding infectious diseases. Having such knowledge and skills will help prevent their own infection and increase their ability to cope in emergencies.

In the future, nursing staff in quarantine stations could have the additional role of providing educational courses about various infectious diseases and preventive measures for groups of people traveling overseas.

## S7-2

## TRAVEL MEDICINE FROM THE PERSPECTIVE OF NURSING PROFESSIONALS Fri. Oct. 22

Sheila C. K. Hall

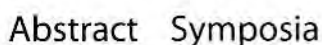
Faculty of Travel Medicine, Royal College of Physicians and Surgeons of Glasgow, Glasgow, UK

The majority of travelers from the UK requiring pre travel advice or immunisations, will attend their local General Health Care Practice – a free National Health Service provided by the government. Most travel health consultations are then delegated to the Registered Practice Nurses who work as part of the care team, TH being only a small part in the remit of their workload.

Occupational Health nurses have also taken on a prominent role as TH advisors providing care for their company employees, and recent years have seen an increase in private travel clinics being established, again with nurses taking a lead role.

For any health care professionals providing TH care, it is important that training opportunities are available. This need was identified by the Royal College of Nursing (RCN) in 2005 when they developed guidance for nursing staff entitled "Delivering travel health services"; a short document recognising that travel medicine had become a "nurse led" specialty and emphasising the requirements for basic training and standards of care. Guidance was expanded further in a 2007 publication "Competencies: an integrated career and competency framework for nurses in travel medicine". This document not only addresses training needs but also emphasizes and explains the importance of competent risk assessment – the foundation of any travel health consultation.

Nurses in the UK have become leaders in the development of TH services. This session is designed to encourage and inspire colleagues from other countries who are keen to become more involved within this valuable area of health care.



**THE ROLE OF NURSES IN TRAVEL MEDICINE FROM THE VIEWPOINT OF TRAVELLERS' BEHAVIOUR AND ACTIVITIES AT THE DESTINATION**    Fri, Oct. 22

James Cook University School of Nursing, Midwifery & Nutrition, Townsville, Queensland, Australia

Travel Medicine is primarily concerned with vaccinations and prophylaxis. However, there are a number of health problems that are not triggered by infectious agents but by travellers' behaviour and actions during the journey and at the destination. Lacking pills against imprudent behaviour, it is the purpose of comprehensive travel health education to alert to potentially harmful situations and suggest appropriate risk-minimising health behaviour. Health promotion and education are major roles within the professional scope of nurses. This places nurses at the forefront of travel health education and makes them indispensable in clinical travel health practice.

Travellers' actions affect the well-being of two different groups of people. On the one hand, they impact on their own well-being. Apart from the much discussed risk of gastrointestinal diseases and sexually transmitted infections, a wide range of less considered environmental hazards of geological, biological, physical or chemical nature are triggered by traveller behaviour and activities. On the other hand, travellers' behaviour also affects the physical and mental well-being of local people. Potentially harmful behaviour can range from aggressive bargaining and offensive clothing to careless actions causing serious harm to local residents. Nurses need to be aware of the increasingly complex web of interactions between their travelling clients and the human and natural context in which they travel. It is timely that travel health education moves beyond the classic instructions on tourists' own health. Modern Travel Medicine acknowledges the global nature of tourism and its ramifications on the health of travellers and locals alike. Nurses are at the forefront of this exciting movement and the ones who are best-prepared for this challenge.

## Memo



## S8-1

**TRAVEL VACCINES – CURRENT OPTIONS AND PRIORITIES** Fri. Oct. 22**Anthony Gherardin**

National Medical Advisor, Travel Doctor-TMVC, Melbourne, Australia

Vaccination remains one of the most effective preventive health strategies available to mankind. Specific vaccination for the prevention of travel related illness has been a part of the range of preventive interventions implemented at both public health and individual level. While most vaccines are developed for broad public health application, the identification of illness transmission by international travel means several vaccines are used to manage risk related to international travel. Much of the impetus for the development of travel vaccines has been through military imperatives. Historically some vaccines for travel related illness have had limited efficacy, while others have proven to be very successful in reducing morbidity or mortality of specific illness.

Today, the approach to vaccination of travellers is based on risk stratification. Vaccinations can be classified as “routine background” and “travel-specific”, the former group representing essential immunity required for all travellers, the latter group being determined by the risk for the traveller of the particular itinerary. Travel specific vaccines can be considered compulsory, or elective based on risk and affordability.

Not all vaccines are universally available, different vaccines are distributed and accessible variably globally, and for any disease, vaccines of different types and efficacy are available in different places.

Background immunisation for international travellers could include vaccination against tetanus, diphtheria, pertussis, polio, measles, mumps, rubella, varicella, and influenza. Elective travel vaccinations include hepatitis A, typhoid, hepatitis B, rabies, Japanese encephalitis, tick-borne encephalitis, yellow fever (which may be compulsory for certain travel), meningitis, cholera and ETEC, and tuberculosis.

The risk of illness for travellers is discussed, and a suggested approach to prioritising elective travel vaccines is provided. Priorities for future travel vaccines are discussed.

## S8-2

**FLU VACCINES FOR TRAVELERS: IS IT NECESSARY AND DO WE HAVE THE RIGHT PRODUCTS?** Fri. Oct. 22**Frank von Sonnenburg**

Department of Infectious Diseases and Tropical Medicine, University of Munich, Munich, Germany

In travelers flu is one of the most frequent diseases preventable by vaccines. Whereas flu is only occurring during the seasons in the North and in the South, it is prevalent year round in the tropics. However, availability of the appropriate vaccines is often a problem. Flu vaccine is only available before or during the flu season. In addition, appropriate vaccines are normally not available for travelers going to the other hemisphere. Furthermore, the tropics are the breeding place for new mutants to which the travelers may be exposed.

The presentation will discuss the various available products and their advantages and shortcomings for travelers.



**S8-3**  
**MATCHING INTERNATIONAL PRACTICE FOR JAPANESE TRAVELERS** Fri. Oct. 22**Mikio Kimura<sup>1</sup>, Takashi Nakano<sup>2</sup>**<sup>1</sup> Shin-Yamanote Hospital, Japan Anti-Tuberculosis Association, Tokyo, Japan<sup>2</sup> Kawasaki Hospital, Kawasaki Medical School, Okayama, Japan

Japanese travelers appear to be less protected than Western travelers against infectious disease risks, as shown in our recent studies (Kimura) on vaccinations and malaria chemoprophylaxis. Compared to Western travelers, Japanese travelers seemed more concerned about the vaccine adverse events and less confident about their effectiveness. This may be related to the general negative attitudes toward vaccination existing in the policy makers, physicians, and the public in Japan. Some vaccines were introduced in Japan many years after their introduction in other countries, and some that are licensed in Western countries are not licensed in Japan. The universal hepatitis B vaccination has not been adopted except for use of the vaccine in babies born to HBV-positive mothers after injection of the immunoglobulin.

We tried to find data on Japanese travel vaccines that would help improve travelers' health. Although the Japanese hepatitis A vaccine is not approved for use in children aged <16 years, it produced expected levels of antibodies in those age groups without causing significant adverse events. In our previous study (Kimura) on pre-exposure vaccination with the Japanese rabies vaccine, some individuals failed to develop protective levels of antibodies after 2 doses; this finding highlights the need for establishing an accelerated schedule although not approved. In fact, another study showed that all subjects who received the vaccine through an accelerated schedule developed protective levels of antibodies.

Although the vaccine situation in Japan differs from that in Western countries, the existing data on Japanese vaccines should be optimally utilized, and further studies relevant to travelers' health should be conducted when required. The guidelines on travel vaccinations established by our Japanese Society (committee chair, Nakano) may help improve the situation, for example, by encouraging medical personnel to adopt practices that are useful for travelers but not indicated in the vaccine package insert.

Memo



## S9-1

**MELIOIDOSIS IN TRAVELLERS** Fri. Oct. 22**Wirongrong Chierakul**

Department of Clinical Tropical Medicine and the Mahidol-Oxford Tropical Medicine Research Unit (MORU), Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Melioidosis is an infection caused by Gram-negative bacilli, *Burkholderia pseudomallei* which is endemic in Southeast Asia and Northern Australia. The organism is a saprophyte which is widespread in soil and water in various concentrations. Travellers to the endemic areas can expose to the disease via the two most common modes of transmission, inhalation and direct contact through skin wounds or mucosa. The organism is listed as a category B bioterrorism disease; hence the fear of the use of this organism to spread via the aerosolised in an airplane has been appraised. Due to the wide range of incubation period, day to decades, and clinical manifestations which can mimic many infectious diseases including tuberculosis, the awareness of the disease may be subtle outside the endemic regions in patients with remote history of travelling. The diagnosis is based on the culture and identification which may encounter with systematic problems in some parts of the world. The molecular methods for the diagnosis of the disease are not well established and lack of sensitivity. Routine empirical treatment used for suspected Gram-negative septicaemia consisting of 3rd generation cephalosporin and aminoglycosides is not effective as the gold standard treatment requires either high dose ceftazidime or drugs in carbapenem group such as imipenem/cilastatin or meropenem. The combination oral co-trimoxazole and doxycycline treatment in eradication phase up to 20 weeks is important to prevent relapse. Delay diagnosis, improper and inadequate treatment will lead to the uneventful or fatal outcomes, therefore the disease recognition and knowledge should be emphasised among healthcare workers dealing with travellers.

## S9-2

**INFLUENZA IN TRAVELERS** Fri. Oct. 22**Poh-Lian Lim**

Department of Infectious Diseases, Tan Tock Seng Hospital, Singapore

Influenza in travelers can be considered in three major categories that vary by risk of exposure, preventive advice and complications:

- 1) Seasonal influenza
- 2) Avian influenza (AI)
- 3) Pandemic influenza

The discussion will depend on destination and traveler characteristics. We will use clinical scenarios to explore various dimensions of this topic including:

- 1) Influenza vaccine
- 2) Oseltamivir prophylaxis
- 3) Masks and hand hygiene
- 4) Use of thermal scanners, isolation and quarantine during the 2009 pandemic
- 5) Expatriates working in AI-affected countries

We will also discuss our experiences in the H1N1-2009 pandemic of the introduction via travelers of this novel strain into Singapore, and how we fared with our pandemic preparedness efforts.



**S9-3**  
**TUBERCULOSIS IN TRAVELLERS: RISK AND SCREENING   Fri. Oct. 22**

**Hans D. Nothdurft**

Department of Infectious Diseases and Tropical Medicine, University of Munich, Munich, Germany

The annual risk of *Mycobacterium tuberculosis* infection may be 300-fold higher in some tropical and developing countries than in Western Europe and North America. Risk of exposure is influenced by local TB rates. WHO estimates of TB case rates per 100,000 population in 2005 are as follows: Southeast Asia 241, Western Pacific 140, Africa 242, Eastern Europe 47. By contrast, the incidence of TB in non-aboriginal people born in Canada was 1.9 per 100,000 in 2002.

Risk of exposure is related to duration of stay or travel in high-prevalence areas. Work in a health-care setting carries a particularly high risk of exposure to TB.

After infection with *M. tuberculosis*, indicated by tuberculin skin test (TST) conversion, an immunocompetent individual is estimated to have a 5% to 15% lifetime risk of progression to active TB. Co-infection with HIV is associated with the greatest risk of developing active TB.

One strategy for prevention of TB is regular tuberculin skin testing with consideration of chemoprophylaxis if infection occurs. Chemoprophylaxis with isoniazid can widely reduce the risk of active TB in positive individuals if sensitive to isoniazid and when compliance is high.

Travellers going to high-prevalence countries (e.g. 3 months; less, if risk is expected to be high) or working in a health-care setting in a developing country should be offered a standardized TST unless there is a past history of tuberculosis or a previous positive TST.

Interferon-Gamma Release Assays (IGRAs) have features more suitable for screening than TST, but they are still not validated for their capacity to predict progression to active TB.

New, rapid and simple-to-use diagnostic tools are needed. In Africa we evaluated the Xpert MTB/RIF test (Cepheid, USA), a cartridge-based real-time PCR assay that automates sample processing, amplification, detection of *M. tuberculosis* and resistance to rifampicin, with promising results.

Memo





## S10-1

**ADAPTATION TO HIGH ALTITUDE IN SHERPAS: GENETIC CONTRIBUTIONS OF THE POLYMORPHISMS IN THE ANGIOTENSIN-CONVERTING ENZYME GENE AND THE ENDOTHELIAL NITRIC OXIDE SYNTHASE GENE** Fri. Oct. 22

Masayuki Hanaoka

Shinshu University School of Medicine, Matsumoto, Japan

**BACKGROUND**

Sherpas adapt to high altitude so well that little acute or chronic mountain sickness has been documented in them. The adaptation to high altitude in Sherpas has been hypothesized to be due to genetic basis but has yet to be demonstrated.

**METHODS**

We enrolled 105 Sherpa volunteers permanently living at Namche Bazaar (3,440m) and 111 non-Sherpa Nepalese volunteers living in Kathmandu Valley (1,330m) in Nepal. The I/D polymorphism of the angiotensin-converting enzyme gene (ACE) and the Glu298Asp and eNOS4b/a polymorphisms of the endothelial nitric oxide synthase gene (eNOS) were identified by polymerase chain reaction (for I/D polymorphism) following restriction fragment length polymorphism (for Glu298Asp and eNOS4b/a polymorphisms). In addition, the ACE activity in serum was measured.

**RESULTS**

The I dominant genotype distribution (II & ID) and the I allelic frequency of ACE gene were significantly more prevalent in Sherpas (94.3% and 73.3%, respectively) than non-Sherpas (85.6%,  $p = 0.035$  and 64.0%,  $p = 0.036$ , respectively). Moreover, the serum ACE activity of Sherpas at high altitude ( $14.5 \pm 0.4$  IU/L/37°C) was statistically similar to that in non-Sherpas at low altitude ( $14.7 \pm 0.4$  IU/L/37°C,  $p = 0.755$ ). Meanwhile, the frequencies of the Glu and eNOS4b alleles of eNOS gene were significantly higher in Sherpas (87.5% and 96.7%, respectively) than non-Sherpas (77.9%,  $p = 0.036$  and 90.5%,  $p = 0.009$ , respectively). In addition, the combination of the wild-type Glu298Glu and eNOS4b/b genotypes was significantly greater in Sherpas (66.7%) than non-Sherpas (47.7%,  $p = 0.008$ ).

**CONCLUSIONS**

The over-represented I allele of the ACE gene and the prevalent wild Glu298 and eNOS4b alleles of the eNOS gene are associated with the high-altitude adapted Sherpas at high altitude. The low-altitude level of ACE activity in Sherpas at high altitude may benefit to the vascular physiology in adapting to high altitude.

## S10-2

**HOW MUCH OF THE INTERACTION BETWEEN GENETICS AND ENVIRONMENT AGGRAVATES A DISEASE DURING TRAVEL?**

Fri. Oct. 22

Qadar Pasha

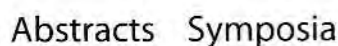
Institute of Genomics and Integrative Biology, CSIR, Delhi, India

Clinical and physiological aspects associating with aggravation of a disease during travel are well established; whereas, genetic approach in identifying functional variants has added considerable knowledge in elucidating an individual's susceptibility. Here, we provide an example of the susceptibility of an individual during travel to a hitherto hidden disorder which surfaces upon exposure to a new environment such as hypobaric hypoxia of High-altitude (HA). Since time unknown, HA has attracted mankind for various reasons; alongside in package came adaptation or HA diseases viz, mountain sickness, HA pulmonary edema (HAPE) and HA cerebral edema (HACE). We illustrate our relevant findings, which once established may influence predisposition and therapeutics.

In a case-control study consisting of HAPE-patients, HAPE-resistant sojourners (travelers) and highland natives (non-travelers), individual allele/genotype, haplotypes, gene-gene interactions and relevant biomarkers were analyzed for correlation and association with health or diseased-state. We present the findings on two select genes namely, NOS3 and ADRB2.

The three groups differed significantly for the allele/genotype distribution at a given locus. The frequencies for alleles 894G and 4b of NOS3 were higher in highland natives than the HAPE-resistant travelers (controls,  $p < 0.05$ ). Conversely, over-representation of 894T and 4a alleles was observed in those travelers who acquired the disease, HAPE (patients,  $p < 0.05$ ). Genotypes-combination analysis revealed over-representation of GGbb of NOS3 in the controls and a reverse trend in the patients ( $p < 0.05$ ). The higher or lower NO levels correlated with respective variants ( $p < 0.0001$ ). The haplotype 46G\_79C\_523C of ADRB2 was significantly over-represented in HAPE-r ( $p = 0.0001$ ).

A particular genetic set up associating with a disease could be a relevant predisposing marker to the hypobaric hypoxia at HA.



S10-3

STUDY OF THREE TYPES OF ZOONOSIS IN TIBETAN ANTELOPES AND THEIR DERMATOZOON Fri. Oct. 22

Ri-Li Ge, Haisheng Wu, Hongjian Chen, Ning Yang, Yi Zheng

Medical College of Qinghai University, Xining, China

Tibetan antelopes are a protected animal in China, a specific animal species characterized as native to the Qinghai-Tibet Plateau. Ordinarily, they are active at an altitude of around 4,000 meters above sea level. Their main habitats in China are Kekexili in Chinghai, the Qiangtang Natural Reserve in the Tibetan Autonomous Region and the Altun Mountains Natural Reserve in the Xinjiang-Uighur Autonomous Region. They are also sometimes seen in Ladakh, on the Chinese border with India. Due to large scale poaching beginning in the latter 1980s and the affects of land development, their ecological status has become aggravated, thus their numbers have rapidly decreased. They have already have been registered with CITES, the Convention on International Trade in Endangered Species. Researchers in and out of China have been conducting cytological and molecular biological researches with the cadavers of Tibetan antelopes, but there are only a few reports regarding zoonosis to Tibetan antelopes and man.

In 1975 in China, it was reported for the first time that sheep living in the Tibetan area are one of the infectious sources of black plague, and 2 cases of infection from Tibetan Antelopes to humans were reported. Dogs, sheep and cows in grazing areas of the Tibetan Plateau are carriers of echinococcosis. Sheep and yak in the area have a high rate of infection. Brucella infection carried by sheep is one type of infectious disease common to man and animals. We conducted research of these 3 types of infectious diseases common to man and animals using 6 adult Tibetan antelopes as subjects. Neither bacillus pestis nor Brucella infection were detected in serological examinations on all subjects, but 33% of them did show echinococcosis. All body surfaces showed parasitism of sheep ticks and Tibetan antelope skin flies.

This study was conducted for one month, from March to April in 2009, as a part of "Tibetan Antelope Genome Research" under the National Natural Science Foundation, led by Professor Rili Ge of the Medical College of Qinghai University. In this study, we examined blood and parasites on the surfaces of the bodies of 6 male Tibetan antelopes (adult) acquired in the Kekexili area in order to study and analyze zoonosis carried by Tibetan antelopes.

Memo



## S11-1

**MEDICAL INTERPRETING IN JAPAN Sat. Oct. 23****Yasuhide Nakamura**

Faculty of Human Sciences, Osaka University, Osaka, Japan

**Issues:** In 2008, there were about 2.2 million foreign residents living in Japan, from 190 different countries; mainly China, Korea, Brazil, the Philippines, and the USA. 6.1% of the total number of marriages in Japan were international marriages and 2.2% of newborns had at least one parent of non-Japanese nationality.

**Description:** Professional interpreters with a deep knowledge of medical care are needed to ensure that foreign residents receive the same level of healthcare and welfare services as Japanese people; to advocate their basic human right to live a healthy life; and to secure the safety of tourists visiting Japan.

The Japan Association of Medical Interpreters (JAMI) was established in February 2009 to develop systems to ensure non-Japanese-speaking foreigners receive the same level of medical care as Japanese speakers; to guarantee the proper remuneration and status of medical interpreters; and to enhance their proficiency.

**Lessons learned:** The roles of professional medical interpreters in Japan are as follows: to provide a precise explanation of the patient's history and chief complaints, the diagnosis, and the recommended treatment; to enable interactive communication between medical staff and patients; and to bridge communication gaps between patients and medical service providers. Medical interpreters are also expected to show foreign residents how to utilize the healthcare/welfare system.

**Recommendations:** The roles of JAMI are to establish a nationwide network and exchange information about medical interpreting; to accumulate knowledge about medical interpreters through Evidence-Based Medicine (EBM); to establish ethical codes for medical interpreters; and to advocate the necessity and importance of medical interpreters. Medical interpreters, local governments, and NGOs have made efforts to improve communication between health providers and users. JAMI is expected to be a platform where medical interpreters, health professionals, government bodies, and NGOs from different fields can get together to share their expertise.

## S11-2

**MEDICAL INTERPRETING IN TAIWAN Sat. Oct. 23****Cheng-Shu Yang**

Graduate Institute of Cross-Cultural Studies, Fu Jen Catholic University, Xinzhuang, Taiwan

According to statistics from the end of 2009, there are 553 thousand foreign nationals resident in Taiwan (not including residents from Mainland China). Among them, 358 thousand are foreign workers, 63 thousand are foreign spouses who have yet to receive R.O.C. citizenship, and 144 thousand are foreign spouses who have received R.O.C. citizenship (not including spouses from Mainland China, Hong Kong and Macau). In other words, the total population of foreign nationals who do not speak Mandarin Chinese as a native language is approximately 700 thousand, or 3% of the total population.

These foreign nationals generally live on the outskirts of the larger cities, with 174 thousand in northern Taiwan, 54 thousand in central Taiwan, and 57 thousand in southern Taiwan. In terms of nationality, 140 thousand come from Indonesia (among them, 120 thousand work as caregivers), and 72 thousand come from the Philippines (among them, 29 thousand work as domestic workers). The Vietnamese account for the largest number of overseas spouses, at 83 thousand people, followed by Indonesia with 26 thousand, Thailand with 8 thousand, the Philippines with 6.7 thousand, and Cambodia with 4,345 people.

However, major gaps exist in terms the quality and quantity of medical language services, which are very important in the lives of these foreign nationals. For English, the average satisfaction level for English medical services between 2003 and 2006 was 40%. More work will be required to reach the government's target of 65%. Indonesian, Vietnamese and Filipino medical interpretation services – the languages with the highest demand among migrant workers and overseas spouses – are limited to pregnancy and births by foreign spouses and medical care for infants and toddlers. However, some small comfort can be drawn from the fact that the medical interpretation program has received approximately 370 thousand US dollars annually in funding since its establishment in 2007, this money goes towards medical interpretation services for Vietnamese, Indonesian, Thai and Cambodian speakers. Additionally, the government has established an Interpreters Database, which allows for looking up interpreters information, statistics, interpreter service records, training information, and the maintenance of basic data on interpreters. The project also authorizes non-governmental organization to seek funding from the government for training courses.

However, according to the contents of medical services for foreign nationals in Taiwan, male migrant workers and other overseas workers (14 thousand), students (17 thousand), dependents (45 thousand) and the 3.5 million annual tourists to Taiwan are still categorized as "other" in the medical interpretation field.





## S11-3

**MEDICAL PROBLEMS OF INBOUND TOURISTS IN JAPAN** Sat. Oct. 23**Nobuaki Matsuo**

Kobe Shukugawa Gakuin University, Hyogo, Japan

In Japan, the Tourism Nation Promotion Basic Law was enacted in 2007, and the number of inbound tourists is increasing. The most important things for tourists are safety and security. While people can travel relatively safely in Japan compared with foreign countries, actually they are not always satisfied in terms of safety, particularly of medical services. We are going to discuss the following medical problems of inbound tourists in Japan.

1) The Language Problem: An adequate explanation should be provided to the people who enjoy medical services so that they will not feel worried or unconvinced. Unfortunately, there are very few doctors who can speak fluent English or other languages than Japanese. Visa requirements have been eased in recent years, and many Chinese tourists are visiting Japan. The necessity of medical interpretation is increasing under such circumstances. In the field of medical interpretation, cultivation of human resources and the system development are now being promoted though gradually.

2) The Equality Problem in Medical Services: Japanese national insurance covers Japanese people and foreign residents, but not foreign tourists. Consequently inbound tourists must receive medical treatment at their own expense. It can be charged more than the government-designated medical expense, so it can be profitable for the hospital. Therefore, there is a possibility that equality in medical services could be lost if patients who are treated at their own expense should be given priority. Equal provision of medical services must be maintained regardless of insurance.

3) Simplicity of Hospitals: Japanese hospitals are relatively simple and sometimes too plain. Most Chinese people visiting Japan for a medical checkup are so-called higher socioeconomic group. There are few hospitals whose facilities can satisfy them.

There are some other problems but we believe we could solve them and contribute to the development of tourism industry.

## S11-4

**MEDICAL TOURISM IN THAILAND** Sat. Oct. 23**Som-arch Wongkhomthong**

Bangkok Hospital Medical Center, Bangkok, Thailand

Recently, Thailand has drawn a lot of attention from patients in many countries and is the forefront of those countries where patients go as medical tourists. In 2009, it was estimated that 1.4 million international patients from all corners of the world received medical treatment in Thailand. The trend has been increasing dramatically since 2000. In principle, any international patient who decided to have treatment abroad looks for a high level of clinical competence, using the state-of-the-art medical technology, delivering by ethical and dedicated professional staff, in gentle kind and compassionate manner, with respect to their beliefs and needs. Besides high-technology and compassionate care from the medical and nursing staff, they also look for timely service, with no waiting time at an appropriate cost.

Although there are many hospitals in Thailand which provide treatment to international patients, two hospitals, namely Bangkok Hospital Medical Center and Bumrungrad International were selected by MTQuA (Medical Travel and Tourism Quality Alliance) as among the Top 10 World's Best Hospitals for Medical Tourists in 2010. There are 7 criteria that MTQuA used to rate the quality of the best hospitals for medical tourists. These are; Medical quality and outcomes, International patient management, International patient marketing, Value for service, Patient safety and security, Transparency of billing and lastly Attention to the unique needs of the medical traveler.

Although Europe and the United States have been receiving international patients for treatment in their countries for many centuries, there is a strong trend that many international patients will look for treatment in Asia. In this globalized world, there will be less and less boundaries for healthcare. More people will travel to get immediate, high quality medical services at less cost, in locations where it is convenient and safe for them to travel and stay.



