



NECTM 2006
Northern European Conference
on Travel Medicine

Edinburgh, Scotland, June 7-10 2006, Edinburgh International Conference Centre



Final Programme - Volume I

Programme and Book of Abstracts

A collaborative conference organised
by the International Society of Travel Medicine
and the Travel Medicine Societies and
Organisations of Northern Europe



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Welcome

On behalf of the Organising and Scientific Committees of the Northern European Conference on Travel Medicine (NECTM), we would like to extend to you a warm welcome to Edinburgh. The Conference brings together many of the Travel Medicine Societies and Organisations of Northern Europe together with the International Society of Travel Medicine (ISTM) to produce a unique programme. This is the second time



the ISTM have partnered in a regional Conference. The first venture being the very successful Africa/European Conference in Cape Town in 2004. You will see from the Scientific Programme that the scope of the conference encompasses the broadest range of the most timely and topical travel health issues whilst keeping a northern European flavour. The programme excitingly reflects the particular travel medicine issues of the region. We are delighted that Her Royal Highness, The Princess Royal, will be attending to give a special address to the conference delegates.

We also promise that the stimulating science will be matched by an exceptional social programme for delegates and partners. Scotland is famous for its hospitality and Edinburgh is among the most beautiful cities in the world - dominated by its castle, sitting on an extinct volcano. The architectural grandeur of the New Town contrasts with the cobbled streets of the Old Town. Steeped in history and culture and with more restaurants per head of population than any other city in Europe, Edinburgh is currently a vibrant and confident city that excites and amazes all visitors. All the major attractions are within walking distance of the conference venue and hotels. We have included an evening event for families and friends as well as two talks describing Scotland's history and culture. We wish you a wonderful time!

Fiona Genasi,

On behalf of the Organising Committee

Eric Walker & Randi Hammer Boge,

On behalf of the Scientific Committee

NECTM Organising Committee

Fiona Genasi, Chair	International Society of Travel Medicine, UK
Mads Buhl	Danish Society of Travel Medicine, Denmark
Jane Chiodini	RCN Travel Health Forum, UK
Dominic Colbert	Irish Society of Travel Medicine, Ireland
Brad Connor	International Society of Travel Medicine, USA
Carolyn Driver	British Travel Health Association, UK
Randi Hammer Boge	Norwegian Forum for Travel Medicine, Norway
David Hill	National Travel Health Network & Centre, UK
Lars Rombo	Swedish Society of Tropical Medicine, Travel Medicine & International Health, Sweden
Heli Siikkamäki	Finnish Society for International Health, Finland
Frank von Sonnenburg	International Society of Travel Medicine, Germany
Pål Voltersvik	Norwegian Forum for Travel Medicine, Norway
Eric Walker	Health Protection Scotland, UK

NECTM Scientific Committee

Eric Walker	Scotland - Chair	Eskild Petersen	Denmark
Randi Hammer Boge	Norway - Co-chair	Lars Rombo	Sweden
Mads Buhl	Denmark	Carsten Schade Larsen	Denmark
Jane Chiodini	England	Heli Siikkamäki	Finland
Dom Colbert	Ireland	Hilary Simons	England
Lars Lindquist	Sweden	Rose Tucker	England
Louis Loutan	Switzerland	Pål Voltersvik	Norway
Iain McIntosh	Scotland		



Sponsors

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SBL Vaccines

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Commercial Exhibitors

Alliance for Rabies Control
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Paesel + Lorei Vetriebs- und Marketing GmbH
sanofi pasteur
sanofi pasteur MSD
SBL Vaccines
Tropicare BV

Participating Society/Organisation Exhibitors

British Travel Health Association
Health Protection Scotland
International Society of Travel Medicine

Irish Society of Travel Medicine
National Travel Health Network and Centre
Royal College of Nursing Travel Health Forum

Programme

Wednesday 7th June		Room
14.00 – 18.30	Speaker Support Centre Open	Harris Suite
14.00 – 19.00	Registration Open	Strathblane
19.00 – 23.00	Welcome Get Together at Royal Museum of Scotland Coaches will depart from the EICC at 18.45	Chambers Street, Edinburgh

Welcome Reception and Buffet sponsored by  Royal Museum of Scotland, Chambers Street, Edinburgh 19.00 - 23.00 Coaches will depart from the EICC at 18.45. A limited coach service will operate from 20.00 - 23.00hrs from the Museum back to the EICC/Conference Hotels.

This memorable evening, filled with entertainment from some of Scotland's finest musicians, will start with a rousing Scottish welcome provided by Pipe Major Iain MacDonald and members of the Neilston Pipe Band. The dramatic sound of pipes and drums will fill this unique venue, guaranteeing a night to remember!

With a mix of pipes, whistle, fiddle, guitar and percussion, the Finlay MacDonald Band will take to the stage. This stunning group brings together some of Scotland's top musicians, taking traditional music to new and exciting levels when they combine their incredible mastery of the instruments with young joyful rhythms. Look forward to an evening of great entertainment from one of our most sought after traditional bands.

Thursday 8th June		Room
08.00 – 17.00	Registration Open	Strathblane
08.00 – 17.00	Speaker Support Centre Open	Harris Suite
10.30 – 17.15	Exhibition Open	Cromdale
08.45 – 09.00	Welcome to NECTM - Eric Walker (On behalf of the Scientific Committee)	Pentland
09.00 – 10.30	Plenary 1 – How Changes to the Environment Can Affect International Travel <i>Chairs: Jonathan Cossar, Scotland - Annie Bradley, England</i> <ul style="list-style-type: none"> • Climate Change and its Implications for Travel <i>James Willis, England</i> • Climate Change and Human Health – Early and Late Effects <i>Sari Kovats, England</i> • Natural Disasters: Challenges for Public Health Action <i>Eric Noji, USA</i> 	Pentland
10.30 – 11.15	Refreshment Break / Exhibition Opening / Poster Viewing	Cromdale
11.15 – 12.45	Symposium 1a – Health Risks and Mode of Travel <i>Chairs: Heli Siikamäki, Finland - Francesco Castelli, Italy</i> <ul style="list-style-type: none"> • Health Risks During Air Travel <i>Mark Popplestone, England</i> • Health Risks for Those Going on Sea Cruises <i>Iain McIntosh, Scotland</i> • Health Risks for Emergency Volunteers: From Biafra to Bosnia <i>Dom Colbert, Ireland</i> 	Sidlaw
11.15 – 12.45	Symposium 1b – Malaria Prevention <i>Chairs: Peter Chiodini, England - Eva Pekkanen, Finland</i> <ul style="list-style-type: none"> • Current Drugs Available for Malaria Prevention and Stand-by Treatment <i>Eskild Petersen, Denmark</i> • All or Nothing - Malaria Prevention for the Minimal Risk Traveller <i>Pat Schlegenhaut-Lawlor, Switzerland</i> • Advising Travellers Visiting Friends and Relatives Abroad <i>Ron Behrens, England</i> 	Pentland
11.15 – 12.45	Symposium 1c – Exploration and Adventure Holidays <i>Chairs: George Kassianos, England - Linda Horne Mæland, Norway</i> <ul style="list-style-type: none"> • Respect for Environment and Local Culture <i>Sheila Hall, Scotland</i> • Exploring Mountains Safely – A Mountain Rescue Perspective <i>Brian Tregaskis, Scotland</i> • Health Considerations for Adventure Travel <i>Graeme Walker, Scotland</i> 	Fintry
12.45 – 14.45	Exhibition / Poster Viewing	Cromdale

Thursday 8th June continued		Room
12.45 – 13.00	Lunch for those attending Company Symposium will be served outside the Lomond Suite. Places are limited so arrive early.	
13.00 – 14.30	  <p>Company Symposium - Perplexing Problems for Practitioners of Travel Medicine Presenters: Nick Beeching, England - Jay Keystone, Canada</p>	Lomond
14.45 – 15.45	<p>Workshop 1 Chair: Jane Chiodini, England Presenters: Linda Horne Mæland, Norway - Dom Colbert, Ireland - Michael Ingram, England</p> <ul style="list-style-type: none"> • Who Should Pay for Travel Vaccinations? 	Sidlaw
14.45 – 15.45	<p>Workshop 2 Chair: Lorna Boyne, Scotland Presenters: Albie de Frey, South Africa - Pål Voltersvik, Norway - Sheila Hall, Scotland - Helen Johnstone, Northern Ireland</p> <ul style="list-style-type: none"> • What is the Role of Formal Travel Medicine Education? 	Fintry
14.45 – 15.45	<p>Free Communications 1 Chairs: David Hill, England - Margaret Umeed, Scotland</p> <p>O-1 Simple Surveillance of Asylum Seeker Health in Glasgow, Scotland C A Redman, C Paterson, J Sellers, I Soley, M Clark¹, A McDonald</p> <p>O-2 Health Threats from Communicable Diseases for Travellers Visiting Greece K Gkolfinopoulou, E Kalamara, S Hatzianastasiou, G Spala, T Panagiotopoulos, E Triantafyllou, D Rostadakis, M Astriti</p> <p>O-3 Evidence of Increased Risk of Death of Heart Disease Among Scots Abroad C A Redman, A MacIennan, C Sinclair, M Cook, C Robertson, E Walker</p> <p>O-4 Assessing the Burden of Infectious Diseases on Migrants to the UK – the Health Protection Agency's first Migrant Health Report R Gilbert, J Jones</p>	Pentland
15.45 – 16.15	Refreshment Break / Exhibition / Poster Viewing	Cromdale
16.15 – 17.15	<p>Workshop 3 Chairs: Louis Loutan, Switzerland - Linda Horne Mæland, Norway</p> <ul style="list-style-type: none"> • How Can We Provide the Best Advice and Impart to Long Term Expatriates? 	Sidlaw
16.15 – 17.15	<p>Workshop 4 Chair: Harald Hauge, Norway Presenters: Jane Wilson - Randi Hammer Boge, Norway</p> <ul style="list-style-type: none"> • What is the Best Advice for the Pregnant Traveller and Those Caring for Infants While Abroad? 	Fintry

Thursday 8th June <small>continued</small>		Room
16.15 – 17.15	<p>Free Communications 2 <i>Chairs: Martin Donaghy, Scotland - Hilary Simons, England</i></p> <p>O-5 Are we Doing our Best to Educate Travellers About the Risks of Acute Mountain Sickness? An On-site Prospective Study in the Himalayas. <i>A Paz, I Steinfeld, I Potasman</i></p> <p>O-6 Knowledge, Attitudes, and Practices Regarding Pre-Travel Health Recommendations among U.S. Residents Travelling to India <i>HC Baggett, N Gallagher, M Russell, S Steele, S Blumensaadt, J Bateman, P Edelson, S Graham, P Kozarsky, C Reed, P Arguin</i></p> <p>O-7 Recent Changes to the UK Bacille Calmette-Guérin (BCG) Vaccination Programme - What are the Implications for UK Travellers? <i>AA MacConnachie, CA Redman, E Walker</i></p> <p>O-8 Children Travellers Morbidity – Prospective Controlled Cohort Study <i>F Sorge, F Gay</i></p>	Pentland
17.30 – 19.00	 <p>Company Symposium - Hepatitis Vaccination in Travel: Thinking Beyond the Next Trip. <i>Chair: Bernard Hoet, Belgium</i> <i>Presenters: Jane Zuckerman, England - Frank von Sonnenburg, Germany - Nick Beeching, England</i></p> <p>Refreshments and Canapés will be Served in the Lomond Foyer</p>	Lomond
19.00 – 20.45	<p>A Special Evening for Participants and Accompanying Friends or Families There will be live entertainment by five very talented young musicians including traditional Scottish highland and popular classical music. This event incorporates a reunion for Glasgow Travel Medicine Diploma students. Drinks will be available for purchase.</p>	Strathblane

Important Note: All participants are required to show photographic identity on entering the EICC on Friday 9th June otherwise entry cannot be allowed

Friday 9th June		Room
08.00 – 17.00	Registration Open	Strathblane
08.00 – 17.00	Speaker Support Centre Open	Harris Suite
08.00 – 08.45	A Welcome to Scotland – Scottish Scientific Instruments <i>Alison Morrison-Low, Curator at the National Museums of Scotland</i>	Fintry
09.00 – 16.15	Exhibition Open	Cromdale
09.00 – 10.30	Symposium 2a – Variations in Travel Medicine Practice <i>Chairs: Dom Colbert, Ireland - Peter Leggat, Australia</i> <ul style="list-style-type: none"> • How do Travellers Perceive their Health Risks – How Can We Minimise the Risk of Illness? <i>Lars Rombo, Sweden</i> • The Impact of the Nurse Prescribing on Travel Health Provision <i>Margaret Umeed, Scotland</i> • Avoiding Conflicts in Practice with your Professional Colleagues <i>Harald Hauge, Norway</i> 	Fintry
09.00 – 10.30	Symposium 2b – Travellers with Chronic Diseases and Underlying Health Problems <i>Chairs: Kitty Smith, Scotland - Christina Rosberg, Sweden</i> <ul style="list-style-type: none"> • The Immunocompromised Traveller Including Those with HIV Infection <i>Carsten Schade Larsen, Denmark</i> • Air Travel and Thrombosis <i>Paul Giangrande, England</i> • The Importance of Travel Health Insurance <i>Sverre Kjølstad, Norway</i> 	Sidlaw
09.00 – 10.30	Symposium 2c – Difficult Situations in the Travel Clinic <i>Chairs: Lars Lindquist, Sweden - Garth Brink, South Africa</i> <ul style="list-style-type: none"> • Advising Travellers with Cardiac and Respiratory Diseases <i>Mads Buhl, Denmark</i> • The ‘Last Minute’ Traveller Seeking Advice <i>Nancy Gallagher, Ireland</i> • The Traveller With Allergies Requiring Vaccinations <i>Mike Jones, Scotland</i> 	Pentland
10.30 – 11.00	Refreshment Break / Exhibition / Poster Viewing Important Note: Entry to the Main Auditorium will not be allowed between 11.00 and 11.15 Be there early!	Cromdale
11.15 – 12.30	Plenary 2 – Risks and Benefits from Vaccinations for Travellers <i>Chairs: Eric Walker, Scotland - Randi Hammer Boge, Norway</i> <ul style="list-style-type: none"> • The Role of Vaccines in Preventing Gastro-intestinal Infections <i>Robert Steffen, Switzerland</i> • Rabies Vaccination For Travellers <i>Francois-Xavier Meslin, Switzerland</i> • New Opportunities to Prevent Respiratory Tract Infections in Travellers <i>David Hill, England</i> 	Pentland
12.30 – 13.00	Her Royal Highness, The Princess Royal, will give a special address and welcome to participants	Pentland
13.00 – 13.15	Lunch for those attending Company Symposium will be served outside the Lomond Suite. Places are limited so arrive early.	
13.15 – 14.45	SBL Vaccines. Company Symposium - Why Vaccinate Travellers Against Cholera? <i>Presenters: Jane Zuckerman, England - Koen de Schrijver, Belgium - Eskild Petersen, Denmark</i>	Lomond
13.00 – 14.45	Exhibition / Poster Viewing	Cromdale

Friday 9th June <small>continued</small>		Room
14.45 – 15.45	Workshop 5 <i>Chair: Hanna Nohynek, Finland</i> • How Far Can Travel Health Advice be Evidence Based?	Sidlaw
14.45 – 15.45	Workshop 6 <i>Chair: Koen Van Herck, Belgium</i> <i>Presenters: Koen van Herck, Belgium - Alfons van Gompel, Belgium</i> • Can We Vary Vaccination Schedules from the Datasheet Recommendations?	Fintry
14.45 – 15.45	Free Communications 3 <i>Chairs: Mads Buhl, Denmark - Carolyn Driver, England</i> O-9 Use of Mefloquine Chemoprophylaxis by Non-immune Travellers Before and During Pregnancy - a Critical Evaluation of the Evidence <i>P. Schlagenhauf, M. Suarez Boutros, T. Leuenberger, E. Frohlich</i> O-10 Developing Consensus in Malaria Chemoprophylaxis: a Delphi Method Study. <i>G. Calleri, F. Gobbi, RH Behrens, Z. Bisoffi, A. Bjorkman, F. Castelli, J. Gascon, MP Grobusch, T. Jelinek, M. Niero, P. Caramello</i> O-11 Experience with Impavido (INN: Miltefosine) in Leishmania braziliensis Infections <i>J. Soto, J. Toledo, R. Parra, M. Valderrama, J. Rea, A. Gomez, J. Ardiles, P. Soto, H. Sindermann, M. Pietras, G. Anders, J. Engel</i> O-12 Malaria Prophylaxis Policy for Travellers from Europe to the Indian Sub Continent <i>RH Behrens, Z. Bisoffi, A. Björkman, J. Gascon, C. Hatz, F. Legros, T. Jelink, N. Mühlberger, P. Voltersvik</i>	Pentland
15.45 – 16.15	Refreshment Break / Exhibition (closes 16.15) / Poster Viewing	Cromdale
16.15 – 17.15	Workshop 7 <i>Chair: Iain McIntosh, Scotland</i> <i>Presenters: Staffon Janson, Sweden - Sverre Kjolstad, Norway</i> • Increasing Awareness of Security Issues and Accidents While Abroad	Fintry
16.15 – 17.15	Workshop 8 <i>Chairs: Eskild Peterson, Denmark - Jim McMenamin, Scotland</i> • How Do We Handle the Next Influenza Pandemic?	Sidlaw
16.15 – 17.15	Free Communications 4 <i>Chairs: Carsten Schade Larsen, Denmark - Susanna Maybin, England</i> O-13 The Potential Risk of Rabies Among Long-Term Travellers <i>I. Potasman, M. Menachem, A. Paz</i> O-14 HIV-Positive Travellers in the 'Highly Active Anti-Retroviral Treatment' era <i>C.C. Smith</i> O-15 The Provision of HIV Post Exposure Prophylaxis for Medical Student Electives: the Liverpool Experience 1999-2005. <i>NJ Beeching, SB Welby, L. Ford</i> O-16 Assessment of Knowledge About Yellow Fever Vaccination: Information from the National Travel Health Network and Centre (NaTHNaC) Training Programme for Yellow Fever Vaccination Centres (YFVCs). <i>L. Ford, H. Simons, R. Tucker, N. Bryant, C. Stringer, A. Jordan, V. Field, DR Hill</i>	Pentland
17.30 – 19.00	 Company Symposium - Advances in Travel Vaccination <i>Intercell Chair: Frank von Sonnenburg, Germany</i> <i>Intercell Presenters: David Shlim, USA - Erich Tauber, Austria</i> <i>Berna Biotech Chair: Jane Zuckerman, England</i> <i>Berna Biotech Presenters: Louis Loutan, Switzerland - Patrick Bovier, Switzerland</i> Refreshments and Canapés will be Served in the Lomond Foyer	Lomond

Saturday 10th June		Room
08.00 – 13.15	Registration Open	Strathblane
08.00 – 12.00	Speaker Support Centre Open	Harris Suite
08.00 – 08.45	A welcome to Scotland - Scotland Embroidered: The Architecture of the Nation, <i>Deborah May, Historic Scotland</i>	Fintry
08.00 – 08.45	National Society Meetings (details from information desk)	
09.00 – 10.30	Plenary 3 – Travellers' Health – the Role of the New European Centre for Disease Prevention and Control <i>Chairs: Pål Voltersvik, Norway - Nancy Jenks, USA</i> <ul style="list-style-type: none"> • Emerging and Re-emerging Infections in Russia and the Baltic States <i>Victor Maleyev, Russia</i> • Giardiasis in Scandinavia and the Baltic States <i>Øystein Sobstad, Norway</i> • The Role of the New European Centre for Disease Prevention & Control <i>Karl Ekdahl, Sweden</i> 	Pentland
10.30 – 11.00	Refreshment Break	Strathblane
11.00 – 12.00	Symposium 3a – Travelling to Extreme Situations <i>Chairs: Lars Rombo, Sweden - Gil Lea, England</i> <ul style="list-style-type: none"> • Psychosocial Problems that Emergency Volunteers may Experience <i>Evelyn Sharpe, England</i> • Expeditions to the Arctic – Spitzbergen Experience <i>Stein Åsheim, Norway</i> 	Fintry
11.00 – 12.00	Symposium 3b – Animal and Tick-borne Infections <i>Chairs: Eskild Petersen, Denmark - Adrienne Wilcox, England</i> <ul style="list-style-type: none"> • Health Risks From Exposure to Animals <i>Luanne Freer, USA</i> • Tick Borne Infections in Europe <i>Lars Lindquist, Sweden</i> 	Sidlaw
11.00 – 12.00	Symposium 3c – Regional Perspectives <i>Chairs: Iain McIntosh, Scotland - Albie de Frey, South Africa</i> <ul style="list-style-type: none"> • New Challenges for Travellers to Asia <i>Prativa Pandey, Nepal</i> • Health Impairments in Travellers Returning from Africa <i>Eric Caumes, France</i> 	Pentland
12.05 – 13.00	Closing Plenary - Sea Travel – Past and Present <i>Chair: Prativa Pandey, Nepal - Monika Hodge, South Africa</i> <ul style="list-style-type: none"> • Modern Day Hazards From the Marine Environment <i>Eilif Dahl, Norway</i> • Deadly Stowaways Over the Centuries <i>Heikki Peltola, Finland</i> 	Pentland
13.00 – 13.15	Closing and Awards	Pentland

Social Events

Wednesday 7th June 2006

Edinburgh Sightseeing Bus Tour

Pick up from the EICC 14.30 – 16.30 Drop off will be at Edinburgh Castle

A guide will bring Edinburgh's history to life with facts and stories from the past. For the first time visitor the tour will present you with the essence of this historical city taking in Edinburgh's New and Old Town's, the new Scottish Parliament, Holyrood Palace and includes a visit to Edinburgh Castle.

Cost is £26 per person and includes entry to Edinburgh Castle. Please note, you will be expected to make your own way back to your hotel.

Wednesday 7th June 2006

Welcome Reception and Buffet sponsored by  Royal Museum of Scotland, Chambers Street, Edinburgh 19.00 - 23.00 Coaches will depart from the EICC at 18.45. A limited coach service will operate from 20.00 - 23.00hrs from the Museum back to the EICC/Conference Hotels.

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Thursday 8th June 2006

A Special Evening for Participants and Accompanying Families and Friends EICC, Edinburgh 19.00 – 20.45

There will be live entertainment by five very talented young musicians including traditional Scottish highland and popular classical music. This event incorporates a reunion for Glasgow Travel Medicine Diploma students. Drinks will be available for purchase.

General Information

Exhibition Hours

Thursday 8th June	10.30 – 17.15
Friday 9th June	09.00 – 16.15

Registration Hours

Wednesday 7th June	14.00 – 19.00
Thursday 8th June	08.00 – 17.00
Friday 9th June	08.00 – 17.00
Saturday 10th June	08.00 – 13.15

Important Information

Please note that all delegates will be required to bring photographic identification to gain access to the EICC on Friday the 9th June. Entry to the building will not be permitted from 11.00 to 11.15. As bags may be searched, it is encouraged to leave any unnecessary baggage at your hotel.

Registration/Information Desks

Pre and onsite registration desks can be found within the registration area, located in the Strathblane Hall. All delegates will receive their name badge, meeting documents and all other relevant conference information upon arrival. **All outstanding fees must be settled on arrival.**

Speaker Preview Room

The Speaker Preview room will be in the Harris Suite on level 3. Presenters must check in their presentation at least four hours before they are due to present. It will not be possible to check in presentations in the main lecture hall. Technical staff will be on-hand in the Speaker Preview room to assist. Presenters do not need to bring a laptop as presentations will be loaded onto a main computer. It is recommended that you bring your presentation on USB Memory Stick, CD or Zip disk. Only PowerPoint presentations are accepted, there will be no facilities for 35mm slide projection or overhead projection.

Special Requirements

Please advise the Conference Organisers (In Conference Ltd) of any special dietary (including vegetarian) or physical requirements.

Insurance

The Conference cannot accept any liability for personal injuries or for loss or damage to property belonging to delegates, either during, or as a result of the meeting. Please check the validity of your own personal insurance before travelling.

Public Transport

Public transport throughout Edinburgh is of a high quality and inexpensive to use. There are frequent bus services with local bus companies offering daily, weekly or monthly passes, however tickets between the companies are not interchangeable. Tickets for single journeys and day tickets are purchased on the bus. Although the exact fare is required, this should be no more than £2.30 (day saver fare) on ordinary services.

Refreshments and Lunch Arrangements

Please note that tea and coffee are provided each morning and afternoon. Lunch will only be provided for those attending the lunchtime Company Symposia which will be held in the Lomond Suite.

Congress Etiquette

Mobile phones should be switched off or placed on 'silent' during sessions. Please also respect speakers and other delegates and refrain from talking during presentations.

Registered Delegates

If you are a registered delegate, the following is included:

- Attendance at each session and entry to the exhibition area.
- Delegate Bag, Name Badge and Conference Material.
- Access to the Welcome Reception (Wednesday 7th June) and the Family Evening (Thursday 8th June).
- Morning and Afternoon refreshment breaks as detailed in the programme.

Exhibition Staff

If you are registered for the Exhibition only, you receive:

- Entrance to the Exhibition Area only.
- Morning and Afternoon refreshment breaks,

Language

The conference language will be English.

Internet Access

Delegates can access the internet from the internet area that is being provided by GlaxoSmithKline in the Cromdale Hall.

Presentation Summaries

Plenary 1

Thursday 8th June 2006

CLIMATE CHANGE AND ITS IMPLICATIONS FOR TRAVEL

James Willis *United Kingdom*

If civilisation finds a way of surviving into the future it seems certain that the greed, profligacy and short-sightedness of our generation will come to be viewed with disgust and incredulity. The short-term interests of any particular group, the travel industry is a good example, are trivial in comparison with mankind's shared interests. In a frighteningly real sense we are all in the same boat; the same cruise liner; the same jumbo jet. And we are being warned in the strongest possible terms that our current course is heading for disaster. Only fools fail even to slow down when warning lights come on.

Our current pattern of denial is particularly perverse when in so many other areas of risk our society has become cautious to the point of obsessional neurosis. But in the privileged part of the world we are enjoying the richest and most varied way of life in history, and travel is a large part of it. We will find any excuse, however fatuous, to deny the need to give any of it up. Doctors concerned with travel medicine cannot duck their responsibility to lead opinion and it is highly appropriate that an ordinary concerned individual, an ex-GP, but one with a growing number of grandchildren, has been asked to open this travel medicine conference by speaking on this theme.

Plenary 1

CLIMATE CHANGE AND HUMAN HEALTH: EARLY AND LATE EFFECTS

Sari Kovats *London School of Hygiene and Tropical Medicine, United Kingdom*

The implications of climate change for tourism and travellers' health are complex. Tourism (via air travel) is a cause of global climate change, and many resorts will be directly affected by changes in climate factors, such as snowfall, storms, and coastal dynamics. In the longer term, climate change will affect the suitability of certain places as tourist destinations. The UK is likely to benefit, as domestic tourism increases in good weather. Climate change will affect human health by a range of mechanisms. The most important of these for travellers are: effects of heat waves and heat stress, infectious intestinal diseases, vector-borne diseases, and floods/storms events. The heat wave of 2003 in western Europe was an extreme event, and was associated with over 14000 excess deaths in France. Information on deaths in tourists due to the heat wave were not available. Age and illness are strong predictors of heat related mortality as age highly correlates with increasing illness, disability, drug use, and reduced fitness. The number of elderly travellers to Europe and beyond is increasing. Climate change will cause summer conditions in large towns and cities, particularly in Europe, to become less pleasant and more stressful as the number of hot days will increase, exacerbated by the urban heat island effect. Climate change may cause an increase in the geographic distribution and transmission intensity of vector-borne diseases. There is some evidence of the northward expansion of important vector species in Europe due to observed climate change. Environmental temperature is an important factor in the transmission of bacterial agents causing enteritis, particularly for pathogens such as salmonella, which multiply at room temperature. Reported infections with salmonella increase by 5-10% for each degree increase in ambient temperature. The affects of climate change on health have important implications for surveillance and the advice given to travellers.

Plenary 1**NATURAL DISASTERS: CHALLENGES FOR PUBLIC HEALTH ACTION**

Eric Noji Center for Disaster Medicine, USA

Throughout history, natural disasters have exacted a heavy toll of death and suffering. During the past 30 years they have claimed about four million lives worldwide, have adversely affected the lives of at least a billion more people, and have resulted in property damage exceeding \$50 billion. Recent natural catastrophes have included earthquakes in Iran and Pakistan, a great tsunami disaster in south Asia, and Hurricane Katrina. It is also the 100th anniversary of one of the most famous events - the 1906 San Francisco earthquake. This lecture will discuss the health effects of some of the more important sudden-impact natural and outlines the requirements for effective emergency medical and public health response to these events. Sound epidemiologic knowledge of the causes of death and of the types of injuries and illnesses caused by disasters is clearly essential when determining what relief supplies, equipment, and personnel are needed to respond effectively in emergency situations. The overall objective of disaster management is to assess the needs of disaster-affected populations, to match resources to needs efficiently, to prevent further adverse health effects, to evaluate relief program effectiveness, and to plan for future disasters. All natural disasters are unique in that each affected region of the world has different social, economic, and health backgrounds. Some similarities exist, however, among the health effects of different natural disasters, which if recognized can ensure that health and emergency medical relief and limited resources are well managed.

Symposium 1a

HEALTH RISKS DURING AIR TRAVEL

Mark Popplestone *British Airways, United Kingdom*

Modern commercial air travel is a safe convenient mode of transport and despite increasing fuel costs and concerns about terrorism, passenger numbers continue to grow. Media reports often suggest that frequent and significant health problems occur as a result of flying but this is not supported by an analysis of data relating in flight medical emergencies.

In 2005 British Airways carried 35 million passengers worldwide on around 450,000 flights, yet medical advice was only requested from a ground based specialist service on less than 2500 occasions. Though most of these were for illnesses such as diarrhoea and vomiting, headaches and minor trauma, significant and life threatening problems do also occur. Suspected strokes, myocardial infarction and abdominal emergencies were responsible for the majority of the 52 medical diversions during this period.

Whilst it is possible to identify some risk factors for serious in flight ill health, such as significant pre flight illness, specific markers which would assist medical professionals and airlines to predict and prevent the majority of incidents are hard to identify.

Symposium 1a

HEALTH RISKS FOR THOSE GOING ON SEA CRUISES

Iain McIntosh *British Travel Health Association, United Kingdom*

Sea-cruising attracts millions of vacationers. Huge ships carrying ever more passengers, tempt people away from conventional land-based holidays. 7 million Americans dominate an expanding market growing at 6-7% per annum. One million Britons cruised in 2005. New passenger ships carry 3000+ passengers. 50 new cruise ships launch within 5 years. A 9% rise in capacity occurred in 2004 with 13 large ships on order in 2005.

Ships undertake ocean, river and adventure cruising with ocean travel predominant. Cruise ships sail to the Arctic and Antarctica, across oceans and seas of the world to distant land-fall in the Antipodes, Amazonia and Alaska. They visit exotic ports in the Pacific and Far East and more prosaic destinations in the Mediterranean and Caribbean.

Ships are closed, air-conditioned environments and pose potential health risks. Passengers are at risk of GI illness, legionnaire's disease, influenza and trauma. Many are elderly suffering from chronic conditions. One in three passengers will be over 60 years and in some ships over 65 years age with many in their eighties. Visits to global ports and destinations in the developing world expose tourists to tropical infections and malaria. Sea sickness, a nuisance in the young, can be debilitating in the old. Travel in Polar Regions brings risk from irradiation, dehydration and hypothermia. Many travellers fail to consider medical care and evacuation if ill health overtakes them. This presentation considers the risks associated with cruise ship travel, precautions to be taken by travellers and appropriate recommendations from travel health professionals.

Symposium 1a

HEALTH RISKS FOR EMERGENCY VOLUNTEERS: FROM BIAFRA TO BOSNIA

Dominic Colbert *Irish Society of Travel Medicine, Ireland*

Following a survey involving five Irish based NGOs difficulties in interpersonal relationships within the area of work overseas appeared to be the most pressing problem encountered by humanitarian aid workers. Sometimes gross payment disparities exist between different volunteers doing exactly the same work. This can cause disquiet and further sour relationships. Inter-Agency rivalry is also common and leads to unnecessary duplication of work or mis-applications of the specific talents of specific groups and of specific volunteers. Other difficulties listed include inadequate or inappropriate preparation, unstable personalities, inability to cope with extra responsibility, loneliness, isolation, inappropriate behaviour and fear (real and imagined) of disease. Security fears ranged highly in certain areas. Disillusion is an important factor in up to 45% of volunteers whereas culture shock was not often considered a problem. The experiences of a typical doctor volunteer were also explored.

Symposium 1b

CURRENT DRUGS AVAILABLE FOR MALARIA PREVENTION AND STAND-BY TREATMENT

Eskild Petersen Aarhus University Hospital, Denmark

Drug resistance in *Plasmodium falciparum* continues to be a serious problem in tropical Africa. Limited chloroquine and primaquine resistance in *Plasmodium vivax* are seen in some parts of Asia. No new drugs for continuous prophylaxis in travellers has been introduced since atovaquone/proguanil (Malarone®) in 1999, and atovaquone/proguanil, mefloquine and doxycycline still remains the drug of choice for travellers to tropical Africa. A fixed dose combination of chloroquine and proguanil is marketed in France under the name of Savarine®, but the efficacy has not been shown in comparative trials.

Several drugs are available for self treatment and the artemisinins are widely available in Asia and tropical Africa either alone or in fixed combinations. A fixed combination of artemether and lumefantrine has been registered in Europe under the name Riamet®, and is a choice for self treatment to areas with resistance against chloroquine and mefloquine.

Several combinations are being tried for use in the indigenous populations in Africa, where cost is the prime constraining factor. Amodiaquine combined with sulfadoxine and pyrimethamine has been found to have a higher efficacy compared to chloroquine combined with sulfadoxine and pyrimethamine against chloroquine resistant *P.falciparum* malaria. A combination of dapson and chlorproguanil is marketed in tropical Africa under the name LapDap®, and had better activity than sulfadoxine combined with pyrimethamine against sulfadoxine and pyrimethamine resistant parasites, but are still inferior to mefloquine, Riamet®, Malarone® and quinine.

Tafenoquine, a new eight-aminoquinoline, with a half life of several weeks has been found to be very efficient in clinical trials, but is not yet marketed.

In conclusion, no new drugs for malaria prophylaxis have been introduced in the last five years, but there are new options for self treatment.

Symposium 1b

ALL OR NOTHING – MALARIA PREVENTION FOR THE MINIMAL RISK TRAVELLER

Patricia Schlagenhauf Lawlor *University of Zurich Centre for Travel Medicine, Switzerland*

International travel has reached unprecedented levels with the number of tourist arrivals exceeding 800 million for the first time in 2005. This figure includes an estimated 80-90 million travellers who will visit malaria endemic areas. Malaria transmission and endemicity are not uniform and the mortality and devastating impact of this disease is concentrated in tropical Africa, eastern Asia, the South Pacific and the Amazon basin. Many travellers will, however, visit countries and regions with a low risk, others will alternate between high and low risk regions and some, particularly business travellers, will have frequent albeit brief periods of exposure. Apart from the destination, travellers themselves are increasingly diverse and one size malaria recommendations are illusionary. Advising low risk travellers is a challenge: What is the risk of malaria at the destination? Which species is pre-dominant—the life-threatening *Plasmodium falciparum* or the more benign *Plasmodium vivax*? What are the pitfalls of personal protective measures in areas where the perceived risk is minimal? Should a chemoprophylaxis be recommended for low risk areas if the risk of drug associated adverse events outweighs the risk of acquiring malaria? Can travellers be empowered to recognise and treat malaria using a standby emergency self-treatment? The key to advising minimal risk travellers lies in risk-benefit analyses, evidence based recommendations and individually tailored, expert advice.

Symposium 1b

ADVISING TRAVELLERS VISITING FRIENDS AND RELATIVES ABROAD

Ron Behrens Hospital for Tropical Diseases, United Kingdom

Travellers who visit family in their country of origin or birth, represent a disproportionate burden of imported malaria particularly from visits to Sub-Saharan Africa, the region with the highest risk of falciparum malaria. The proportion of total malaria cases who travel as VFR's varies between 35% to 63% according to data from national malaria surveillance reports. In the United Kingdom 70% of all malaria and 95% of P falciparum infections are acquired in Sub-Saharan and over two thirds are in VFR's. An analysis of the residential pattern of those diagnosed with P. falciparum in the UK, show that two-thirds of cases originated from residents living in London. Limited data has been published on contributing factors to the high malaria prevalence in VFR's. Factors which may contribute include longer duration of visit, region and type of travel, poor use of, and compliance with chemoprophylaxis, cost of medication and health beliefs on susceptibility and threat of malaria.

Preparing Ethnic travellers for visits to malaria endemic regions requires health promotion within communities to increase awareness of risk and susceptibility. Appropriate cultural and linguistic material and marketing are important along with accessible and affordable health facilities to provide advice and prescribe prophylaxis. There is evidence of delays and poor diagnosis of malaria in returned travellers which needs to be addressed through training of primary care providers and emergency services.

Symposium 1c

RESPECT FOR ENVIRONMENT AND LOCAL CULTURE

Sheila Hall *Travel Health Related Education and Care, United Kingdom*

Tourism has become the main money earner for one third of developing nations with 14 of the top 20 long haul destinations now in developing countries. For those of us providing travel health advice and vaccines, these statistics will come as no surprise, with our clients presenting new and more diverse travel itineraries every year.

As health professionals involved in the care of travellers, should we be broadening our horizons and showing concern for the health, cultural and environmental dilemmas frequently faced by those living in the “host countries?”

This short presentation is designed to raise issues and increase our awareness of the problems faced by tourist destinations and workers reliant on this industry for their livelihood. It will also highlight some of the work and campaigns currently being carried out by organisations and charities in these areas.

Symposium 1c

EXPLORING MOUNTAINS SAFELY – A MOUNTAIN RESCUE PERSPECTIVE

Brian Tregaskis

Abstract not available at time of printing.

Symposium 1c

HEALTH CONSIDERATIONS FOR ADVENTURE TRAVEL

Graeme Walker *Lodgehill Clinic, United Kingdom*

This presentation will describe a variety of forms of modern-day “adventure travel”, ranging from solo backpacking to organised expeditions in different regions of the world. These styles of travel often involve going to more remote and less developed destinations, where medical facilities may be very basic or even not available at all. The talk will aim to give an overview of health considerations for this type of travel, using examples from the speaker’s personal experience both as an independent traveller and as an expedition leader for youth development expeditions.

We will think about the particular risks involved in adventure travel, particularly when it involves going “off the beaten track”. Prevention of illness is especially important, and we will discuss measures that can be taken at planning stages, pre-departure, while away, and on return, in order to ensure a safe trip.

Who has responsibility for the health of adventure travellers? What extent of first-aid and medical training is appropriate for adventure travellers? What medical equipment is worth taking when travelling to remote areas? How do you deal with a medical emergency when far from help? What can be done to enable inexperienced individuals to become confident and competent adventure travellers, to minimise the chances of things going wrong?

Ultimately the responsibility for staying healthy during adventure travel must lie with the individuals concerned, but medical professionals can help through the provision of comprehensive and appropriate advice before departure. Many people undertake adventure travel as part of an organised tour or expedition, and in this case it is important to be confident that the organisers have sufficient knowledge and experience to match the expectations of their clients.