## S12-1

**REGIONAL TRENDS IN HIV – OVERVIEW EPIDEMIOLOGY OF HIV/AIDS IN ASIA-PACIFIC REGION** Sat. Oct. 23**Taro Yamamoto, Takeshi Yoda**

Department of International Health, Institute of Tropical Medicine, Nagasaki University, Nagasaki, JAPAN

On July 13th, 2010 UNAIDS published the new AIDS outlook report. According to the report, the number of the people living with HIV/AIDS is approximately 33.4 million in 2008. In Asia, an estimated 4.7 million people were living with HIV in 2008. India accounts for roughly half of Asia's HIV prevalence. Although the number of new HIV infections decreased gradually since 2001, HIV prevalence is increasing in some parts of the region, such as Bangladesh and Pakistan. In many Asia Pacific countries, sex workers are at an extremely high risk of HIV infection. For example, in Myanmar, more than 18% of female sex workers are infected with HIV. And in China, 60% of female sex workers do not consistently use condoms with their clients. China is also the world's largest population of injecting drug users. The estimated numbers of injecting drug users are 2.4 million in China. Several countries include China have taken steps to introduce programs to prevent new infections among injecting drug users. Although Methadone Maintenance Therapy (MMT) was introduced in China, more than a half of the users were dropped off.

At the viewpoint of HIV treatment, 37% of those in Asia needing antiretroviral therapy were receiving it. This represents a sevenfold increase in treatment access in five years.

The HIV/AIDS prevention in Asia-Pacific region is improving overall; however, it is steadily expanding from specific populations (sex workers, men who have sex with men, injecting drug users) into lower-risk populations through transmission to the sexual partners of those most at risk.

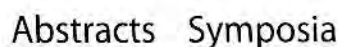
## S12-2

**TRAVELERS' RISKS OF SEXUALLY TRANSMITTED DISEASES** Sat. Oct. 23**Karin Leder**

Travel Medicine and Immigrant Health, Royal Melbourne Hospital, Victoria, Australia

Infectious Disease Epidemiology Unit, Monash University, Victoria, Australia

It is estimated that nearly a million people acquire a sexually transmitted diseases (STD) every day. The highest annual incidence rates for new STD infections among local populations occur in South/Southeast Asia. Travelers are at a particularly high risk STDs for a number of reasons, including: a high prevalence of STDs at many common tourist destinations; high frequency of casual sexual encounters; and poor adherence with preventive measures (e.g. condoms). Travelers are more likely to engage in sexual encounters because of anonymity, removal of inhibitions, and alcohol usage patterns while abroad. Young single males, long-term travelers, expatriates, VFRs, military and MSMs are at greatest risk of STDs. While it is difficult to determine the exact travel-attributable proportion of STDs, it is clear that travelers serve as important vectors for the global spread of STDs, including multi-resistant strains of pathogens. Improvements in the preventive practices among travelers are needed.



**S12-3**  
**TRAVEL RELATED ISSUES FOR HIV POSITIVE TRAVELERS** Sat. Oct. 23

Annelies Wilder-Smith

Department of Medicine, National University of Singapore, Singapore

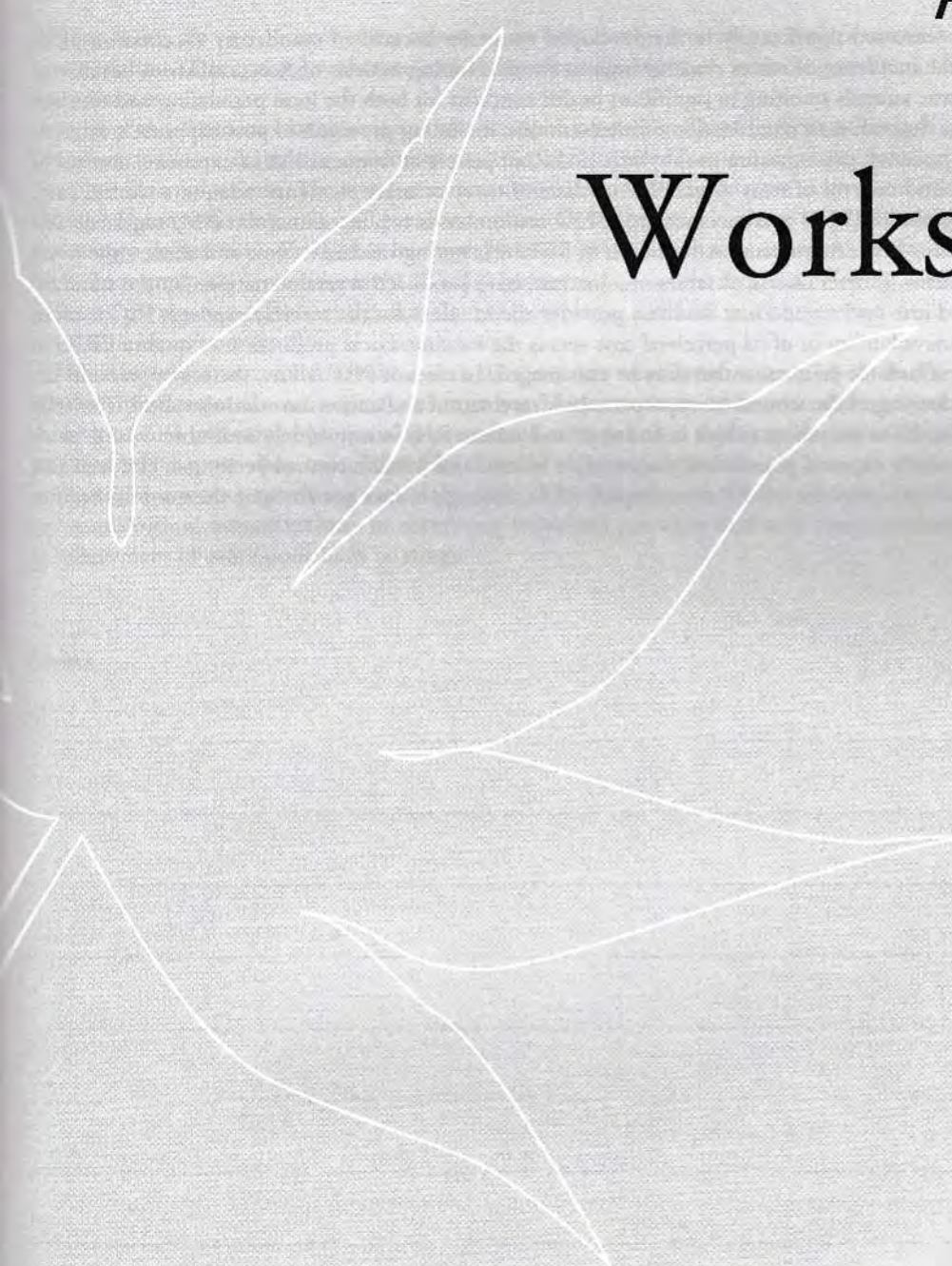
As a result of improved health and prognosis, HIV-infected persons are increasingly likely to engage in travel-related activities that may expose them to other diseases. Special issues for HIV-infected travellers include increased susceptibility and morbidity to many tropical infections; decreased immune response to some vaccines and risk of more severe adverse events to live vaccines; drug interactions; and travel restrictions. Low CD4 counts and replicating HIV infection are associated with a reduced immunogenicity of most vaccines. Antibody titres after vaccination are lower shortly after vaccination and they decline more rapidly, in particular in patients with CD4 counts below 200/mm<sup>3</sup>. Live vaccines such as yellow fever vaccine are contraindicated for those with CD4 counts below 200. Worsening HIV-related immunosuppression may lead to increasing parasite burden and more severe manifestations of malaria. Chemoprophylaxis should preferably be started well before travelling as adverse events may necessitate a change in regimen. HIV-infected patients may be receiving other medications, such as co-trimoxazole (trimethoprim-sulfamethoxazole) as prophylaxis for opportunistic infections, and/or antiretroviral therapy. There is limited information on drug interactions between ART and artemisinin-based combination therapy (ACT) for malaria. In one study, treatment of uncomplicated malaria with the ACT artesunate-amodiaquine was highly effective in both HIV-infected and uninfected children. Importantly, however, there was a significant 7-8 fold increased risk of neutropenia 14 days after initiation of treatment among HIV-infected children compared with uninfected children. Although HIV infection and co-trimoxazole may also depress neutrophil counts, there is insufficient information on the interaction of amodiaquine-containing ACT regimens with co-trimoxazole and HIV infection to make recommendations. The drug of choice for malaria prophylaxis is doxycycline in most cases, unless contraindicated or known resistance to malaria.

Memo

## Symposia







Abstracts

# Workshops

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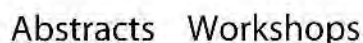
Protecting Travelers to and from East Asia

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## DERMATOLOGY IN TRAVEL MEDICINE      Fri. Oct. 22

<sup>†</sup> Department of Infectious and Tropical Disease, Hospital Pitié-Salpêtrière, Paris, France

<sup>2</sup> Chaim Sheba Medical Center, Tel Hashomer, Israel

Dermatoses are one of the leading causes of consultation in returning travelers, accounting for approximately 20% of consultations. The spectrum of travel-related dermatoses is broad, including cutaneous infections and environmental skin diseases.

Most of the cutaneous infections are of cosmopolitan origin. These infections include skin and soft tissue infections (pyoderma, abscess, cellulitis...), dermatophytosis, and scabies. Tropical skin infections are less commonly observed than cosmopolitan infections. The most common tropical skin conditions are hookworm-related cutaneous larva migrans (HrCLM), tungiasis, myiasis, and localized cutaneous leishmaniasis. Some tropical diseases may also present as febrile exanthema or urticaria. HrCLM is the most frequent skin disease seen in returning travelers. The characteristic sign of HrCLM is creeping dermatitis. HrCLM is by far the most frequent cause of creeping dermatitis but the number of other diseases giving rise to this cutaneous sign is increasing. HrCLM is distinguished from the other causes of creeping dermatitis by its specific clinical characteristics.

The most common environmental skin diseases are sunburns, arthropod-related reactions, contact dermatitis, marine-life dermatitis and superficial injuries. They are more often seen during travel than after travel. However arthropod bite and stings are usually associated with pruritus that may be not self healing and become chronic. In addition this is quite often complicated by skin and soft tissue infection.

Physicians seeing returning travelers with skin diseases must keep in mind that the most common causes of dermatological consultations in returning travelers are skin and soft tissue infections which are usually the consequences of arthropods bites or stings.

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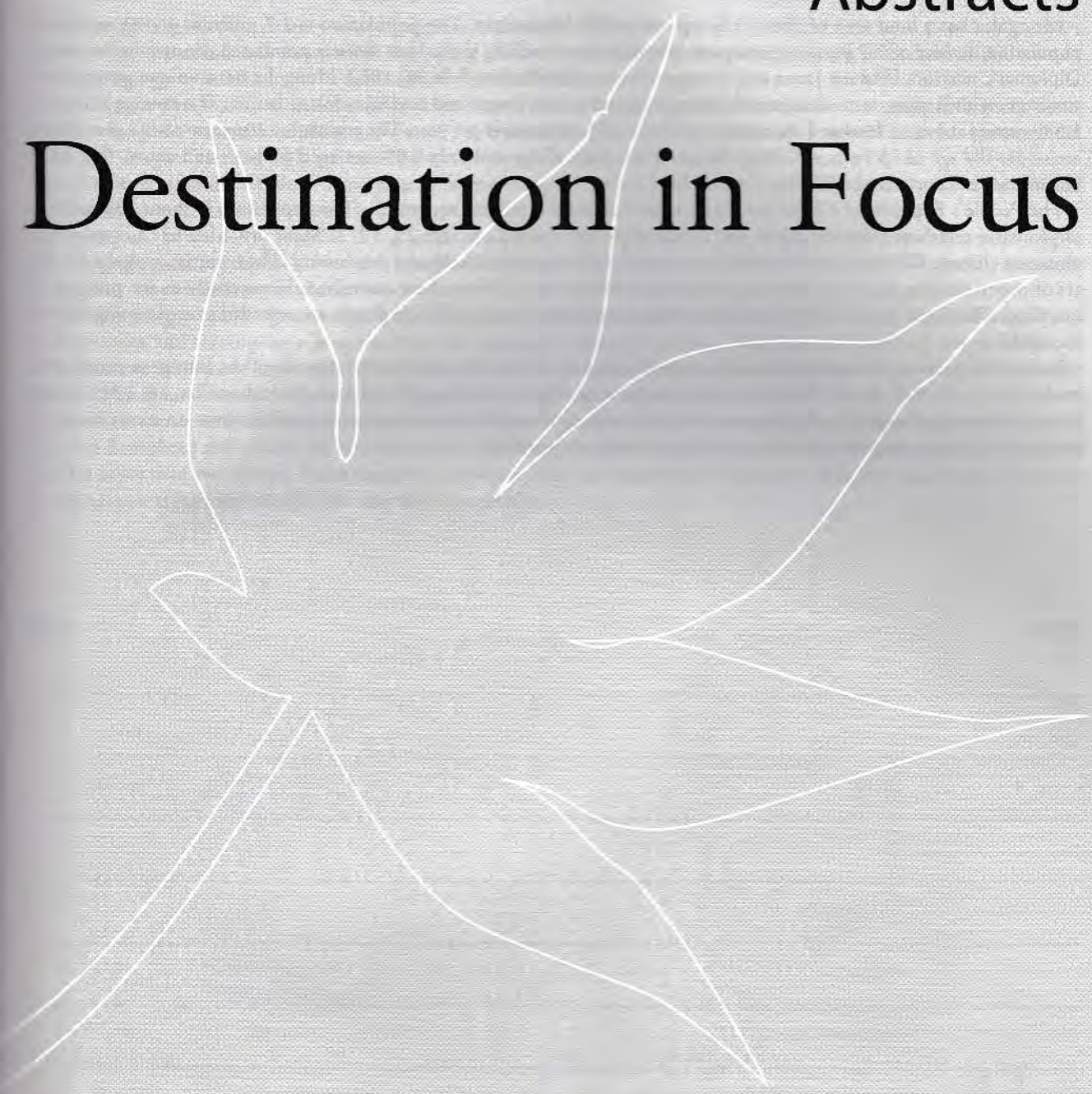


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Abstracts

# Destination in Focus



8th Asia-Pacific  
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Protecting Travelers to and from East Asia





DIF1

CHINA/MONGOLIA Thu. Oct. 21

Zhiyong Liu<sup>1</sup>, Changwei Zhan<sup>2</sup>

<sup>1</sup> China International Travel Healthcare Association, China

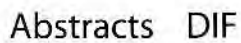
<sup>2</sup> Beijing Care Hospital, China

Mongolia has a land area of about 1.6 million square kilometres. The population is 2.7 million, giving an overall population density of 1.7 persons per square kilometre, and making it the least densely populated country in the world. Diplomatic relations between Japan and Mongolia were established on Feb. 24, 1972. Mongolia has a unique geographical structure, with steppes, semi-deserts and deserts, high mountain ranges and dry, lake-dotted basins. The average altitude is 1,580 metres above sea level and the average rainfall is 203 millimetres per year. The population structure reveals that 27.6% are under the age of 15 years, 68.4% between 15-64 years of age and only 4.0% are aged 65 years and above. The adult literacy rate is reported to be 97.8%.

The People's Republic of China has a land area of about 9.6 million square km. The population is about 130 million. Diplomatic relations between Japan and China were established on Sep. 29, 1972. Most of China has a continental monsoon climate. China is a country with a very early civilization and a long and rich history. The compass, gunpowder, the art of paper-making and block printing invented by the ancient Chinese have contributed immensely to the progress of mankind. The Great Wall, Grand Canal and other projects built by the Chinese people are regarded as engineering feats in the world.

In the 13th century, Mongolian Empire occupied almost all of Asia. Marco Polo became one of the European people who could travel in the Silk Road. Diplomatic relations between China and Mongolia were established on Oct. 16, 1949. China is now Mongolia's largest trading partner and investor. Both sides share identical or similar views on many issues in international affairs, support each other and enjoy fruitful cooperation.

Memo



INDONESIA Fri. Oct. 22

<sup>1</sup> Digestive Disease Center, Medistra Hospital, Indonesia

<sup>2</sup> National Medical Advisor, Travel Doctor-TMVC, Melbourne, Australia

Preparation must include education of traveler's behavior regarding food safety and sex. Vaccinations against hepatitis A, hepatitis B, typhoid and cholera are recommended. Malaria prophylaxis should be considered for travelers going to endemic area for more than two weeks. Those intend to stay more than one month in rural areas in Bali may need extra preventive measures such as Japanese encephalitis and rabies vaccination.

Memo

**DIF3****THAILAND Sat. Oct. 23****Watcharapong Piyaphanee**

Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Thailand is among the most popular tropical destination in Southeast Asia. Each year more than 10 million foreigners travel to Thailand and many of them use Thailand as their bases to explore other countries in Southeast Asia. This session begins with brief introduction of Thailand, common problems among travelers to Thailand and current vaccine and malaria recommendation.

Some interesting cases will be presented and open for discussion. Practical point and/or pitfall will be highlighted.

**DIF3****DENGUE FEVER AND DENGUE HEMORRHAGIC FEVER IN TRAVELER: HOW TO AVOID PITFALLS Sat. Oct. 23****Terapong Tantawichien**

Division of Infectious Diseases, Department of Medicine, Chulalongkorn University, Bangkok, Thailand

Dengue fever (DF) and dengue hemorrhagic fever (DHF) are re-emerging diseases that are endemic in the tropical world. The global prevalence of dengue cases has increased in South-East Asia, Africa, the Western Pacific and the Americas. Several Southeast Asian countries show that age of the reported dengue cases has increased from 5-9 years to adolescent and adults. Dengue infection in adolescent and adult have been recognized as a potential hazard to tourists returning from endemic areas especially Thailand and other countries in Southeast Asia. Dengue is a risk for all tourists equally without respect to gender, pre-travel preparation, or duration of travel. The manifestations of symptomatic dengue infections are mild febrile illness to a severe form with clinical bleeding and shock caused by plasma leakage (dengue shock syndrome). Emergence of DF with unusual bleeding such as bleeding from nose, gum and upper gastrointestinal tract and DHF in the older population has been an apparent increase in the complications of dengue infection seen among travelers. Close monitoring of vital signs and Hct levels to assess the severity of hemorrhage and shock are required to reduce morbidity and mortality. Increase in liver enzymes found in both children and adults indicated liver involvement during dengue infections, so dengue infection should be included in the differential diagnosis of viral hepatitis. Other unusual manifestations of dengue infection in adult include severe internal hemorrhage, cardiac arrhythmia, adult respiratory distress syndrome, co-infection with other tropical infectious diseases and neurological phenomena such as myelitis, neuritis, and coma resulting from encephalopathy. Currently, no specific therapeutic agent exists for dengue. The early recognition of dengue infection, bleeding tendency, and signs of circulatory collapse would reduce morbidity and mortality rate in adult patients with dengue infection.

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Abstracts

# Luncheon Seminars

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**LS1 sanofi pasteur****FLAVIVIRUS INFECTIONS IN TRAVELERS Thu. Oct. 21****Joseph Torresi**

Department of Infectious Diseases, Austin Hospital, The University of Melbourne, Melbourne, Australia

Flavivirus infections are not an infrequent problem encountered by international travelers. Five groups of viruses with varied geographic distributions pose the greatest risk for travelers. The infections produced by these viruses include yellow fever which is present in Sub-Saharan Africa and South America; Japanese encephalitis (JE), present in Asia, the Torres Strait islands and the far north of Australia; Tick borne encephalitis (TBE) in Europe; West Nile fever in Africa, Middle East, Europe, North America; Dengue fever present in Asia, South America, the Pacific and Africa. At present vaccines are available for yellow fever, JE and TBE while vaccines for West Nile fever and Dengue fever are under development.

JE is present throughout Asia, a region supporting more than 3 billion people (60% of the world's population). Each year 35,000 cases of JE are reported, with an estimated 10,000 deaths annually. Of survivors up to 50% are left with permanent neuropsychiatric sequelae. The risk of JE in travelers is poorly documented however the estimated risk of JE for the average tourist travelling to an endemic area is <1:1,000,000. This has very much been based on experiences in non-immunized intensely exposed soldiers in Asia in whom rates of 0.005 to 2.1 per 10,000 per week have been reported. The consequences of JE in travelers are not trivial with a reported case-fatality rate of 18% and long term neurological sequelae in 44%. Currently three vaccines are available, having replaced the Biken vaccine. All three are based on the neuro-attenuated SA14-14-2 strain of JE virus. These vaccines include IXIARO (an inactivated vaccine), CD-JEVAX (live attenuated vaccine) and IMOJEV™ (a live recombinant viral vaccine). All three vaccines produce high seroconversion rates and high GMTs of JE neutralising antibodies.

Dengue fever has now been reported in over 100 countries with 3.6 billion people living in endemic regions. SE Asian and Western Pacific regions bear 75% of the global burden of dengue fever. Dengue fever is a common cause of fever in travelers returning from endemic regions. The incidence of dengue fever in travelers has been reported to be as high as 30/1,000 person-months of travel. However, a cyclical variation in the incidence in travelers has been noted and this typically follows the patterns of transmission in populations living in endemic countries. In addition, a marked seasonal variation in incidence has also been noted in travelers, with peaks in transmission during or soon after the wet seasons in individual endemic countries. Currently there is no commercially available vaccine for dengue fever, however, a quadrivalent live attenuated recombinant vaccine is currently in phase III clinical trials. This vaccine results in seroconversion rates approaching 100% for DEN 1 to 4 and holds promise as an effective preventative vaccine for dengue fever.

Yellow fever is devastating viral disease spread by the *Aedes aegypti* mosquitoes and causing hepatitis and encephalitis. The virus is endemic in tropical South America and Sub-Saharan Africa. Two transmission cycles occur: an urban cycle that is responsible for epidemic disease transmitted from infected to susceptible persons by mosquitoes and a jungle cycle, representing enzootic disease transmitted among non-human primate hosts by a variety of mosquito vectors, which may also bite and infect humans. Both transmission cycles occur in Africa, while jungle transmission predominates in South America. The risks of illness and death due to yellow fever in an unvaccinated traveler in Africa has been estimated at 1:1,000 per month and 1:5,000 per month respectively during a non-epidemic period. In South America the risk of illness and death are 1:10,000 and 1:50,000 per month respectively. A safe and effective, single dose vaccine is available and it confers 10 years of protective immunity. However, two important adverse events have been reported with yellow fever vaccine. These include vaccine-associated neurotropic disease (estimated incidence 0.8 per 100,000 dose administered) and vaccine-associated viscerotropic disease (estimated incidence 0.9 to 2.5 per 1,000,000 doses). In spite of these rare events the vaccine is highly effective, is a requirement of entry into endemic countries and the risk-benefit ratio is still in favour of vaccinating non-immune travelers.

**LS1 sanofi pasteur****IMOJEV™, THE NOVEL SINGLE DOSE JAPANESE ENCEPHALITIS VACCINE Thu. Oct. 21****Alain Bouckennooghe**

Associate Vice President and Health of Clinical R&amp;D for Sanofi Pasteur in Asia, Singapore

Japanese encephalitis (JE) is the most important cause of childhood viral encephalitis in Asia. The annual incidence of the disease is estimated at 50,000 cases which results in 10,000 to 15,000 deaths and up to 50% of survivors exhibiting neurological sequelae. An estimated 3 billion people are at risk, living in Eastern and Southeastern Asia.

Sanofi Pasteur has developed a new, single-dose, live-attenuated, chimeric virus vaccine JE-CV (IMOJEV™). The vaccine virus comprises a genomic ribonucleic acid (RNA) encoding the pre-membrane and envelope proteins of the SA14-14-2 live-attenuated JE vaccine virus, and the capsid and non-structural proteins of the YF-17D live-attenuated yellow fever vaccine virus. Genetic stability of the resulting JE vaccine virus has been established in both in vitro and in vivo animal models. The vaccine is produced in serum-free Vero cell culture and is a thermally stable lyophilized product in single-dose and multidose vials.

Clinical trials in US and Australian adults showed that the immunogenicity of a single dose of JE-CV is non-inferior to a three-dose regimen of mouse brain-derived JE vaccine (MBDV), with a seroconversion rates 99% after 28 days of vaccination with JE-CV, compared with 95% with MBDV. Furthermore, 94% of JE-CV recipients seroconverted within 14 days. Long-term persistence of protection was shown in 84% of subjects after 5 years of follow-up.

Clinical evaluation was then conducted in children in Asia. In 2–5 year-olds who had received primary vaccination with MBDV at 12–18 months of age, one dose of JE-CV induced 100% seroprotection within 28 days. In JE-naïve 12–24 month old toddlers, seroprotection was greater than 95% 28 days after one dose.

Safety data collected throughout clinical development, including clinical adverse event reporting and biological safety evaluation, support the good safety profile of the vaccine. Injection site and systemic reactions reporting rates have been comparable with those observed after placebo or active control vaccinations.

Five year follow-up studies are ongoing, notably to evaluate the persistence of vaccine-induced antibodies in children.

Clinical trial results support the administration of a single injection of this new vaccine for the protection of both adults and JE-primed and JE-naïve children as young as 12 months against Japanese encephalitis. Licensure of IMOJEV™ will represent the first practical application of the innovative chimeric virus technology for the protection of humans against flaviviral diseases.

**LS1 sanofi pasteur****ENTERIC INFECTIONS IN TRAVELLERS-NEED FOR IMMUNIZATION Thu. Oct. 21****Robert Steffen**

Division of Epidemiology and Prevention of Communicable Diseases, WHO Collaborating Centre for Travellers' Health, University of Zurich, Institute for Social and Preventive Medicine, Zurich, Switzerland

Enteric infections in travelers originating in industrialized countries frequently occur when they are visiting destinations with suboptimal hygienic conditions. In developing countries the incidence rate of travelers' diarrhea (TD) exceeds 20% incidence for a two weeks' stay. The most frequent pathogens associated with TD are enterotoxigenic *E. coli*. Other enteric infections, such as hepatitis A or typhoid fever have a far greater impact. For hepatitis A the monthly incidence rate among non-immune travelers is 30 per 100,000. These patients on average are incapacitated for several weeks or months, depending on their age. The case fatality rate in those aged above 40 years exceeds 2%. Similarly, typhoid fever has a monthly incidence rate of 30 per 100,000 among travelers to South Asia (e.g. India). Among travelers, the case fatality rate is low nowadays, but nevertheless this remains a serious infection. Lastly, cholera is detected in 0.3 per 100,000 travelers, but this infection for a variety of reasons is underreported. Typically, Japanese travelers have in the past few years imported several hundred cases of hepatitis A, of typhoid, and of cholera from abroad to Japan.