Workshop 1

WHO SHOULD PAY FOR TRAVEL VACCINATIONS?

Chair: *Jane Chiodini Royal College of Nursing Travel Health Forum, United Kingdom*

This workshop will review the practice in regard to charging the traveller from a number of different countries. Examples given will demonstrate the huge disparity even within a one country system which has the potential to create confusion, unfairness and variation in standards. Those who would benefit from a free service include backpackers and VFRs but should the provision of travel immunisations be free of charge to those taking luxurious holidays? Many questions will be posed within the first half of the workshop including:

Does a free system reach those who would otherwise be neglected?

Does a free system encourage expertise and high standards?

Does a private system encourage expertise and high standards?

Is a free service best use of health resources?

How much do travellers value a free or private service?

We hope this will generate a lively debate to conclude the workshop session.

Workshop 2

WHAT IS THE ROLE OF FORMAL TRAVEL MEDICINE EDUCATION?

Chair: Lorna Boyne *Health Protection Scotland, United Kingdom*

International and national conference, study days and seminars in Travel Medicine have been available for some time (ISTM being a leader in this area). “Formal” travel medicine education has been slower to develop. Some countries have well established and recognised programmes of education, validated by professional Colleges or Universities. Other countries have scant educational programmes, and those that exist may not be formally validated.

This workshop aims to give an insight into the state of Travel Medicine education in various countries. Variations between “formal” and “informal” education are shown. Questions and comments are invited from the audience regarding the need, or otherwise, for formal education and the best ways of providing / validating this.

Workshop 3

HOW CAN WE PROVIDE THE BEST ADVICE AND IMPART TO LONG TERM EXPATRIATES?

Chair: Louis Loutan *Geneva University, Switzerland*

Expatriates are professionals and their families living abroad for several months or years. This category of long-term traveller includes a variety of professionals: diplomats, businessmen, technical experts, military personnel, missionaries, field researchers, humanitarian workers and relief personnel. They may experience a wide range of living conditions and exposed to different risks. Professional responsibilities, harsh climate and environment, exposure to poverty and suffering, insecurity, isolation and stress may lead to high risk behaviour such as increase alcohol or cigarette consumption, use of drugs, unprotected sex or fast driving. Lack of preparation and regular support may result in burnout and exhaustion. Women may experience specific difficulties in traditional societies.

Several studies have shown poor compliance with preventive measures such as malaria prophylaxis, safe driving, safe sex or balanced lifestyle. The perception of risks and consequently risk taking behaviour vary from one individual to another and also among the various types of expatriates. Pre-departure preparation and training, ongoing support for field personnel, the type of information and the format of prevention messages has to be adapted to the specific types of expatriates and their specific needs. Institutions or organizations sending expatriates to developing countries have a clear responsibility, and it is in their own interests to have clear health promoting strategies.

This workshop will address these issues through practical case discussion.

Workshop 4

WHAT IS THE BEST ADVICE FOR THE PREGNANT TRAVELLER AND THOSE CARING FOR INFANTS WHILE ABROAD?

Chair: Harald Hauge *Public Health Authority, Norway*

In this workshop, Dr Jane Wilson will talk about the issues practitioners need to consider beyond immunisations, when advising pregnant travellers and those caring for infants while abroad.

Nurse and midwife Randi Hammer Boge will share some of her work experiences and talk about the challenges for the pregnant traveller.

Paediatrician and general practitioner Harald Hauge will talk about maturity of the infant's immune systems and the issues arising when parents want to bring small children abroad.

Friday 9th June 2006

Symposium 2a

HOW DO TRAVELLERS PERCEIVE THEIR HEALTH RISKS – HOW CAN WE MINIMISE THE RISK OF ILLNESS?

Lars Rombo *Malar Hospital and Karolinska Institute, Sweden*

What do Swedish travellers know?

Charter tourists were asked for the major reason to die from vaccine preventable diseases, malaria or accidents. They correctly stated traffic accidents and drowning as the two major risks during travel to Canary islands (1) or South East Asia (2). Malaria was considered to be the main risk of death in the Gambia (3). The same travellers to 1 and 2 were personally most worried for diarrhoea with traffic accidents as second while travellers to 3 put malaria first.

The travellers generally planned to adhere to various advice considering what to eat and drink. They managed to avoid to drink tap water during travel but the percentage who managed to follow all other dietary regimes was less than planned before the trip.

How should we minimize the risk of illness?

1. Advice should only concern health risks which are different from the situation at home
2. Advice should be shown to be valid by means of proper scientific studies
3. Advice must be in agreement with what the counsellor would do if travelling in the same way to the same place
4. Refer to the common sense of the traveller
5. Give few pieces of advice

Important advice to Swedish travellers

- Don't go on a motorcycle.
- Don't swim in the sea when there is a red flag on the beach.
- Don't interact with live animals and seek medical attendance on the same day if you are bitten.
- Use repellents and bed nets or air-condition in malaria endemic areas and adhere to a prescription of antimalarial drugs.
- Eat only what looks good, smells good and taste good.

Use your common sense.

Symposium 2a

THE IMPACT OF THE NURSE PRESCRIBING ON TRAVEL HEALTH PROVISION

Margaret Umeed *General Practice, Scotland*

The presentation will suggest that although many travel services around the world are nurse led, with nurses often making the recommendations for vaccines and malaria chemoprophylaxis, the service has traditionally had to depend on a medical signature for prescriptions/authorization.

In 2005 the Royal College of Nursing (RCN) published guidance for nursing staff which suggested levels of practitioner education and offered recommendations for best practice when running such a service. Such guidelines are not in place for medical staff and unless they have a specialist interest in the subject will be unlikely to undertake specialist training. Patient Group Directions (PGD's) previously known as Group Protocols within the UK [sometimes referred to as standing orders in other countries] became a legal requirement for those working within the NHS and allowed nurses to legally prescribe licensed vaccines and malaria chemoprophylaxis. However, it was the UK who became the first country to introduce independent prescribing for nurses whereby they were able to prescribe some licensed vaccines for the first time, but still not malaria chemoprophylaxis.

New legislation introduced in 2006 is aimed at allowing nurses to prescribe appropriate medicines including malaria chemoprophylaxis from the medical formulary (BNF). Positive aspects: prescribing allows many nurses who are appropriately qualified to recommend and prescribe vaccines & malaria chemoprophylaxis i.e. to work autonomously. Negative aspects: increase in accountability - legal, moral and ethical – although one could argue that nurses have always had this personal accountability and that only the indemnity insurance bill will increase!

Symposium 2a

AVOIDING CONFLICTS IN PRACTICE WITH YOUR PROFESSIONAL COLLEAGUES

Harald Hauge *Public Health Authority, Norway*

Firstly, I would like to present how travel medicine is organized in Norway. There are only about 4,5 million Norwegians living in this relatively big country. A large percentage of our population is living and working in small areas. There are only a few travel medicine clinics in Norway, and the ones that do exist, are located in the biggest cities.

This means that nurses all over the country are responsible for preventive health care by giving advice and organising immunisation programs for travellers. In these areas, the local doctors delegate the responsibility for travel medicine to the nurses.

In these situations, we see conflicts arising between the nurse and the doctor. In the major cities where the travel medicine clinics are located, it is typical to see conflicts between the doctor and nurse in the clinic, and the traveller's G.P.

In this lecture, I will look at the new professionalism in medicine; quality, value and trust. Here we often find the reasons behind the conflicts. Working in travel medicine, the focus is always on primary care and prevention. Traditional professionalism is based on autonomy, while the new professionalism is based on accountability. Before, doctors were focusing on treating ill people, but now they are aiming at maximising well-being and functioning of patient's panels and managing chronicity. Traditional doctors are working in a physician-based practice. Nurses and others are being delegated work the doctors don't want to do. The professionals of today have a skill-based practice, utilising new technology. The doctors can now supervise and spend their time doing to a large extent what the nurses and others cannot do.

Doctors clinging to the traditional ways of working often feel pressured and threatened by their colleagues and the modern practice. The new professionalism sees the importance in team-based work and services in order to create an open and responsible health service.

Awareness of the new professionalism and it's ways of thinking and working, is the best way of avoiding conflicts at work and in the practices. I will present examples from our own practice, and how to work in team with professional health workers.

Symposium 2b

THE IMMUNOCOMPROMISED TRAVELLER INCLUDING THOSE WITH HIV INFECTION

Carsten Schade Larsen *University Hospital of Aarhus, Denmark*

Medical progress has resulted in an unprecedented increase in the numbers of individuals living with impaired immunity. Especially introduction of combination antiretroviral therapy has reduced morbidity and mortality and turned HIV-infection into a chronic medical condition. Other groups with possible severe immunosuppression include solid organ transplant recipients, bone marrow transplant recipients, persons with malignant haematological diseases, those with generalized malignancy receiving chemotherapy or radiation and patients with autoimmune diseases taking disease modifying antirheumatic drugs. Asplenic persons, individuals with chronic medical conditions such as end stage renal disease and chronic liver disease as well as the elderly travellers may be expected to have limited immune deficits.

The immunocompromised traveller may be more susceptible to infections and these may take a more serious course. Thus there is a larger need for education, vaccination, empiric self-therapy and chemoprophylaxis, but the risk and effect of administration of vaccines and drug/drug interactions should be considered. In general severely immunocompromised individuals should not be administered live vaccines, with some exceptions. Killed or inactivated vaccines are considered safe, but the immunological response may be suboptimal and afford shorter protection or no protection at all, and post vaccination serological testing may be warranted. Data are lacking and studies to determine optimal vaccine schedules for persons with impaired immunity are needed.

Many countries have entry and residence regulations for people with HIV and AIDS which have to be considered when planning the trip. Finally the immunocompromised traveller should ensure that he has valid travel insurance.

Symposium 2b

AIR TRAVEL AND THROMBOSIS

Paul Giangrande *Oxford Haemophilia Centre and Thrombosis Unit, United Kingdom*

A deep vein thrombosis (DVT) is essentially the formation of a clot in the veins of the leg. This causes obstruction to the normal flow of blood in the limb which can result in pain and swelling of the leg. Pulmonary embolism and has been estimated to occur in approximately 1% of cases of deep vein thrombosis. The long-term consequences of venous thromboembolism are not insignificant and include risk of recurrence and post-phlebotic syndrome. It is now generally accepted that there is an association between any form of long-travel and venous thromboembolism and therefore the alternative term of “travellers’ thrombosis” has been suggested as an alternative to the term “economy class syndrome.” Thromboembolism is rarely observed after flights of less than five hours’ duration and, typically, the flights are of twelve hours’ duration or more. Stasis in the venous circulation of the lower limbs is undoubtedly the major factor in promoting the development of venous thromboembolism associated with travel. Some individuals may be particularly predisposed to develop venous thrombosis because of congenital deficiencies of natural anticoagulants, such as antithrombin, protein C or protein S. However, routine screening of passengers for these abnormalities is not justified or cost effective but may be of value in selected cases. It has also recently been suggested that exposure to mild hypobaric hypoxia in pressurized aircraft may also result in activation of the coagulation cascade. The risk of venous thromboembolism is largely confined to those with recognized additional risk factors for venous thromboembolism. Leg exercises whilst seated help to reduce the risk of DVT. There is also clear evidence from prospective and randomised clinical trials to support the use of compression hosiery as a preventative measure. By contrast, there is no firm evidence to support the indiscriminate use of aspirin as a routine prophylactic measure. Airlines have recently taken positive steps to address the issue of air travel and thrombosis. At the same time, the travelling public needs to be more aware of the issues and assume some responsibility for ensuring fitness to fly and the choice (and therefore cost) of their seats.

Symposium 2b

THE IMPORTANCE OF TRAVEL HEALTH INSURANCE

Sverre Kjølstad *Europeiske Travel Insurance, Norway*

In the wake of an expanding tourist activity, an increasing number of elderly, ill and disabled people are travelling. In 2005 UNWTO reported 808 million tourist arrivals. In Norway, and probably in many other countries, 10 % of the tourists are older than 70 years, and 14 % do have a pre-existing medical condition when they leave home.

Quite a huge number of travellers will fall ill or get injured during their stay abroad. It is estimated that one of three people going abroad will get sick, 3% will seek medical help, and 10% of those seeking medical help will be hospitalized, the numbers being higher when travelling to developing countries, and by increasing age or pre-existing medical conditions.

The impact on the tourist medicine industry on popular destinations, and the challenge to the travel insurers, is substantial. Specialized tourist hospitals are popping up in nearly every popular tourist area. Huge investments are being made, like CT, MRI and PET scanners in the Mediterranean coast, and 8 competing hospitals in Hurghada. Many of them more concerned about the economical opportunities than to provide adequate medical treatment.

To the travel insurers the challenge is two-sided. Most important is to ensure that their customers are being treated in a hospital with necessary skills, equipment and hygiene. Otherwise the patient should be transferred to another hospital or repatriated. Secondly, the insurers need to calculate the risk correctly, which could mean price differences according to age, or refuse insurance to some categories, like older travellers and people with chronic diseases.

Symposium 2c

ADVISING TRAVELLERS WITH CARDIAC AND RESPIRATORY DISEASES

Mads Buhl Aarhus University Hospital, Denmark

Over one billion people undertake air travel each year. An increasing number of these (>10%) have various degrees of either chronic pulmonary or cardiac diseases. The majority of these can with pretravel screening and tangible advice successfully travel to tropical destinations. Commercial airliners can cruise at altitudes over 10,000 m with their cabins pressurized at only 74 kPa (the equivalent of atmospheric pressure at 2450 m (8000 ft) except in emergencies. This is equivalent to an inspired O₂ concentration at sea-level of about 15 percent. Patients with severe COPD experience falls in their PaO₂ that average 25 mmHg or more. Since their sea level PaO₂ values are on the steep part of the oxygen-hemoglobin dissociation curve, the fall in SaO₂ with falls in PaO₂ may be quite sharp. Despite this, for most passengers, even those with respiratory or cardiac diseases, air travel is safe and comfortable but the following advice should be emphasized:

- Increased awareness of the need for and methods of pre-flight assessment is required as the number of air travellers with chronic heart and lung diseases increases.
- Patients should seek advice regarding the advisability of air travel before booking their journey as not all airlines will provide oxygen and others have restrictions.
- Doctors need to be aware of the aircraft cabin environment and need to give consistent advice.
- If screening indicates the need for in-flight supplemental oxygen, the passenger should consider the cost of oxygen when comparing air ticket prices. It is best to give the airline plenty of notice and to check the day before travel that the necessary arrangements have been made.
- Passengers should carry any necessary medication in their hand luggage and may need to carry a prescription with them.
- Like all passengers they should carry out regular leg exercises, but those passengers requiring oxygen should request a seat near the toilets to avoid long walks.

For travellers with cardiac or pulmonary diseases the choice of **destination** in relation to the climatic stress related to temperature and humidity is also important.

Symposium 2c

THE 'LAST MINUTE' TRAVELLER SEEKING ADVICE

Nancy Gallagher *Royal College of Surgeons, Ireland*

Discussion of problems in adequately vaccinating travellers who arrive at the Travel clinic less than four weeks and even days before departure. Accelerated schedules for multi dose vaccines will be discussed. Time between vaccination and developed of antibodies will be shown and related to incubation periods. The numbers of injections that can be given at one visit and the effect of multiple vaccines on side-effect incidence. If vaccination is not possible other methods of minimising the risk to travellers will be discussed.

Symposium 2c

THE TRAVELLER WITH ALLERGIES REQUIRING VACCINATIONS

Michael Jones *Western General Hospital, United Kingdom*

Anaphylaxis and anaphylactoid reactions result from rapid degranulation of mast cells. The onset is rapid, and clinical course unpredictable. Clinical features involve the skin respiratory, gastrointestinal and cardiovascular systems.

Allergy to a vaccine is normally due to a vaccine ingredient rather than a particular antigen and this is usually to gelatin and not due to egg allergy. Gelatin is used to stabilise vaccines and allergy will usually have developed because the patient has been primed by previous vaccination. True egg allergy occurs in 1.6% of children and 0.13% of adults but is very rarely a cause of adverse reactions. Egg cultured vaccines may be safely given to egg allergic patients if eggs have not previously caused an anaphylactic reaction.

Anaphylactic reactions to vaccination occur in 1<million vaccinations although the rates may be higher for particular vaccines, including diphtheria-tetanus or Japanese B encephalitis vaccines (JEV). There is no evidence that vaccination increases the risk of atopy in children or that anaphylactic reaction is more common in atopic individuals with the exception of JEV.

Vaccination should only be performed by life support trained personnel in settings with appropriate resuscitation facilities, after taking a history of past allergies or adverse reactions to other vaccines. In some cases additional tests should be performed to clarify the allergic risk. All significant allergic reactions should be recorded and reported to statutory authorities. All vaccinees should be observed for 20-30 minutes after vaccination.

Plenary 2

THE ROLE OF VACCINES IN PREVENTING GASTRO-INTESTINAL INFECTIONS

Robert Steffen *University of Zurich, Switzerland*

Epidemiological data on travellers originating from industrialized countries and visiting developing countries are unanimous in the fact that travellers' diarrhoea (TD) is the most frequent gastro-intestinal infection. This is associated with a broad range of mostly bacterial pathogens, the most frequent one being enterotoxigenic *E. coli* (ETEC). Currently, a Swedish vaccine designed to protect against cholera - very rarely an issue in travellers - may offer some protection against ETEC. But as the data were borderline, the EMEA declined to include this indication. Nevertheless in some Scandinavian countries the vaccine is appreciated and frequently used - and apparently there are little complaints from those who had TD. Obviously, one will need a cocktail of vaccines for effective protection against TD, some against ETEC, shigella, campylobacter etc. being either on the drawing board or in the pipeline to marketing. We also need to compare vaccine options to prophylactic medication or to emergency self-treatment.

Several studies have recently analyzed the risk of typhoid fever abroad, and all conclude that there is substantial risk in South Asia, whereas elsewhere such risk is usually minimal.

There are various excellent vaccines available to prevent hepatitis A. It is underused particularly by those visiting friends and relatives (VFR). While the average risk has decreased according to two surveys, there can still be outbreaks as reported from a 5star hotel in Egypt very recently. We need to consider the added value of this vaccine offering lifelong protection, no boosters needed. That obviously leads to questions about lifetime exposure and subsequently to the ideal timing of vaccination.

Let us finally remember that poliomyelitis is a gastro-intestinal infection and that the map showing countries with endemic occurrence has dramatically worsened in the past few years. Thus, let us not neglect this vaccine!

Plenary 2

RABIES VACCINATION FOR TRAVELLERS

Francois-Xavier Meslin *World Health Organisation, Switzerland*

Rabies is widely distributed throughout the world and present in all continents including Australia. Overall in infected areas a large number of mammalian animal species are involved in rabies maintenance and transmission: the rabies reservoir mainly comprises wild species, mostly terrestrial (e.g. red, arctic and grey foxes, raccoons, skunks, coyotes, mongooses, wolves, jackals), but many bat species are also involved either as hosts, transmitters or victims of rabies. Recently bat rabies has emerged as an important epidemiologic reservoir in some parts of the world.

In contrast, in most countries of Africa, Asia and South and Central America, dogs continue to be the main hosts and are responsible for most of the human rabies deaths that occur worldwide.

Africa and Asia account for most of the human rabies deaths reported worldwide. The vast majority of these rabies deaths follow dog bites. A WHO sponsored study estimated that more than 3 billion people, about half the world's population, are living in countries/territories where dog rabies still exists and are potentially exposed to rabies. On that basis it has provided a quantitative prediction of the burden of rabies in Africa and Asia with an estimated number of 55 000 yearly deaths. This is in line with findings of other studies using active surveillance methods, which indicate that the incidence of human rabies is up to 100 times greater than that officially recorded. The final estimate of 55 000 deaths a year is still likely to be an underestimate of the total mortality and morbidity caused by rabies in Africa and Asia. These data clearly indicate that rabies represent a more significant health problem for the autochthonous populations of Africa or Asia and thereby for anybody travelling in these regions.