Immunizations are available against all four pathogens. Vaccines against hepatitis A have been introduced almost 20 years ago; they offer a superb protective efficacy and also tolerance is excellent. The World Health Organization (WHO) recommends immunization for all non-immune travelers to endemic areas and most national expert groups issued similar guidelines. Typhoid vaccination is primarily recommended for those visiting high-risk destinations or those with a high-risk profile (primarily those visiting friends and relatives, 'VFRs', and those lacking gastric acidity), but also for anyone staying for a prolonged period in any developing country. The oral cholera vaccine available in many parts of the world has the advantage of additionally offering some 60% protective efficacy against heat-labile enterotoxigenic *E. coli*, basing on structural, functional and immunological similarities of both toxins. By that it also does reduce the rate of TD. Despite of the clear recommendations mentioned above, only 5.6% of at-risk Japanese travelers are immunized against hepatitis A, 0.3% against typhoid, and 4.0% against cholera.



**LS2 GlaxoSmithKline K.K.****IMPORTED MALARIA: A FAILURE OF PREVENTION** Fri. Oct. 22**Jay Keystone**

Toronto General Hospital, University of Toronto, Toronto, Canada

Globally, malaria continues to be a scourge with more than 250 million cases and 1 million deaths annually.

A 5th species of malaria, *Plasmodium knowlesi*, is now spreading through Southeast Asia as is multidrug resistant malaria. Imported malaria remains a serious problem for developed countries such as Japan, Korea, China and Malaysia since their populations have little natural immunity to the infection. Approximately 100 cases of imported malaria occur annually in Japan, mostly in those traveling for business who have failed to take malaria chemoprophylaxis.

In areas of chloroquine resistance, doxycycline, mefloquine, and atovaquone-proguanil are the drugs of choice to prevent malaria. Exaggerated sunburn, yeast infections in women, and stomach upset occur with doxycycline. Mild to moderate neuropsychiatric side effects due to mefloquine are common and occur most more frequently in young women. Although atovaquone-proguanil is the most expensive drug, it is the safest and most convenient.

Both doxycycline and mefloquine must be taken for one month after departure from a malarious area whereas atovaquone-proguanil may be discontinued within seven days of exposure.

The low level of prophylactic use in some developed countries, including Japan, is a worrisome sign since malaria is a potentially fatal infection that is easily prevented by safe and effective antimalarial drugs. Alternate approaches to prophylaxis such as malaria self-diagnosis and treatment are controversial; they should be avoided or limited to very specific situations.

**LS2 GlaxoSmithKline K.K.****HEPATITIS A AND B: EPIDEMIOLOGY AND VACCINES** Fri. Oct. 22**Herwig Kollaritsch**

Institute for Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Vienna, Austria

Hepatitis A and B continue to be a major threat to international travelers. Reviewing epidemiology of hepatitis A worldwide, an impressive decline of HAV antibody prevalence in the young generation substantiate that better hygiene and vaccination programs are effective. However, VFRs, representing modern migration, contribute more and more to the number of cases and have to be our target population for the future – additionally to the classic touristic traveler. Lower endemicity of hepatitis A in the autochthonous population has also a disadvantage: Nonimmune persons are vulnerable for outbreaks due to imported hepatitis A and these outbreaks can be substantial.

Hepatitis B vaccination programs are already in place in many countries of the Asia Pacifics and these programs show a tremendous effect on hepatitis B antigen prevalence in the vaccinated population. However, HBs-antigen prevalence remains very high in many countries in the adult population, which means that particularly travelers to these countries will not face a minimized risk for hepatitis B for at least two more generations. Despite the general recommendation of WHO to vaccinate everybody against hepatitis B, travelers add to their personal risk for the disease by risky behaviour and activities.

To individually protect against hepatitis A and B, vaccines are licensed for approximately 20 years and a combined hepatitis A+B vaccine (Twinrix®) is available since 1997. Data from numerous clinical studies and a postmarketing surveillance of 57 million doses distributed indicate that this vaccine is highly immunogenic and efficacious. Recent recommendations suggest that a successful primary immunization course will confer lifelong immunity against either disease. Safety is also excellent and predestine this vaccine for use in large vaccination programs. WHO and CDC unisono recommend hepatitis A vaccine for international travelers to all developing countries and hepatitis B vaccine for everybody as a routine immunization.

**LS3 Novartis Pharma K.K.****INFLUENZA - NEGLECTED TRAVEL HEALTH RISK, NEGLECTED TRAVEL VACCINE Sat. Oct. 23****Robert Steffen**

University of Zurich Centre, Zurich, Switzerland

The incidence rate of seasonal influenza among travelers is 1% per month, thus this infection is one of the most frequent health problems abroad. The impact can be considerable. Not only may incapacitation result in frustration at times of high expectations, but hospitalization of patients with pneumonia and death have been described particularly among cruise ship passengers. The risk is highest in both hemispheres during the cold winter months, while in the tropics and subtropics influenza is occurring all year.

Several lessons were learned from the pandemic H1N1 influenza (2009): When detected, cases had already diagnosed on two continents, thereafter it spread worldwide within few weeks. The World Health Organization at no stage of the outbreak recommended travel restrictions, but many of the national public health measures initially taken were useless and rather based on panic than on epidemiological logics.

Basic rules on prevention of infections apply. As it is unrealistic to believe that we can detect and isolate all infectious sources spreading any influenza virus, it is logical to reduce the risk of transmission e.g. by frequent hand washing, as far as possible also by social distancing. Of greatest importance, however, is influenza vaccination. Seasonal influenza immunization may be considered for all travelers. It must be recommended to all high-risk travelers, to whom national recommendations would apply even if they stayed at home. High-risk settings include cruise ships, mass gatherings, camps, etc. — that is all situations in which a captive population remains in close contact. Antivirals as a stand-by medication can be occasionally be considered for travelers as well.

**LS3 Novartis Pharma K.K.****PREVENTING MENINGOCOCCAL DISEASE IN TRAVELERS Sat. Oct. 23****Bradley Connor**

Weill Medical College of Cornell University, New York, USA

*Neisseria meningitidis* serogroup distribution varies globally. While serogroups B and C are responsible for the majority of cases in Europe and the Americas, in Africa and Asia serogroups A and C predominate. In the African meningitis belt, serogroup A is the major cause of recurrent epidemics. Serogroups B and C are responsible for most cases of meningococcal disease in developed countries although patterns of serogroup distribution vary across geographic locations at any given time. Travel-related environmental factors in meningococcal disease include residence in dormitories such as in educational institutions, the military, trekking huts, as well as sporting events, refugee camps, and pilgrimages including the Hajj. Historical estimates show attack rates in Hajj pilgrims of 77 to 2,000 per million. Exportation of invasive W-135 disease from pilgrims and Hajj contacts to individuals in developed countries, such as England and Wales, has been reported. A number of vaccines against meningococcal disease are licensed to use globally. Currently, no vaccine offers protection for all age groups against all serotypes. Conjugate vaccines have a number of advantages over polysaccharide vaccines such as inducing a T-lymphocyte response that contributes to immune memory, and providing a longer duration of protection. In trials of persons between the ages of 14 and 21, those who received a tetravalent conjugate vaccine showed higher antibody titers for all serogroups at three years compared to those who received a tetravalent polysaccharide vaccine. In addition, conjugate vaccines do not lead to hypo-responsiveness with repeated dosing, as do polysaccharide vaccines. Conjugate vaccines can decrease acquisition of nasopharyngeal carriage thereby possibly inducing herd immunity. Meningococcal vaccine recommendations in travelers include travel to the Hajj, travel for military purposes, travel to the sub-Saharan Africa meningitis belt and travel to epidemic or hyperendemic areas with expected prolonged contact with local populations.



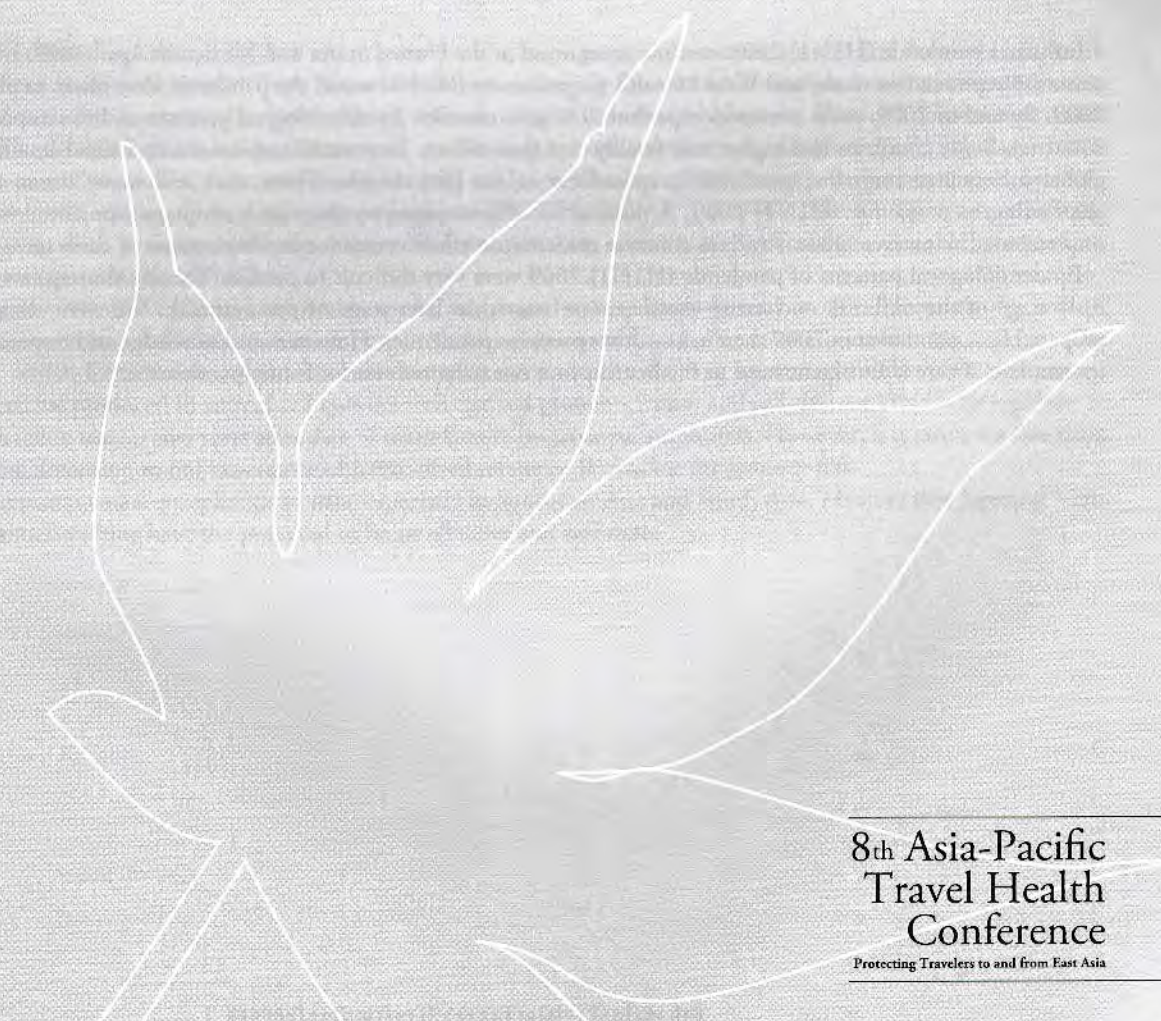


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Abstracts

# Evening Seminars



8th Asia-Pacific  
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Protecting Travelers to and from East Asia





### ES1 MSD K.K.

#### HEPATITIS B TRANSMISSION AND VACCINATION UPDATE Thu. Oct. 21

Randall N. Hyer

Medical Affairs, Vaccine, MSD K.K.

Hepatitis B virus (HBV) infection remains a global threat with more than two billion people who have been infected. Many routes of transmission have been established including blood and other body fluids such as saliva and semen.

In areas of high endemicity, perinatal transmission from infected mothers to their newborn infants accounts for a substantial proportion of HBV infections. Perinatal HBV transmission helps perpetuate the pool of approximately 350 million chronic HBV carriers throughout the world. In areas of low endemicity, however, the most important routes of transmission are percutaneous transfer, mucous membrane or open skin-break contact, and sexual contact.

HBV is quite stable and can survive up to 30 days. Transmission can occur from contaminated environmental surfaces such as toothbrushes, baby bottles, toys, razors, or eating utensils when they come in contact with mucous membranes or open skin breaks. In many international communities, this inadvertent transmission has a significant impact on the spread of the virus.

In many highly endemic areas, transmission between close family members (horizontal transmission) is the predominant contributor to the pool of chronic carriers. For example, many infants born to HBV-positive mothers who are not infected perinatally acquire hepatitis B in the first few months or years of their lives. The infection is most likely transmitted horizontally via intimate contact with infected family members and playmates.

Topics covered in the presentation include updated Hepatitis B epidemiology and global immunization situation (including universal vaccination) for many developed as well as developing countries.

### ES2 The Chemo-Sero-Therapeutic Research Institute (KAKETSUKEN)

#### INFLUENZA PANDEMIC (H1N1) 2009: LESSONS LEARNED AND FUTURE CHALLENGES Thu. Oct. 21

Taro Kamigaki

Department of Virology, Tohoku University, Graduate School of Medicine, Sendai, Japan

Influenza pandemic (H1N1) 2009 was first recognized in the United States and Mexico in April 2009. It had spread many countries within a few weeks and World Health Organization (WHO) raised the pandemic alert phase to phase 6 on 11 June 2009. By end of 2009, most countries experienced large outbreaks. Epidemiological patterns and the impact varied between countries. Some countries had higher case fatality rate than others. In general, tropical countries had smaller outbreaks. The global society had improved pandemic preparedness in the past decade. There were still many issues and challenges in responding to pandemic (H1N1) 2009. A number of different interventions such as quarantine and school closures were implemented. However, there is still no concrete evidence on effectiveness (or ineffectiveness) of these measures.

Epidemiological patterns of pandemic (H1N1) 2009 were very difficult to predict. Vaccine shortage was a major issue in early stage of the outbreak and many vaccines were wasted in later stage of the outbreak. We were certainly much better prepared for a pandemic in 2009 than in any other previous pandemics. However our knowledge and response systems are still incomplete. There is an urgent need to further improve our preparedness for future pandemics.





## ES3 Novartis Pharma K.K.

### RABIES: INFORMING TRAVELERS ABOUT SAFE TRAVEL Fri. Oct. 22

Deborah Briggs

Global Alliance for Rabies Control, College of Veterinary Medicine, Kansas State University, Kansas, USA

The fact that there are an estimated 55,000 human rabies deaths does not begin to portray the real tragedy of human rabies. Sadly, no one need have died of rabies as every rabies death can be prevented by receiving prompt post-exposure prophylaxis after exposure or by having received pre-exposure vaccination as added protection initially. In fact, one of the main reasons why people continue to die of rabies is the lack of educational awareness about how to prevent rabies, both in the general public and also amongst medical professionals. Tourists traveling to countries where dog rabies is present continue to be at high risk of exposure and infection and therefore need to be properly informed not only about the disease, but also should be told about their own options regarding pre-exposure vaccination. They also need to know what to do in case they are exposed to a potentially rabid animal during their travels. There are only a very few true 'treatment failures' wherein a person exposed to rabies has succumbed to the disease despite receiving high quality rabies vaccine and immune globulin in a timely manner. The WHO reports that over 98% of all human rabies deaths occur after exposure to infected dogs in Asia and Africa, both continents are popular destinations for Western travelers. The greatest majority of rabies victims die because they do not know that they have been exposed or do not seek treatment. Due to the extremely high case fatality rates of rabies, every evaluation by a medical professional regarding whether a patient should receive either pre- or post-exposure prophylaxis should be considered to be a life or death decision for the patient in question. Therefore, it is critically important for all medical professionals counseling travelers to be well aware of the current information regarding the presence of rabies as well as providing the option of receiving pre-exposure vaccination for rabies prevention if appropriate.

## ES4 Mitsubishi Tanabe Pharma Corporation

### VERO CELL-DERIVED INACTIVATED VACCINE LICENSED FOR JAPANESE ENCEPHALITIS Fri. Oct. 22

Tomohiko Takasaki

Department of Virology 1st National Institute of Infectious Diseases, Tokyo, Japan

The mouse brain derived inactivated vaccine was originally made by propagating Nakayama strain and licensed in Japan in 1954. The seed virus had been changed from Nakayama strain to Beijing-1 strain which induced neutralizing antibodies against broad wild strains. It is produced in Japan, Korea, Taiwan, Thailand, India and Vietnam. Vero cell-derived inactivated JE vaccine (JEVAX\_BK-VJE) produced by Biken with the Beijing-1 strain has been licensed on 23rd, February, 2009. Another manufacturer, Kaketsuken, has completed phase III study on October, 2009. Vero cell was established by Prof. Yasumura of School of Medicine, Chiba University in Japan in 1962. The JEVAX\_BK-VJE induced protective neutralizing antibodies (NT Ab) after two dose of vaccination. The positive rate was 99.2%. After three dose of vaccination, JEVAX\_BK-VJE induced 100% positive rate.

The potency of JEVAX\_BK-VJE was comparable to the inactivated mouse brain-derived vaccine. However, the protein content is 5µg/dose which is half the amount of protein (antigen) compared with the mouse brain-derived vaccine. The JEVAX\_BK-VJE, which form is freeze-dried, contains no additives and no stabilizing agent and fulfills WHO minimum requirement for vaccine produced in animal cell cultures: cell-derived protein <1 ppm and cell-derived DNA <100ng/dose. It is stable and approved to use for two years after date of manufacture by Japanese authorities. However, it is stable for five years after manufacturing according to our experience of freeze-dried reference JE vaccine for potency test.

JE is the most important viral encephalitis in Asia, especially in Southeast Asia and South Asia. I believe that Japanese Vero cell-derived inactivated vaccine have the potential to be an effective and safe tool.





## Abstracts

# Free Communications

8th Asia-Pacific  
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Protecting Travelers to and from East Asia





### FC1-1

#### OUTBREAK AT ALTITUDE: AN AIRCRAFT-ASSOCIATED NOROVIRUS OUTBREAK CONTINUING OVER MULTIPLE FLIGHT SECTORS

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#### INTRODUCTION

Aircraft outbreaks of norovirus gastroenteritis (GE) typically involve exposure during a single flight sector. In October 2009, Auckland Regional Public Health Service received reports that multiple cabin crew had become unwell with gastroenteritis after working on the same aircraft on successive flight sectors, suggesting a prolonged outbreak linked to a single aircraft.

#### METHODS

An outbreak investigation was undertaken, comprising epidemiologic investigation of cabin crew using a standard questionnaire, collection of faecal specimens for microbiologic analysis, and environmental investigation of the aircraft interior. Aircraft passengers were not investigated.

#### RESULTS

A passenger had vomited on the Boeing 777-200 aircraft on the 13 October flight sector. Cases occurred among crew members who had worked on the aircraft over the subsequent 6-day period. 63 of 77 crew members completed questionnaires; of these, 27 crew members had developed GE within 50 hours of their flight sectors on the aircraft, an attack rate of 43%. There was a declining trend in the proportion of crew who developed GE following exposure to the aircraft on successive flight sectors from 13 October onward ( $p < 0.001$ ). Crew supervisors were significantly more likely to develop GE than other crew members. Two cases on different sectors were confirmed with indistinguishable norovirus GI.6 strains.

#### DISCUSSION

Although contamination was not confirmed, the results suggest that norovirus exposure on the aircraft resulted in gastroenteritis among multiple groups of crew. This outbreak emphasises that aircraft contamination can lead to transmission of gastrointestinal illness. Cleaning agents with activity against gastrointestinal viruses should be used following vomiting episodes on aircraft.

### FC1-2

#### IMPORTED TUNGIASIS: A REPORT OF 2 JAPANESE CASES

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Tungiasis, cutaneous infestation with the female of a sand flea, *Tunga penetrans*, originated in Central and South America and widely spread in tropical Africa, Madagascar, India and Pakistan. Reports of tungiasis in travelers are still rare both in Japan and in other non-endemic Asian countries.

We describe 2 cases of tungiasis that occurred in Japanese university students who had participated in volunteer activities for 2 weeks at a construction site in Uganda. Both patients had typical clinical presentation with a small nodule on their feet and received complete surgical excision for the treatment and final diagnosis. Diagnosis of tungiasis was confirmed by the histological findings. In one case, macroscopic image of the flea was also identified in the specimen.

We also present a review of 20 cases of tungiasis reported in Japan between 1975 and 2008. In all patients, the manifestation of tungiasis was localized to the feet, as in our cases.

Due to intercontinental travel becoming very common, tungiasis has been increasingly reported in travelers returning from subtropical and tropical areas worldwide. Advice of appropriate footwear use is important for travelers to prevent this infection. In addition, knowledge of the clinical features is crucial for physicians to achieve correct diagnosis, provide adequate medical care for patients, and prevent severe complications.





## FC1-3

## REVIEWING ACTIVITIES OF OUR RESEARCH GROUP THAT INTRODUCES UNLICENSED MEDICINES FOR TROPICAL AND PARASITIC DISEASES

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Because cases of tropical and parasitic diseases are not abundant, not many medicines for treating those diseases are licensed in Japan. Even chloroquine, primaquine, or intravenous quinine which are marketed in most Western countries are not licensed in Japan. To cope with this situation, research groups have successively been established since 1980, funded by the government or its related bodies, through which those unlicensed medicines have been imported and served for treating the patients. Currently, a total of 19 medicines are introduced, targeting 9 diseases. Based on our experience, we reported the efficacy and safety of atovaquone/proguanil and intravenous metronidazole for uncomplicated falciparum malaria and moderate-to-severe amebiasis, respectively, when used in Japan.

Our research group accepts queries from the medical personnel about diagnosing and treating those diseases and in fact, in 2009, one of our research group members received a total of 384 clinical specimens for diagnosing parasitic infections from all over Japan, of which 117 cases were diagnosed, mostly with antibody determination. We publish once in 3 years a treatment guide for parasitic diseases which is updated frequently on our webpage, and also hold training courses for medical personnel or sometimes seminars open to the public. Some of our research group members are trying to develop specific antibody detection tests by exploring recombinant antigens, and others to evaluate immunochromatographic antigen detection kits for malaria diagnosis.

Our recent concern is that the use of medicines we import has been categorized as one of "medical interventions" in that they are not licensed in our country. This obliged us to comply with the Ethics Guidelines for Clinical Research which requires several labor-intensive procedures before and after using the medicines, and contract an insurance to compensate for possible drug adverse events that lead to death or severe physical incapacity of the patients.

## FC1-4

## SCHISTOSOMIASIS JAPONICA: CLINICAL SURVEILLANCE ON NEWLY FOUND AND KNOWN ENDEMIC FOCI IN THE PHILIPPINES

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Endemic focus of schistosomiasis japonica in Sorsogon Province and newly found endemic foci of Cagayan in Luzon and Negros Occidental were investigated. Surveillance using ultrasonographic and serologic examinations was conducted during 2005 to 2009. Around 3,100 participants were involved in the present survey. The subjects were classified by sex and age and number examined in Sorsogon was 1,335 (Male: 824, Female: 511), that of Cagayan was 539 (M 232 : F 307) and that of Negros Occidental was 1,226 (M 485 : F 741). The ELISA positive rates in Sorsogon of each age category by sex are almost stable in all age categories in male. In case of female, it is also stable except age group: 0-19 years old. In Cagayan, male positive rates in each age group are 29-44%, and those of female are 6-29%. On the other hand, situation in Negros Occidental is less serious than Cagayan. The US positive rate increased with age in Sorsogon and in Cagayan. But in case of Negros Occidental, there is some turbulence among age categories in both sexes.

It can be said that ELISA positive rates are already high from the first two decades of life and they continue to be high up to over the age of 60. On the other hand, concerning ultrasound positive rate, it increases as the subjects grow older.



## FC1-5

**DENGUE VIRUS INFECTION IN BALI: A CHALLENGE TO A POPULAR TOURIST DESTINATION IN SOUTHEAST ASIA**Minako Jen Yoshikawa<sup>1</sup>, Mitsuaki Nishibuchi<sup>2</sup><sup>1</sup> Graduate School of Asian and African Area Studies, Kyoto University, Kyoto, Japan<sup>2</sup> Center for Southeast Asian Studies, Kyoto University, Kyoto, Japan

Dengue virus infection is mediated by mosquitoes, such as *Aedes aegypti* and *Aedes albopictus*. Movements of people due to labor transfer and tourism are important factors contributing to spread of the disease. Bali, a popular resort island in Indonesia, has these factors and is now suffering from the disease. In the first five months of year 2010, 11 imported cases from travelers to Bali were confirmed in Japan. We embarked on the field research to obtain the primary disease data and to analyze in detail the factors responsible for spread of the disease.

Bali is inhabited by about 3.5 million people today. Particularly, two densely populated areas, Denpasar (provincial capital city) and Badung Regency, attract visitors and showed high incidence of dengue virus infection: 344.03 and 397.76 per 100,000 populations resulting in 1,458 and 2,190 cases, respectively, in 2009; 1,215 and 1,837 cases for the first five months of 2010 demonstrate a sharp rise. Bali Province counted 5,810 cases and 9 fatalities for year 2009, but the figures already reached 5,267 and 17, respectively, in the first five months in 2010.

The findings from our interview-based analyses include the followings. Bali's medical professionals and health personnel are concerned about the situation but much more attention is needed from residents and tourists for disease prevention. Common preventative advices to apply mosquito repellent lotion and cover skin do not appear to be effective since people, often engaged in water activities, tend to stay outdoors in light clothes and swimsuits in the tropical resort. Fogging operations of hotels seem to have only limited effect.

Bali can benefit from significant reduction in vector population and we plan to discuss a strategy to more directly involve residents and tourists in their efforts to reduce mosquito-borne infections.

## FC1-6

**MULTILINGUAL MEDICAL QUESTIONNAIRES (MMQ) SYSTEM**

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**BACKGROUND**

Recent world-wide globalization has led to a variety of communication problems in Japan, which faces a steady increase in foreign workers and tourists. With an aim to alleviate the lack of communication between medical professionals and foreign patients who do not speak the same language, we started to develop several systems enabling immediate translation from one main language into other targeted languages primarily for the first interviews in medical institutions.

**METHOD**

We are moving into the next stage by using IT technology, after finishing the translation of the 179 questions on the Multilingual Medical Questionnaires (MMQ) system into 34 languages with the help of Japan International Cooperation Center (JICE). The questions include introductory questions such as "What is your weight?", and questions related to head, chest or stomach such as "Do you ever have headaches?", "Do you get out of breath when moving?", or "Do you often burp?" respectively. The example of the questions related to lifestyle habits is "How often do you drink alcoholic beverages?"

**RESULTS**

Based on the MMQ, the following systems are developed and being tested from the users' viewpoints:

1. "Healthy Life Planning Notebook" – Personal Health Control System aimed to control health condition by users.
2. "Medical Passport" – Display System aimed to show users' health records and/or basic health information in several languages.
3. "Language Assistance for Initial Medical Interviews" – Medical Questionnaire System easy for users who will see medical professionals for the first time while visiting foreign countries.

**DISCUSSION**

We found it necessary to test these systems usable to relieve lack of communication in medical settings. We expect to give a demonstration of "Language Assistance for Initial Medical Interviews" with an iPad, as well as show tele-medical interpretation with the same tool.





## FC2-1

### HISTORY OF REPATRIATION WITH FIXED WINGS AIRCRAFT

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Patients have been transported by air since the end of the 19th Century. From the time the aircraft was invented, the idea of transporting patients by air occupied the human mind. Soldiers were essentially the first to be evacuated by air. Soon after air ambulances were provided for civilian purposes.

During the 60s a number of air ambulance providers were established, some of which are still operating to this day.

Today, more than 100 years since the launch of civilian airtravel there are a large number of Air Ambulance companies, which are essential to the travel industry and have become a permanent component of modern health infrastructure.

At the same time, significant developments have been made in the medical technology and equipment installed on fixed wing aircraft. Consequently, the equipment today is much more reliable and significantly lighter than in previous years.

This presentation will provide an overview of the history and current use of air ambulances and highlights the means to provide the care and services which are commonly available in air ambulance aircrafts today. This will also include an overview of the development of medical equipment and the context of mobile medical treatment which are integral to the provision of effective air ambulance services.

The author is working in the air ambulance business since 23 years and presently is medical director of one of the biggest air ambulance companies in Europe.

## FC2-2

### MEDICAL EVACUATION OF A CASE OF TB SPONDYLITIS FROM VIETNAM

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#### OBJECTIVE

Aeromedical evacuation of patients to other countries for further medical interventions when patients need surpass available resources has become an important medical service in the region. We here report a case that was aeromedical evacuated from Ho Chi Minh City in Vietnam to Taipei Wan Fang medical center.

#### RESULTS

A 66-year-old married man was admitted to Franco-Vietnamese hospital in Ho Chi Minh City Vietnam because of fever and sudden onset of weakness and paresthesia of the bilateral upper and lower extremities. The spine MRI disclosed an epidural process on the posterior side of the vertebral corps, at C6-C7, compressing the spine with an ischemic signal on the spinal cord. The patient requested medical evacuation back to Taiwan. Anti-tuberculosis medication was prescribed upon admission because the medical team suspected that the lesion in the cervical spine might be tuberculosis spondylitis.

Adenocarcinoma of the prostate was found incidentally upon mildly elevated PSA level. The C-spine surgery was performed because the patient had persistent neck pain, and for the fear of C-spine instability. His quadriplegic condition did not improve after the surgery because of prolonged spine ischemia. The biopsy of the C-spine revealed no sign of malignancy, but only focal inflamed granulation tissue with acute and chronic inflammatory cell infiltration. Radiotherapy was performed for the prostatic adenocarcinoma, and he was returned back to United States to be with his family.

#### DISCUSSION

Aeromedical evacuations in Vietnam usually transport patients to hospital in Singapore and Bangkok Thailand. The flight time from Vietnam to Taiwan (2.5 - 3 hours) is not much longer than flying to Singapore or Thailand (1-2 hours), and the medical facilities in Taiwan is equivalent to those two countries at more economical price, aeromedical evacuation to Taiwan will definitely be an advisable option in the future.



## FC2-3

**DIFFICULT REPATRIATION CASE FROM INDONESIA, A 44-YEAR-OLD MAN, RESUSCITATE STATE OF VF/AMI**

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This case was 44-year old man who resided in Jakarta. He visited to ER as he felt chest pain after drank wine. His cardiac rhythm changed suddenly to VF at that time, so he needed ten defibrillations to convert VF to sinus rhythm. It seemed that VF was caused by AMI, there was no typical ST-T change and no sign of recovery of consciousness, so coronary angiography did not performed and also therapeutic hypothermia did not administrated. But the second day after admission brain CT and coronary angiography was performed, the fourth day PCI was performed. Conscious level was improved to GCS 11 until the eighth day; tracheotomy was performed although mechanical ventilator was weaned of the ninth day. After that, general condition was not full; high fever caused by pneumonia and still need oxygen, restlessness caused by brain injury after VF; acute phase had been already passed and repatriated at eighteenth day with Dr and Ns.

As for the relevant problems for repatriation, the period of PCI in AMI post, persistent consciousness disorder, the prospect of the vital signs stability during the repatriation and high fever caused by pneumonia.

Among these difficulties, precise medical information is needed to implement repatriation, but because of the language barriers and the attending physician's busyness, we could not get enough information, and further, we had troubles in understanding the achieved information, because of the differences in the treatment procedure we imagine and the local treatment procedure.

It was a case which made us recognize again how hard it is to get precise medical information, although it is natural to put significance on precise medical information.

## FC2-4

**THE ROLE OF MEDICINE IN AREAS HIT BY DISASTER – INCLUDING THE SIGNIFICANCE OF THE DISASTER MEDICINE COMPENDIUM**

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**PURPOSE AND INTRODUCTION**

Various kinds of large disaster have occurred globally especially in developing countries. The role of medicine is analyzed from the viewpoint of systematization of disaster medicine.

**RESULTS**

Triage, Transportation and Treatment during the acute phase are essential. Medical staff has to respond immediately.

Preparedness and knowledge/skills in responding to disaster are essential.

However, conditions are extremely poor in many developing countries, followed by many casualties and economical damage, which is apparent in the earthquake in Haiti, etc. Many travelers may also be involved as shown in the Sumatra earthquake accompanied Indian Sea tsunami, 2004. Similar conditions are encountered in under-populated or sparsely populated districts, even in Japan.

**CONCLUSION**

In order to cope with large-scale disaster and minimize damage, it is essential to prepare for all possible disasters before such disasters occur. For that purpose, the systematization of disaster medicine is significant in making society resilient. The Asian version of Disaster Medicine Compendium is under preparation. Moreover, theoretical background including philosophical aspects, among which so-called Utilitarianism is included should be re-considered. (Utilitarianism was described by Bentham as "the greatest happiness or greatest felicity principle" or "the greatest happiness to the greatest number of people.")





**FC2-5**

**IMPLEMENTATION OF NETWORK SYSTEM IN TRAVEL CLINIC WORK**

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**INTRODUCTION**

The practice of modern travel clinic requires sophisticated information technologies to manage and control numerous data in clinic. To achieve the successful efficacy, we Hibiya Clinic had created Travel Clinic oriented Electric Health Record Systems (TCEHRs) and started operation since January, 2008. This system with digital-formatted information and in-office network environment has been working well without any serious problems and giving us great efficiency and capability, working across different locations of the office.

**CURRENT SYSTEM**

The TCEHR-system is based on Microsoft Access file and constructed with Visual Basic program. This system is consisted of two parts; the first part as DATA file placed in LINUX server and shared across a local network, and the second part as Front End file placed in each client computers modifying in different work situations. This system has multiple functions, such as reservation device, vaccination records, manipulation of accounting, and processor of various kinds of certificates. Currently, twelve computers are connected to the local area network in our office and each staff operates the single system for different purposes. By sharing these data among the wirely-connected staffs, the sophisticated information can be activated and utilized in many ways.

**FUTURE VISION**

Although currently no single computer in the system has Internet access for security reason, it is possible to establish the stand-alone database of selected data of ours in the network server. Placing data in the website will free us not only from the limitation of the area we work, but, in junction with e-learning system, we will also be able to provide more sophisticated service to customers and other travel clinics in all over the world. Presently, we are in the process of formulating new TCEHR-s, to open the gate to the world of travel clinics.

**FC2-6**

**THE INDUSTRIALIZATION POLICY OF HEALTHCARE AND THE MEDICAL INTERPRETER TRAINING IN KOREA, AND THE ISSUE OF THEM**

**Airi Takashima, Aguri Shigeno**

Center for Multicultural Society Kyoto, Kyoto, Japan

**BACKGROUND**

Korea is preceding the industrialization of healthcare sector and it has begun medical tourism attracting by the foreign patients targeting overseas wealthy classes. In 2012, it aims at the best medical tourism hub in Asia attracting about 100,000 medical tourists. We tried to do hearing investigation in Korea about the training of medical interpreters.

**INVESTIGATION METHOD**

Interviewee: Ministry for Health Welfare and Family Affairs

Time of Interview: December, 2009

Result: The Korean Government has done the revision of medical law in May 2009 and streamlines the environment to accept the foreign patients setting higher treatment expenses. The Ministry of Tourism expresses they don't accept the seriously ill patients but they accept patients for medical checkup, cosmetic surgery and the dental-care. The lecture for medical interpreters has been provided for six months (200hrs/year) in five language courses including Russian, Chinese and Arabic. The total sixty-five applicants have completed. All applicants had to get the training of four fields then they had to pass the test. Furthermore successful applicants were obliged to work at hospital hundred hours as volunteer, then they were qualified as medical interpreters.

**DISCUSSION**

Although the Ministry expresses they don't accept the seriously ill patients, it is difficult to divide seriousness of patients in the medical practice. The measures for medical lawsuits or the development of legal system are required as the issue of medical tourism. Japan is also going to employ the similar program as well as Korea. In these backgrounds, it seems that the know-how or experience of medical interpreter training and dispatch system managed by Non-profit sector that has been accumulated in each country has to be shared and the training of medical interpreter who has a high practical ability is required in the future.



## FC3-1

**PHYLOGEOGRAPHIC ANALYSIS OF MITOCHONDRIAL DNA SEQUENCES OF PLASMODIUM VIVAX AND ITS APPLICATION TO TRAVEL MEDICINE****Moritoshi Iwagami<sup>1</sup>, Megumi Fukumoto<sup>1,2</sup>, Weon-Gyn Kho<sup>3</sup>, Pilarita T. Rivera<sup>4</sup>, Shigeyuki Kano<sup>1,2</sup>**<sup>1</sup> Research Institute, National Center for Global Health and Medicine, Tokyo, Japan<sup>2</sup> Graduate School of Comprehensive Human Sciences, University of Tsukuba, Tsukuba, Japan<sup>3</sup> Inje University, College of Medicine, Busan, Korea<sup>4</sup> College of Public Health, University of the Philippines-Manila, Manila, the Philippines**OBJECTIVES**

Malaria is one of the medically important diseases not only for people in the endemic areas but also travelers from non-endemic areas. Recently, emergence of drug resistance of *Plasmodium vivax* (Pv) to chloroquine and primaquine has been reported in some endemic areas. A wide range of incubation periods of vivax malaria has also been reported. These characteristics seem to be different from each endemic area. Therefore, it is important to identify the geographical origin of an isolate for the diagnosis and treatment of the patient. In fact, it is sometimes difficult to identify the place where a patient contracted malaria if he/she had visited several endemic countries. In this study, we attempted to estimate the geographical origin of the Pv isolates from patients by a phylogeographic analysis.

**METHODS**

A neighbor-joining tree was constructed using full length of mitochondrial (mt) DNA sequences (approx. 6Kb) of 282 Pv isolates collected worldwide (the GenBank database). Then, we added the mtDNA sequences of 26 Pv isolates obtained from patients in NCGM hospital, South Korea, and the Philippines.

**RESULTS**

Most of the isolates from the GenBank database clustered into several groups that consisted of the isolates from the same geographical origin. The 26 isolates (present study) were also fallen into the respective groups of the same geographical origin.

**CONCLUSION**

We constructed a phylogenetic tree of Pv using the mtDNA sequences deposited in the GenBank database and new sequences determined in this study. The phylogeographic analysis of the mtDNA sequence of Pv was proved to be a useful tool to estimate the geographical origin of isolates from patients.

## FC3-2

**EFFECTS OF ANTIMALARIAL DRUGS ON THE ELECTROCARDIOGRAPHIC QT INTERVAL MODELED IN THE ISOLATED PERFUSED GUINEA PIG HEART SYSTEM****Atsushi Kinoshita<sup>1</sup>, Harumi Yamada<sup>2</sup>, Hajime Kotaki<sup>2</sup>, Mikio Kimura<sup>3</sup>**<sup>1</sup> Himeji Dokkyo University, Himeji, Japan<sup>2</sup> International University of Health and Welfare, Otawara, Japan<sup>3</sup> Shin-Yamanote Hospital, Japan Anti-Tuberculosis Association, Higashimurayama, Japan**OBJECTIVES**

Concern over the potential cardiotoxicity of antimalarial drugs inducing a prolonged electrocardiographic QT interval has resulted in the almost complete withdrawal from the market of one antimalarial drug – halofantrine. The effects on the QT interval of four antimalarial drugs were examined, using the guinea pig heart.

**METHODS**

The guinea pig heart was isolated, mounted on a Langendorff apparatus, and was then perfused with pyruvate-added Klebs-Henseleit solutions containing graded concentrations of the four agents such as quinidine (0.15 – 1.2  $\mu$ M), quinine (0.3 – 2.4  $\mu$ M), halofantrine (0.1 – 2.0  $\mu$ M) and mefloquine (0.1 – 2.0  $\mu$ M). The heart rate-corrected QaTc intervals were measured to evaluate drug-induced QT prolongation effects.

**RESULTS**

Quinidine, quinine, and halofantrine prolonged the QaTc interval in a dose-dependent manner, whereas no such effect was found with mefloquine. The EC50 values for the QaTc prolongation effects, the concentration that gives a half-maximum effect, were quinidine < quinine = halofantrine.

**CONCLUSIONS**

In this study, we constructed an isolated, perfused guinea pig heart system to assess the cardiotoxic potential of antimalarial drugs. This isolated perfused guinea pig heart system could be used to test newly developed antimalarial drugs for their inherent QT lengthening potential. More information is required on the potential variation in unbound drug concentrations in humans, and their role in cardiotoxicity.





### FC3-3

#### NEW ANTIMALARIAL DRUG DEVELOPMENTAL RESEARCH – ANTIMALARIAL SYNTHETIC ENDOPEROXIDES –

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Malaria is an infectious disease caused by parasitic protozoa and causes more than one million deaths every year. We have developed research for newly synthesized antimalarial drugs based on synthetic endoperoxides, 1,2,4,5-tetraoxacycloalkans and its derivatives. Among these compounds, we have found that 1,2,6,7-tetraoxaspiro[7.11]nonadecane-4-hexanol (N-251) exhibit high antimalarial activity with low cytotoxicity in vitro and in vivo. This compound shows remarkable antimalarial activity for *P. berghei*-infected mice and *P. coatneyi*-infected monkeys. N-251 has simple chemical structure and easy to prepare.

To clinical use of N-251, we investigate the safety and suitable formula of N-251. (1) We prepared nanoparticle of N-251 and it was emulsified in the physiological saline. (2) We tested efficacy of antimalarial activity of the N-251 against *P. berghei*-infected mice orally. As results, bioavailability of the N-251 was increased 3-fold compare to original N-251 formula. Also, antimalarial activity of the N-251 was similar compared to original N-251 formula. These results indicate that nanoparticle formula of N-251 has high absorption in mice, and then it shows strong antimalarial activity. Now, we are trying to suitable formula of N-251 and analyze the target molecule of N-251 in malaria parasites. In this conference, we will present current results of antimalarial N-251.

### FC3-4

#### THE ROLE OF PRIVATE COMPANIES IN THE DEVELOPMENT AND POPULARIZATION OF LONG LASTING INSECTICIDAL NETS

Natsuko Takui, Yasuhide Nakamura

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#### BACKGROUND

Malaria continues to be one of the world's most devastating diseases, causing almost one million deaths in 2008. It is currently endemic in over 100 countries, visited by more than 125 million international travelers every year. Travelers can usually prevent malaria by using prophylactic drug regimens and by taking appropriate precautions against mosquito bites. However, this is not the case for, e.g., those working in the field for a longer period of time. Recently, bringing a Long Lasting Insecticidal Net (LLIN), and sleeping under it has become popular among researchers, doctors, nurses, international organization/NGO staff, etc.

#### METHOD

Olyset® Net, developed by Sumitomo Chemical Co., Ltd., has become the first WHO Pesticide Evaluation Scheme-recommended LLIN. To understand how private companies have made their contribution in the development and popularization of LLINs, unstructured in-depth interviews were conducted with the key persons in the following organizations: Vector Control Division, Sumitomo Chemical Co., Ltd.; Coordinator, Global Malaria Programme, WHO; and Vector Health International Limited in May 2010.

#### RESULTS

The success of the collaboration among A to Z Textile Milles (local textile company in Tanzania), Acumen Fund, Sumitomo Chemical, UNICEF, and WHO was due to the following factors. First, they relied on good concept and an effective product with the appropriate target in a timely manner. Second, the personal relationship among the individuals involved in the effort, of course with the supports from the participating organizations, greatly contributed to the technology transfer process. Small group of people with mutual understanding and respect working together as a strong team played the crucial role for the successful outcome.

#### DISCUSSION

The role of private companies will be increasingly significant and crucial in the development and popularization of malaria control program.



**FC3-5**

**SEROCONVERSION, ANTIBODY PERSISTENCE, AND THE SAFETY AFTER MULTIPLE VACCINATIONS ADMINISTERED WITHIN A SHORT PERIOD**

**Tatsuya Fujii, Kazunobu Ouchi, Mikio Kimura**

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Very few studies have been conducted on seroconversion, antibody persistence, and the safety when multiple vaccines are administered within a short period of time. We investigated those issues among Japan Ground Self Defense Forces personnel deployed to the United Nations Peace Keeping Operations by serially measuring serum antibody titers and monitoring adverse events. It was found that those who received multiple immunizations within a short period in 1992-1996 (N=98), i.e., tetanus, Japanese encephalitis, live oral polio, rabies, hepatitis B, cholera, yellow fever, hepatitis A, and meningococcal group A&C vaccines, produced seroconversion rates (N=14-58) similar to those reported by others when the vaccines are administered solely, without any significant adverse reactions. This study also showed that those who received multiple immunizations within a short period in 1992 (N=58), i.e., tetanus, Japanese encephalitis, live oral polio, rabies, hepatitis B vaccines with other vaccines, resulted in the persistence of the antibodies as far as ten-year follow-ups were done (N=24-41), similar to the findings observed by others with the sole vaccine administrations. These immunization methods may be beneficial especially to cope with travelers who do not have enough time before departure, leading to the enhanced compliance.

**FC3-6**

**DEVELOPMENT OF VERO CELL DERIVED JAPANESE ENCEPHALITIS VACCINE IN JAPAN**

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Japanese Encephalitis (JE) is one of the major viral encephalitides, and is a serious disease accompanied by pyrexia, meningeal irritation sign and encephalitis. In Japan, JE vaccine based on the Nakayama strain of JE virus was licensed in 1945 and JE vaccine based on the Beijing strain of JE virus, a strain that is more immunogenic and closer to the wild strain in antigenicity than the Nakayama strain, was successfully developed in 1986 (Mouse brain derived JE vaccine; JE vaccine).

This time, we developed a new JE vaccine containing virus grown in Vero cells in Japan (Freeze-dried cell culture-derived JE vaccine; JEIMMUGEN).

This vaccine is highly purified inactivated vaccine using the microcarrier culture technique to perform massive virus culture in a 2,500L scale fermenter. Furthermore, to make the vaccine, purified affinity chromatography process is used in addition to purified sucrose density gradient centrifugation process. This manufacturing led us to stably mass produce supplies of vaccine which quality is more controlled compared with JE vaccine.

From pharmacological study it was confirmed that JEIMMUGEN is much better than JE vaccine in antigenicity, protective efficacy and immunogenicity.

Also, both serums which were obtained from mice that got a vaccination with JEIMMUGEN and JE vaccine indicated broad neutralization spectrum against all wild strains of JE virus we tested.

In the clinical studies, it was confirmed that to vaccinate with JEIMMUGEN, the booster effect was shown among adults and 100% of antibody seroconversion rate was shown with two doses containing 1/4 protein of JE vaccine among children who have negative antibody. JEIMMUGEN is expected to be a highly effective and safe vaccine.



## Abstracts

# Poster Presentations

8th Asia-Pacific  
Travel Health  
Conference

Protecting Travelers to and from East Asia





## P-1

### CHARACTERISTICS OF SLOVENIAN TRAVELERS TO SOUTHEAST ASIA COUNTRIES – ATTITUDE TO VACCINATION AND CHEMOPROPHYLAXIS

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#### OBJECTIVES

The number of Slovenians travelling to South-East Asia (SEA) countries is unknown, but 37% of travelers, visited the biggest pre-travel clinic in Slovenia, traveled to this region. Our study aims were to get insight in characteristics of travelers to SEA region and their attitude to recommended preventive measures.

#### METHODS

In February 2010 we conducted a prospective study of travelers consulting pre-travel clinics in 4 of 9 regional institutes of public health, places where pre-travel consultations, vaccinations and chemoprophylaxis in Slovenia are provided. Travelers completed questionnaire before travel and phone interviews after the travel.

#### RESULTS

In the 4 months period, 89 travelers to SEA consulted participating pre-travel clinics and 63 were interviewed post travel. 59% were 25-50 years old and 62% finished higher school education. The majority of them traveled to Thailand (62%), followed by Cambodia (27%), Vietnam (22%), Indonesia (16%) and less than 5% visited other SEA countries. 60% traveled for less than 1 month and only 29% traveled with travel agencies. Some travelers were already immunized against hepatitis A and typhoid fever (21% and 11%, respectively). 96% of non-immunized travelers accepted vaccination against hepatitis A, but only 31% against typhoid fever, majority because of perceived small risk of infection (57%) and only 6% because of cost of the vaccine. Travelers with higher education accepted recommended vaccinations more often than those with primary school education ( $p=0.02$ ). 48% refused to take malaria chemoprophylaxis when indicated, almost half (45%) because of presumable small risk of infection and use of other protective measures to reduce risk of mosquitoes bites. Only 61% have taken antimalarial drugs as prescribed.

#### CONCLUSION

Despite the fact that our study has limitations, refusal of recommended vaccines and chemoprophylaxis are worrisome. Knowledge and information play an important role in traveler's decision in favor of preventive vaccinations and chemoprophylaxis.

## P-2

### ESTIMATE OF THE USEFULNESS OF HEALTH CHECK PROGRAM IN THE JAPANESE SOCIETY OF MOUNTAIN MEDICINE TO PREDICT THE PROGRESS OF CHRONIC DISEASE IN ELDERLY MOUNTAINEERS DURING HIGH ALTITUDE TOUR

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#### BACKGROUND AND PURPOSE

Many elderly Japanese mountaineers go to overseas to trek or to climb high mountains. However, high altitude cause mountain sickness and exacerbate diseases. Thus, they are recommended to receive health check before leaving for high mountains. Japanese Society of Mountain Medicine (JSMM) had started the pilot study of "JSMM Health Evaluation Network for Mountaineers" to prevent high altitude mountaineers from sudden death and exacerbation of diseases as the observational cohort study. In the health check program, the clients are classified into "low", "intermediate" and "high" risk categories to predict the progress of chronic disease during high altitude tour. These classifications are determined independently by consulted doctor.

#### METHODS

More than 800 mountaineers who had received health check on the Network had already joined the high altitude tour by March 2010. About 80% of clients have been registered to database and analyzed.

#### RESULTS

Mean age was 62.1 year-old. The proportion of low, intermediate, and high risk category was 69.3%, 29.9%, and 0.7%, respectively. In the case of eight clients with severe hypertension, three clients were in low category, four were in intermediate, and one was in high. In the case of seven clients with poorly controlled diabetes mellitus, one client was in low category, four were in intermediate, and two were in high. These clients with severe hypertension or poorly controlled diabetes mellitus had finished the tour without health problem.

#### CONCLUSION

The classification for the risk must be useful for the clients. However, consulted doctor individually determined the risk category of clients. Thus, a scoring system to evaluate health status and/or severity of illness is required to standardize the risk assessment to predict health event.

#### ACKNOWLEDGEMENTS

The authors would like to thank the doctors, members and tour agencies of the Network.





## P-3

### FLU PANDEMIC AND MEDICINE

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Study Group on Appropriate Exercises Against Flu Pandemic, Influenza and Other Emerging Infectious Diseases Research funded by the Japanese Ministry of Health, Labour and Welfare, Tokyo, Japan

#### PURPOSE AND INTRODUCTION

Many travelers around the world were involved in the H1N1 flu pandemic last year. Various forms of response were attempted, i.e., containment, vaccination, etc. Fortunately the toxicity was not high. However, the transmission of the virus seemed to be strong. The results of our research team and our operation are reported below.

#### RESULTS AND DISCUSSION

Although the mortality in Japan was relatively low, there were serious patients especially in the group of the so-called weak people, i.e., babies, patients receiving dialysis therapy, etc. for whom special supporting systems should be considered based upon the ethical and philosophical points.

Moreover, many people felt anxiety and there seemed to be harmful effects caused by rumors.

#### CONCLUSION

Preparedness is essential, considering the possibility of more toxic pandemic diseases.

## P-4

### CURRENT TREND OF PRE-TRAVEL VACCINATION IN NARA SEIBU HOSPITAL

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#### BACKGROUND AND OBJECTIVE

The importance of the travel clinic has become increasingly recognized in Japan.