The probability of being bitten or scratched by a susceptible animal species usually a dog or a cat, depends on the density of these animals and their level of confinement, the nature of their bond with humans, as well as the traveller's type of travel (whether it takes place in a urban or rural area, the mode of transportation used or absence of it - such as walking, hiking, trekking). It will also heavily depend upon the behaviour of the traveller especially how she or he avoids or accepts or sometimes long for close contacts with animals particularly dogs and cats. It is estimated that bites from suspect rabid dog which would require medical attention and potentially post-exposure treatment may range from 10 to 250 bites per 100 000 inhabitants in Africa and Asia with 100 suspect rabid dog bites per 100 000 people as a most likely figure for urban and rural areas of Africa as well as rural Asia and 120 per 100 000 for urban Asia.

Modern safe and efficacious rabies vaccines may not be available in all countries. In many developing countries these products are available only in major urban centres, if not in the capital city only. Different brands of modern rabies vaccine may be available in a given country and even within a treatment centre. In many situations it may be difficult for the patient to ascertain what exact product is administered. The same is also true for rabies immunoglobulin. In view of the shortage mentioned before they are often not available in developing countries through public health services and must be purchased from private pharmacies.

The decision to treat or to withhold post-exposure treatment is a medical decision. In large hospitals and treatment centres physicians may unfortunately not always be present during consultation and the final decision is often made by a nurse. Deciding whether treatment is required and if required what category of bite is involved should be made on the basis of a thorough interview of the patient. Particular attention should be paid to the circumstances of the exposure, the nature of the contact and certain characteristics of the offending animals particularly if it can be identified with certainty and whether it can be put under veterinary observation for a period of 10 days.

A person visiting a rabies infected country should among others:

- avoid contact with wild animals and unknown domestic animals, particularly if they seem to be stray dogs and cats, in rabies-endemic areas.
- if bitten by a susceptible animal immediately wash and flush the wound thoroughly with soap or detergent and water, or water alone and seek medical assistance urgently.
- remember that walking, jogging/running in the streets of big-city slums where dogs roam wild is a moderate risk whereas most travellers staying in tourist resorts are at very low risk. Walking, trekking for days in a row far from major urban centres may constitute a significant risk in many countries. There is a greater risk for children, however, who may have more contact with animals and may not report suspect incidents.
- receive preventive immunization when the travel involves a foreseeable significant risk of exposure to rabies or travelling to a rabies infected area where modern rabies vaccine and immunoglobulin may not be available.

Plenary 2

NEW OPPORTUNITIES TO PREVENT RESPIRATORY TRACT INFECTIONS IN TRAVELLERS

David Hill *National Travel Health Network and Centre, United Kingdom*

The current spread of avian influenza in birds with resultant rare human cases has focused attention on the risk of respiratory illness in travellers. Recent studies indicate that respiratory illnesses frequently occur in travellers and carry an uncomfortable morbidity, resulting in visits to health care providers both overseas and upon return. Unfortunately that is a limited number of vaccines against respiratory illness or diseases acquired primarily through the respiratory route: BCG, influenza, pneumococcal, meningococcal, measles mumps rubella, and varicella vaccines. Travellers should be made aware of the risks of respiratory illness, informed of the measures to prevent them, and offered vaccination as appropriate. This presentation will review the morbidity of respiratory illness in travellers and discuss recent advances in and clinical application of available vaccines.

Workshop 5

HOW FAR CAN TRAVEL HEALTH ADVICE BE EVIDENCE BASED

Chair: Hanna Nohynek *National Public Health Institute, Finland*

Increasingly health related interventions, especially those which are subsidized by public funds, are expected to be based on soundly proven scientific evidence. In order to meet these high quality criteria, travel health advice given by professional health care workers should also base on scientific evidence. The gold standard method on proving scientific evidence of an intervention is the randomized controlled trial (RCT). The problem with any travel medicine intervention is that very few RCTs have been done on the proper target group, i.e. travellers. Evidence is often extrapolated from endemic populations or travellers unadjusted to the sex, age or other risk group characteristics of the traveller the advice is intended to be given.

Alternative approaches to RCTs are available such as case-control studies and qualitative research methods (ie. Interviews, focus group discussions), but these are methodologically less robust.

In this session, a review on the present scientific evidence on the existing, commonly suggested travel health interventions such as malaria prevention by drugs, nets, and mosquito repellents, prevention of diarrhoea with hands washing, selection of food items, antimicrobials, prevention of vaccine preventable, and others will be given, and areas where more knowledge is needed will be discussed by key presenters and the session participants. Strategies on individual and populations based advising in situations where scientific evidence is lacking and will be lacking still for considerable time will be discussed.

Workshop 6

CAN WE VARY VACCINATION SCHEDULES FROM THE DATASHEET RECOMMENDATIONS?

Chair: Koen Van Herck *Universtiy of Antwerp, Belgium*

Large- scale vaccination programmes can effectively prevent and control a number of infectious diseases. Vaccination in travel medicine, however, has a substantially different perspective, aiming at maximal protection for a single person. Therefore, individual risk assessment is vital, and deviations from standard vaccination schedules might be appropriate.

For single-dose vaccines or boosters, the only issue is how short before departure vaccinating is still worthwhile. Flexibility of vaccination schedules applies for vaccines requiring multiple doses, aiming to protect more rapidly (accelerated schedules) or to continuing a schedule without restarting (for delayed vaccine doses).

However, this flexibility is a means to an end. We should always aim to administer vaccines according to recommended schedules. However, if required, common sense should guide us to offering the individual traveller the best possible protection without wasting resources.

The workshop will cover the general principles regarding the timing of a vaccination schedule, and will comment on accelerated vaccination schedules as well as on interrupted vaccination schedules (delayed vaccine doses), for routinely used vaccines (e.g. hepatitis B, diphtheria, tetanus), as well as for vaccines more specifically used in travel medicine. Additionally, the workshop will cover practical issues, such as the role of doctors and nurses in the administration of vaccines (especially in the case of “off-label” use), the issue of responsibility and medicolegal aspects.

The workshop aims to offer sufficient time for interaction, and will try to reach evidence-based guidance, directly applicable to the daily travel medicine practice.

Workshop 7

INCREASING AWARENESS OF SECURITY ISSUES AND ACCIDENTS WHILE ABROAD

Chair: Iain McIntosh *British Travel Health Association, United Kingdom*

This workshop will consider aspects of personal safety relating to global travel. It will highlight the risks and look at ways of minimising them and educating health professionals and the travelling public into greater awareness of security issues.

Accidents occurring while travellers are abroad are a major source of trauma, morbidity and death. Risks are poorly recognised by tourists and business travellers and these shall be identified and consideration given to reducing the likelihood of their occurrence. Emergency care, repatriation, insurance protection will be discussed and there will be special attention to the exposure of young travellers to traumatic risk. Recommendations for safe travel and the education of the tourist will be provided.

Workshop 8

HOW DO WE HANDLE THE NEXT INFLUENZA PANDEMIC?

Chair: *Eskild Petersen Aarhus University Hospital, Denmark*

Pandemic influenza has been known to occur regularly over the last centuries, and the last major epidemic, pandemic, was seen in 1968-69.

Pandemics happens when there is a major shift in the haemagglutinin surface antigen, H-antigen, of the influenza virus, presenting a new type against which there is no immunity in the population. This is called “antigenic shift”. The regular small outbreaks typically every three years are caused by smaller changes within the existing major antigen type and is called “antigenic drift”.

The overall morbidity and mortality from new antigenic types can vary a lot from the highly pathogenic 1918 “Spanish flu” to the 1968 Hong Kong flu, which did not cause much excess mortality compared to the common outbreaks associated with new influenza types due to antigenic drift.

It is impossible to predict what will happen during the next pandemic, and it is impossible to predict whether the next pandemic will be the avian H5N1 influenza virus adapted to humans or a new influenza A virus not associated with H5N1.

It is also impossible to predict whether the next pandemic will happen next year or in ten years time.

Data will be presented on how pandemic evolve and spread based on data from previous pandemics and it will be discussed what such an outbreak will demand from general practice and hospitals. The place for prophylaxis, isolation of contacts and cases will be discussed.

Plenary 3

Saturday 10th June 2006

EMERGING AND RE-EMERGING INFECTIONS IN RUSSIA AND THE BALTIC STATES

Victor Maleyev *Central Research Institute of Epidemiology, Russian Federation*

The huge territory of Russia and location in Europe and Asia have contributed to the delivery and distribution many of emerging infections. The predisposal ground is social and economical collapse of the country after USSR disintegration and following losses of border control together with migration. These factors have contributed to the re-emergence of many infections previously considered as being eliminated in former USSR. Thus, more than ten infections reactivated in last time: TB, HIV, syphilis, gonorrhoea, malaria, diphtheria, measles, hemorrhagic fever and others.

The cause of emerging infections is double: the exposure of new vector borne diseases in different regions of Russia and the delivery of them from other countries because of migration, pilgrims and tourism activation. Dengue fever, yellow fever, cholera, amebiasis, leishmaniasis, Rift Valley fever, SARS and others were delivered in Russia, but did not distribute because of early detection and control. Tick borreliosis, Karelia fever, Astrakhan rickettsial fever, ehrlichioses, babesiosis are among new infections were exposed in country during 15 years. New infections were mainly registered in regions with developing oil and gas extraction but delivery in cities is possible.

Emerging and re-emerging diseases distinguish by atypical and as a rule severe course of illness. Diagnosis of them is often late and difficult for practical physicians. Specific treatment is up to now in search study. The management of patients was some time a source of nosocomial distribution and medical staff infection. Interchange information with out restriction, creation of international widely available data base of emerging and re-emerging infections are real way to prevent invasion among travelers.

Plenary 3

GIARDIASIS IN SCANDINAVIA AND THE BALTIC STATES

Øystein Søbstad *City of Bergen Infection Control, Norway*

In the Scandinavian and Baltic countries the contagious disease of giardiasis shows a substantial variation of incidences and trends. While the situation seems to be stable in Finland, Latvia and Lithuania, there is a gradually decreasing trend in Sweden and Estonia. In St Petersburg we see a rapidly escalating tendency. In Norway, where we used to notify less than five hundred imported cases per year there was an extensive outbreak during the fall of 2004 in the city of Bergen, where more than 1.300 cases were notified.

Since Giardiasis is mainly a water-borne contagious disease, these trends will probably reflect the quality of the drinking water systems in the different countries. However, there are other factors influencing the varying national pictures as the efficacy of the notifying systems, immunological factors, the food control system, patient behavior and more.

The lecture will mainly focus on the recent outbreak in Bergen. What were the underlying causes and what were the consequences.

Plenary 3

THE ROLE OF THE NEW EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

Karl Ekdahl *European Centre for Disease Prevention and Control, Sweden*

ECDC is a new EU agency that has been created to help strengthen Europe's defences against communicable diseases. In today's world infectious disease outbreaks can spread internationally with alarming speed. Cooperation between national disease control agencies is vital if we are to meet the health challenges of the 21st century. It was for this reason that, in the spring of 2004 the European Parliament and the Council passed a law creating the ECDC.

ECDC will be a small but effective EU agency, located in Stockholm, Sweden. It will work in partnership with national health protection bodies across Europe to strengthen and develop continent-wide disease surveillance and early warning systems. By working with experts based in these national bodies the ECDC will pool Europe's health knowledge, so as to develop authoritative scientific opinions about the risks posed by new and emerging infectious diseases.

In the area of travel medicine, ECDC will take part in identifying travel-related health threats through routine surveillance of reportable communicable diseases and through an active epidemic intelligence work in close collaboration with the Member States, European Institutions, WHO, and various other international networks and organisations.

Whenever called for, ECDC will also do independent risk assessments and issue guidance to travellers, as has recently been done for the international outbreaks of Avian Influenza and Chikungunya Fever.

Symposium 3a

PSYCHOSOCIAL PROBLEMS THAT EMERGENCY VOLUNTEERS MAY EXPERIENCE

Evelyn Sharpe Interhealth, United Kingdom

Few people who go as volunteers to emergency situations find themselves unchanged by the experience. Previously held views may be challenged, personal abilities may be stretched to their limits, strong emotional attachments may develop and decisions about future directions in life may be significantly affected.

The degree to which the experience affects a volunteer depends on a number of factors including pre-existing personality and psychological health, the impact of the situation and the degree of support received at the time and subsequently. Traumatic events may be witnessed directly or heard about but other stresses may also be present e.g. cultural adjustments, team dynamics or organisational pressures which affect individuals in different ways.

The negative effects of the stresses experienced include not only traumatic reactions such as PTSD but also more common psychological conditions such as anxiety and depression. People may use alcohol or drugs to help them cope or engage in risky sexual behaviour.

For many the return home is more difficult than the assignment abroad as the excitement of a new challenge has gone and readjustment to family and friends may not be easy. The volunteer may have changed but feel that at home everything has stayed the same. The place of debriefing is controversial but many benefit from some opportunity to reflect on their experience and find ways of integrating it into their life at home.

Symposium 3a

EXPEDITIONS TO THE ARCTIC – SPITZBERGEN EXPERIENCE

Stein Åsheim, Norway

When the polar ice is melting in July, a family of four – mother, father and their 6 and 13 years old daughters – is brought by boat to the northern shore of Spitzbergen, extensively further north than any permanent settlement. They make arrangements to be fetched the year after when the ice again will withdraw from the coastal line.

For the next 12 month the little family is living in solitude in a whalers plank cabin from the 30ties 150 kilometres away from human neighbours. Only the unpredictable polar bear is a frequent visitor making his fatal visit one day through the cabin window. The harshness of the four month gloomy Polar Night from October to February and the winter storms are more permanent challenges.

Hunting, fishing and catching provide basic needs for the family. While participating in these activities and taking care of sixteen polar dogs, the children also keep up with their school curriculum.

Such experimental and unique Spitzbergen Experience can end fatally wrong or become an unforgettable adventure for life...

This talk is about realising a dream

It is about venture and action

It is about self-reliance

It is about not letting preconceived problems dominate

It is about an “insane” thorough planning

Symposium 3b

HEALTH RISKS FROM EXPOSURE TO ANIMALS

Luanne Freer *Wilderness Medical Society, USA*

This symposium will consider:

- 1) The epidemiology of wild animal attacks worldwide and in Northern Europe
- 2) Field management and care of the attack victim
- 3) ATLS principles
- 4) Trauma management and definitive wound care
 - High risk wounds
 - Hand wounds
 - Bites
 - Rabies prophylaxis
 - Tetanus
 - Antibiotic prophylaxis
 - Wound pathogens
 - Antibiotic prophylaxis
- 5) Mechanism of and prevention of attacks
 - Black bears
 - Brown bears

Symposium 3b

TICK-BORNE INFECTIONS IN EUROPE

Lars Lindquist Karolinska University Hospital, Sweden

Among the large number of infectious agents transmitted by ticks Lyme borreliosis (LB) and tick-borne encephalitis (TBE), both endemic in large parts of Europe, are the dominating causes of tick-borne infections. Factors such as behaviour, gender, age, geography, climate and other individual factors influence the risk for disease.

1. LB: The risk for clinical LB cannot easily be estimated due to lack of systematic notification, variable case definitions and lack of reliable diagnostic tests. The incidence of disease varies considerably. In prospective studies from southern Sweden and from France the incidence were 69 (26-160)/100 000 and 9,4/100 000, respectively. However, in highly endemic foci the annual risk may be as high as 3-4%. In a recent study from Sweden the risk for tick bite was 4% per 10 h stay out-of-doors, of which 0,5% developed clinical LB. Although this prospective cohort had a high risk of being bitten by ticks 16 000 h had to be spent out-of-doors before 1 case of LB occurred. Although seroprevalence of LB increase with time in endemic areas, the relation between risk for clinical LB and duration of stay is not clear. In 2 studies no association between length of stay and risk for disease were found.

2. TBE is an extremely focal disease and the calculated risks on a national levels are, even more so than for LB, unreliable tools for risk estimates. On the other hand prospective cohort studies in highly endemic foci cannot be extrapolated to the risk in general. The number of reported TBE cases has increased considerably during the last decades and also expanded into new geographic areas in Europe. The seroprevalence in many TBE endemic areas in Europe is 1-5% with maximum figures up to 15-20% with a ratio subclinical/clinical disease in adults of about 4. In studies from a highly endemic area in Sweden an annual seroconversion rate of 1-2% was found and maximum national incidence rates (from Latvia) approaches 30/100 000.

The risk for a traveller to Styria (Austria) to contract TBE has, based on indirect evidence, been estimated to 1/10 000 person-month. In US military stationed in Bosnia 4/959 (0,42%) seroconverted during 6-9 months, none with major clinical illness, and in southern Germany a seroconversion of 0,9/1000 person-month was seen in US service men. In Sweden during 2000-2004 a total of 29 TBE cases were imported from Åland archipelago among 270 000 annual visitors staying >5 days (a majority during summer), resulting in a risk of 1/50 000 travellers. On the other hand, during the same time no case of TBE in Finland was reported among 5,6 million yearly visitors to Estonia. Due to the obvious risk of not diagnosing, especially if imported to non-endemic areas, or not reporting imported cases of TBE a good estimate of the actual TBE risk for a traveller cannot be made.

Symposium 3c

NEW CHALLENGES FOR TRAVELLERS TO ASIA

Prativa Pandey *CIWEC Clinic Travel Medicine Center, Nepal*

Of 763 million tourist arrivals in the world in 2004, 152.5 million (20%) arrived in Asia. Tourism to Asia rebounded with growth of 28% in 2004 following recovery from the SARS fall-out in 2003. Travel to Asia is exotic and challenging. The rich culture and natural beauty that a traveler finds in Asia lead to a rewarding experience which will far outweigh the health risks that a traveller will get exposed to.

Although Asia is in the forefront of avian influenza epidemic in poultry, human cases to this date have been few and until the situation changes, it should not affect regular travel. Surveillance and control measures have been put in place at national and international levels in almost all countries in Asia with varying degrees of success.

Mosquito borne illnesses that are common include dengue fever and malaria. Japanese Encephalitis is endemic in many Asian countries. Assessing risk for the Japanese encephalitis vaccine for the short term traveler is always challenging since the risk is hard to define.

Rabies is endemic in almost all Asian countries. Effective post-exposure therapy exists to prevent infection. Since there is worldwide shortage of human rabies immune globulin and many Asian countries do not stock this expensive medication, it might be advisable to offer pre-immunization with the rabies vaccine for travellers to Asia particularly for the long term traveller.

The most common illness in travellers to Asia continues to be gastro-intestinal particularly for travel to the Indian sub-continent. This will not only include diarrhoea but other infections transmitted by the fecal-oral route e.g. hepatitis A, E and typhoid fever.

Other issues related to adventure sports, large gatherings like the Hajj, terrorism, sexually transmitted diseases will also be touched upon briefly during this session.

Symposium 3c

HEALTH IMPAIRMENTS IN TRAVELLERS RETURNING FROM AFRICA

Eric Caumes Hôpital Pitié-Salpêtrière, France

Travellers in Africa, specially those visiting friends and relatives (VFRs), seem to be at high risk of acquisition of tropical diseases. We report our experience with this population.