Our hospital has provided traveler's vaccinations in Nara city, the capital city of Nara prefecture since the time when certificates for smallpox and cholera vaccinations (Yellow Card) became required to travel abroad. In this presentation, we'd like to report the current trend of pre-travel vaccinations in our hospital.

#### METHODS

Analysis of the 934 vaccinees in our hospital from October, 2005 to December, 2009

#### RESULTS

Place of residence; 317 from Nara City, 453 from other cities in Nara prefecture, 52 from Osaka, and 65 from Kyoto.

Purpose of travel; Business trip, overseas assignment, and accompanying partner assigned overseas 62% > Leisure 19% > Study abroad 10% > Volunteering 7%

Destination; East Asia 30% > South East Asia 25% > South Asia, North America 11%

The total number of visitors and vaccinations per year; 69 and 123 (Oct. to Dec., 2005), 387 and 886 (2007), 486 and 1,059 (2008), 523 and 1,072 (2009)

#### REVIEWS

It seems that more companies recognize the necessity of pre-travel vaccination. Thus, more business people are obliged to accept vaccination before being assigned overseas. Students going to study abroad become aware of the importance of vaccination when they find out about the difference between the situation in Japan and the global standard. The statistics by the Japanese Ministry of Justice shows the total number of people living in Nara Prefecture who go abroad is around 200,000 annually in the last 5 years. Comparing with this number, the number of the vaccinees in our hospital is yet small, taking it into account that there are few travel clinics in Nara. Thus, it is considered that many of people traveling abroad are ignorant of the importance of vaccination probably due to a lack of information, even when they are visiting regions with high risk of diseases. Therefore, we believe that further education regarding pre-travel vaccination is urgently needed.



### P-5

#### TRAVEL CLINIC IN KURUME UNIVERSITY HOSPITAL, JAPAN

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#### BACKGROUND

At present, the number of Japanese travelers to foreign countries is increasing. Travel clinic is still uncommon in Japan, although the number of clinic tend to increase in a big city. Most Japanese travelers to foreign countries do not necessarily collect any information concerning the infectious diseases and security related with their travel and hesitate to receive the recommended vaccines or prophylactic for malaria. We opened travel clinic in Kurume university hospital on April, 2007 and provide the suitable information of trip, consultation for their health, vaccination, prescription and medical certificate for travelers. To evaluate our travel clinic until now, we conducted the following study.

#### METHODS

A total of seven hundred and ninety nine travelers (388 females and 411 males) visited our travel clinic between April, 2007 and March, 2010. We investigated the age, destination, purpose of trip, period and purpose of visiting our travel clinic.

#### RESULTS

Most travelers (47.3%) were 20-39 years old. The most popular destination was Southeast Asia (40.7%) and East Asia (25.4%). The main purposes of trip were business (61.1%; include the accompanied family), and sightseeing (17.1%). The period of trip were within 2 weeks in 16.1%, 2 to 4 weeks in 3%, one month to one year in 16.1% and more than one year in 59.9%. Most travelers (88.5%) visited our travel clinic for the purpose of vaccination.

#### CONCLUSIONS

The destination of most traveler who visited our travel clinic was developing countries and vaccination was frequently recommended for them. However, most traveler could not complete vaccination before their departure for lack of time. Further education of travel medicine for travelers and travel agents is needed in Japan.

### P-6

#### RABIES IMMUNIZATION IN TRAVELERS WHO CAME TO RABIES ENDEMIC AREA : EXPERIENCE ON TRAVEL CLINIC IN THAILAND

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International travelers are candidates for pre-exposure rabies prophylaxis (PrEP) if they are likely to contact with animals in rabies endemic areas where immediate availability of post-exposure treatment (PET) may be limited. PrEP could simplify PET. Nowadays, PrEP recommendation is made through personal travel itinerary, style, destinations and cost-effectiveness. This study was conducted to examine characteristics of rabies immunization in travelers visited travel clinic of Queen Saovabha Memorial Institute (QSMI), Bangkok, Thailand.

#### METHODS

The medical charts of all international travelers who possible exposed to rabies or came for PrEP, during 2004-2009, were reviewed and analyzed.

#### RESULTS

Total 462 travelers, of which 96 presented with animal-associated injuries and possible rabies exposures (age range 4-64yrs, median age=33yrs), and 366 (age range 3-64yrs, median age=28yrs) came to receive PrEP. In travelers who received PET, only 16.1% had been pre-immunized against rabies and 74% experienced severe category III contacts with animals. The rabies exposures were happened not only in Bangkok or all over Thailand but also from another Southeast Asian countries along their trips (28.1%). Although promptly sought for medical services, 71.9% had no first-aid for their wound caring at all. Most of incidents were caused without provoked conditions on the roads or tourist attractive places by stray dogs (66.7%), monkeys (15.6%) and cats (11.5%), which were impossible to be observed. Rabies vaccine plus immunoglobulin were given to 53.1% of patients.

Among travelers who received PrEP, 42.9% were Japanese, 74.8% started their first injection. PrEP rate began higher in Japanese travelers from 2006, the same year with reported cases of rabies in Japan, and had sustained since then. Unfortunately, one travelers (0.3%) was bitten by suspected rabid dog before PrEP completion. 69.7% received concomitant vaccines such as Japanese encephalitis vaccine.

#### CONCLUSION

Our study reveals PrEP is a medical decision that must be individualized for every traveler and should be particularly considered for travelers at risk of being exposed to rabies, and who could not have rapid access to medical services and rabies immunobiologics.





## P-7

### TO BE RESPONSIBLE FOR THE HEALTH OF PATIENTS GOING TO STAY ABROAD – A CASE PRESENTATION –

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## BACKGROUNDS

With an ever-expanding volume of international travel, health care providers are increasingly involved in assuring the health of travelers with an illness while they are abroad.

## CASE PRESENTATION

An 81-year-old diabetic Japanese male, a famous doctor of engineering in Japan, was invited to Nepal to help construct a hydroelectric dam in Himalayan mountainous district. His current diseases, paroxysmal atrial fibrillation with heart failure and pulmonary emphysema, were under good control with bepridil, carvedilol, warfarin, and tiotropium bromide hydrate. Of concern during his stay for 6 months were the following: (1) To maintain the sinus rhythm, he required bepridil, which was only available in Japan. (2) Bepridil prolongs the QT interval and may even cause torsade de pointes especially in aged patients. (3) A different style of meals might affect anticoagulation therapy and his diabetic control. (4) A high altitude might deteriorate his heart and respiratory failure. Accordingly, we sent him all the medicines including bepridil from Japan. In addition, in order to adjust to the proper dosage of warfarin and to avoid torsade de pointes, diabetic complications, and cardiopulmonary deterioration, the following exams seemed indispensable at least once a month during his stay: PT-INR, blood sugar, HbA1c, ECG, and chest X-ray. Before his departure, we successfully arranged to refer those checkups to an international clinic in Kathmandu. Contrary to our expectation, after arrival, the patient was seen by physicians presumably sent from the government, making us feel concerned that he was put beyond our control.

## CONCLUSIONS

This case may illustrate that medical personnel of the sending countries of the travelers should try to seek well in advance all the information on what the surroundings of the traveler are planning to do, and also harmonize with those measures.

## P-8

### ESTABLISHING A TRAVEL CLINIC IN A UNIVERSITY IN JAPAN

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A lot of researchers and students of universities go overseas from Japan to literally all over the world for their research works due to the globalization and increasing borderlessness in science fields. The concept of travel medicine is not necessarily well understood and not put into practice in many universities in Japan. Here we present our effort to create a system that should protect our staffs from health risks that are derived from overseas activities.

On average, more than a thousand students and staffs are going out of the country for their works every month from the University of Tokyo, one of the large universities in Japan with more than 35,000 students and staffs. When the number of private trips is taken into account, the total will be even greater. Because many of them are destined for the North American continent, and because their activities are mainly limited in urban areas, problems in terms of travel medicine have not become obvious. On the other hand, for those who went to other areas, sporadic cases of malarial infection or wild animal bites in rabies endemic areas have been reported to our division occasionally.

Since the demand for travel-related counseling is growing, we decided to launch a pre-travel clinic at our university health service center. The scope of our service includes vaccination of travel-related vaccine-preventable diseases, prescription of anti-malarial medication and some other drugs, and counseling about travel-related issues. For post-travel consultation, since we cannot perform laboratory test in our facilities, and other medical resources are limited, we work together with the department of infectious diseases in our university hospital. We expect that our project should be a good support for our students and staffs.



### P-9

#### CURRENT SITUATION AND PROBLEMS AT INTERNATIONAL TRAVEL CLINICS IN OSAKA

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Osaka is the biggest city in west Japan, and over three million Japanese travelers depart abroad from Kansai International Airport in a year. However, the number of patients visiting travel clinics in Osaka seems to be too low compared to the expected number of travelers who need to visit it before their travel.

We serve two international travel clinics in Osaka, Kansai Medical University Takii Hospital and Yotsubashi AY Clinic. At Takii Hospital, 78% of patients visited for vaccination out of total 611 patients in 2009. Hepatitis A, rabies, hepatitis B, tetanus and Japanese encephalitis had a 90% share of vaccination. Pre- and post-travel medical examination are also provided at Takii Hospital. 13% of patients visited for pre-travel medical examination and/or issuing medical documents in English/Chinese language. 9% of patients came for examination in suspect of tropical or parasite diseases. At AY Clinic, meningococcal, typhoid, tick-borne encephalitis and inactivated poliomyelitis vaccines which have not been approved by the government of Japan, are also available with use of imported vaccines. These four vaccines take 12% share of vaccination, following the top five travelers' vaccines in 2009. Patients are often exhausted finding out a clinic where the vaccines are available.

Some problems could be pointed out through the situation of two travel clinics. Since Japanese has a tendency not to visit a travel clinic even before travel to developing countries, there is more room for travel clinics to make effort to advocate visits and provide proper information to travelers. Many patients appear in a clinic only one month before their travel, so that it is hard to properly schedule all vaccines needed. The vaccines not approved in Japan are expected to be accepted soon by the government. These vaccines are in constant demand, although the amount is comparatively small.

### P-10

#### RECENT USAGE OF INACTIVATED RABIES VACCINES AT A TRAVEL CLINIC IN ONE OF THE RABIES-FREE COUNTRIES, JAPAN

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We have not experienced human rabies cases within Japan for about 40 years except 2 Japanese fatal cases imported from Philippines in 2006. Because Japan is thought to be free of rabies virus in both animals and humans, rabies vaccines are not used for people bitten by dogs within Japan. Due to the nationwide economic suppression, however, many Japanese companies have been moving their production factories and sending their employee to China and the countries in Southeast Asia, in most of which rabies are endemic. Accordingly, the overseas travelers desiring pre-exposure rabies prophylaxis are increasing. Because the amounts of inactivated rabies vaccines annually supplied are at most 50,000 doses in Japan and a large part of them have been used in governmental organizations such as SDF and JICA, chronic shortage of the vaccines available in general hospitals and local clinics is occurring.

We opened a travel clinic for immunization before overseas travel in 2005. The travelers desiring pre-exposure rabies prophylaxis were very few at the beginning, but are gradually increasing after the imported cases in 2006. We have investigated the recent usage of rabies vaccines used at our travel clinic in 2008 and 2009, the purposes of their use, and the destinations etc. The travelers desiring rabies immunization were 90 with 180 visits for 2 years, 5 travelers for post-exposure prophylaxis and 85 for pre-exposure prophylaxis. In post-exposure vaccination, all animal bites were caused by dogs in Asia. In pre-exposure vaccination, the destinations were China for 21 travelers, India for 13, Africa for 13, Thailand for 9 and Vietnam for 5. Because Japanese travelers to Asian countries are thought to be more than 4 million every year, the rabies vaccine production should be much more increased and the indication of rabies vaccination should be decided considering various infection risks.





## P-11

### SEROEPIDEMIOLOGY OF HEPATITIS A IN COLLEGE FRESHMEN AND FIRST-YEAR GRADUATE STUDENTS IN SOUTHERN TAIWAN

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#### INTRODUCTION

In Taiwan as in other Western European countries, the epidemiology of hepatitis A virus (HAV) infections has decreased with improvement of socioeconomic status and modernization of environmental sanitation, reaching very low HAV incidence rate of less than 2.13 cases/100,000 person years in Taiwan according to the Statistics of Center of Diseases control R.O.C. Taiwan. HAV infection is the most common potentially vaccine preventable disease in international travelers. Determinants of contracting of HAV infection in international travelers include country of origin, travel destination, duration of stay and personal habits during travel. Immune status of the individuals planning to travel is a crucial factor as IgG to HAV gives lifelong immunity.

#### AIM

To evaluate the seroprevalence of the HAV antibody in age specific groups and provide epidemiologic information relevant to the development of hepatitis A vaccination strategies.

#### METHODS

In 2009, we recruited 5,931 students from a health checkup survey on freshmen and first-year graduate students of National Cheng-Kung University in southern Taiwan. All the subjects were stratified into 4 age-specific groups: 18-20, 21-30, 31-40 and >40 years. Anti-HAV IgG was determined by radioimmunoassay.

#### RESULTS

The overall seroprevalence rate was 5.2% (308/5931) in the non vaccinated population. The seropositivity rate in subjects aged 31 to 40 was 23.3%. The rates dropped to between 1.8% and 3.4% among subjects between 18 to 20 and 21 to 30 years of age. A markedly higher seropositive rate of 73.1% was observed in subjects older than 40 years.

#### CONCLUSIONS

Our findings indicate that the low seroprevalence, especially in younger age groups, makes the population vulnerable to infection. To achieve better herd immunity, a more active approach to the adoption of hepatitis A vaccine is warranted.

## P-12

### A BIOINFORMATICS APPROACH TO IDENTIFY IMMUNODIAGNOSTIC ANTIGENS FOR STRONGYLOIDIASIS

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Strongyloidiasis is a common parasitic disease in tropics and subtropics, but also occurs in returned travelers and immigrants from endemic countries.

Definitive diagnosis can be made by detecting larva in fecal samples. However, such detection is often very difficult because of scant and intermittent excretion of larvae into stools.

Serological assays are more sensitive and easily performed. Although several types of immunological diagnostic techniques have been described, those methods, including commercial ELISA kits seem to have severe cross-reactivity problems, especially with filarial parasites, due to the use of whole animals as antigen source.

Therefore it is more desirable to use recombinant proteins of which orthologous genes exist only in strongyloides but not in other nematodes including filarial worms. In search for such genes we took a bioinformatics approach utilizing *Strongyloides venezuelensis* genome / transcriptome data from ongoing sequencing project in our laboratory.

A total of 9,362 *S. venezuelensis* ESTs (expressed sequence tags) were searched for the presence or absence of orthologues against NEMBASE4, nematode transcriptome database which holds 679,480 ESTs from 62 nematode species. This analysis resulted in an identification of 2,025 transcripts which uniquely present in *S. venezuelensis*. When only top 5% of ESTs in abundance were considered, 61 sequences were *S. venezuelensis* specific. The identification of those abundant and specific transcripts will aid our effort to find strongyloides antigens which can be used for immunodiagnosis with high specificity.



### P-13

#### **SALMONELLA TYPHI AND SALMONELLA PARATYPHI A SURVEILLANCE IN JAPAN, 2007-2009**

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#### **BACKGROUND**

*S. Typhi* and *S. Paratyphi A* infection can cause typhoid fever and paratyphoid fever, respectively. These diseases were listed as category 3 notifiable diseases in the Infectious Diseases Control Law, Japan. After World War II, domestic cases of the diseases have dramatically decreased, resulting in around 70 cases per year recently. Most of these cases are related to foreign travel.

#### **METHODS**

National Epidemiological Surveillance of Infectious Disease (NESID) online system was revised in April, 2006. With this surveillance system, IDSC received epidemiological data of patients and asymptomatic cases of *S. Typhi* and *S. Paratyphi A*. Department of Bacteriology of NIID assembled clinical isolates of *S. Typhi* and *S. Paratyphi* from cases and examined antimicrobial susceptibility.

We analyzed the data of *S. Typhi* and *S. Paratyphi A* during May, 2007 to Dec, 2009.

#### **RESULTS**

In this period, 209 cases (*S. Typhi*: 133, *S. Paratyphi A*: 76) were reported. Cases are dominated by young adult (range: 0-88, median: 29). 176 cases (84%) are suspected to be infected in foreign countries, mostly in South Asia.

Among typhoid and paratyphoid fever patients, high fever was the main symptom (95%). Other manifestations were diarrhea (64%), splenomegaly (31%) and relative bradycardia (25%). Most of the cases were diagnosed by blood culture. Nalidixic acid-resistant strain was the major isolate among cases infected in South Asia.

#### **CONCLUSIONS**

Clinicians should suspect typhoid fever and paratyphoid fever when febrile patients returned from tropical countries. We have to be cautious about the emergence of drug-resistant strains.

### P-14

#### **MALARIA CASES IN JAPAN: CHANGES IN THE NUMBER OF REPORTED CASES BY DESTINATION REGION AND ESTIMATED INCIDENCE RATES BY DESTINATION COUNTRY**

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#### **BACKGROUND**

The information on the incidence rates of malaria by destination country in travelers is of great help in the pre-travel risk assessment. In Japan, Mikio Kimura et al. reported the incidence rates by destination country based on the data between 1999 and 2005. We provided the information on changes in the number of reported cases between 1999 and 2009 among Japanese travelers and the updated incidence rates based on the data between 2006 and 2009 to contribute to the pre-travel risk assessment.

#### **METHOD**

We counted the cases diagnosed between April 1999 and December 2009 and reported to the Infectious Disease Surveillance Center to show the changes in the number of reported cases among Japanese travelers by destination region. In addition, to estimate the incidence rates of malaria, we used the number of reported cases between January 2006 and December 2009 as the numerator and the number of Japanese travelers visiting individual countries obtained from the Japan National Tourism Organization as the denominator.

#### **RESULT**

In South East Asia, the number of reported cases among Japanese travelers had been declining, while in West Africa, it had been increasing. In the other regions it remained almost constant. The incidence rates by destination country showed Sub-Saharan Africa and Papua New Guinea had a high risk of malaria. In Asia the incidence rates were much lower, although Pakistan and India were relatively high-risk countries.

#### **CONCLUSION**

Compared to the previous report, the incidence rates became lower in almost all the destination countries, which were ranked generally in the same order as in the report. Sub-Saharan Africa and Papua New Guinea are consistently high-risk destinations. Therefore the travelers planning to go there may need prophylaxis. These incidence rates of malaria serve as references for the pre-travel risk assessment and need to be continually updated.





P-15

## EPIDEMIOLOGICAL TRENDS OF IMPORTED DENGUE CASES IN JAPAN

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### INTRODUCTION

Global incidence of dengue has rapidly increased over the last five decades. In Japan, although the cases are currently seen only in travelers returning from endemic areas, the number of cases is rising according to the national case-based surveillance. As dengue is endemic in many popular tourist destinations, current popularity of overseas travel among Japanese might also increase the risk of importing dengue.

### METHODS

The number of dengue cases by their destinations and seasonal epidemic variation in each country were studied from April 2006 to May 2010. In addition, how the estimated number of Japanese travelers by country affected the change in reporting number was examined.

### RESULTS

Among 385 cases reported from April 2006 to May 2010, 19 cases (5%) were diagnosed as dengue hemorrhagic fever and the others were dengue fever. 340 (88%) had traveled to Asia. Four countries where most dengue cases had traveled to were Indonesia, India, the Philippines and Thailand which were popular travel destinations among Japanese. While the epidemic seasons of Indonesia, the Philippines, Thailand and India are known as February, September, June, and September-October, respectively, the number of dengue cases infected in Indonesia, the Philippines, Thailand and India peaked between February and April, between September and October, between July and August, and between September and October, respectively. Although the data of Japanese travelers to India was not available, the number of travelers to the Philippines and Indonesia stayed about the same throughout the year, and many Japanese had traveled to Thailand in January and August which were not the peak period of dengue imported to Japan.

### CONCLUSIONS

The number of dengue cases imported to Japan was considered to be affected by the epidemic seasons in the travel destinations. Travelers planning to visit the dengue endemic countries should be aware of the epidemic season.

P-16

## INFLUENZA A (H1N1) IN CHINA BEFORE OUTBREAK IN COMMUNITY

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### OBJECTIVE

To analyze the epidemiological characteristics of influenza A (H1N1) cases before outbreak in community of China and provide basis for formulating frontier prevention and control measures.

### METHODS

National data on the prevalence of influenza A (H1N1) in China before outbreak in community (from 05-10-2010 to 06-10-2010) were collected and analyzed.

### RESULTS

There were 111 influenza A (H1N1) cases, of which 85.5% were imported cases, 14.5% secondary infected. All cases were with similar age distribution and clinical manifestation to those in other countries. 63.1% in all 96 imported cases were overseas Chinese and Chinese Americans. 70.2% imported cases traveled from America. Imported cases were through 11 ports including Beijing. 7 patients declared illness at entrance, while 20 cases were passively detected. Clinical illness developed in 48 hours or 72 hours after arrival in 29.2% and 39.6% respectively of other imported cases. 80.0% secondary transmissions occurred in social life. So, if stricter quarantine measures had been carried out, if all travelers from affected area had been quarantined maybe for 48 hours or 72 hours, or even at only one entry port, almost all imported cases would have been stopped at entrance, including index cases of secondary infection.

### CONCLUSION

Quarantine at entrance, based on IHR (2005) and Frontier Health and Quarantine Law of the People's Republic of China, may take its role in disease control, especially when facing more severe situation.



**P-17**

**METHODS EXPLORATION OF INFECTIOUS DISEASE SURVEILLANCE IN ENTRY-EXIT PORTS; HIV AND SYPHILIS DETECTION AND INTERNATIONAL TRAVEL RISK ANALYSIS AT PORTS IN SHANDONG**

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**OBJECTIVE**

Get the basic data of HIV and syphilis in the seaports of Shandong P.R.C., and analysis the risk of travelling.

**METHOD**

First of all, gather the data of HIV and syphilis in the seaports of Shandong during 2005 to 2009. According to the data we have with people's occupation and age, try to find out the people in high risk. Given that the government of P.R.C. will relieve the inbound-restriction of HIV and syphilis, we try to provide suggestions on disease control in the future.

**RESULT**

According to the statistics and analysis, the persons in high risk of HIV and syphilis are exit workers, seamen and entry businessmen. The people between 21 to 50 are more dangerous than the persons in other ages.

**CONCLUSION**

After the relief of the inbound-restriction, the tasks of seaports and the CDC will not become reduced, but obviously will become heavier. It is necessary to aim at the entry-exit persons whose age is between 21 to 50. Especially the entry businessmen, exit workers and seamen should be stressed out to enhance the inspection of HIV and syphilis.

**P-18**

**HIV INFECTION AMONG ENTRY FOREIGNERS IN BEIJING AREA FROM 2000 TO 2009**

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**OBJECTIVE**

To understand the situation of 94 HIV infection cases and the epidemiological features among 158,085 entry foreigners from 2000 to 2009 in Beijing area, and to provide scientific evidence for developing foreign AIDS surveillance.

**METHODS**

HIV serological detections were conducted among 158,085 personnel, and the epidemiological survey was conducted among 94 HIV positive cases.

**RESULT**

The average infection rate was 5.95 per 10,000, people infected with HIV mainly from the group of 21-40 years old. The high risk population (the infection rate  $>5.95 \times 10^{-4}$ ) were the people who have done high risk work, international students, and the people who came from Africa.

**CONCLUSION**

It is necessary to conduct HIV surveillance and monitoring among high risk population to prevent HIV transmission.





### P-19

#### ANALYSIS OF THE SURVEILLANCE RESULTS OF INFECTIOUS DISEASE OF IMMIGRATION LABORERS AT ZHUHAI PORT FROM 2007 TO 2009

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##### OBJECTIVE

To understand the characteristics of the infectious diseases and evaluate the health status of the immigration laborers at Zhuhai Port from 2007 to 2009. And to provide scientific basis for surveillance and prevention of infectious diseases at port.

##### METHODS

Analyze the surveillance results of infectious diseases of immigration laborers tested in Zhuhai International Travel Healthcare Center from 2007 to 2009.

##### RESULTS

1,152 cases of infectious diseases were identified among 12,935 immigration laborers. The detection rate was 8.91%, in which, 8.28% was HBsAg positive, 0.23% was hepatitis B, 0.18% was syphilis positive, 0.15% was active pulmonary tuberculosis, 0.05% was HCV positive. The detection rate of infectious diseases of male immigration laborers was 10.80%, higher than that of female immigration laborers,  $\chi^2=91.69$ ,  $p<0.05$ , the difference is already statistically significant. The detection rate of infectious diseases of exit immigration laborers was 9.77%, higher than that of entry immigration laborers,  $\chi^2=35.70$ ,  $p<0.05$ , the difference is already statistically significant.

##### CONCLUSION

It is important to strengthen test screening and surveillance on immigration laborers and educate them, and it is necessary to establish effective preventive measures.

### P-20

#### GM(1,1) MODEL APPLICATION IN FORECASTING THE EPIDEMIC TENDENCY OF AIDS IN CHINA

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##### OBJECTIVE

By forecasting epidemic tendency of AIDS from 2010 to 2011 in China, we try to provide scientific references for AIDS prevention and control.

##### METHODS

Based on the number of new AIDS cases from 2005 to 2009, epidemiological tendency of AIDS from 2010 to 2011 in China were forecasted with GM(1,1) model.

##### RESULTS

The number of AIDS would be rising greatly. The model precision is the second-class.

##### CONCLUSION

To deal with the complicated AIDS epidemic, the national administrative units should make further improvements on AIDS surveillance and control system, focusing on AIDS treatment and care services and drug reserve.



### P-21

#### EFFECTS OF SERUM LIPIDS ON THE IN VITRO EFFICACY OF LUMEFANTRINE AND ATOVAQUONE AGAINST PLASMODIUM FALCIPARUM Kesinee Chotivanich

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Both artemether-lumefantrine and atovaquone-proguanil are effective treatments for uncomplicated falciparum malaria, even in areas of multidrug resistance. Atovaquone-proguanil is also used for the prophylaxis. Lumefantrine and atovaquone are highly lipophilic antimalarial drugs. As consequence absorption is increased when the drug is taken with a fatty meal, the free fraction of active drug decreases in the plasma. The efficacy of lumefantrine and atovaquone was tested in an in vitro culture of *P. falciparum* containing 10% serum with different concentrations of triglycerides. Serum was obtained from non-immune volunteers under fasting conditions and at various times after ingestion of a fatty meal. With a 2 fold increase in plasma triglyceride concentrations (from 160 mg/dL to 320 mg/dL), there was a 2-fold increase in the 50% inhibition concentration (IC<sub>50</sub>) for lumefantrine (228 ng/mL to 518 ng/mL,  $p < 0.01$ ) and a 30-fold increase in the IC<sub>50</sub> for atovaquone (2 ng/mL to 60 ng/mL,  $p < 0.01$ ). In contrast, the efficacy of hydrophilic drug chloroquine diphosphate was not changed in relation to triglyceride content of the medium. The results suggest that triglyceride-rich plasma lipoproteins profiles affect the efficacy of lipophilic antimalarial drugs and this should be taken into account when interpreting their pharmacodynamic profiles.

### P-22

#### RISK ANALYSIS OF AIRPORT VIVAX MALARIA IN JAPAN

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This study focused on the risk of the occurrence of vivax airport malaria from importation of infected *Anopheles* mosquitoes by aircrafts at Narita and Naha international airports in Japan. We constructed a stochastic model of *Plasmodium vivax* transmissions in the adjacent lands of Narita and Naha airports. The adjacent lands of these airports were divided into 1 km x 1 km grids, in which the human blood index was set, based on the land use classification and population density. In our model, the flyings of infected mosquitoes were simulated through a Brownian motion model. The simulation results of 100,000 trials showed that the risk of airport malaria occurrence was estimated to be very low, respectively, for invasion of one infected mosquito with 50-71% daily survival rate, around both Narita and Naha airports. The risk was influenced by the wind direction and velocity, and the wind effect varied the risk widely at Naha airport.





### P-23

#### AN IMPORTED JAPANESE CASE OF FALCIPARUM MALARIA IN PREGNANCY

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Dozens of imported cases of malarial infection are annually reported in Japan, while there have been no domestic cases reported in more than 50 years. Few of those imported cases included pregnant women. In this case, a 40-year-old Japanese primigravida returning from the Republic of Gabon presented herself to our travel clinic with a fever (temperature 38.5°C), headache, joint pain and was admitted to our hospital due to the positive detection of *Plasmodium falciparum* using the dipstick rapid diagnostic test. Simultaneously she was at 22.1 weeks gestation. No particular clinical findings were seen in an obstetrics examination on the patient and her fetus until her admission to our hospital. At this time, only three antimalarial drugs (quinine hydrochloride, sulfadoxine-pyrimethamine, mefloquine hydrochloride) are approved under the Pharmaceutical Affairs Law of Japan, and the law states that all of them are contraindication for pregnant women. Therefore we referenced the regulations of the United States Food and Drug Administration. Sulfadoxine-pyrimethamine and mefloquine hydrochloride are classified as Category C. Quinine hydrochloride is in Category X. It was presumed that this patient was infected with malaria in the Republic of Gabon. So we chose mefloquine hydrochloride, administering two doses of 550mg to her. No obvious side effects of the drug seemed to appear and both the mother and fetus remained stable after the mefloquine was administered. Forty hours after mefloquine administration, the woman's temperature was up to 38.1°C, but she was generally stable. Parasites disappeared two days after mefloquine administration was completed. 8 days after admission the patient was discharged in remission. She delivered a boy by natural childbirth at 39.2 weeks gestation. The child's Apgar score was 9. Both mother and child were fine as of April 2010.

### P-24

#### ANTIMALARIAL DRUG PROPHYLAXIS AMONG JAPANESE TOURISTS – ASSUMPTION FROM PASSENGERS OF A CRUISE SHIP

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It is still uncertain how many Japanese tourists visiting malarious areas for a short period take antimalarial drug prophylaxis. We hypothesised that the antimalarial drug prophylaxis rate among the passengers of a Japan-based round-the-world cruise ship represented the overall rate.

#### SUBJECTS

Passengers of the 55th and 68th Peaceboat round-the-world cruises, both of which had an optional tour to Cambodia and harboured overnight at Mombasa, Kenya, were retrospectively investigated.

#### METHODS

On the first or second day of the voyage, a short (approximate 10 mins) lecture was given by a ship doctor for all passengers regarding aetiology, clinical features and prophylaxis of malaria, including adverse effects of antimalarial drugs, followed by an individual consultation in the infirmary for those who had specific inquiries. Passengers who chose to take antimalarial drug prophylaxis bought tablets of mefloquine (400yen for each); 8 tablets for passengers participating in the optional tour to Cambodia and 5 for the rest. In the 68th cruise, doxycycline was available as an alternative and the adverse effects of mefloquine were also investigated.

#### RESULTS

In the 55th and 68th cruises, 772 and 521 Japanese passengers were onboard, respectively. Of these, 261 (33.8%) and 128 (24.6%, 117 with mefloquine and 11 with doxycycline) took antimalarial drug prophylaxis, respectively. In the 68th cruise, 27 passengers visited the infirmary for individual consultation. Also, three passengers were obliged to discontinue prophylaxis with mefloquine due to its adverse effects; 1) fever and wheeze, 2) persistent gastric discomfort, and 3) nausea.

#### CONCLUSION

Less than half of the Japanese tourists visiting malarious areas for a short period appeared to take antimalarial drug prophylaxis despite the information supplied by experts.



P-25

**EVALUATION ON THE EFFECT OF THREE KINDS OF MALARIA PREVENTION AND CONTROL MEASURES ON EXPORT LABORERS**

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**OBJECTIVE**

Evaluation on effects of three kinds prevention and control measures for malaria to the laborers who go abroad to malaria high risk areas, so as to provide scientific evidence for protecting the health of labor service personnel in foreign countries and prevent the malaria entry domestic from abroad.

**METHODS**

Use interviews and questionnaire methods, investigate and evaluate the effects of three kinds prevention and control measures for malaria on 500 labor service personnel of Lianyungang City, Huaian City and Zhenjiang City in Jiangsu Province who work in Gabon, Nigeria, Togo, Equatorial Guinea and Angola.

**RESULTS**

The best effect of prevention and control measure for malaria was kill mosquito + prevent mosquito + preventive anti-malarial medicine taking, the next was prevent mosquito + preventive anti-malarial medicine taking, the worst measure was only prevent mosquito.

**CONCLUSION**

A comprehensive prevention and control measures of kill mosquito + prevent mosquito + preventive taking antimalarial medicines could be effective in preventing malaria. Raising awareness of personal protective malaria and increase with the degree of act in concert with preventive measures were promoted to get better prevention and control effects.

P-26

**HOOKWORM DISEASES WITH ANCYLOSTOMA CEYLANICUM AND A. CANINUM: TWO RARE CASES IN TRAVELERS**

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The first case was a 25-year-old Japanese man who consulted our clinic because of diarrhea lasting for 2 weeks and weight loss. He had been staying in a village in Malay Peninsula when his abdominal symptoms began. Laboratory tests revealed peripheral blood eosinophilia of 30% and hookworm eggs in the stool. The patient was treated with a single dose of pyrantel pamoate at 10mg/kg. Hookworms recovered from the feces were identified as *Ancylostoma ceylanicum* adult worms by morphological examination as well as by DNA sequencing. The second case was a 52-year-old man from Brazil who was hospitalized because of high fever. Liver abscesses were demonstrated by ultrasonographic examination: the lesions resolved gradually by abscess drainage and administration of Levofloxacin. Colonoscopy also showed multiple erosive lesions. Histopathologic examination of biopsied colonic lesion demonstrated submucosal eosinophilic abscesses and a section of juvenile hookworm. DNA sequences of the latter showed a high level similarity to those of *A. caninum*. *A. ceylanicum* is not uncommon in the dogs in South East Asia, while human infection with this species has been rarely reported. Human enteric infection with adult *A. caninum* is also a very rare event: 15 such cases have been reported only from the people living in northern Queensland, Australia, and all these cases were associated with eosinophilic enteritis. The present two cases highlight the relative importance of zoonotic helminthiasis in travelers while the prevalence of common soil-transmitted helminths is declining.





P-27

## TRAVELER'S DIARRHEA RISK ANALYSIS AND INTERVENTION

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### OBJECTIVE

Travelers' diarrhea (TD) is the most common disease among international travelers. It is important for the travelers to know the risk factors and interventional measures of TD.

### METHODS

We analyze TD risk factors in detail from seven aspects and provide two aspects interventional measures.

### RESULTS

Knowing the risk factors and interventional measures of TD, travelers can prevent and control the disease effectively.

### CONCLUSION

The article provide effective medical health care information about TD for international travelers.

P-28

## SEROLOGICAL DIAGNOSIS OF VISCERAL LARVA MIGRANS WITH RECOMBINANT ANTIGENS FROM TOXOCARA AND ASCARIS

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Visceral Larva Migrans (VLM) is a zoonotic disease caused by parasite larvae that cannot mature in the human body. Although various parasites have been known to cause VLM, ascarid nematodes, namely *Toxocara canis* and *Ascaris suum*, are the most important causative species. Ascarid VLM is characterized by eosinophilic pneumonia, allergic myelitis, and uveitis. Because it is practically impossible to capture migrating larvae in human tissues, diagnosis of VLM completely relies on serological tests. It has been widely acknowledged that the most reliable antigen preparation for serodiagnosis is larval excretory-secretory (ES) antigen. However availability of larval ES antigens is extremely limited. Therefore we evaluated two recombinant antigens, recombinant As16 (rAs16) of *A. suum* and recombinant T. canis antigen (rTc) of *T. canis* for the diagnosis of ascarid VLM.

Enzyme-linked immunosorbent assay (ELISA) was performed with 40 serum samples from suspected patients of ascarid VLM, which were positive for the binding to crude AsES and/or TcES antigens. In these 40 samples, 38 samples (95.0%) were positive for the binding to rAs16 and/or rTc. For the discrimination between ascariasis and toxocariasis, we compared O.D. (optical densities) of ELISA with different antigens. Crude ES antigens produced ambiguous results in 16 of 40 cases (40.0%), whereas 6 cases (15.0%) were ambiguous with rAs16 and rTc. As for the nonspecific binding, paragonimiasis patient sera did not bind to rAs16 and rTc, whereas they showed positive binding to crude AsES and TcES.

Our present study indicates that rAs16 and rTc appear more specific than crude ES antigens in ELISA. These recombinant antigens should provide us with more reliable results in the diagnosis of VLM and therefore could be used in an immunological survey of VLM.



### P-29

#### ENTERIC FEVER AMONG JAPANESE TRAVELERS IN AN URBAN HEALTHCARE SETTING

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#### BACKGROUND

Enteric fever (typhoid and paratyphoid fever) is one of the major diseases among travelers in Japan. Reduced susceptibility to fluoroquinolones of *Salmonella enterica* serovar Typhi (S. Typhi) and Paratyphi (S. Paratyphi) has emerged over the past two decades. The purpose of this study is to examine the clinical characteristics of recent enteric fever among Japanese travelers in a Japanese urban hospital.

#### METHODS

We retrospectively analyzed 45 patients with enteric fever (32 patients with typhoid fever; 13 patients with paratyphoid fever) diagnosed at Tokyo Metropolitan Komagome Hospital from April 1999 to March 2009. All patients were confirmed by blood culture, stool culture, or both. Medical records were reviewed with emphasis on clinical symptoms, antimicrobial resistance, treatment and outcomes.

#### RESULTS

Among the studied group, 27 patients (60%) returned from the Indian subcontinent (India, Nepal, and Bangladesh). The purpose of their visits was mainly tourism (40%) and visiting friends and relatives (31%). All patients presented with fever, followed by relative bradycardia (69%), diarrhea (67%), splenomegaly (65%) and rose spots (11%). Altered mental status was seen in 2 patients (4%) and none developed intestinal hemorrhage. Nalidixic acid (NA) resistance was tested in 43 isolates, among 23 (53%) showing high-level resistance. Notably, NA resistant isolates derived from the Indian subcontinent was 81% (21/26). Ceftriaxone was successful for treatment among NA resistant cases. All patients recovered, including 3 relapsed cases (7%).

#### CONCLUSIONS

Reduced susceptibility to fluoroquinolones among S. Typhi and S. Paratyphi was elucidated in travelers especially returning from the Indian subcontinent. Rates of critical comorbidity and relapse remained low in a Japanese urban healthcare setting.

### P-30

#### THE WORLD IS NOT GETTING SMALLER: ADVICE FOR JAPANESE TRAVELERS AND JAPANESE DOCTORS

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It is not unusual to see Japanese travelers who become sick abroad become "stuck" in foreign hospitals. There are several factors that make foreign patients confused when they are admitted to hospitals abroad: 1. Language barrier, 2. Cultural barrier, 3. Different medical system. In addition, the Japanese tend to follow the doctor's advice though sometimes the advice is not always appropriate. Unfortunately, the Japanese are shy and do not ask questions to their treating doctors even when they do not understand well what is happening to them or what medical management is to be provided. As a result, the patients might miss the chance of evacuation to have appropriate treatment, or repatriation to Japan.

In this presentation, we will highlight the reasons why people can and wants to go home to Japan when they are set abroad. We show how it is possible to make this a safe trip for the patient. We present some of the logistics and medical solutions that are needed to save transport from far away. We illustrate the in-flight medical environment, the aircraft possibilities, and we show the routings of some actual cases to demonstrate safely accomplished repatriations of lonely Japanese travelers happy to be home again.

We hope this will help people to understand the risks of being sick in foreign countries and to better consider appropriate medical risk management.





## P-31

### CLINICAL FEATURES OF FOREIGN-BORN TB PATIENTS IN JAPAN

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#### INTRODUCTION

In Japan, incidence of tuberculosis (TB) has been constantly declining, but proportion of foreign-born TB subjects is gradually increasing (3.9% of all TB patients in 2008). The increase in foreign-born TB patients is becoming a serious concern in Japan, because they are considered to have several problems such as delay in TB diagnosis, poor treatment completion and higher rate of drug resistance. To clarify the problems in managing foreign-born TB patients, we have investigated clinical features of them.

#### METHODS

We collected clinical data on foreign-born TB patients treated in NCGM from Jan 2007 to Jun 2010, and compared their clinical characteristics with those of Japanese TB patients. Also, drug resistance was analyzed in foreign-born and Japanese groups.

#### RESULTS

One hundred two foreign-born patients with active TB originated mainly from Asia, especially from China, Korea and Philippines. Approximately 30% of them were students including Japanese language school students, and others were regular workers (including researcher, medical doctor, teacher, embassy staff, and interpreter), temporary dairy workers, service workers, house-keepers, and illegal overstayers. Median age of foreign-born TB patients was 29 years and significantly younger than Japanese TB patients. Percentage of females was higher in foreigners than in Japanese. With regard to HIV co-infection and smear-positive ratio, there was no significant difference between two groups. Rifampin resistance and multi-drug resistance were more prevalent (3.1% and 2.3%, respectively) in foreign-born patients than in Japanese patients (0.8% and 0.4%, respectively;  $p < 0.05$ ).

#### CONCLUSIONS

Compared with Japanese TB patients, foreign-born TB patients are younger and female predominant. TB bacilli derived from foreign-born patients are more often rifampin-resistant and multidrug-resistant compared with those from Japanese patients. We need to develop countermeasures, such as appropriate screening program upon and after entry to Japan, to deal with problems of foreign-born TB patients.

## P-32

### INFECTION CONTROL PRACTICES FOR PANDEMIC INFLUENZA (H1N1) 2009 AMONG HEALTHCARE PERSONNEL AT TOHOKU UNIVERSITY HOSPITAL IN JAPAN: TRAVEL RESTRICTION, COMPLIANCE OF HAND AND RESPIRATORY HYGIENE, IMMUNIZATION, AND MONITORING INFECTED PERSONNEL

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#### INTRODUCTION

Healthcare workers (HCWs) are at higher risk of contracting influenza than the general population. In addition, HCWs who contract influenza and continue to work may cause healthcare-associated infections. Indeed, influenza outbreak cases due to the infected HCWs have previously been reported. Here, we introduced infection control practices against pandemic influenza H1N1 for our healthcare personnel to ensure occupational safety and to prevent cases of healthcare-associated influenza.

#### METHODS

Tohoku University Hospital is a 1,300-bed teaching hospital, which employs more than 2,500 HCWs. From the advent of swine-origin influenza H1N1, we focused on the following infection control practices for the protection of our healthcare personnel: 1) a travel restriction to the endemic area of influenza (only Phase 5); 2) education and training to improve compliance with hand and respiratory hygiene; 3) H1N1 influenza vaccination according to priority group; and 4) monitoring HCWs who develop a fever and respiratory symptoms, work restriction for infected HCWs, and contact tracing if needed.

#### RESULTS

No influenza cases in HCWs were reported during the period of travel restriction. The consumption of alcohol hand rubs and masks in 2009 was higher than in other years. The vaccination rate among HCWs was successfully increased from October 2009 to February 2010. The majority of the adverse events reported were soreness, redness, or swelling at the vaccine injection site, and no serious adverse events were reported. One suspected healthcare-associated influenza case was reported.

#### CONCLUSION

While the spread of influenza may be somewhat delayed by a travel restriction, although this remains a controversial issue, it is important for healthcare personnel to adopt appropriate infection control practices for pandemic influenza H1N1. The experience we gained through this pandemic influenza will lead to more effective infection control measures among HCWs in the next wave.



### P-33

#### THREE-YEAR CLINICAL DENTAL EXPERIENCE IN ZIMBABWE

Miwako Miyamura, Kazuo Miyamura

Embassy of Japan, Medical Clinic, Harare, Zimbabwe

Zimbabwe is an inland country in southern Africa. Because of its political problems, economy has been floundering during the past 10 years, and the hyperinflation has caused terrible shortage of fundamentals, such as food, fuel, electricity, water and medical supply. The authors stayed in Harare, the capital, from November 2006 and October 2009. During the period, nearly 100 Japanese were staying in Zimbabwe, and most of them were JICA members including JOCV volunteers, diplomats and their dependents and a few businessmen. We experienced 12 cases of dental consultation. Among them, 7 cases were coming off of dental restorations like metal inlay, post crown, bridge or resin composite, while 2 cases were about coming out of permanent teeth of children. Complain about new dental caries was seldom experienced. Three dental clinics were providing better dental service in Harare. Those who work abroad are subject to medical and dental checkup and treatment (when necessary) before they start their foreign appointment in Japan. However, troubles like detachment of dental restorations are impossible to predict by the checkup. Detachment of dental restorations occurs because of loss of dental cement, secondary caries of underneath tooth surface, or fracture of the teeth. These are invisible from outside and make the inspection difficult, and may result in sudden coming off of the restoration.

Regular checkup is necessary for expatriates during their foreign appointment. And, dentists should provide them with enough information of the expected dental troubles.

### P-34

#### HEALTHCARE MANAGEMENT SERVICES FOR JAPANESE EXPATRIATES IN SOUTHEAST ASIA

Jun'ichi Sato, Kentaro Yamatani, Shuhei Arai

Medical Trust Co., Ltd., Tsu, Japan

A company's obligation, with regards to the health and safety of its employees, is of paramount importance. However, because Japanese laws such as the Occupational Health and Safety Law do not apply to expatriates, emergency medical services are often given greater priority, with only passing consideration to complementary healthcare benefits.

Nevertheless, as evidence from a number of court cases, as well as the rate of industrial accidents, it is clear that the stress level of expatriates overseas is more than twice that of typical workers in Japan. Since Japanese laws do not apply to expatriates, however, cases that would normally be recognized as personal injuries or disabilities resulting from worsening chronic conditions are often simply classified as work-related accidents.

We believe that expatriates should receive the same level of healthcare benefits from companies as that of their co-workers in Japan. Doing so will allow companies to offer the most competitive healthcare packages while simultaneously protecting employers from accusations of negligence.

We have established an "e-medical" healthcare management services for your Japanese employees working in Southeast Asian countries. Using web meeting services, our Healthcare Management Offices located in Tokyo and Osaka provide health-related consultation services by licensed Japanese occupational physicians.

Unlike systems that require specialized software installation, we use a web meeting system that utilizes a cloud computing network. This system enables your employees to speak with our physicians in a secure environment. Meetings can be held with just a computer and internet connection.

This comprehensive health service will lead to the early detection of any anomalies, and will allow you to make faster decisions regarding repatriation or leaves of absence. In conclusion, this service is mutually beneficial for both employer and employee as happy, well-cared-for employees are productive employees.





P-35

## A STUDY FOR CULTIVATING CHINESE MEDICAL INTERPRETERS IN JAPAN

Nobuyuki Mishima<sup>1</sup>, Weiwei Zheng<sup>2</sup>, Tomoaki Kuroda<sup>1</sup>, Issaku Nakatani<sup>1</sup>, Koichiro Tabuchi<sup>1</sup>, Hiroyuki Amano<sup>1</sup>, Toshimasa Nishiyama<sup>1</sup>

<sup>1</sup> Department of Public Health, Kansai Medical University, Moriguchi, Japan

<sup>2</sup> Department of Business Administration, Doshisha University, Kyoto, Japan

The number of foreigners visiting and residing in Japan has been increasing in recent years, and it is obvious that they might encounter communication problems at Japanese medical institutions due to limited Japanese proficiency. With this in mind, it is easy to see that the role of medical interpreters is very important. According to an announcement in March of 2010 by the Ministry of Internal Affairs and Communications, the number of foreign visitors to Japan exceeded 7.5 million in 2009, with 2.7 million of them coming from China (including Taiwan and Hong Kong). Thus, enhancing the system in Japanese-Chinese interpretation at Japanese medical institutions is a pressing issue.

However, Japanese hospitals and clinics generally rely on volunteers when they have medical consultations with native Chinese speakers, and medical interpretation has not yet been established as a profession in Japan, even though they have a crucially important responsibility.

We have begun a study that looks to design a textbook that will help cultivate professional medical interpreters for the Chinese language. Common medical words and phrases are highlighted, and we make a comparison table for both commonly spoken expressions and medical terminology. There are various modes of expression in each region of China, so it is organized to give priority to Mandarin (Putonghua). Moreover, we simulate conversations featuring a physician, a patient and an interpreter in hospitals and clinics, and then discuss problems with the simulation. It is not at all easy for those with a certain level of language qualification to understand the medical terminology. In addition, medical interpreters must know not only the technical terms, but also knowledge about medicine and Chinese culture. Then, we analyze the problems of training medical interpreters and report on their current situation, focusing on Chinese in Japan.

P-36

## EFFECTS OF NUTRITIONAL TRANSITION AND LIFE ENVIRONMENT ON THE OBESITY OF PRESCHOOL AGED CHILDREN IN VIETNAM

Yuko Yamazaki, Trinh Hong Son, Yoshinori Sumimura, Emako Miyoshi

Graduate School of Human Sciences, Osaka University, Osaka, Japan

Since the political and economic renewal campaign (Doi Moi) in Vietnam, they are exposed to a dramatic socioeconomic development and there was a rapid reduction in malnutrition rates, however child malnutrition remains high, especially in rural areas. On the other hand, the obesity and lifestyle-related diseases even in children have increased in urban area. The aim of this study is to describe the change of nutritional situation and their lifestyle in Vietnam, especially focusing on childhood obesity. This study was designed to explore relation between childhood obesity and eating habit or lifestyle and examined the differences of the life environment surrounding preschool aged children in between the big city and the provincial city. It was described nutritional transition in Vietnam, thus the percentage of child malnutrition was even high in rural areas regardless of rapid reduction in malnutrition rate all over the country, on the contrary, overweight, obesity and nutritionally-related chronic diseases have increased rapidly in the cities. These phenomenon caused by the social environmental changes related to activities and food intake pattern, which affected adult obesity. We have illustrated the result of cross sectional study of lifestyle and eating habit on children between two kindergartens in southern Vietnam. The prevalence of overweight were significantly higher in the big city than the provincial city ( $p < 0.001$ ), because of differences on TV watching, sleeping pattern and economic situation of household. Furthermore, there were certain tendencies that parents expected their children heavier than actual weight even though the children were in the normal or overweight range because they recognize their child body shape smaller than actual one, and children had eating habit to take much sugar added drinks.



### P-37

#### ACTIVITIES TO PROMOTE INFECTION CONTROL FOR PANDEMIC (H1N1) 2009 AT A REGIONAL MEDICAL CENTER IN TACLOBAN, THE PHILIPPINES Masumitsu Hatta<sup>1</sup>, Kazuaki Arai<sup>2</sup>, Yoichi Hirakata<sup>2</sup>, Raita Tamaki<sup>3</sup>, Rapunzel Aniceto<sup>4</sup>, Michael Al Adona<sup>4</sup>, Socorro Lupisan<sup>5</sup>, Akira Suzuki<sup>3</sup>, Hiroyuki Kunishima<sup>1</sup>, Hitoshi Oshitani<sup>1</sup>, Mitsuo Kaku<sup>1</sup>

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<sup>2</sup> Department of Clinical Microbiology with Epidemiological Research & Management and Analysis of Infectious Diseases, Tohoku University Graduate School, Sendai, Japan

<sup>3</sup> Department of Virology, Tohoku University Graduate School of Medicine, Sendai, Japan

<sup>4</sup> Eastern Visayas Regional Medical Center, Tacloban, the Philippines

<sup>5</sup> Research Institute for Tropical Medicine, Muntinlupa City, the Philippines

#### BACKGROUND

We visited Eastern Visayas Regional Medical Center in Tacloban, the Philippines, in May 2009, for an international collaboration against Pandemic (H1N1) 2009, with some staff members from Research Institute for Tropical Medicine (RITM; Muntinlupa City, the Philippines). There, we conducted some activities on infection control practices, including infection control rounds at each ward/outpatient department and educational workshops on Pandemic (H1N1) 2009.

#### METHODS AND RESULTS

At the infection control rounds, we discussed some important matters with the medical staff at the center, such as a shortage of medical resources (e.g., PPE), an inadequate supply of clean running water and improper use of hand sanitizers. At the workshops, staff from RITM and we gave lectures on overview of Pandemic (H1N1) 2009, sample collection from nasopharynx, laboratory biosafety and infection control measures. We actually coached the practical skills on sample collection, proper use of PPE and hand hygiene with alcoholic hand sanitizers. We also performed a small clinical study on how to keep hands clean despite the lack of clean water.