From November 2002 to May 2003, 622 travellers consulted our tropical disease unit in Paris for a health problem occurring within 3 months after return from the tropics. Of these 622 travellers, 210 were immigrants settled in France but returning from VFRs in their country of origin (Africa in 90%). Their sex ratio (M/F) was 1.9 and their median age was 37.7 years old (18-63 years). The median duration of travel was 66 days (7-180 days). The median lag time between return and the consultation was 23.5 days (1-90 days). The main health problems were skin diseases (24.3%), chronic schistosomiasis (16.7%), malaria (10.5%), viral hepatitis (9.0%), respiratory tract infections (8.6%), gastro-intestinal diseases (7.6%), tuberculosis (7.1%), sexually transmitted diseases (5.7%), urinary tract infections (1.9%), miscellaneous (14.3%). In 42% of these travellers, an imported (tropical) disease (mainly, urinary and intestinal schistosomiasis, malaria, intestinal nematodoses, filariasis, amebiasis, leprosy, cutaneous myiasis and tungiasis) was diagnosed. Among the 622 travellers, migrants VFRs were more likely (compared to tourists, business and expatriates) to present with urinary schistosomiasis (OR=18,4-114), tuberculosis (OR=14,13-95), intestinal schistosomiasis (OR=8,2-30), and viral hepatitis (OR=2,2-14). Among the 257 febrile patients, malaria was associated with travel in Africa ($p=0.001$), immigrants VFRs and expatriates status ($p<0.0001$ for each).

Tropical diseases are not the leading cause of consultation in migrants VFRs returning from the tropics. With the noteworthy exception of dengue fever and invasive schistosomiasis, immigrants visiting their home countries are the travellers most at risk of common tropical diseases.

Closing Plenary

Saturday 10th June 2006

MODERN DAY HAZARDS FROM THE MARINE ENVIRONMENT

Eilif Dahl Rikshospitalet, Norway

The presentation is based on the author's encounters with unexpected hazards caused by administrative measures intended to improve conditions at sea. Some examples: Compliance with the ISM (International Safety Management) Code of 1998 requires so much documentation that too little time may be left for watch-keeping and maintenance. Large scale disaster drills may be realistic, but usually collapse at an early stage, leaving most participants without any opportunity to practice or test themselves. Equipment flaws are often not discovered until a real emergency occurs. Compulsory drills may have caused more harm than real disasters.

Mandatory isolation policies for contagious illnesses may help prevent or reduce outbreaks, but increase the risk for passengers to spend part of their vacation 'in prison'. Isolation itself is not without risks, while fear of isolation may keep patients from seeking prompt medical attention, thus delaying diagnosis and treatment of life-threatening illnesses.

Increasing focus on cutting costs leads to reduction of crew size and hiring of poorly qualified, but cheaper personnel. Unqualified medical staff and/or inadequate medical equipment are serious risk factors for ill or injured passengers and crew. Industry guidelines for health care and company policies to prevent sexual harassment and alcohol abuse aboard have increased the ship's doctors' risk of being subjected to medical malpractice suits, frivolous claims and blackmail.

Strict policies and directives are necessary to improve safety at sea, but should be systematically monitored - and corrected if adverse consequences are uncovered.

Closing Plenary

DEADLY STOWAWAYS OVER THE CENTURIES

Heikki Peltola *HUCH Hospital for Children and Adolescents, Finland*

Realising that the Boer War only a little more than 100 years ago was the first war in which the victims of arms equalled to those due to infectious diseases, it is easy to understand that infections have followed the travellers at all times and to everywhere. Even today, diseases such as traveller's diarrhoea pose a major problem in the discipline of travel medicine. Opposite to common believes, even teachings in the school, infectious diseases have played a bigger role in history than thought by many. This presentation will give a few examples of those stowaways which always were at least troublesome, and often deadly.

Oral Abstracts O-I to O-IG

Abstract O-1:

SIMPLE SURVEILLANCE OF ASYLUM SEEKER HEALTH IN GLASGOW, SCOTLAND

C A Redman¹, C Paterson², J Sellers², I Soley², M Clark¹, [A McDonald](#)³

¹Health Protection Scotland, Glasgow, United Kingdom, ²Greater Glasgow Primary Care Division, Glasgow, United Kingdom, ³National Resource Centre for Ethnic Minority Health, Glasgow, United Kingdom

Introduction

The global refugee crisis affects every continent. From April 2000 Glasgow City Council contracted with the British Home Office to provide 2500 units of housing for asylum seekers. Concerns were raised among front line staff that knowledge of the health issues of asylum seekers (AS) in Glasgow was limited.

Aim

To measure the health of AS living in Glasgow over time and provide information to Health Visitors.

Method

Data were collected in visits to a cohort of asylum seekers in July 2004 and again in July 2005 using a simple one-page questionnaire.

Results – 70 AS were followed in 2004, reducing to 61 in 2005 due to loss to follow-up. The initial cohort comprised 64% females, 33% males, 3% unknown. 14% were under 1, 40% 1-9 years, the remainder 15-44 years; 16% of those under 2 had been born in the UK. The highest proportions were from the African Region (63%) and the Eastern Mediterranean (24%). The most common symptoms presenting in 2004 were psychological (10%, 5% in 2005), musculoskeletal (10%, 5% in 2005), headache (9%, 7% in 2005). In addition 4 women were pregnant (2 in 2005).

Discussion

Many of the symptoms appeared to be stress related. While many integrated into the community while awaiting their Asylum Application, others failed their applications resulting in loss to follow-up. The results will be discussed in the context of the positive and negative aspects of providing support to AS, the importance of female and child health, and the need for Agency networking.

Abstract O-2:

HEALTH THREATS FROM COMMUNICABLE DISEASES FOR TRAVELLERS VISITING GREECE

K Gkolfinopoulou, E Kalamara, S Hatzianastasiou, G Spala, T Panagiotopoulos, E Triantafyllou, D Rostadakis, M Astriti

Hellenic Center for Disease Control and Prevention, Athens, Greece

Objective

To provide an update of the health risks for travellers visiting Greece, concerning communicable diseases, endemic in the country.

Methods

Data reported to HCDPC through the mandatory notification system from 2001 to 2005 were analysed and mean incidence rates per 100000 population (IR) were computed. The derived epidemiological profile of the country was compared to the one delineated by international organizations providing guidance to travellers.

Results

Leptospirosis, visceral leishmaniasis, hepatitis B and tuberculosis in Greece have a 2001-2005 mean IR of 0.28, 0.39, 1.51 and 6.03, respectively. These data are in accordance to what international organizations suggest about the risk that travellers encounter by visiting Greece and the precautions they should undertake. On the other hand, surveillance data for hepatitis A, suggest Greece is of low rather than of intermediate – as stated by WHO for S.E.Europe - endemicity for the disease (mean 2001-2005 IR of 1.43, presenting higher rates in specific high-risk populations), result compatible with data from several ad-hoc studies. Brucellosis is also endemic in Greece, with a 2001-2005 mean IR of 2.8. However, the majority of cases of brucellosis occur in rural areas of the mainland, not representing popular tourist destinations. Finally, the 2001-2005 mean IR for typhoid fever appears to be low (0.06). Mean IR for other salmonellosis is 8.51, with several clusters having occurred during the study period.

Conclusions

Recent surveillance data suggest in general low risk for travellers for communicable diseases in Greece, including hepatitis A, with the exception of salmonellosis. Possible underreporting should be pointed out.

Abstract O-3:**EVIDENCE OF INCREASED RISK OF DEATH OF HEART DISEASE AMONG SCOTS ABROAD**

C A Redman¹, A MacLennan¹, C Sinclair², M Cook², C Robertson³, E Walker¹

¹Health Protection Scotland, Glasgow, United Kingdom, ²Scottish Executive Health Department, Edinburgh, United Kingdom, ³University of Strathclyde, Glasgow, United Kingdom

Introduction

Much of the activity of travel medicine practitioners is aimed at reducing infectious and environmental risks to travellers via vaccination prophylaxis and advice. The question is whether travel abroad affects the risk of incidence from non-infectious/ environmental causes, in this case heart disease.

Aim

To test for evidence that travel increases risk of heart disease for Scottish travellers.

Methods

Bodies returned to Scotland for cremation are registered by the Scottish Executive Health Department (SEHD). This data for 2000-2004 was analysed for cause of death and compared with Scottish statistics to see if the age at death from heart disease among those cremated was different from the Scottish population for age groups between 25 and 54 years.

Results

There were 656 bodies returned to Scotland for cremation between 2000 and 2004. Of these 31% were female and 69% were male. The causes of death recorded were infectious (1%), non-infectious (76%) and trauma (20%), with 4% unknown. Among non-infectious deaths the most common cause was cardiovascular (64%), followed by respiratory (14%), cerebral (8%) and gastrointestinal (5%); neoplasms accounted for 3%. Comparison of SEHD and GROS indicated that the age at death from heart disease was younger among those cremated from abroad, compared to the Scottish population ($\chi^2=12.4$, $df=2$, $p=0.002$).

Conclusions

There is evidence that deaths among Scots living or travelling abroad is significantly different from Scots at home. The data will be discussed in the context of limitations in the data and analysis and further research required.

Abstract O-4:

ASSESSING THE BURDEN OF INFECTIOUS DISEASES ON MIGRANTS TO THE UK – THE HEALTH PROTECTION AGENCY’S FIRST MIGRANT HEALTH REPORT

R Gilbert, J Jones

Health Protection Agency, Centre for Infections, London, United Kingdom

Migration and travel play a key role in determining and changing the epidemiology of infectious diseases. The Travel and Migrant Health Section, established in 2005 to co-ordinate and collate migrant-related disease surveillance in England, Wales and Northern Ireland, have published a Migrant Health Report which brings together data on the health of the foreign born population for the first time.

Approximately 7.5% of the UK population was born abroad and in 2003 an estimated 512,000 people migrated to the UK. In 2003, 6837 cases of tuberculosis were reported in England, Wales & Northern Ireland. Of those with a known place of birth, 70% (4315/6139) were born abroad and their rate of TB was 23 times higher than in the UK born population; 45% were born in South Asia and 38% in Sub-Saharan Africa. Also in 2003, 6789 adults were newly diagnosed with HIV, 73% of whom were born abroad; many of these infections were acquired in South Eastern Africa, predominantly Zimbabwe.

The migrant health report highlights how some migrants are at higher risk of infections such as TB and HIV than the UK born population and how this increased risk appears to continue long after arrival, partly through maintaining contact with family and friends in their country of origin. In conclusion, the report describes how migrants have complex health needs, both when they initially arrive in the UK and for many years afterwards, highlighting the need for ongoing surveillance and appropriate targeted public health action.

Abstract O-5:**ARE WE DOING OUR BEST TO EDUCATE TRAVELLERS ABOUT THE RISKS OF ACUTE MOUNTAIN SICKNESS? AN ON-SITE PROSPECTIVE STUDY IN THE HIMALAYAS.**

A Paz, I Steinfeld, I Potasman

Bnai Zion medical Centre, Haifa, Israel

Background

Acute mountain sickness (AMS) affects 42% of people ascending to heights over 3000m. Knowledge of the features of AMS is thus essential for climbers.

Methods

We conducted a prospective on-site study among trekkers in the Himalayas.

Between July-October 2004 we approached a convenient sample of 192 travellers and provided them with detailed questionnaires regarding knowledge of- and self experience with AMS.

Results

106 Israelis and 86 travellers from other nationalities, mostly from Western Europe participated in the study. One hundred and thirty travellers (68%) had received any written/oral information about AMS before their departure. The most common source for information among Israeli travellers was the travel clinic (65%), as compared to only 9% among Europeans ($p < 0.0001$). Overall, 89% were found to have good "Basic knowledge" about symptoms of AMS (defined as headache plus 2 of the following: fatigue, dizziness, nausea, insomnia). Travellers who received information about AMS before the trip, were significantly more knowledgeable about symptoms of AMS ($p = 0.0001$), and treatment options, such as oxygen, medications and rest ($p = 0.023$, $p = 0.024$, $p = 0.011$, respectively). Furthermore, 76% knew that AMS could be prevented. 47% of the travellers suffered from AMS, which started in 50% at 3000m. 33/90 (37%) of those who suffered AMS symptoms, had acetazolamide with them, but only 14 actually used it as treatment.

Conclusions

Knowledge of AMS should be further disseminated among climbers to high altitudes, with special emphasis on practical advice.

**Abstract O-6:
KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING
PRE-TRAVEL HEALTH RECOMMENDATIONS AMONG
U.S. RESIDENTS TRAVELLING TO INDIA**

HC Baggett¹, N Gallagher¹, M Russell¹, S Steele¹, S Blumensaadt², J Bateman³,
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Background

Travellers visiting friends and relatives (VFR) in developing countries are at risk for preventable infections. Better understanding of travel health knowledge, attitudes, and practices among VFR travellers to specific destinations would allow for targeted prevention strategies.

Methods

A self-administered survey of knowledge and use of pre-travel health recommendations was conducted among U.S. residents travelling to India during August 2005 at three U.S. airports. The survey was distributed to English-speaking travellers >18 years of age as they entered the departure areas before boarding.

Results

Of 1556 travellers approached, 1302 (84%) participated; 60% were male and the mean age was 39. Eighty-five percent were of South Asian/Indian ethnicity, and 76% reported VFR as the primary reason for travel. Among VFR travellers, 280 (30%) sought pre-travel health advice from a health-care professional, compared with 147 (48%) of non-VFR travellers ($p<0.01$); the most common reason for not seeking advice was being unaware of the need (58%). Based on disease and vaccination histories, 49% (344) of VFR travellers may have been susceptible to hepatitis A infection and 70% (457) to typhoid, exceeding the 31% (82) and 53% (123) among non-VFR travellers, respectively ($p<0.01$ for both). Only 22% of all travellers planned to use an appropriate antimalarial medication, with the rate among VFR travellers less than half that among non-VFR travellers (16% vs. 39%, $p<0.01$).

Conclusions

A substantial number of U.S. travellers to India, particularly VFR travellers, are unaware of pre-travel health recommendations. Creative prevention strategies are needed to improve knowledge and adherence.

**Abstract O-7:
RECENT CHANGES TO THE UK BACILLE CALMETTE-GUÉRIN (BCG)
VACCINATION PROGRAMME - WHAT ARE THE IMPLICATIONS FOR UK
TRAVELLERS?**

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Introduction

Recently the Departments of Health (UK) announced plans to replace the current universal bacille Calmette-Guérin (BCG) vaccination program with a targeted vaccination program. Little attention seems to have paid to the potential effects this may have on the unvaccinated population when they then travel to areas of high prevalence. The risk of acquiring latent tuberculosis among travellers has been shown to be similar to that of the population in the host country for the duration of their stay. We reviewed data from our travel clinic to assess numbers of travellers potentially at risk.

Methods

Our computerised database of pre-travel consultations were analysed for the period 1st April 2004 to 31st March 2005. Individuals travelling for 4 weeks or more in regions recognised as high risk for tuberculosis were identified. Backpackers, those going on adventure holidays, student electives and/or as volunteers were identified for analysis.

Results

365 individuals identified as being at risk of acquiring tuberculosis stayed for a total of 5453 weeks, equivalent to 1298.3 months (at 4.2 weeks per month). It has been previously reported that the risk of acquiring latent tuberculosis, in non-BCG vaccinated individuals staying in a high risk situation is 2.8 cases per 1000 person months of travel for non-healthcare related travel. Assuming a similar risk for our population this could be expected to result in 3.6 cases of latent tuberculosis per year.

Discussion

From estimates on risk of tuberculosis infection, the absence of a universal BCG program could account for 3.6 cases of latent tuberculosis infection per year from individuals attending our travel clinic alone. Strategies such as pre-travel BCG or pre and post travel tuberculin skin testing need to be considered. Both these strategies have limitations. However as non-BCG vaccinated individuals are likely to be travelling in the next 3 to 5 years, formal policy needs to be clarified.

Abstract O-8:

CHILDREN TRAVELLERS MORBIDITY – PROSPECTIVE CONTROLLED COHORT STUDY

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Children travellers are increasing from and toward the tropics. There are no published data concerning type, incidence and risk factors of health hazards in travelling children.

Objectives

To identify the nature of diseases and injuries children experience during a travel. To measure incidence rate of children traveller morbidity. To identify risk factors of children traveller morbidity in versus out of the tropics. To improve children pretravel advice.

Method

It is an open prospective controlled cohort and multicentre study. Children under 6 years old consulting public consultation in Paris suburb from 15/06/05 to 15/09/05 were eligible. Information on pretravel vaccinations and counselling, malaria prophylaxis and health problems before, during and after their journey were collected by paediatricians and reported in 3 questionnaires. One before travel, the second in the month after return and the third one 2 month after return.

Preliminary results

362 children have been followed up during 6 months: 191 travellers in the tropics versus 171 non-travellers. Age distribution, sex ratio and incidence of disease in the 2 last month before inclusion were not different between 2 groups. Africa was the main travel destination. 20% of the travellers visited malaria and dengue areas. North African children represented the majority of the travellers (68%) whereas Caucasian were the leader group of the non-travellers (33%). Mean duration of stay was 41 days [78-9]. Travellers morbidity incidence was significantly higher than non-travellers 'one (51% vs 23 % $p < 0,01$). Diarrhoea incidence was 34% with a mean duration of 11 days [33-2]. Malaria incidence was 10 % among the group visiting malaria endemic areas. Malaria cases failed to received the proper prophylaxis and happened abroad. There was no fatality cases and only one case have been repatriated. Further analyse of the statistical relationships between risk factors and morbidity events will be done and discussed. Paediatric pretravel health counselling and prescriptions will be proposed

**Abstract O-9:
USE OF MEFLOQUINE CHEMOPROPHYLAXIS BY NON-IMMUNE TRAVELLERS
BEFORE AND DURING PREGNANCY ^ A CRITICAL EVALUATION OF THE
EVIDENCE**

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Background

Malaria infection in non-immune, pregnant women poses significant risks to the mother, foetus and the neonate.

Objectives and methods

We evaluated information on mefloquine use in non-immune, pregnant women using published data, unpublished animal studies and a drug safety surveillance update focusing on pregnancy and foetal outcome in mefloquine-exposed women.

Results

The literature review suggests that mefloquine is safe during exposure in the second and third trimester and reliably documented reports, surveillance data and case reports suggest that the drug is also safe during first trimester exposure. Two studies raised the issue of a possible association between mefloquine exposure and a higher rate of stillbirth. The evidence from animal studies indicates that doses less than 30mg/kg are not embryotoxic or teratogenic. The drug safety update to October 2005 provided reports of mefloquine exposure in 2216 prospective cases. Of these 975 (44%) cases resulted in delivery with known fetal outcome, 404 (18%) in abortion (112 spontaneous and 292 therapeutic). The remaining cases were ongoing or lost to follow-up. 975 deliveries resulted in 42 birth defects, 52 other peri-natal problems and 881 normal babies. This corresponds to a birth prevalence of 4.3% (42 of 975) congenital malformations.

Conclusions

The literature review and the 44% deliveries with known foetal outcome do not indicate an increased risk of birth defects associated with mefloquine. It is reasonable to recommend mefloquine prophylaxis in pregnancy when travel cannot be deferred and where a woman has a high risk of chloroquine-resistant falciparum malaria.

Abstract O-10:

DEVELOPING CONSENSUS IN MALARIA CHEMOPROPHYLAXIS: A DELPHI METHOD STUDY.

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Introduction

The Delphi approach is a consensus development technique, used when no opinion unanimity exists, owing to lack of scientific evidence. We applied it to the areas of prescribing malaria chemoprophylaxis, where high subjectivity is necessary to balance protection and drugs' toxicity risk. The method entails anonymity, questionnaires iteration, controlled feedback, and statistically analysed group responses.

Methods

Questionnaires were administered to site managers of TropNetEurop, a network for imported diseases surveillance, including 46 sites in 16 European countries. Questionnaire 1 asked 48 questions on debatable issues of malaria chemoprophylaxis, with responses given on a visual scale. Questionnaire 2 described 14 chemoprophylaxis scenarios: possible responses were prophylaxis yes/no/uncertain, which type. Questionnaires were administered twice, with overall results made clear to all participants in between.