#### CONCLUSIONS

As we had promoted infection control practices at the center just before the arrival of Pandemic (H1N1) 2009 to Tacloban, we could contribute to good response to the pandemic influenza at the center, especially in terms of biosafety and infection control. At the rounds, some problems, such as the shortage of clean running water, remained to be solved. As clean running water is vital to keep good hand hygiene, it is urgent to develop some useful methods to keep hand hygiene despite the lack of clean water.

#### ACKNOWLEDGEMENTS

This work was supported by the Program of Founding Research Centers for Emerging and Reemerging Infectious Diseases, from the Ministry of Education, Culture, Sports, Science and Technology, Japan.

### P-38

#### MAIN PROBLEMS FOR TOURISTS WHO BECOME SICK OVERSEAS

Eiko Kawagoe

Kobe City College of Nursing, Kobe, Japan

When people get sick while visiting foreign countries, they face problems of 1) language, 2) culture and 3) money. Both foreigners visiting Japan and Japanese visiting foreign countries face such difficulties.

Of these, the biggest problem is language. It is difficult for foreign tourists to communicate with doctors and nurses. About 1,600 Japanese traveling overseas become sick or injured and about 400 die annually. If they could communicate with medical professionals in foreign countries, these numbers would surely decrease. Of course, many Japanese going abroad learn foreign languages, but the number who focus on learning vocabulary or expressions necessary for when they are sick or injured is very limited, and there have been few books available for learning such language. The presenter, who teaches English at medical schools and nursing colleges, has published a book entitled, 'Travelers' First Aid Kit', published by CENGAGE Learning, which focuses on such words and expressions in English. The presenter has used this textbook to teach English to college students wishing to go abroad, and it has proven to be very effective.

Another problem is differences in culture. For example, in Japanese hospitals, waiting time for patients can be very long, consultation time very short, and privacy is often not respected. Another problem is money. If a foreign visitor does not have health insurance, the consultation fee can be very high - both in Japan and elsewhere.

The number of Japanese tourists going abroad has not increased recently, while the number of foreign tourists visiting Japan has. Therefore, we need to think about the problems facing foreign visitors. The presenter has video-taped people from ten different countries, who talk about their experiences of visiting hospitals in this country. Their talks will cover their perspectives of 'language,' 'culture' and 'money.'





### P-39

#### DEVELOPMENTAL DISORDER AMONG OVERSEAS JAPANESE

Kenichi Tanaka

Beijing Clinic, Beijing, China

The issue of developmental disorder included autism and ADHD (Attention deficit/hyperactivity disorder) for children are gaining high concern in Japan society. On the other hand, if such children are the overseas Japanese, we face many problems to take care of them because the care to them is better to be used with mother language.

Japan overseas medical foundation (JOMF) provides health consultation service to overseas Japanese living in some countries over 10 years. After the mission, the foundation recognized the importance of the issue of developmental disorder. The children with developmental disorder are needed multi care like medical and educational field for long period. To cope with this matter, JOMF sent a pediatricist who majoring developmental disorder. The pediatricist takes consultation from parents which child has developmental disorder under the support of NGO society in the area.

The children diagnosed was taken a service from the pediatricist. On the other hand, if the patients don't recognize disorder to the child, they miss the opportunity to take consultation from the pediatricist.

To make better system for screening the child with developmental disorder, JOMF combined this program with oral check up by dentists. Caries is high provenance in Japan. Most of Japanese citizen have experienced oral check up. After dentists join this program, much parents took part in this program. The pediatricist survey the attitude of a child, and the pediatricist inform the parents of disorder.

I consider the cooperation with pediatricist and dentist is one of the tool to diagnosis the developmental disorder of children in the society of overseas Japanese.

### P-40

#### ANALYSIS OF CLINICAL CONTENTS OF FOREIGN OUTPATIENTS IN UNIVERSITY HOSPITAL

Byung Wook Yoo

Soonchunhyang University Hospital, Bucheon, South Korea

#### BACKGROUND

Development of Korea's economy and the mass transit system enabled many foreign emigrants to visit. This study takes a look at the records of an university hospital international clinic to analyze the medical conditions of expatriates.

#### METHODS

Records of foreign patients during the period of January 1st, 2006 to July 31st, 2007 from the international clinic and other departments in the Soonchunhyang University Hospital were analyzed according to gender, age, nationality, medical department and disease. Cause of visits were classified according to the Korean Standard Classification of Diseases (KSCD) which is based on the ICD-10, and grouped into chapters, blocks and tabular lists.

#### RESULTS

Of a total of 10,168 cases, 5,030 (49.5%) were male and 5,138 (50.5%) female. Children (2,870, 28.2%) and adult patients (20-50 years-old, 5,233, 51.4%) visited the hospital the most. Numbers of countries were 101, with United States numbering 1,488 cases (14.6%). Diseases of the respiratory system and factors influencing health status and contact of medical services numbered the most. Blocks of diseases showed that acute respiratory infection (14.6%), vaccination (7.5%), prenatal care (4.5%) and health checkup (3.9%) numbered the most. Case according to departments showed that the international clinic, with 2 family medicine specialists, had the most patients with 6,119 cases (60.2%).

#### CONCLUSION

Children and adult patient in their 20s to 40s visited the most, with the causes being acute respiratory infection, vaccination and health checkup and family medicine specialists treating the majority. This shows the importance of family medicine doctors in treating foreign patients.



**P-41**

**APPLICATION OF MAGNETIC BEAD-BASED VISUAL GENE CHIP IN RAPID DETECTION OF NOROVIRUS**

Lei Shi, Yunqing Xu, Dayong Gu

Shenzhen Entry-Exit Inspection and Quarantine Bureau, Shenzhen, China

**OBJECTIVE**

To develop a visual gene chip with magnetic beads for detection of norovirus.

**METHODS**

In the glass chip, streptavidin-coated magnetic beads were used as markers and biotinylated oligonucleotides as sample. The results of the tests were analyzed.

**RESULTS**

The sensitivity of the method was 50ng. The results of 20 streptavidin and biotin samples were observed by the naked eyes or by an ordinary microscope. There 6 fecal samples were positive for norovirus, in which one sample belonged to norovirus type I, five samples belonged to norovirus type II. The other 14 samples were negative.

**CONCLUSION**

This method is efficient, practical and visual. It could be used to detect samples containing the norovirus type I and II, it can meet the requirements of the customs for rapid detection of norovirus.

**P-42**

**EXPLORATION ON ENTRY-EXIT VESSEL MEDICAL SUPERVISION**

Zheng Wang, Yu Zhang, Jing Wang

Waigaoqiao Entry-Exit Inspection and Quarantine Bureau, Waigaoqiao, China

**OBJECTIVE**

In order to ensure the safe and effective supervision of ships medical.

**METHOD**

Analyze medical supervision situation in entry-exit ships of Waigaoqiao, including executive management, corresponding laws and regulations.

**RESULT**

We point out that the medical supervision of ships, especially on the expired drugs and medicines, is a new field to be integrated in the future.

**CONCLUSION**

The entry-exit inspection and quarantine bureaus should have an overall supervision of the medical management of the entry-exit ships.





## Abstracts Poster Presentations

**P-43**

## CHINESE FOCUS IN THE FUTURE – SAFEGUARDING TRAVELERS' HEALTH AT LARGE GATHERINGS

Zhiyong Liu<sup>1</sup>, Yuping He<sup>2</sup>



Handwritten notes on lined paper, including a faint diagram of a globe and various text entries.



Abstracts

# Japanese Language Symposia

14th Annual Meeting of Japanese Society of Travel and Health  
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Protecting Travelers to and from East Asia





## JL-S1

**PRE-TRAVEL CONSULTATIONS AND THE SELECTION OF PROPHYLACTIC MEASURES FOR TRAVELERS Thu. Oct. 21****Toshio Kon (Leo A. T. King)<sup>1, 2</sup>**<sup>1</sup> The King Clinic, Tokyo, Japan<sup>2</sup> St. Luke's International Hospital, Tokyo, Japan

Despite the dramatic increase in the number of international travellers and their growing concerns about their personal safety and health whilst travelling abroad, it is reported that, in Japan, not many neither seek for pre-travel advices nor prepare themselves with recommended vaccines at the healthcare provider. There are more medical institutes that administer pre-travel immunisations than ever, but we must note that providing easier access to vaccines is not the only interest of catering travel medicine.

We are all aware that a simple matching of the destination and recommended vaccines or anti-malarial prophylaxes is not the best we can cater. A time-consuming, thorough interview followed by careful assessment to select and furnish health topics and vaccination is the ideal service to be offered. At the provided session, there will be a review of some of the standard checkpoints of pre-travel consultations and the selection of the appropriate combination of prophylactic measures that are commonly discussed in various literatures and carried out at The King Clinic, Tokyo, Japan.

Additionally, there will be a brief overview of the research we are working on. This survey is a postal questionnaire for vaccine-administering medical providers in Japan to assess the current practice of travel medicine, focusing in pre-travel consultation and vaccine administration.

The possible diversities of services and ranges of available vaccines and procedures between different travel clinics, particularly in Japan, may confuse the travellers. Preparing the travellers with up-to-date information, customised combination of prophylaxes, generalised knowledge and skills to gather and process information could be some of the core services that a specialised travel clinic can provide in their daily practices.

## JL-S1

**TRAVEL CLINIC AND REGIONAL NETWORK Thu. Oct. 21****Hitoshi Kikuchi**

Vaccinations Center Meitetsu Hospital, Nagoya, Japan

In Japan, the travel medicine is developing. The number of the travel clinic is still limited and travel clinic is not popular for many of the international traveler. They have difficulty to get vaccine.

In order to assist such travelers to get appropriate vaccine(s), the Quarantine Station has offered the information of disease prevention, vaccine selection, and clinic information from 1990's. Each quarantine station has investigated vaccine clinics in their administration area. The list was shared in the quarantine office. In 1999, the questionnaire survey by mail was executed to the vaccine clinics.

In 2000, a web system named "FORTH" was developed by quarantine office. It contains the infectious disease information, outbreak news, and vaccine clinic database. Users can search vaccine clinic by name, by address, and by vaccines.

From the experience of development and maintain the system and the data, the vaccine clinic data should have the following point: (1) Vaccines constantly stocked or order when required (2) Adult only, child only, or both available (3) English certificate is available (4) Travel medicine consultation available.

There are two problems concerning the vaccine clinic list.

The first problem is how to update the list. It was not easy to update about 2,000 clinics data. To solve the problem, decentralization and network is necessary. One node manage vaccine clinics at the local area.

The second problem is how to evaluate and qualify the clinic. Currently, the only way is certification by JSTM and ISTM.





## JL-S1

## INFECTIOUS DISEASE IN RETURNING TRAVELERS Thu. Oct. 21

Kiyonori Takada

Postgraduate Clinical Training Center, Ehime University School of Medicine, Matsuyama, Japan

The main symptom that returning travelers consult a medical institution is diarrhea, fever, an airway inflammation, eruption.

The report from Freedman D.O. et al. reveals fever to 2% of returning travelers from the developing countries, and it is thought that the fever is caused by an infection with about half of those. For the cause of the infection, malaria is common, and respiratory tract infection, enterocolitis, dengue fever, viral hepatitis are frequent sequentially. In Japan, there are few voyages to Africa, but it is necessary for the infection of malaria to pay attention to have possibilities to result in death although there are relatively few diseases.

For returning travelers, we establish a travel clinic in Ehime University Hospital (the Shikoku district, Japan) from May, 2007, and then we sometimes experience the patients with malaria, and elsewhere experience the patients with enterocolitis and dengue fever. And these patients are treated appropriately. In addition, at our clinic we conduct the prescription of various vaccine and antimalarial drugs to prevent an infection after the return home. Also, because a zoo approaches our clinic, we prevent the infection from an animal carried by the foreign country to the staff of the zoo and other animals.

It is necessary for returning travelers to pay attention to a change of the physical condition for two months because it does not occur after return home immediately when an incubation period is long even if infected depending on a type of the disease.

When a change comes in physical condition, we should consult a medical institution, and it is necessary to tell that oneself stayed in the foreign country precisely.

## JL-S1

Thu. Oct. 21

Shuzo Kanagawa

National Center for Global Health and Medicine, Tokyo, Japan

Abstract not available.



## JL-S2

**HEALTH CARE OF OVERSEAS EMPLOYEES DURING A PANDEMIC Sat. Oct. 23****Koichi Kawano, Hitoshi Miyake, Akihiro Yoshida**

Health Promotion Unit, Fujitsu Limited, Kawasaki, Japan

Fujitsu Limited, a provider of ICT-based business solutions for the global marketplace, has taken the following actions before and after the outbreak of the pandemic (H1N1) 2009.

**Before the outbreak**

1. Set up authorities composed of risk management office, health promotion unit etc.
2. Establish a basic action plan.
3. Stockpile antiviral drugs and personal protective equipments for employees.
4. Provide information on flu pandemics through the intranet.
5. Visit overseas offices for providing information on flu pandemics and delivering antiviral drugs.

**After the outbreak**

1. Set up local authorities in corporate branches.
2. Cancel non-essential business travel.
3. Encourage employees to measure the body temperature before going to work and to visit local hospitals if the body temperature is over 37.5°C.
4. Allow employees to stay home for 7 days if they are sick, and for 3 days if their family members are sick.
5. Establish a surveillance system within the corporate and corporate alliances.
6. Provide information on flu pandemics through brochures.
7. Encourage vaccination against the 2009 H1N1 flu and seasonal flu.
8. Emphasize respiratory etiquette and hand hygiene.

**Concluding remarks**

1. Several business continuity plans should be prepared for pandemic flu with different severities.
2. The surveillance system should have high cost performance; It can be used for a large number (more than ten thousands) of employees without using expensive hardware systems. Cloud computing would be useful in this respect.
3. How to provide antiviral drugs legally and speedily for overseas employees should be discussed.
4. Work-from-home strategies should be considered if the severity of illness increases.

## JL-S2

**HEALTHCARE SUPPORT SYSTEM FOR OFFICE WORKERS LOCATED ABROAD Sat. Oct. 23****Takamitsu Oikawa**

Genki Plaza Medical Center for Health Care, Tokyo, Japan

According to the 2009 statistical survey by the Foreign Ministry, there are about 113 million Japanese nationals overseas. Most of these are overseas representatives and their residing locations vary among all over the world. With the structure of Japanese economy changing drastically, especially the manufacturing companies are rapidly locating more employees overseas, and now even many of the small/medium sized companies are shifting their manufacturing center to abroad, compared to only large sized companies doing so in the past. For the white-collared business like finance, trading, or general service-providing, many of the overseas locations are at large cities, or in some cases, nearby industrial areas to provide information or business support to manufacturers.

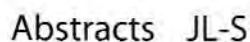
In such a case where overseas expansion became common for the Japanese companies, adequacy and ability required for the overseas representatives are now less different from that of the domestic ones. This tendency has lead to more middle-aged employees being located overseas.

As an occupational physician, determination of capability to be located overseas is considered cautiously from a medical point of view. Since a change in location requires a fundamental change in lifestyles, it is important to make determinations based on adaptability of both physical and mental point of view. It is especially important to acknowledge the employee's family status and to manage their mental health while at abroad. To manage employee's health status accurately while located abroad is very hard for the domestic occupational health staffs, and there are many cases where lifestyle-related disease gets worse for the employees, also with being effected by a harsh environment.

Especially for the developed countries, like in domestic companies, heavy workloads and long working hours are becoming a problem. And, with a sense of loneliness leading to heavier drinking (for some regions, heavier drinking for business purpose), alcoholism is not rare among expatriate employees.

At this symposium, I would like to discuss how medical support can be given to them who are loaded with heavier physical and mental stress.





**JL-S2**

**TWO CASES OF INFECTIOUS DISEASES REQUIRED TO TRANSFER TO THIRD COUNTRIES** Sat. Oct. 23

## Bungo Uchino

Yamaha Motor Co., Ltd., Iwata, Japan

## INTRODUCTION

The prevention for infectious diseases is properly important for overseas workers. However, if they are infected, it is serious problem where they can receive treatment. In some cases, they require emergency transportation to other medical developed countries.

### CASE #1

A 43 year-old healthy male employee stationed in Vietnam. April 200X, he visited a clinic complaining of cough and respiratory symptoms. He was prescribed oral medicines, the symptoms improved. He also submitted a sputum culture for inspection. August of that year, he received a call from the clinic for tuberculosis detected in the culture results. He was advised to receive treatment. He was asymptomatic but transferred to the hospital in Thailand. Examination of sputum showed no mycobacterium. after oral treatment approximately one month of hospitalization he was discharged.

## CASE #2

A 55 year-old healthy male employee. He had engaged in dealer service for many years in Africa area. March 200X, he was sickening for fever elevation and fatigue in Tanzania during the business trip to African countries. Two days later gait disturbance, incontinence and other neurological symptoms appeared. He was diagnosed with falciparum malaria at the hospital. We considered that he was infected in Ghana before visiting Tanzania. 4 days after onset, hypotension and renal dysfunction appeared, so he was transferred to the hospital in Nairobi, Kenya. He was treated with antimalarial drugs, but his condition became more critical, therefore he was transferred to Johannesburg with ventilation. 7 days after onset, blood levels of malaria decreased gradually and he recovered consciousness. 22 days after onset, he was discharged for a miraculous recovery.

## Conclusion

The importance of risk management of infectious diseases is, addition to infection control precautions, to immediately suspect an infection when symptoms appear. For that purpose, effective health education is required.

## Memo



Handwriting practice lines consisting of 20 sets of three horizontal dashed lines for tracing and writing practice.



Abstracts

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### JL-P-1

#### 日本人渡航者の性別・年代別渡航前準備の現状と課題

波川京子<sup>1</sup>、飯田忠行<sup>2</sup>、木村幹男<sup>3</sup>、尾内一信<sup>4</sup>、菊池均<sup>5</sup>、加藤成生<sup>6</sup>、今田明博<sup>7</sup>

<sup>1</sup> 札幌医科大学

<sup>5</sup> 名鉄病院予防接種センター

<sup>2</sup> 藤田保健衛生大学

<sup>6</sup> 名古屋検疫所

<sup>3</sup> (財)結核予防会新山手病院

<sup>7</sup> (株)南海国際旅行東京営業部

<sup>4</sup> 川崎医科大学

#### 目的

日本人渡航者が安全な渡航をするために、性別年代別に応じた渡航前準備の課題を明らかにする。

#### 方法

予防接種機関、旅行業者等を通じて2005年1月～2008年5月に1,146部配布し、706部（有効回答率61.6%）を分析対象とした。性別と年代別（39歳以下、40～59歳、60歳以上）に区分し、渡航目的、一般・健康情報入手先、感染症の認識等の間で $\chi^2$ 検定をした。

#### 結果

年代別渡航目的は40～59歳ビジネス、39歳以下と60歳以上は観光が多い傾向であった。60歳以上は・健康情報を旅行業者からの入手が多かった。39歳以下はB型肝炎の危険性が高いと認識し、60歳以上は危険性が低い傾向を示していた。狂犬病は39歳以下で危険性を認識し、60歳以上は分からないが多かった。

性別では、40～59歳の男性は腸チフス、コレラ、ポリオの危険性はないと認識していたが、女性では危険性は少ないと認識していた。HIV/AIDSは39歳以下と40～59歳の男性は危険性が高いと認識していた。

#### 考察

性別年代別に渡航目的、一般・健康情報入手、渡航先の感染症の認識等は異なり、性別年代別に応じた渡航前準備支援が必要と考えられる。

### JL-P-2

#### 日本人渡航者における職業別渡航前準備の現状と課題

飯田忠行<sup>1</sup>、波川京子<sup>2</sup>、木村幹男<sup>3</sup>、尾内一信<sup>4</sup>、菊池均<sup>5</sup>、加藤成生<sup>6</sup>、今田明博<sup>7</sup>

<sup>1</sup> 藤田保健衛生大学

<sup>5</sup> 名鉄病院予防接種センター

<sup>2</sup> 札幌医科大学

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<sup>4</sup> 川崎医科大学

#### 目的

日本人渡航者を職業別に比較し、渡航目的、一般情報入手、健康情報入手、渡航先の感染症の認識等から、職業別渡航前準備課題を明らかにする。

#### 方法

2005年1月～2008年5月に、質問紙は旅行業者等を通じて1,146部配布し、回収数は719部(回収率62.7%)、職業欄に記載があった661部(有効回答率57.7%)を分析対象とした。調査項目ごとに単純集計を行い、旅行業、教育・研究・医療職、会社員、学生、主婦無職の職業別に再分した。職業間において渡航目的、一般情報入手先、健康情報入手の有無、感染症の危険性の認識などの項目で $\chi^2$ 検定をした。

#### 結果

一般情報入手先は、旅行業で大使館・領事館が多い傾向であった。健康情報の入手において、会社員は入手が少ない傾向であった。感染症の認識では、旅行業と教育・研究・医療職では多く認識し、会社員は「分からない」と危険性が認識できない人が多い傾向であった。

#### 考察

旅行業は、職業柄大使館や領事館などの政府機関より正式な情報を得ていると考えられる。また、感染症の危険性の認識では、旅行業は会社からの情報提供、教育・研究・医療職では医学的知識から認識していると考えられる。





## JL-P-3

## 中国赴任者のための日常健康管理サポート体制

彭雨

(株)メディカルトラスト

近年企業がグローバル化するにつれて、日本企業に勤める労働者が海外駐在員(赴任者)として働く機会が増加しています。こうした中、海外の長期赴任者の健康障害も増加し、身体疾患はもとよりメンタル疾患をきたす赴任者も少なからず認められ、過労死・自死労災の危険性も懸念されています。

特に中国赴任者にとって、工場や自動車の排気ガスなどの大気汚染のみならず、激しいビジネス環境の変化も心身に大きな負担がかけられます。いかに中国赴任者の心身の健康を維持し、労働のパフォーマンスをあげていくかが企業において、労務管理上考慮すべき課題だけではなく、リスク管理、危機管理の観点から安全配慮義務の一環としてもとても重要であります。

中国赴任者は距離的な問題から日本への一時帰国の機会は少なくないものの、日本での一時帰国を受診しても、事後フォローが全く行われないケースが少なくなく、健康管理がおろそかにされていることも大きな問題です。そのため、中国赴任者の健診事後フォローを如何に円滑に行うか、そして疾患の発症予防、早期発見を行うかが重要な問題と考えられます。

我々は企業の産業医の代りに、当社社外産業保健室に常駐している中国現地医療事情に詳しい産業医の指導の元に、中国現地医療機関と提携して、企業の中国赴任者に対して健診後指導、就労判定、2次健診の手配、過重労働面接など、国内と同じように健康管理業務を行っています。

一方、中国各地に日本語でメンタルヘルス相談に対応できる現地医療機関が極めて少ないため、当社は「海外健康管理WEB面談システム」を利用し、企業の中国赴任者及びその家族に対して、メンタルヘルス面談、健診後医師指導、日常健康管理相談などのサポートサービスを提供しています。必要であれば、WEBを利用し、面談を担当する産業医は、本人と企業本社の人事・総務と三者でミーティングすることが可能であり、本社の人事部門にとっては、問題解決により良い効果が期待できます。

また、中国赴任者健康管理はまさに不確実性を持つマネジメントであり、「責任の一元化、統括的な情報管理」が必要であろうと考えます。したがって、中国長期赴任者に対する事前の健康教育、予防接種から、滞在中の健康管理、健康診断、罹患する場合の現地での対応/治療/搬送、そして帰国後のフォローは今までの断片的な管理を一括化にすることが重要であります。経営資源が限られることから、企業にとっては、上記の一括化サービスを提供できるような専門的な業者に委ね、責任を持たせるシステムの運営は効果的であろうと考えます。

## JL-P-4

## 多言語医療問診サービスのクラウド活用の取り組み (APPROACH TO A MULTILANGUAGE MEDICAL INTERVIEW SERVICE UTILIZING CLOUD-COMPUTING)

重野亜久里<sup>1</sup>、前田華奈<sup>1</sup>、久我口昌子<sup>1</sup>、宮部真衣<sup>2</sup>、吉野孝<sup>2</sup><sup>1</sup> 多文化共生センターきょうと<sup>2</sup> 和歌山大学 システム工学部

## 背景

経済のグローバル化に伴い、国境を越える人びとの移動はますます活発になり、日本を訪れる外国人の数は915万、日本に住む外国人は221万人を超えた。今や日本は多様な人たちが暮らす多文化共生社会となってきた。日本では、医療機関での多言語対応は一部の地域、一部の病院だけに限られており言葉の問題で受診を拒否される事例も発生している。しかし医療通訳の利用には経費、人材確保において問題が多く、ボランティアでの対応が中心である。2006年度より医療機関でのコミュニケーションが不自由な外国人の医療機関受診の一助として病院に、英語、中国語、日本語、やさしい日本語、韓国語、ポルトガル語、インドネシア語の7言語での受付支援を行う多言語医療受付支援システムM<sup>3</sup>(エムキューブ以下M<sup>3</sup>とする)の開発を行った。本システムは病院での利用を想定したローカル(PC用語)システムのため、限られた範囲でしか利用できない問題点があった。そこで、6月末より新たに開発を行なったM<sup>3</sup>はコンピューターのハード、ソフトウェアに依存しないインターネット上で自由に利用可能なクラウドサービスを構築したので報告する。

## システム説明

M<sup>3</sup>は英語、中国語、日本語、やさしい日本語、韓国語、ポルトガル語、インドネシア語の7言語での問診を行い、選択した症状を他の言語で翻訳、表示することができる。翻訳された内容は印刷出力、或はQRコード表示で携帯へ転送することが可能である。

## 今後の展望

当システムは日本国内だけでなく多言語の対応が必要なさまざまな国での問診サポートが可能であると考えられる多言語問診システム(M<sup>3</sup>)は外国人患者はもちろん海外旅行者にも広く有用である。インターネット上で活用できるようにすることで、国、時間、言語に関係なく患者や医療者が自由に問診を行うことができる。今後は、インターネットだけでなくスマートフォンなどで提供していきたいと考えている。対応場面も問診だけでなく詳細な問診、検査の場面などにも広げていきたい。



### JL-P-5

#### インドネシアの眼科医療

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<sup>2</sup> 獨協医科大学越谷病院 臨床検査部

#### 目的

平成22年1月13日より17日にかけてインドネシア、ハサヌディン大学のハビバ教授より白内障手術の講義に招待された。その際、インドネシアの眼科医療の状況を調査する。

#### 結果

ハサヌディン大学はその中のスラウェシ島最大の都市マカッサルにある国立大学で、白内障手術2000件、翼状片手術800件を中心に、硝子体手術、加齢性黄斑変性に対する血管内皮細胞増殖因子(VEGF)マクジェン? 硝子体注射やPDT治療等、最新の治療も行われていた。手術道具は日本とあまり変わらないものの、やはり日本が進んでいるようである。

インドネシアもまた特定の病院に患者が集中する傾向があること、僻地医療は日本同様医師が足りていない。インドネシアの医師数は23000人で人口10万人あたり12人程度で日本の10分の1以下であるため卒後3年間は僻地医療に従事する義務を設けてやり繰りしているようである。

#### 考案

インドネシアの医療のレベルは高くこれからの相互の医療協力が期待されると考えられた。

### JL-P-6

#### PANDEMIC (H1N1) 2009 IN INDONESIA: FROM TRAVEL HEALTH PERSPECTIVES

Kazuo Miyamura

Embassy of Japan, Medical Clinic, Jakarta, Indonesia

インドネシアは、家禽の大量死が散発し、ヒトの感染も2009年1年間で20件が報告されたH5N1汚染国である。日系企業・在留邦人の新型インフルエンザに対する危機管理意識も高い。本発表では、そのインドネシアでのPandemic (H1N1)2009の流行状況と在留邦人・邦人旅行者への様々な影響を保健省発表やマスコミ報道等の一般情報で振り返る。次いで、将来の新型インフルエンザ流行に向けて渡航医学の観点から何を改善するべきか、現場からの提言を行う。





### JL-P-7

#### 西洋における日本人学校の養護教諭等が捉えた児童生徒の健康管理の特殊性

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元兵庫県立大学大学院 看護学研究科 国際地域看護学専攻

##### 目的

日本人学校の養護教諭等から語られた児童生徒の健康管理活動を通して、日本人学校における児童生徒の健康管理の特殊性を明らかにする。

##### 方法

研究協力者4名を対象とし、研究協力者の概要、学校と児童生徒の概要、現在行っている健康管理活動、その活動に対して印象に残っている体験について、半構成的面接調査を実施した。語られた内容から、養護教諭等がその特殊性として捉えている部分を抽出し、分析を行った。

##### 結果

児童生徒の健康管理の特殊性として、ハイリスクな児童生徒への対応、怪我による来室者への頻回な対応、現地語を駆使したコミュニケーション、保護者の不安を軽減するための活動、日本からの資源の活用、現地にある資源の活用、教職員との情報の共有、が明らかになった。

##### 考察

児童生徒の健康管理の在り方として、転出入する児童生徒への配慮、特殊な家庭環境にある児童生徒への配慮、現地での継続治療が必要な児童生徒への配慮、怪我による来室者への対応と予防的関わり、医療に関する専門用語を含む現地語の理解、保護者からの相談の対応と情報提供、適切な資源の活用、担任との積極的な情報交換が、望ましい活動として挙げられた。

### JL-P-8

#### 航空機内で発生した傷病者と機内医療支援

牧信子、林弘子、大久保景子、松永直樹、岡部英明

(株)日本航空インターナショナル 健康管理部門

当社航空機内で航行中に発生する傷病者は年間500～600例程度あり、1000便当たり国内線は約1例、国際線は約5例である。傷病者の状況によっては機内でドクターコールを行ない、医療従事者の援助を依頼するが、援助を得られない時は、地上から機内医療支援を行なう。また機内で必要な医療を行なえない場合には、やむを得ず至近の空港に緊急着陸することもある。2009年度に機内で発生した傷病者につき報告する。

2009年度に機内でドクターコールを行なった傷病者数は国内線93例、国際線227例であり、医師または看護師の援助の申し出があったのは国内線86%、国際線88%、そのうち医師の援助があったのは各々59%、66%であった。地上より医療支援を行なったのは国内線1例、国際線18例の計19例であった。また、緊急着陸は国内線4例、国際線4例の計8例あり、そのうち7例は機内では医師の援助を得られていなかった。



JL-P-9

2009A(H1N1)の集団発生時における日本、中国、オーストラリア3国の比較－感染症の知識・認知・心理状態を中心に－  
三橋睦子<sup>1</sup>、佐藤祐佳<sup>1</sup>、石竹達也<sup>2</sup>、姜旻廷<sup>3</sup>、江嵩高史<sup>4</sup>

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<sup>2</sup> 久留米大学医学部環境医学

<sup>3</sup> 久留米大学大学院生

<sup>4</sup> えざきOHコンサルティング

目的

オーストラリア、中国、および日本の3国で、2009新型インフルエンザA(H1N1)が流行した地域の住民を対象に、感染症に対する知識・リスク認知、精神心理状態(GHQ30)を調査し、QOLとリスクコントロールについて検討する。

研究方法

1)対象：オーストラリア100人、中国(北京市内会社員)353/360人、日本(兵庫近郊勤労者)241/285人である。

2)期間：2010年1～3月

3)方法：横断的質問紙調査。

結果

1)GHQ30のリカト法評価得点は、中国 $36.8 \pm 9.2$ 点 日本 $30.3 \pm 8.1$ 点、オーストラリアが $28.5 \pm 14.1$ で、中国の不安や社会的な機能不全状態の得点が高かった( $p < .001$ )。

2)今回の新型インフルエンザの恐ろしさ因子得点は、日本 $4.0 \pm 0.9$ 、中国 $4.0 \pm 0.9$ 、オーストラリア $5.0 \pm 1.2$ であり、オーストラリアの得点が高かった。未知性因子は、日本 $4.2 \pm 0.9$ 、中国 $4.0 \pm 0.9$ 、オーストラリア $3.6 \pm 1.0$ 、逆にオーストラリアの得点が低かった( $p < .001$ )。

考察

精神心理状態は、感染症のリスク認知や知識には関連しておらず、その他の要因が推察された。

Memo





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# 新たな選択



選択的DPP-4阻害剤 - 糖尿病用剤 -

## グラクティブ錠

薬価基準収載

25mg  
50mg  
100mg

シタグリブチンリン酸塩水和物錠

GLACTIV

処方せん医薬品<sup>※1</sup>

※1 医師等の処方せんにより使用すること

新発売

### 【禁忌(次の患者には投与しないこと)】

- (1) 本剤の成分に対し過敏症の既往歴のある患者
- (2) 重症ケトアシドーシス、糖尿病性昏睡又は前昏睡、1型糖尿病の患者〔輸液及びインスリンによる速やかな高血糖の是正が必須となるので本剤を投与すべきでない。〕
- (3) 血液透析又は腹膜透析を要する患者を含む重度腎機能障害のある患者〔本剤の血中濃度が上昇する。〕(「薬物動態」の項参照)
- (4) 重症感染症、手術前後、重篤な外傷のある患者〔インスリン注射による血糖管理が望まれるので本剤の投与は適さない。〕

### ■効能・効果

#### 2型糖尿病

ただし、下記のいずれかの治療で十分な効果が得られない場合に限る

- ① 食事療法、運動療法のみの
- ② 食事療法、運動療法に加えてスルホニルウレア剤を使用
- ③ 食事療法、運動療法に加えてチアゾリジン系薬剤を使用
- ④ 食事療法、運動療法に加えてビグアナイド系薬剤を使用

### ■用法・用量

通常、成人にはシタグリブチンとして50mgを1日1回経口投与する。なお、効果不十分な場合には、経過を十分に観察しながら100mg 1日1回まで増量することができる。

#### ＜用法・用量に関連する使用上の注意＞

本剤は主に腎臓で排泄されるため、中等度腎機能障害のある患者では、下表を目安に用量調節すること。(「慎重投与」及び「薬物動態」の項参照)

| 腎機能障害 | クレアチニンクリアランス(mL/分)<br>血清クレアチニン値(mg/dL) <sup>*</sup>      | 通常<br>投与量    | 最大<br>投与量    |
|-------|----------------------------------------------------------|--------------|--------------|
| 中等度   | 30 ≤ Cr < 50<br>男性: 1.5 < Cr ≤ 2.5<br>女性: 1.3 < Cr ≤ 2.0 | 25mg<br>1日1回 | 50mg<br>1日1回 |

※: クレアチニンクリアランスに概ね相当する値

### ■使用上の注意 (抜粋)

1. 慎重投与(次の患者には慎重に投与すること)
  - (1) 中等度腎機能障害のある患者 (「用法・用量に関連する使用上の注意」及び「薬物動態」の項参照)
- \* (2) 他の糖尿病用薬(特に、スルホニルウレア剤)を投与中の患者〔併用により低血糖症を起こすことがある。〕(「相互作用」、「重大な副作用」及び「臨床成績」の項参照)
2. 重要な基本的注意
  - (1) 糖尿病の診断が確立した患者に対してのみ適用を考慮すること。糖尿病以外にも耐糖能異常・尿糖陽性等、糖尿病類似の症状(腎性糖尿、甲状腺機能異常等)を有する疾患があることに留意すること。
  - (2) 本剤の適用はあらかじめ糖尿病治療の基本である食事療法、運動療法を十分に行った上で効果が不十分な場合に限り考慮すること。
  - (3) 本剤投与中は、血糖を定期的に検査するとともに、経過を十分に観察し、常に投与継続の必要性について注意を払うこと。本剤を3ヵ月投与しても食後血糖に対する効果が不十分な場合、より適切と考えられる治療への変更を考慮すること。
  - (4) 投与の継続中に、投与の必要がなくなる場合や、減量する必要がある場合があり、また、患者の不養生、感染症の合併等により効果がなくなったり、不十分となる場合があるので、食事摂取量、血糖値、感染症の有無等に留意の上、常に投与継続の可否、投与量、薬剤の選択等に注意すること。

- \* (5) 本剤の使用にあたっては、患者に対し低血糖症状及びその対処方法について十分説明すること。特に、スルホニルウレア剤と併用する場合、低血糖のリスクが増加する。スルホニルウレア剤による低血糖のリスクを軽減するため、スルホニルウレア剤と併用する場合には、スルホニルウレア剤の減量を検討すること。(「相互作用」、「重大な副作用」及び「臨床成績」の項参照)

- (6) 腎機能障害のある患者では本剤の排泄が遅延し血中濃度が上昇するおそれがあるので、腎機能を定期的に検査することが望ましい。(「用法・用量」に関連する使用上の注意、「慎重投与」及び「薬物動態」の項参照)

#### 3. 相互作用 (抜粋)

本剤は主に腎臓から未変化体として排泄され、その排泄には能動的な尿管分泌の関与が推察される。(「薬物動態」の項参照)

#### 併用注意 (併用に注意すること)

- \* 薬剤名等 糖尿病用薬(スルホニルウレア剤等)、ジゴキシン、血糖降下作用を増強する薬剤(β-遮断薬、サリチル酸剤、モノアミン酸化酵素阻害剤等)、血糖降下作用を減弱する薬剤(エピネフリン、副腎皮質ホルモン、甲状腺ホルモン等)

#### 4. 副作用 (抜粋)

国内で実施された臨床試験において、1,190例中96例(8.1%)の副作用が認められた。主なものは低血糖症17例(1.4%)、便秘12例(1.0%)等であった。また、関連の否定できない臨床検査値の異常変動は、1,188例中49例(4.1%)に認められ、主なものはALT(GPT)増加18例/1,188例(1.5%)、AST(GOT)増加12例/1,188例(1.0%)、γ-GTP増加10例/1,188例(0.8%)等であった。(承認時)

#### (1) 重大な副作用

- 1) アナフィラキシー反応 アナフィラキシー反応(頻度不明<sup>\*</sup>)があらわれることがあるので、観察を十分に行い、異常が認められた場合には投与を中止し、適切な処置を行うこと。(「禁忌」の項参照)
- 2) 皮膚粘膜眼症候群(Stevens-Johnson症候群)、剥脱性皮膚炎 皮膚粘膜眼症候群(Stevens-Johnson症候群)、剥脱性皮膚炎(いずれも頻度不明<sup>\*</sup>)があらわれることがあるので、このような症状があらわれた場合には投与を中止し、適切な処置を行うこと。(「禁忌」の項参照)
- \* 3) 低血糖症 他の糖尿病用薬との併用で低血糖症(グリメピリド併用時5.3%、ピオグリタゾン併用時0.8%、メトホルミン併用時0.7%)があらわれることがある。特に、スルホニルウレア剤との併用で重篤な低血糖症状があらわれ、意識消失を来す例も報告されていることから、スルホニルウレア剤と併用する場合には、スルホニルウレア剤の減量を検討すること。また、他の糖尿病用薬を併用しない場合でも低血糖症(1.0%)が報告されている。低血糖症状が認められた場合には、糖質を含む食品を摂取するなど適切な処置を行うこと。(「重要な基本的注意」、「相互作用」及び「臨床成績」の項参照)

※: 海外において認められている。

### ●その他の使用上の注意等、詳細は製品添付文書をご参照ください。

本剤は新医薬品であるため、厚生労働省告示第97号(平成20年3月19日付)に基づき、2010年12月末日までは、投薬は1回14日分を限度とされています。

(※ 2010年4月改訂)

資料請求先



小野薬品工業株式会社

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# 世界の医薬品を安全にお届けします。

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※海外流通ワクチンを輸入することは、制度により認められています。

## 取扱輸入ワクチンのご案内

### 渡航用輸入ワクチン

- ◆狂犬病
  - ◆腸チフス
  - ◆髄膜炎
  - ◆肝炎
  - ◆コレラ
  - ◆ダニ脳炎
- など

### 小児用輸入ワクチン

- ◆ポリオ（不活性化）
  - ◆ロタウィルス
  - ◆肺炎球菌 13 価
  - ◆MMR
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- など

詳細はお気軽に下記までお問い合わせください。



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# イワタニは、病院様のための 「提案型営業」を推進しています。



「提案型営業」。イワタニがこのように呼んでいるのは、当社と、販売店様、病院様の3者が三位一体となって課題解決に取り組む提案を中心とした営業システムです。

イワタニでは、医療ガスの供給、医療ガス機器の販売を中心に、テクノメディカル(株)では、広く滅菌業務サービスをはじめ、技術面の情報交換、設備機器の共同購入、そしてイワタニメディカル会では、医療関連の各種活動や、研修会を開くことによって、病院経営に関する幅広い提案とアドバイスをを行っています。

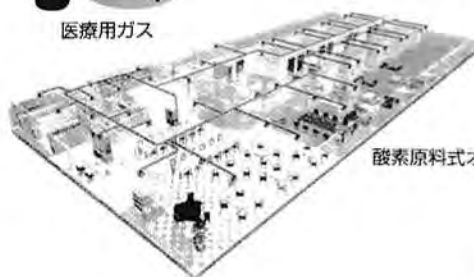
## 医療ガスをはじめ、イワタニが扱っている主なメディカル商品



医療用ガス



滅菌ガス専用小型警報器  
(EOキャッチャー)



酸素原料式オゾン脱臭システム



滅菌ガス除害装置

各種医療用ガス

MRI用液体ヘリウム

医療ガス供給設備

合成空気供給システム

滅菌ガス除害装置

高気圧酸素治療装置

院内オゾン脱臭システム

受託滅菌業

# Iwatani

岩谷産業株式会社

エアガス部

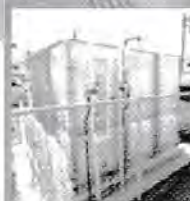
<http://www.iwatani.co.jp>



# これから時代、病院施設も 電気が大きなチカラになります。

いま、時代のキーワードは環境、そして安心・快適・経済性。地球環境にやさしく人にやさしい施設づくり・施設運営が求められています。なかでも病院施設は、何よりも安心・安全であること。CO<sub>2</sub>削減効果も高い電気が大きなチカラになります。

## 空調



お客様のニーズに最適な電気の空調システムが、快適空調を実現します。

## 給湯



大量のお湯もお任せ。快適・安心、しかも経済的で環境にやさしい給湯を実現します。

## 電化厨房



電気ならではのCool、Clean、Control、Cost、Compactの「5C」で理想の厨房を実現します。

## 滅菌装置



操作简单、熱気の心配もなく、「蓄熱式」であれば経済的で、緊急時でも滅菌が可能です。

## お得な契約メニュー

エコ・アイスとセットの電気ヒートポンプも割引でお得！

**「高圧業務用空調システム特約」**

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お問い合わせ先



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<http://www.kepco.co.jp/nara/>



# イソアーク 移設式陰圧チャンバー登場!!

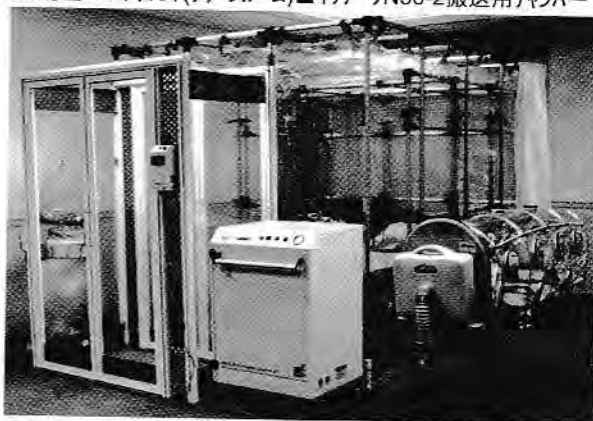
取扱製品 ■イソアーク陰圧チャンバー■イソアーク320簡易型 ■ステリテント(クリーンルーム)■イソアークN36-2搬送用チャンバー

イソアークは、国内で唯一の前室による正確な陰圧管理を採用しており、ICU、NICU、個室等向けの移設可能な陰圧チャンバーです。

イソアーク320は、前室をチャンバー内に設けた簡易型のイソアークです。

ステリテントは、安定した陽圧チャンバーで、フィルター装置の取り付けを変更することで、イソアークと異なる機能を提供するクリーンルームです。

イソアークN36-2は、搬送用に開発された陰圧チャンバーで、他社にはない特徴を数多く有する製品です。その一つに輸液、酸素吸入用のチューブ等で必要なものを搬送時供給できる貫通孔があります。



イソアークの特長: 写真 左:イソアーク 右:イソアークN36-2

- 安定した陰圧を保持できる。 ●使い勝手の良い前室付き。
- 排気口にHEPAフィルター、紫外線照射装置を設置。
- 交換できるグローブで、隔離したまま、外部から内部補助・作業できる。
- 電線コード、チューブを通す貫通孔があり陰圧に対応する。



エア・ウォーター グループ

大宝産業株式会社 医療営業部

<http://www.daiho-inc.com>

東京都港区浜松町1丁目9番10号 〒105-0013

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資料請求先:吉田製薬株式会社 学術部  
東京都中野区中央5-1-10 TEL. 03-3381-2004  
Y's Square <http://www.yoshida-pharm.com/>



丸石製薬株式会社

資料請求先:丸石製薬株式会社 学術情報部  
〒538-0042 大阪市鶴見区今津中2-4-2 TEL. 0120-014-561  
ホームページ <http://www.maruishi-pharm.co.jp/>



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作成：2009.5

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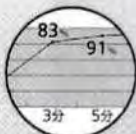
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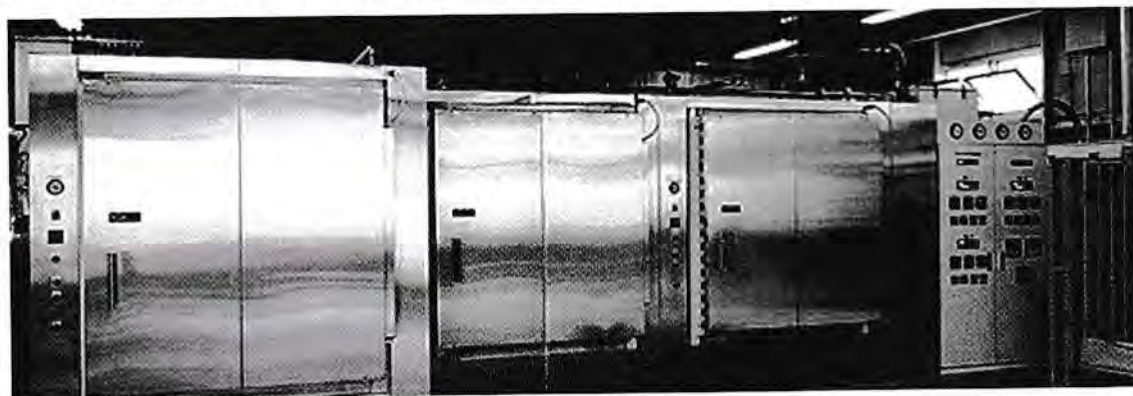
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## 私たちは「滅菌」という分野で闘います。

日本におけるEOガス滅菌の歴史は、当社の歴史そのものと言っても過言ではないと自負しております。すなわち、当社が昭和38年わが国初の滅菌ガス（カボックス・エボン）とガス滅菌装置の販売を目的として設立されて以来、医療用ディスポ製品をはじめ医薬品・化粧品分野での滅菌に急速に普及し、今日に至っております。当社ではこれまでのノウハウを生かし、ガス滅菌装置を設置の上、受託滅菌業務を承っております。



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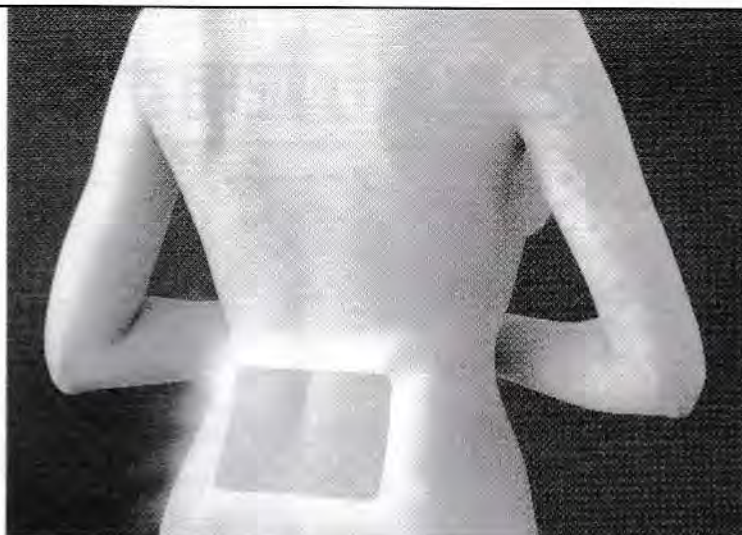
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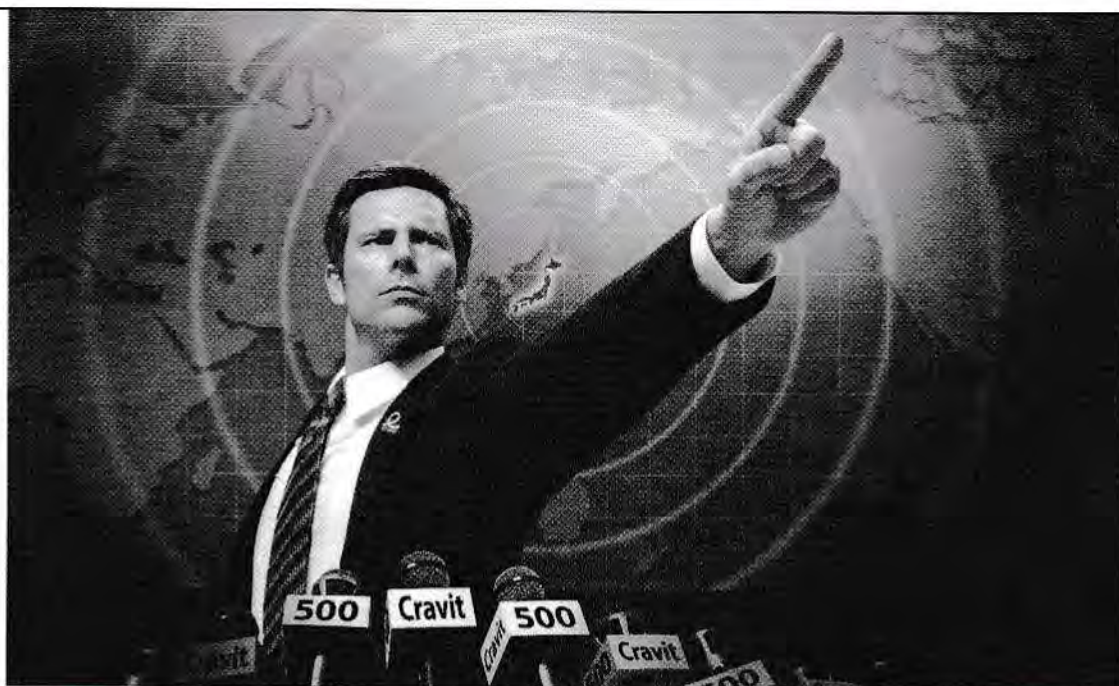
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# SSC メディカルサービス

上海聖傑医療服務有限公司(上海 SSC)は上海を拠点とした医療アシスタンス会社です。主に中国に滞在される日本人への医療サービスを提供しております。その他、中国での事業をお考えの方、また中国人を対象とした日本でのビジネスをお考えの方にも様々なサービスをご提供致します。

## ☆中国に滞在される日本人向けサービス☆

上海本社にコールセンターを設け、**24 時間、365 日、日本語**で対応しています。

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- 2) 医療通訳の派遣（ご希望に応じて送迎もいたします）※事務所のある地域に限ります。
- 3) 医療費のキャッシュレスサービス(海外旅行保険に加入されている場合)
- 4) 予防接種（**2 回目以降の予防接種も手配いたします。**）健康診断の手配
- 5) 入院時に患者様に代わり医療情報を入力いたします。
- 6) 医療レポートの翻訳
- 7) 緊急移送、遺体・遺骨搬送の手配

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### 【お問い合わせ】

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お困りの際はまず SSC にご相談ください。豊富な経験と豊かな知識で安心をお届けいたします。