Results/Discussion

Questionnaire 1 showed that:

- Long term travels and pregnancy are problematic situations.
- Indian Subcontinent area is problematic.
- Importance of likely compliance and cultural level of travellers is debatable.
- Drugs' cost is not important.
- Drugs, excepting chloroquine, had similar evaluations for different reasons.
- The importance of insect bite prevention is related to malaria risk degree, and not to drug-resistance.
- During round 2 the group evaluations did seldom change (8/48 questions), but consensus increased (36/48).

Questionnaire 2 showed 65% answers "yes", 29% "no", 6% "uncertain". Consensus was absent in 6/14 scenarios. Willingness to give prophylaxis is very variable among experts, and country of practice. The choice of drugs is inhomogeneous.

During round 2, 44 judgement changes appeared, mostly towards the "no" side.

Abstract O-11:
EXPERIENCE WITH IMPAVIDO (INN: MILTEFOSINE) IN *LEISHMANIA*
***BRAZILIENSIS* INFECTIONS**

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Treatment of cutaneous (CL) and mucocutaneous leishmaniasis (MCL) in Latin America is difficult. Sensitivity towards parenteral antimonial agents is decreasing. Impavido (Miltefosine) the first oral agent against Kala azar has been investigated in various trials against CL and MCL as well. In a dose finding trial in Colombia a regimen of 150 mg/ per day for 28 days was established. A placebo-controlled trial was conducted against infections by *L.(V.)panamensis* in Colombia and *L.(V.)braziliensis* in Guatemala. Cure rates were 91% for *L.(V.)panamensis*, and 53% for *L.(V.)braziliensis*, and for placebo 38% and 21%, respectively.

In a trial against MCL in Bolivia Impavido was effective with cure and significant improvement rates of 80% in 79 patients after 9 months follow-up. The control arm with amphotericin B as local standard was closed prematurely due to non-acceptance by patients, improvement rate after 10 months was 43% in the 19 patients treated. Unlike the ambiguous results in Guatemala, Impavido proved to be highly effective against *L.(V.)braziliensis* in mucocutaneous disease in Bolivia. Presently, a trial is being conducted against CL due to *L.(V.)braziliensis* in Bolivia.

Impavido appears to be a good choice also in Travel medicine. It can be taken at home, it is safe and generally well tolerated. Most frequent side effects are vomiting and diarrhoea for 1-2 days in about 30% of patients.

As a conclusion, Impavido is an active drug in the treatment of *L.braziliensis* infections, with efficacy confirmed in *L.(V.)braziliensis* and *L.(V.)panamensis* infections. *L.(V.)guyanensis* remains to be investigated.

Abstract O-12:

MALARIA PROPHYLAXIS POLICY FOR TRAVELLERS FROM EUROPE TO THE INDIAN SUB CONTINENT

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TropNetEurop is an electronic network used to identify emerging trends in regional or global destinations as they affect European travellers. Analysis of malaria reports to national malaria surveillance bodies in eight European countries, acquired on the Indian sub-continent (ISC) (India, Pakistan, Bangladesh and Sri Lanka) between 1999 and 2004 were analysed to help agree a rational chemoprophylaxis policy.

Malaria cases from ISC made up a very small proportion of the total surveillance reports (range 1.5%-4.6%). The number of cases of imported *P. falciparum* from the ISC in 2004 from reporting countries was 25 from a total of 118 cases of all species and in previous years averaged 15% of all cases. Where denominator data was available the incidence of malaria was estimated at one case per 1,059 years exposed in Pakistan and one per 1,923 years exposed in India (*P. falciparum* one per 27,888 years exposed) in the UK and in France (2004) of 0.03% and 0.01% per visit.

In terms of public health policy, the group consensus was that the costs of prescribing chemoprophylaxis and likelihood of severe adverse events are significantly higher than the very small risk of acquiring non severe malaria and non selective prescribing of chemoprophylaxis for travellers to the ISC should be stopped. There was complete consensus on continued recommendation of personal protective measures against biting insects.

Abstract O-13:**THE POTENTIAL RISK OF RABIES AMONG LONG-TERM TRAVELLERS**

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There is little data available on the actual risk to travellers of being exposed to rabies. Based on current estimates, the recommendations in Israel, for pre-exposure prophylaxis, call for vaccinations only for those travelling for more than 1 year. We set out to examine the rate of possible rabies exposure in a cohort of more than 700 travellers.

We did a telephone survey among 749 travellers to the tropics who had visited our clinic between Sept.-Dec. 2004. We included only those who travelled for periods of 1 month. Each traveller was inquired about animal bites; those who responded positively were interviewed in detail.

Thirteen (1.74%) were injured by an animal, yielding a rate of 388/100,000 travellers per month. Seven were bitten, while 6 were scratched by the animal. Almost half of the encounters (n=6) occurred in Thailand. Six travellers were attacked by a dog, 4- by a monkey, 2- by a cat, and one by an opossum. The mean time from departure-to-bite was 7.2 (\pm 6.8) weeks. Only one traveller had received rabies prophylaxis before travel, and only 4 others received post-exposure immunizations. Two of the latter had started their vaccinations 7 days post-exposure. We could not find a statistically significant difference between the study group and the entire cohort in regard to the mean age, or length of trip.

In light of the seemingly high rate of encounters with potentially rabid animals, a reassessment of the recommendations for rabies pre-exposure prophylaxis is warranted.

**Abstract O-14:
HIV-POSITIVE TRAVELLERS IN THE 'HIGHLY ACTIVE ANTI-RETROVIRAL
TREATMENT' ERA**

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In the early 1990s, health professionals caring for HIV-positive patients recognised that, as travellers, HIV positive people had special risks and needs. Travel health advice for HIV-positive people became available from a number of sources and largely addressed patients travelling on holiday or business from North America and Western Europe. The focus was mainly on vaccines and the prevention of diarrhoeal disease, a particular risk to immunocompromised travellers.

Today, ART (antiretroviral therapy) has transformed the natural history of HIV disease. The profile of the HIV positive traveller may also have changed. Patients on ART experience better health and may undertake more adventurous travel. The proportion of HIV clinic patients in the UK from African countries has risen in recent years and, while it is difficult to quantify the number of HIV positive travellers, it is clear that there has been an upsurge in the number of people travelling to the developing world to visit friends and relatives and a proportion of these are HIV positive.

It is timely, therefore, to re-visit the advice given to HIV positive travellers. The importance of awareness of vaccine preventable diseases remains, but the risk of some tropical diseases may have diminished, as patients on ART have experienced improved immune function. New issues, such as possible interactions between antiretrovirals and antimalarials must be taken into account.

This review examines the travel health advice available to HIV-positive patients and provides recommendations to minimise travel-related health risks for this group.

Abstract O-15:**THE PROVISION OF HIV POST EXPOSURE PROPHYLAXIS FOR MEDICAL STUDENT ELECTIVES: THE LIVERPOOL EXPERIENCE 1999-2005.**

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Background

Medical students going on overseas electives from Liverpool may be given a pack of antiretroviral drugs (ARV) for immediate use as post exposure prophylaxis (PEP) after a health care associated exposure to HIV. Provision depends on knowledge of their host institution, estimated HIV rates in the local population and whether HIV PEP can be accessed there urgently.

Objectives

To review provision and use of HIV PEP packs from 1999-2005, and summarise feedback about local availability of HIV PEP and exposures to blood borne viruses (BBV).

Methods

PEP packs (1 week supply) were given to individuals or groups of students travelling together. In 2003-2005, recipients were asked to complete a questionnaire about exposures to BBV, actions taken and facilities available at their host institution.

Results

109 HIV PEP starter packs were given to 212 students, 70/109 (64%) in the last 3 years. Only 28/70 (40%) groups or individuals responded. There were 3 possible BBV exposures involving blood splashes to intact skin in Cameroon, Peru & Uganda, and a low risk needle stick injury in Grenada. None required HIV PEP. 6/28 institutions had a PEP policy and on-site ARV. Hand-washing and sharps disposal facilities were available at 27/28 and 19/28 institutions respectively. Gloves were available at 17/28; 3 students had no access and 8 provided their own.

Conclusions

Provision of HIV PEP should still be considered for elective students working in countries with high rates of HIV and limited access to urgent ARV therapy. It is difficult to collate data about changing risks in different destinations.

Abstract O-16:

ASSESSMENT OF KNOWLEDGE ABOUT YELLOW FEVER VACCINATION: INFORMATION FROM THE NATIONAL TRAVEL HEALTH NETWORK AND CENTRE (NATHNaC) TRAINING PROGRAMME FOR YELLOW FEVER VACCINATION CENTRES (YFVCS).

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Background

The NaTHNaC programme for YFVCs in England and Wales contains a compulsory training day for newly designated and existing YFVCs.

Objectives: To assess baseline knowledge of health care representatives from YFVCs regarding yellow fever vaccination, and to determine if key concepts were learned following training.

Methods

All attendees on the YFVC training day completed a standard questionnaire before and after training. Questions assessed knowledge of the epidemiology of yellow fever, and information about the vaccine, its storage requirements, indications and contraindications, and potential for serious adverse events.

Results

205 questionnaires were analysed from 5 training days. 165 (80%) existing YFVCs and 17 (8%) newly designated centres were represented; 23 (11%) did not specify their status. The percent correctly answering the following questions pre and post training were: ability to identify maps of yellow fever endemic areas, 16%/86%; vaccine temperature storage requirements, 88%/100%; anaphylaxis to egg as a contraindication, 73%/99%; awareness of the increased risk of viscerotropic adverse events in those aged 60 years and older, 35%/96%. These comparisons between the pre and post training answers were significant at the $P < 0.001$ level. Only 15% of existing centres could correctly identify the difference between yellow fever disease risk for the individual traveller and requirements for a yellow fever certificate based on international health regulations.

Conclusions

Many health care personnel from existing YFVCs are neither aware of important factors affecting the decision to administer YEL nor of serious adverse events following vaccination. This emphasises the need for specific training for those administering yellow fever vaccine. Training can result in improved understanding of key concepts.

Poster Abstracts: P-1 to P-63

Abstract P-1:

A STUDY TO EVALUATE WAYS TO IMPROVE TRAVEL MEDICINE SERVICES PROVIDED IN GREEK TRAVELLERS.

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Objectives

To evaluate travel medicine services and the interventions applied so as to reveal possible ways of their improvement.

Methods

The study was carried out in Attica from 01/01/2004 to 31/12/2005. June 2005 was defined as the M0 of the study; during this month a large campaign of travelers information and education of public health professionals were implemented. Data was collected retrospectively from the Prefectures' Health Departments, and compared to data collected prospectively, using a standardized report form from Prefectures and the H.C.D.C.P.

Results

6823 travelers were studied retrospectively within a 18-month period and compared to 1105 travelers who were studied prospectively within a 6-month period. The two study populations presented no differences in demographic characteristics and were therefore comparable. The vast majority of the travelers (74,3%) within the retrospective study period received only a Yellow Fever vaccination whereas other vaccines were used in a very limited number. After M0 a significant change in vaccination trends and in administration of malaria chemoprophylaxis was noticed, although the use of other than Y.F. and meningitis vaccines still remained limited (Data presented in table).

Conclusion

The study revealed that the intervention contributed to an increase in the attendance of travelers to Health Departments and to a change in Public Health Professionals attitude. This suggests an increased need for further development of Travel Medicine Infrastructure in Greece.

		▼ <i>MO</i>	
		Retrospective (N=6823)	Prospective(N=1105)
		Prefectures' Health Departments	H.C.D.C.P. N=273 Prefectures' Health Departments N=832
Vaccines	Hepatitis A	13(0,2%)	211(77,3%) 371(44,6%)
	Typhoid	134(2%)	127(46,5%) 201(24,2%)
	Yellow Fever	5066(74,3%)	57(20,9%) 467(56,1%)
	Meningitis	255(3,7%)	31(11,4%) 270(32,5%)
	Cholera	210(3%)	4(1,5%) 63(7,6%)
Malaria chemoprophylaxis	746(10,93%)	203(74%) 603(81,8%)	

Abstract P-2:**THE INTRODUCTION OF UK NATIONAL HEALTH SERVICE GENERAL MEDICAL SERVICES CONTRACT AND ITS EFFECT ON TRAVEL HEALTH CARE PROVISION.**

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Method

In July 2005, 1000 new travellers attending the Liverpool School of Tropical Medicine (LSTM) Travel Clinic were asked to complete a questionnaire to determine possible reasons for attendance for pre travel advice at the clinic. In addition, a standard letter was sent to 36 PCTs situated within a radius of 100 miles from LSTM, to determine whether Primary Care Trusts (PCT) in England or Local Health Groups (LHG) in Wales were aware of general practices who were not providing travel health services locally, since the introduction of the General Medical Services Contract in 2004.

Results

908 travellers completed the questionnaire. 12.2% attended because their GP practice did not provide a travel health service. 28.4% had had difficulty obtaining a particular vaccine. Other reasons for attendance included convenience (8.1%), no suitable appointment available in primary care (11.3%) or referral due to existing health problems (4.4%). 20 (55.5%) PCT/LHG responded to the survey. No PCT/LHGs who responded were aware of general practices that had opted out of providing travel health services.

Conclusion

23% of the respondents had difficulty accessing services at their general practice and another 28% had had difficulty in finding a particular vaccine. The latter figure may have been due to national shortages at the time of the survey. Our data suggests that primary care services in this region are having difficulty meeting many travellers' needs.

Abstract P-3:

A PROGRAMME OF REGISTRATION, TRAINING, STANDARDS AND AUDIT FOR YELLOW FEVER VACCINATION CENTRES IN ENGLAND AND WALES.

S Bailey, R Tucker, H Simons, J Mathewson, DR Hill

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Background

The National Travel Health Network and Centre (NaTHNaC) has assumed responsibility for Yellow Fever Vaccination Centres (YFVCs) in England and Wales.

Methods: In order to improve the support of YFVCs and to ensure that travellers receive vaccine in centres adhering to high standards, a programme of registration, training, standards and audit was initiated. This follows requirements under International Health Regulations: "State parties shall designate specific YFVCs within their territories in order to assure the quality and safety of the procedures and materials employed."

Results

All YFVCs on the databases of the Department of Health and the Welsh Assembly were contacted. Of the 4,549 existing centres, NaTHNaC was able to confirm details on 3,150 (69%). These YFVCs were placed on a YFVC locator on the NaTHNaC website (www.nathnac.org). Confirmed YFVCs were sent information on requirements for registration renewal: submitting an application, paying a registration fee, attending a training course on yellow fever vaccination, and submitting annual returns of vaccine use. 3,400 centres, including those registered between June 2003 and November 2005, were mailed registration materials and as of February 2006, 2,815 have renewed (83%). Between January 2004 and February 2006, 22 training courses have been held with 875 attendees. NaTHNaC has commissioned Associate Trainers to help deliver training throughout England and Wales. In order to complete the audit of YFVCs, a programme of inspection is being developed. Lastly, NaTHNaC provides support to YFVCs by answering queries on their national advice line and posting clinical information on their website.

Conclusions

By setting standards and providing support to YFVCs, it is expected that YFVCs will gain confidence and knowledge in administering yellow fever vaccine and that the pre-travel care of travellers will improve.

Abstract: P-4**ANALYSIS OF YELLOW FEVER VACCINATION PRACTICE IN ENGLAND**

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The National Travel Health Network and Centre, London, United Kingdom

Background

The National Travel Health Network and Centre (NaTHNaC) assumed responsibility from the Department of Health (DH) for Yellow Fever Vaccination Centres (YFVCs) in England in July 2003.

Methods

In order to understand the practice and needs of YFVCs, an anonymous questionnaire was sent to all YFVCs on the DH database in November 2004.

Results: 4,385 YFVCs were sent the questionnaire and 2,938 replied (67%). 94% of YFVCs were part of a GP practice. A median number of 35 doses of yellow fever vaccine (YEL) were given per year; 25% gave less than 20 doses and 25% gave 50 or more doses annually. 88% of YFVCs reported giving YEL to patients not registered with their practice. YFVCs reported that nurses administered YEL more frequently than doctors: 96% of nurses administered YEL vs. 55% of doctors ($P < 0.001$). More nurses in YFVCs were trained specifically in yellow fever vaccination compared with doctors (32% vs. 21%, $P < 0.001$). There was a positive correlation between specific training in yellow fever vaccination and the number of doses of YEL given annually by a YFVC. Of the centres that reported using internet resources for every patient, the Travax (Scotland) (74%) and DH (42%) websites were most frequently used. When asked to cite which support services would be helpful for YFVCs, the three services most commonly cited were: patient information leaflets (76%), telephone advice (72%) and travel health training (71%).

Conclusions

This analysis of YFVCs will help in formulating policy that meets the support and training needs of YFVCs.

Abstract: P-5

THE PATIENT PROFILE OF A SOUTH AFRICAN TRAVEL CLINIC

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Background

South Africa is a world within one country, known for its ethnical and natural diversity. The temperate climate all year round and the vast differences in geography: from coastal borders to a mountainous escarpment, make South Africa a famous tourist destination. World famous destinations include the Kruger Park and several World Heritage Sites, with Johannesburg as gateway.

Many adventurous leisure and prospective business travellers from the east and the west of the world travel into the African continent via South Africa.

Method

This overview looks at the profile of visitors to The Travel Doctor Africa clinic situated in Johannesburg, for the period January to December 2005. The age, gender, proposed destination and purpose of the trip (business or leisure), as well as the length of the trip (days) were compared.

Results

3876 visitors to the clinic, ranged in age from 95 years to younger than 1 year. Over 80% were travelling within Africa. The most popular leisure destinations were Tanzania (Zanzibar), Kruger Park, Mozambique and Kenya. Nigeria was the most popular business destination.

Conclusion

Valuable information regarding destination, length of trips and purpose of travel contribute to comprehensive knowledge regarding travellers originating in South Africa. This will benefit both travel clinic practice and the travel health industry in general.

Abstract: P-6**A SURVEY OF KNOWLEDGE AND PRACTICE OF GENERAL PRACTITIONERS IN SINGAPORE CONCERNING MALARIA PROPHYLAXIS**

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The knowledge of malaria prophylaxis among general practitioners (GPs) has been found to be inadequate in many studies. Examination of knowledge and practice of GPs is important in developing interventions to improve malaria prophylaxis.

Method

A 9-item self-administered questionnaire was randomly distributed to GPs in Singapore.

Results

The survey was completed by 121 of 122 GPs. 100% reported fever, 98.3% chills, 90.1% headache, 74.4% altered mental state and 70.2% arthralgia/myalgia as symptoms suggestive of malaria.

Regarding the enquiry on recent travel history in a patient presenting with fever, 56% always, 40.5% often and 3.3% rarely did so. The number of suspected malaria cases seen in the past 12 months ranged from 1-3 cases (71.1%), 4-6 cases (10.7%), 7-9 cases (3.3%) and 10 cases (3.3%).

Regarding biological signs, 62% selected anaemia, 33.1% thrombocytopenia and 19.8% eosinophilia. When asked to select confirmatory tests, 28.1% opted for thick smears, 25.6% thin smears, 17.4% thick and thin smears and 4.1% preferred to refer the patient to emergency department.

99 doctors (81.2%) prescribed mefloquine, 35 (28.9%) doxycycline, 15 (12.4%) chloroquine and 12 (9.9%) maloprim as the preferred prophylactic agent. When asked on the source of information, 57.9% consulted textbooks, 26.4% a travel medicine specialist, 20.7% searched the internet and 17.4% an infectious disease physician.

Conclusions

Our study revealed that GPs in Singapore displayed a better knowledge regarding malaria and malaria prophylaxis than previously reported studies. However there is still a need to educate GPs on the available diagnostic tests and the drugs for prophylaxis.

Abstract: P-7

A PROSPECTIVE STUDY TO EVALUATE THE NEEDS OF GREEK TRAVELERS, IN ORDER TO IMPROVE THE PROFILE OF “HEALTHY TRAVELER”

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Objectives

To assess the profile of the Greek traveler who seeks pre-travel medical advice and delineate target groups requiring sensitization in travel medicine issues.

Methods

Prospective study from 01/07/2005 to 31/12/2005 in 7 health departments of Greek Prefectures in Attica. Data were collected using a standardized report form which comprises demographic characteristics, travel related information and travel counseling information. Data from the National Statistics Service (NSS) were used for comparison.

Results

According to the data from NSS, 18,674 people travel annually to Africa and 24,201 to Asia. In the study we included all (N=832) travelers attending a travel medicine service; 57% male; mean age 39 years (± 14). 81% were tourists, 7 % sailors. Median period of stay: 15 days. The main destinations were Asia (35%) and Africa (35%). Guided travel was reported in 51, 68% and independent travel in 41, 59% of travelers. The main purpose of travel was vacation (65%) and business (22%). Hotel was the most common accommodation (67%), mainly in urban areas (71%).

Conclusion

The majority of travelers were middle-aged tourists traveling for vacation for a short period of time who stayed in hotels, mainly in urban areas. Although Greek travelers referring to health departments of Prefectures for pre-travel counseling represent the average tourist profile, according to NSS data we estimated that only a small percentage of those traveling to “high risk” destinations seek pre-travel advice. This suggests that more public intervention is needed in order to improve awareness in travel health issues

Abstract: P-8**AWARENESS OF THE HEALTH RISKS ASSOCIATED WITH TRAVEL TO HIGH-ALTITUDE DESTINATIONS**G Flaherty¹, G Avalos¹, G Fry², T O'Brien¹*¹National University of Ireland, Galway, Ireland, ²Trinity College, Dublin, Ireland*

This study was conducted to assess the awareness of altitude-related health risks among a sample of travellers attending a travel medicine clinic. Seventy-seven travellers were surveyed before they received their medical consultation. Most were male and aged between 26 and 30 years. The most popular destination in the under-30 age group was the Inca trail ($P=0.024$). Sixty-two percent of subjects had no previous experience of high-altitude travel. Forty-four percent of trekkers were unaware of their maximum intended altitude. Twenty-seven percent planned to spend only 2 to 4 days reaching their maximum altitude. Seventy percent of participants were aware of at least one symptom of altitude illness. Most of those who could not list any symptoms of altitude illness were aged less than 25 years ($P=0.044$) and had no previous exposure to altitude. The most commonly suggested symptoms were dizziness, nausea and headache. Of those who correctly identified measures to prevent altitude illness, 46% suggested gradual ascent. Travellers under 30 years were more likely to believe that physical fitness is protective against altitude illness ($P=0.007$). Books and the internet were the most popular sources of information on the health risks of high altitude. Only 14% of trekkers would consult their general practitioner for altitude-related travel health advice. There was poor awareness amongst travellers of their travel itinerary, the need for a safe ascent profile, aspects of high-altitude illness, and other health risks including rabies. Specific advice on the health risks of high-altitude travel should be aimed particularly at young, inexperienced travellers.

Abstract: P-9

MALARIA AND MEFLOQUINE PROPHYLAXIS IN JAPAN GROUND SELF DEFENSE FORCE MEMBERS DEPLOYED IN EAST TIMOR FOR A PEACEKEEPING OPERATION Fujii¹, K Kaku², T Jelinek³, M Kimura⁴

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Japan is participating in a peacekeeping operation in East Timor by sending Japan Ground Self Defense Force (JGSDF) members. Because malaria-related data have been scarce and inconsistent in this region, and also because of the need to adequately assess the tolerability of mefloquine prophylaxis among the Japanese population, it would be worthwhile to analyze this JGSDF experience.

A total of 1,876 members were deployed between April 2002 and September 2003. They were divided into three battalions, each staying for 6 months, and were asked to take weekly mefloquine prophylaxis. The incidence of clinical malaria infection and the *Plasmodium falciparum* sporozoite infection was assessed, by anti-*P. falciparum* circumsporozoite (CS) protein antibodies for the latter. Adherence to and AEs of mefloquine were studied mainly by questionnaires.

Five cases of *P. vivax* malaria were experienced with a relapse in one of those, without any cases of *P. falciparum* malaria, which yielded a crude acquisition rate of 0.32% for the 6-month period. Overall, 3.1% of the eligible members showed a seroconversion for anti-CS protein antibodies; by region, it was highest in Oecussi (4.7%), followed by Maliana (4.2%). AEs were reported by 24.0% of the respondents; however, most of the AEs were mild and did not require discontinuing the chemoprophylaxis. Notably, 44.9% reported that their AEs first appeared within the day of the first mefloquine intake.

Mefloquine prophylaxis was effectively and almost safely implemented among JGSDF members deployed in East Timor. After a careful and individualized risk-benefit analysis, travelers from countries where mefloquine is the only available agent, e.g., in Japan, are also encouraged to implement the chemoprophylaxis, especially when visiting underdeveloped areas of the country.

Abstract: P-10**TRAVELLING INCREASES THE RISK OF CONTRACTING TICK BORNE ENCEPHALITIS**

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Every year, over 60 million times, people from EU member states travel into TBE endemic countries. Because of increasing international travelling streams from tourists of non endemic countries to TBE high risk regions, TBE is now becoming a more important issue of travel medicine. There have been documented cases of travel related TBE after vacation in endemic countries.

The increasing mobility exacerbates the risk of infection and as a result of increasing foreign travel the disease is likely to present more commonly among tourists, campers and hikers who visit endemic areas.

Noted travel streams to endemic areas, such as Austria, show the clear need for international recommendations. The number of travel associated TBE cases is vastly underestimated and TBE is "exported" by endemic countries. As an example, in 2004 150.000 dutchmen went to carinthia, a highly endemic area of Austria, and about 200.000 British came to Austria. Hundreds of possible infections in these tourists must be the consequence. More data will be presented at the conference.

As clinical manifestation mainly occurs when tourists have been returned to their home country many cases remain undiagnosed due to lack of serology as there is no routinely screening for TBE in non-endemic regions.

TBE is usually not mentioned in recommendations given to tourists who spend their vacation in endemic areas. We assume that there is a need for the integration of TBE vaccination into common travel recommendations.

Abstract: P-11

HEPATITIS B RISKS AND VACCINATION STATUS OF AUSTRALIANS TRAVELLING TO SOUTHEAST AND EAST ASIA

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Objective

To evaluate exposure to activities with hepatitis B virus (HBV) risk and the prevalence of HBV vaccination amongst Australian travellers to Southeast and East Asia.

Methods

A telephone survey was conducted amongst Australians by interviewers from Roy Morgan Research. Inclusion criteria included those who had travelled to Southeast and East Asia in the past three years for three nights or more. 309 travellers were interviewed aged 14 and over, including 138 males and 171 females. The sample was re-proportioned according to visitation data for destination countries included in the study, as ascertained from the Roy Morgan Single Source Holiday Tracking Survey for year ending June 2004.

Results

Respondents travelled for business (20%), leisure (64%) and visiting friends/relatives (16%). Common destinations were Indonesia (34%), Thailand (32%), and China (27%). 54% of travellers sought pre travel health advice of which 56% had sought this advice >6 weeks before travel. 28% reported having HBV vaccination of which 70% had received the vaccination >3 weeks before travel. 17% reported receiving unspecified hepatitis vaccination and 53% reported receiving no hepatitis vaccination. 49% had participated in at least one activity with HBV risk during their last overseas trip. 49% of travellers aged 18 and over, who either had no HBV vaccination or who were unsure, had participated in at least one activity with HBV risk during their last overseas trip. Travellers in the 18-24 age group were significantly less likely to be immunised against HBV or hepatitis unspecified ($p < 0.01$).

Conclusions

Australian travellers to Southeast and East Asia commonly undertake activities with a risk of exposure to HBV. HBV vaccination coverage amongst this group remains low. Travellers to this region should seek appropriate travel health advice, which will include a risk assessment for HBV vaccination.

Abstract: P-12**EFFICACY OF DUKORAL ORAL VACCINE IN THE PREVENTION OF TRAVELLERS' DIARRHOEA.**

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Objective

To quantify the efficacy of Dukoral oral vaccine in the prevention of travellers' diarrhoea, through a phone survey to travellers on their return. The sample consisted of people who attended the International Vaccination Centre of Malaga before the beginning of their trip and were recommended to take Dukoral as *Vibrio cholerae* prophylaxis.

Material and Methods

We selected all travellers who had been recommended to take Dukoral vaccine during July-August 2005 (N=108). We found a homogeneous group of people among travellers who had attended the vaccination centre during May-June 2005 (N=106). Groups were comparable with respect to age, sex, visited countries, trip duration, travel characteristics (rural, individual, familiar...), and travellers characteristics (chronic diseases, treatments...). Both groups received similar sanitary education regarding water and food. The phone survey was performed by a member of the centre from November 2005 to January 2006. All travellers gave consent.

Results

The vaccinated group reported diarrhoea in 24,1% of the cases, while the non-vaccinated group showed an incidence of 40,56% ($p=0.02$). The duration of the symptoms was shorter in the vaccinated group ($p=0.008$). In 88% of the cases, symptoms disappeared in 1-2 days, while in the non-vaccinated group this only occurred in a 17% of the cases.

Discussion

We observed a 40% risk reduction of travellers' diarrhoea in vaccinated people. This may corresponds to the proportion attributable to ETEC among the traveller's diarrhoea as a whole. The magnitude of this decrease suggests a real efficacy of Dukoral in preventing travellers' diarrhoea in general.

Abstract: P-13

LIMITATIONS IN TRAVELLERS' AWARENESS OF TRAVEL RELATED DEEP VEIN THROMBOSIS AND ITS PREVENTION.

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Background

There has been increasing media attention on the possible links between prolonged air travel and deep vein thrombosis, however, the public's concerns and behavioural responses have been poorly studied. This research investigated health professionals, air travellers and the public's perceptions and knowledge of DVT with regards to travel.

Methodology

An opportunistic, questionnaire based, multi-centre survey of people's knowledge of this topic was carried out, with comparative analysis of data for gender, occupational status and age.

Results

1392 individuals completed the questionnaire, of which 95% had previously travelled out with Britain. Although many of the travelling public have good knowledge of travel related DVT, a sizeable number are unaware of the condition or have inaccurate knowledge.

Recommendations

There is a need for education of the travelling public about DVT and the risks of its development to increase awareness and correct misperceptions. Travel health professionals and particularly practice nurses should give the public accurate health information in relation to DVT risks and precautions in regard to prolonged transportation.

Abstract: P-14**RISKS AND OUTCOMES AMONG VOLUNTEERS ABROAD**

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Volunteers give of their time to serve developing communities often being posted to rural areas for many months or years, and represent a distinct group of international travellers. In 2003 HPS and VSO began carrying out surveillance of VSO volunteers in Cambodia with the aim of better understanding risks and behaviours and describing the incidence of outcomes using self-completed questionnaires distributed at their annual conferences at which 30-40 attend.

25 and 21 volunteers responded in 2003 and 2004, respectively: mean age (years \pm standard error) was 40 ± 2 in 2003 and 42 ± 3 in 2004, the female to male ratio being 2.1 and 1.3, respectively.

Several indicated pre-existing medical conditions prior to serving (16% in 2003, 38% in 2004). With respect to risks the majority indicated that road conditions were poor/quite poor (100% and 86% respectively), the majority having to regularly use road transport (92% and 100%, respectively).

With respect to behaviours, all respondents never or seldom drank non-purified water. In addition a large proportion indicated that they maintained their own mosquito protection (40% and 43%) or the good protection was provided (48% and 48%).

With respect to outcomes the majority of VSO had at least one incidence of diarrhoea in the previous year (72% and 57%), while large proportions also had respiratory (20% and 24%) and skin conditions (36% and 24%) and accidents (32% and 38%).

The data will be presented in the context of severity of outcomes and the difficulty of applying risk reduction measures.

Abstract: P-15

ARE TRAVELLERS REALLY AWARE OF HEALTH RISKS ASSOCIATED WITH TRAVELLING?

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International travellers seldom include the health aspect while preparing a trip. A study assessing knowledge, attitudes and practices of travellers towards the main health problems while abroad has not yet been performed in Italy.

To determine the travellers' level of awareness of travel-associated health risks and their perception of need of a pre-travel consultation, an anonymous questionnaire was administered to 100 travellers.

Despite mostly leaving to a medium - or high-risk Country, only 28% correctly perceived their destination as at risk. The majority (66%) knows travellers' diarrhoea and much more know how it is spread. Apart from bites of infected mosquitoes, other sources of malaria are also mentioned. Travellers know (95%) that treated nets and repellents effectively protect, however some misconceptions on malaria protection still survive. Malaria is considered the major threat both for morbidity and mortality, whereas only 26% think that diarrhoea is the most frequent health problem and no more than 12% indicate cardiovascular accidents as the leading cause of death. Half travellers look for pre-travel advice, the vast majority consulting the internet, the travel agent, the guidebook or friends. Only few ask the GP, the chemist or a dedicated travel clinic.

In conclusion, travellers enrolled in this study seem to have an unacceptably low level of awareness of health risks associated with travelling and a scarce perception of the need of qualified pre-travel consultation. Strong efforts are needed to broaden basic knowledge in travel health both in the public and among professional figures involved in the travel itself.

Abstract: P-16**IMMUNIZATION WITH DUKORAL INDUCE NEUTRALIZING ANTIBODIES AGAINST *E. COLI* HEAT-LABILE ENTEROTOXIN**

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Background

Travellers' diarrhoea (TD) due to enterotoxigenic *E. coli* is common among visitors to developing countries. The inactivated cholera bacteria plus cholera toxin B-subunit (CTB) vaccine, Dukoral, elicits an immune response to CTB that cross-reacts with the heat-labile enterotoxin (LT) of *E. coli*. The aim of this study was to investigate the neutralization of the biological activity of *E. coli* LT using a functional cell-based assay.

Methods

Sera from 13 volunteers immunized with Dukoral and with ELISA-confirmed antibodies against CTB were analyzed for the presence of antibodies that could neutralize LT - and cholera toxins effect on Y1 adrenal cells. Briefly, serial dilution of serum was pre-incubated with a fixed amount of toxin and then added to adrenal cells in tissue culture. Titers were defined as the highest dilution of serum giving >50% neutralization of the toxin.

Results

A total of 10/13 (77%) of the subjects showed a 2-fold increase in neutralization titers against LT toxin. All subjects showed 2-fold titer increase in neutralization titers against cholera toxin. Concentrations of 25 ng/ml of LT toxin and 5 ng/ml of cholera toxin was required to obtain a similar effect on adrenal cells without any serum added. No difference in neutralizing titers of the antibodies against *E. coli* LT and cholera toxin was observed when titers were adjusted to the amount of toxin used in the assay ($p > 0.05$).

Conclusion

The toxin neutralizing antibodies induced by Dukoral vaccination may explain the protective efficacy against ETEC, observed in clinical studies.

Abstract: P-17

TRAVEL HEALTH EDUCATION FOR PRACTITIONERS

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An essential element of establishing good standards of travel health practice is a uniform standard of travel health education for practitioners. This is underway in the UK, with the publication in 2005 of the Health Protection Agency's National Minimum Standards for Immunisation Training, and Core Curriculum for Immunisation Training. (Approved for use in June 2005 in England, Northern Ireland and Wales, with further consultation underway about their application in Scotland).

These Standards are intended to be flexible, and recognize the benefit of 'local level, local trainers', and existing teaching programmes. Also setting the standard are the guidelines published by the Royal College of Nursing Travel Health Forum; Delivering Travel Health Services (2005).

I am a nurse at the British Airways Travel Clinics, based in London. I have responsibility for devising induction programmes for nurses new to the clinic. These have been running for several years and are individually tailored to reflect any previous experience. Each of the clinic staff is involved in these programmes. Our aim is to achieve a consistently high standard of care that is up to date with best practice.

I should like to use this presentation to illustrate our in house methods of teaching, areas covered, and how we continually try to evaluate and improve upon our training. I should like to broach subjects such as time needed to develop the necessary skills, what is feasible within the practical limitations, and keeping up to date with the wealth of information available on the Internet.

Abstract: P-18**ADVERSE EVENTS TO MEFLOQUINE IN CHINESE TRAVELLERS**

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Introduction

Mefloquine is an effective chemoprophylactic agent for malaria but reports of adverse events, especially neuropsychiatric adverse events, have limited its use. Our anecdotal observations in Singapore suggest that Chinese travellers appear to have less adverse events compared to Caucasian travellers. We conducted a prospective questionnaire survey to assess the incidence of adverse events due to mefloquine in Singaporean Chinese travellers.

Methods

We consecutively recruited adult Chinese travellers at the Travellers' Health & Vaccination Centre in Singapore eligible for Mefloquine, and did telephone interviews 4 to 0 days before departure and 14 days after return to Singapore. The questionnaire was directed towards adverse events, mood disturbance and feelings and perception of their quality of life, and compliance issues.

Results

Of the 146 recruited travellers, complete data of 129 persons were analysed. Compliance was 86%. Overall, 72 (55.8%) reported at least one adverse event of any severity; 23 (17.8%) reported at least one moderate adverse event and 5 (3.9%) reported at least one serious adverse event. There was no change in mood or quality of life. Neuropsychiatric adverse events were the most frequent, with 0.8% serious reactions, 14% moderate and 47% mild reactions. Insomnia and nightmares were the most common symptoms. No severe reaction occurred.

Conclusion

This pilot study indicates that neuropsychiatric adverse events may be less common in Chinese compared to Caucasian travellers as reported in a similar study by Schlagenhauf et al. A carefully designed double blind randomised larger study is now needed to confirm these findings and assess reasons for the lower rate of adverse events.

Abstract: P-19

IMPAVIDO (INN: MILTEFOSINE) FOR THE TREATMENT OF IMPORTED LEISHMANIASIS IN THE IMMUNE-COMPETENT AND THE IMMUNE-DEFICIENT TRAVELER

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The incidence of imported cases of leishmaniasis is increasing. In otherwise healthy travelers, migrants, and troops, cutaneous leishmaniasis is the predominant clinical manifestation, often contracted in Latin America or in the Middle East. Immune deficient travelers contract rather visceral leishmaniasis, eg. when traveling to Mediterranean countries. They may present also with atypical forms of cutaneous leishmaniasis. Mucocutaneous leishmaniasis in travelers is occasionally reported as well.

Introduced as the first oral drug against Kala azar in India, Impavido was safe and effective in additional trials conducted in cutaneous/mucocutaneous leishmaniasis in the New world and in the Old world. In HIV-co-infected patients Impavido was effective and safe, no drug interactions with antivirals and antibiotics were observed. Miltefosine has a direct leishmanicidal effect, and its action is independent from an intact immune system (Murray, 2000).

In addition, several reports on individual cases with special unusual characteristics were published. We present data on efficacy and safety of Impavido in the different species tested. We focus on its potential usefulness in Travel medicine, with special regard to the immune-deficient patient.

The oral application and confirmed safety of Impavido allows for home treatment, which reduces hospitalization costs and most of the patients do not have to interrupt work. Impavido is registered in Germany for the treatment of visceral leishmaniasis and cutaneous leishmaniasis. As current treatment options are connected with either toxicity, hospitalization and/or high costs, it appears that Impavido can be recommended as an alternative on the basis of its safety and efficacy.

Abstract: P-20**TREND OF TRAVEL ASSOCIATED HEPATITIS A AND ENTERIC FEVER IMPORTED TO THE UK AND PRESCRIBING OF HEPATITIS A PROPHYLAXIS AND TYPHOID IMMUNISATION BETWEEN 1990 AND 2004**

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To examine the trend in travel-associated hepatitis A infection (HAV) and enteric fever among UK residents and prescribing of prophylaxis against these between 1990 and 2004. The rates of travel associated HAV and enteric fever infection were calculated per 10,000 visits made and by years exposed, in UK residents to endemic areas, from surveillance reports. Numbers of visits to HAV and enteric fever endemic areas were supplied through ongoing passenger surveys.

Rates of imported HAV have declined steadily over the past 14 years. The highest rates were from the Indian Subcontinent with, in 1990, 6 cases per 10,000 visits falling to 0.03 per 10,000 visits in 2004. Adjusting the risk by time of exposure using length of stay, revealed the highest peak was in 1993, 1 case every 494 years exposed, down to 1 case every 35,676 years in 2005.

Rates of imported enteric fever were low and also showed a decline. The ISC was the most important source of enteric fever (>70% of cases) and had a rate of 6 cases per 10,000 in 1990 falling slightly to 2 cases in 2003 (1 case of enteric fever per 290 years exposed in 1993 and 1 in 475 years in 2003).

Rates of imported HAV and enteric fever are low and falling over the study period. The ISC is the most important source of both infections. Increased uptake of vaccines and decreasing transmission rates of infection in endemic areas could be contributing to this downward trend.

Abstract: P-21

PREFERENCE AND WILLINGNESS-TO-PAY STUDY TO ASSESS THE VALUE OF ANTIMALARIAL CHEMOPROPHYLACTIC MEDICATIONS USING DISCRETE CHOICE ANALYSIS: A STUDY OF TRAVELLERS FROM THE UK

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Objective

To assess the value of clinical and convenience benefits of atovaquone plus proguanil (At+Pro, Malarone®), relative to doxycycline (Dxy), from travellers to destinations considered high-risk for chloroquine-resistant falciparum malaria.

Methods

Strength of preference and willingness-to-pay (WTP) measures were estimated using a standard recognised methodology known as discrete choice analysis. This was based on attributes that distinguish At+Pro from Dxy, namely post-travel dosing duration, adverse side-effects (skin photosensitivity, vaginal candidiasis*), advice regarding additional contraception need if using contraceptive pill* and cost. Respondents included 373 travellers to high-risk destinations who had used antimalarial chemoprophylaxis for their trip. All respondents were asked to select their preferred profile of chemoprophylaxis scenarios from each of 10 pairs designed to illicit relevant trade-offs between the general (non gender-specific) attributes. Female respondents additionally received a set of scenarios incorporating both general and female-relevant attributes. (* = female-relevant attribute)

Results

Considering the general attributes alone, eligible responders (n=349) were willing-to-pay £74.93 [95%CI: 54.95-95.70] per full course for a 2-week trip for At+Pro compared to £20 for Dxy. Considering the female-relevant attributes in addition, eligible female responders (n=232) were willing-to-pay £122.90 [95%CI: 87.39-153.16] for At+Pro. Dosing and side-effect attributes were significant drivers of choice. Regression analyses estimated that 70% of all respondents and 78% of females would choose At+Pro over Dxy with no additional cost, based on the general attributes and the general plus female-relevant attributes, respectively.

Conclusions

This study indicated significant consumer preference and a WTP for the clinical and convenience benefits of At+Pro, relative to Dxy.

Abstract: P-22**TREATMENT OF TRAVELERS' DIARRHEA: RIFAXIMIN, RIFAXIMIN PLUS LOPERAMIDE OR LOPERAMIDE ALONE**

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The study was conducted to compare the efficacy of poorly absorbed rifaximin (R) and loperamide (L) or R plus L in the treatment of diarrhoea in U.S. students in Mexico. Treatments were R 200 mg TID for 3 days (n=102), L 4 mg initially then 2 mg after each unformed stool £ 8 mg/day for 48 h (n=104) or the combination R/L (n=104). The major causes of illness were diarrheagenic *Escherichia coli* found in 52% of cases. During day one of treatment the median number of unformed stools passed favoured the two L groups (p = 0.002). The median number of unformed stools passed during day two and three was lowest in those receiving R/L treatment (p = 0.0023 and 0.0002). Median time from first dose of drug until passage of last unformed stool after which subjects were well (measurement of cure) was shorter with both R-regimens: R 33.00 h; R/L 27.30 h compared with L: 69.00 h (p = 0.002). R/L treated subjects reported wellness in a significantly greater percentage on day 1 (p = 0.14), day 2 (p = 0.016), day 3 (p = 0.01) and day 4 (p < 0.0001). While L conferred rapid initial improvement in diarrhoea, it was associated with more abdominal pain and vomiting (p = 0.004 and 0.017 respectively) without clinical cure. L/R treatment combined rapid improvement with clinical cure and may be the optimal treatment for non-dysenteric travellers' diarrhoea.

Abstract: P-23

TRAVEL RELATED MALARIA IN GREECE (2001-2005)

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Introduction

Malaria is a mandatory notifiable disease in Greece since 1950. The aim of this study is to present recent epidemiological data about malaria in Greece.

Methods

Malaria cases in Greece are reported to HCDPC through the mandatory notification system. The notification form, introduced in 1998 and updated in 2003, comprises demographic data, risk factors, clinical and laboratory data. A descriptive analysis of the data is presented.

Results

From 2001 to 2005, 151 cases of malaria were reported; 85% males; mean age 35 years old. Cases appear to have a seasonal distribution, presenting a peak on January and another one during summer. 143 (94,7%) cases were travel related, most of them having visited Africa (71%). According to laboratory data, the majority of infections was due to *P. falciparum* (56%), followed by *P. vivax* (29%), *P. ovale* (3%) and *P.malariae* (1%). 3% of the cases were attributed to mixed infection, while in 7% the responsible agent was unknown. Data on chemoprophylaxis were available for only 46 cases out of the 53 cases reported since the relevant field was added. Only 5 cases have used chemoprophylaxis; 2 reported incomplete use and one the use of quinine.

Conclusions

Almost all cases of malaria in Greece during the last 5 years are imported. Lack or inappropriate use of chemoprophylaxis seems to be an important risk factor. This may be due to limited travel medicine infrastructure as well as to a deficit in travellers' health education.

Abstract: P-24**MALARIA IN BELARUS: INDEPENDENT FACTS OR PARTS OF COMMON TENDENTIOUS**

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Malaria eradicated from Belarus in the middle of XX century, but approximately 12 cases occur every year in travellers returning or arriving to Belarus from malaria-endemic countries. In particular, malaria represents the main threat for travellers to tropical and sub-tropical countries. During the last decade 83% cases of malaria were imported from sub-Saharan African countries. A preliminary diagnosis was typically made by the local laboratory, and thin/thick smears were sent to a central laboratory, where they were reviewed within 2–48 hours. Atypical and subtle presentations were especially common in individuals who had partial immunity (e.g., immigrants and refugees from disease-endemic areas) or were taking malaria prophylaxis. *Plasmodium falciparum* was responsible for all of complicated cases of disease (cerebral malaria, renal failure, the acute respiratory distress syndrome, anemia, disseminated intravascular coagulation).

Chemoprophylaxis remains a primary means of prevention when travellers go to malaria endemic areas, but none of our patients had taken malaria prophylaxis. Our findings suggest that screening for malaria should be considered for immigrants and travellers from malaria-endemic regions and further emphasize the importance of continued education of both medical and laboratory staff about imported malaria.

Abstract: P-25

TERTIAN MALARIA (*PLASMODIUM VIVAX* AND *PLASMODIUM OVALE*) IN TRAVELLERS DESPITE ATOVAQUONE-PROGUANIL

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Plasmodium vivax the most common cause of late onset malaria. Atovaquone/proguanil (A-P) is effective for prevention and treatment of *P. falciparum* but there is limited data regarding its causal activity against non-*P. falciparum* malaria. There is only a handful of case reports on western travellers with *P. vivax* or *P. ovale* malaria in spite of A-P prophylaxis. To date, very few cases of genetically confirmed resistance to A-P have been reported, all associated with treatment failure. Two cases of tertian malaria in travellers taking atovaquone-proguanil for prophylaxis are presented.

Case1

56-year-old male presented with fever two and a half months after return from a 1 month trip to Papua-New Guinea. He took atovaquone-proguanil as prophylaxis, following the standard recommendations. Blood films showed *P. vivax*. PCR confirmed the diagnosis and genome sequencing found no mutations associated with resistance to A-P. He was treated with artesunate and pyrimethamine-sulphadoxine followed by primaquine. Control analysis were negative.

Case2

49-year-old male spent two weeks in Cameroon. He took A-P correctly as prophylaxis and consulted 4,5 months after return because of fever. Blood films showed *P. ovale*, confirmed by PCR. Genome sequencing was not possible. He received cloroquine but total deficiency of G6PDH contraindicated the use of primaquine as radical cure. Posterior analysis were negative and he remains asymptomatic.

Conclusion

P. vivax and *P. ovale* tertian malaria is possible in western travellers despite A-P prophylaxis. Probably this might not be due to drug resistance but to limited causal activity against these species.

Abstract: P-26**ENHANCED SURVEILLANCE OF ENTERIC FEVER IN ENGLAND AND WALES: A PILOT STUDY.**

J Jones, J Lawrence

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Enteric fever, caused by *Salmonella enterica* serovars Typhi or Paratyphi A, B, or C, is a systemic infection transmitted via the faecal-oral route. Both typhoid and paratyphoid are endemic in parts of the world where sanitation and food hygiene is poor, usually low-income countries. The World Health Organization estimated in 2004 that annually there are 21 million cases with 217,000 deaths, and 5 million cases of paratyphoid. Enteric fever occurring in high-income countries is usually associated with travel to endemic areas. Typhoid (though not paratyphoid) is vaccine-preventable and there has been some debate among travel medicine experts in the UK about how typhoid vaccine is used and its cost-effectiveness.

In England and Wales, enteric fever has been increasing at an average rate of 2.5% every year since 1996 and was 18% higher in the five years between 2001 and 2005 compared with the period 1996 to 2000. There is, however, limited information about specific 'at risk' groups from routine laboratory reporting, travel history information is only available for two thirds of all reports of enteric fever, and no information is routinely available about vaccination uptake among cases.

A pilot of enhanced surveillance of enteric fevers in England and Wales has been developed. The pilot surveillance tool will be presented and discussed. It is expected that the results will guide future surveillance development to provide information about risk groups and contribute to the evidence base for pre-travel advice.

Abstract: P-27

SURVEILLANCE OF TRAVEL-ASSOCIATED INFECTIONS TO 2004, ENGLAND, WALES, AND NORTHERN IRELAND.

J Lawrence, J Jones

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Since 1984, foreign travel by UK residents has increased by an average of 5.6% each year. In 2004, there were 64.1 million visits abroad, the majority (75%) to the European Union (EU). Visits to more tropical climates such as Africa, Asia, the Caribbean, and Latin America have increased by an average annual rate of 9% since 1995 compared to 5% for the EU.

Since 2003, imported infections in England, Wales and Northern Ireland have been monitored through routine and enhanced surveillance systems at the Health Protection Agency. Reporting of travel history varies widely for different infections, making trend interpretation difficult and can limit the usefulness of these data in informing public health action/pre-travel advice. For example, in 2004, only 12.3% of all laboratory reports of gastrointestinal infections and 1.6% of laboratory reports of hepatitis A provided information about recent travel abroad. On the other hand, enhanced surveillance of malaria produces very good quality information. In 2004, 1616 cases of malaria were imported into the UK; 80% of those had country of acquisition, nearly half of which had been imported from West Africa. Information such as reason for travel and ethnicity is also available for malaria, which really helps to target pre-travel health advice; this type of information is missing from routine surveillance systems.

With the continued increase in foreign travel, routine surveillance systems need to be enhanced to include demographic information with more complete travel history reporting in order to improve the evidence base for pre-travel advice.

Abstract: P-28**Q FEVER IN INTERNATIONAL TRAVELLERS TO THE TROPICS**

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Ramón y Cajal Hospital, Madrid, Spain

Objective

To study the role of *Coxiella burnetti* as imported disease in travellers.

Patients and methods

Retrospective, descriptive study of imported Q fever in a cohort of travellers seen in a referral Travel Medicine Unit in the past 10 years. Diagnosis was confirmed by presence of IgM and IgG using IFAT and CFT.

Results

5 cases (4 males). Average age 29.4 years (range 22-33). Average stay was 24.4 days (range 5-60). Countries visited: Mozambique, Philippines, Kenya, Venezuela/Dominican Republic and Ivory Coast/Burkina Fasso. Two patients in contact with animals, none had taken non-pasteurised milk. Clinical presentation: 4 headache, 1 meningeal symptoms (and lumbar puncture normal), 1 arrhythmia (and was treated with digitalis), 5 enlarged liver and/or spleen. Laboratory tests: 5 thrombopenia, 5 abnormal liver function test. Chest X-ray was normal in all. Four patients were treated with doxycycline and 1 with ciprofloxacin. Clinical outcome was satisfactory.

Discussion

Though it has a worldwide distribution, Q fever is very uncommon in travellers. There are no more than 30 cases described in the last 30 years. Surprisingly, of all countries visited only Ivory Coast and Burkina Fasso are endemic. Clinical presentation was typical, with no cases of respiratory disease and with one case of acute myocarditis. The presentation with fever without focus, headache, abnormal liver function tests and thrombopenia could suggest other tropical diagnosis like malaria, dengue or enteric fever.

Abstract: P-29

HISTOPLASMOSIS: AN EMERGING DISEASE IN EUROPE, IMPORTED BY MIGRANTS AND TRAVELLERS TO ENDEMIC AREAS

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Objective

to analyse the clinico-epidemiological features of imported histoplasmosis diagnosed in a reference unit.

Material and methods

retrospective, descriptive study of imported histoplasmosis in a cohort of migrants and travellers seen in a referral Travel Medicine Unit during the period January 1996-November 2005.

Results

Eight patients. Demographic characteristics: 25% female, average age 33.5 years old (range 26-59). Two were African migrants (Equatorial-Guinea and Liberia) and the others were Spanish travellers to Central America. Clinical characteristics: 3 patients, the two migrants and a Spanish expatriate in Mexico, were HIV-positive. Epidemiology: all patients referred some type of epidemiological risk. Three had visited caves inhabited by bats, one had been in contact with birds, one worked in agriculture and the rest, the two migrants and an expatriate, came from endemic areas. Clinical presentation: four presented pulmonary disease in the acute primary variant (fever 100%, dyspnoea 50%, non-productive cough 50%, chest pain 50%) and the other four presented the progressive disseminated variant (hepatomegaly 100%, normocytic anemia 100%). Diagnosis: positive serology in 5 patients. Biopsy culture samples yielded *Histoplasma capsulatum var capsulatum* in 3.

Treatment

six patients were treated, 3 with Amphotericin B, all with disseminated forms, and the others with itraconazole. Two of the patients with the acute pulmonary variant did not require treatment.

Clinical outcome

Two patients died, both were HIV-positive and had progressive disseminated variants.

Absrtact: P-30**NEUROCYSTICERCOSIS IMPORTED TO ISRAEL - A NATION WIDE STUDY.**

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Introduction

Taenia solium infestation, is endemic in developing countries. Infection of the central nervous system results in neurocysticercosis (**NCC**), and is the most common cause of seizures in the developing world. NCC is increasingly diagnosed in developed countries due to growing population of immigrants and travelers. No data are available regarding the prevalence of NCC diagnosed in Israel and the incidence among travelers to endemic areas.

Methods

A nation-wide survey was conducted in which all major hospitals in Israel were contacted. All cases of cysticercosis were documented. Data regarding place of acquisition, symptomatology, imaging results, and other diagnostic procedures were collected.

Results

During the years 1995-2005, 10 cases on NCC were diagnosed.

5 of the cases were found among Israeli travelers to endemic countries, and another 5 cases were diagnosed in immigrants from endemic areas.

Presenting symptoms were seizures in 50% of them. Diagnosis was frequently made by brain imaging, but serology was also used, and in two cases a brain biopsy was made.

Discussion

NCC has become a greater concern also in developed countries due to the large population of travelers and immigrants.

Since acquiring cysticercosis is via contaminated food with *T. solium* eggs, as other fecal-oral transmitted diseases, we would expect infection rate to be as high as other fecal-oral transmitted diseases. However, our data show much lower numbers.

High suspicion should rise when an individual first presents with neurological manifestations after visiting an endemic area. Physicians' awareness of the unique imaging findings could prevent unnecessary invasive procedures.

Abstract: P-31

EXCESS RISK OF HCV AMONG GLASGOW'S PAKISTANI POPULATION

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Introduction-In Scotland, most Pakistanis (17,964) live in Greater Glasgow (population 867,000). Hepatitis C specialists in Glasgow have reported caring for “unusually large numbers of Pakistanis”. Accordingly, we sought to ascertain if Glasgow’s Pakistanis were more likely to be diagnosed with HCV than the rest of the city’s population (86% Scottish).

Methods

All diagnoses of HCV are held on a database at Health Protection Scotland; data recorded, include area of residence, risk status and country of HCV acquisition. Diagnoses among Greater Glasgow NHS Board’s residents for which Pakistan was indicated as relevant, were identified. Rates of diagnoses among the city’s Pakistanis were compared with those among non-Pakistanis by applying numerator (HCV diagnosis, to June 05) to denominator (population census) data.

Results

Of 7058 HCV diagnoses in Glasgow, Pakistan was indicated as a risk for 70. Two of the 70 (2.85%) compared to 4640 of the remaining 6988 (66%) were known injecting drug users. 93% of the 70 were PCR positive and, of 37 with a known genotype, 36 were type 3 (the predominant strain in Pakistan). Excluding known IDUs and haemophiliacs, 0.4% (69/17,964) of ethnic Pakistanis and 0.26% (2265/849,186) of non-Pakistanis were known to have been HCV infected; for persons over 50, the corresponding rates were 1.2% (23/1974) and 0.11% (318 /275614), respectively.

Conclusion

In Glasgow, older Pakistanis are tenfold more likely to have known HCV infection than non-Pakistanis. Studies to determine i) the prevalence of HCV among the UK’s Pakistani population and, ii) the risk of HCV acquisition among Pakistanis visiting Pakistan, are required.

Abstract: P-32**CHAGAS DISEASE, AN EMERGING DISEASE IN BOLIVIAN MIGRANTS TO SPAIN**

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Introduction

There has been an increase in migrants from Bolivia to Spain, estimated to be >50,000 nowadays. Bolivia has the highest prevalence of Chagas disease in the South Cone: 8.3% of blood donors and up to 50% of pregnant women.

Objective

To describe the clinico-epidemiological features of the disease in a cohort of Bolivian migrants attended in a referral unit.

Material and methods

Retrospective, descriptive study of migrants from Bolivia attended at the Ramón y Cajal Hospital in Madrid, during 2003-2005. A diagnostic protocol was applied using serology (IFAT and ELISA) and parasite genome amplification by PCR and visceral damage using CxR, EKG, echocardiography, barium enema, esophagic manometry and electromiography.

Results

24 patients were detected, all originary from the Departamentos of Cochabamba and Santa Cruz, 70.4% females, average age 28.7 years (range 24-69). Average time till first visit since arrival to Spain: 29.5 months. 12 (50%) had already been diagnosed in their country. 18 (75%) referred home contact with the vector and 3 (12.5%) had received blood transfusions. Serology was positive in all cases (100%) and in 9 (37.5%) parasite genome was amplified in the blood. 10 (41.7%) presented congestive heart failure (dyspnoea/orthopnea, edema), 7 (29.2%) symptoms suggesting esophagic disease, 6 (25%) constipation, 2 (8.3%) palpitations, 2 (8.3%) paresthesias, and 1 (4.2%) chest pain. 6 (25%) had evident heart damage (6 arrhythmia, 3 dilated cardiomyopathy) and none had other visceral involvement. No correlation was found between visceral damage and PCR positivity. 5 (20.8%) received benznidazole (5mg/kg/day) for 60 days.

Abstract: P-33

TUBERCULOSIS IN FOREIGN-BORN PERSONS; ENGLAND AND WALES, 2003:

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In common with many other industrialised countries, a large proportion of tuberculosis cases in the UK occur in people who were born abroad. In 2003, 6780 cases of tuberculosis were reported to the enhanced surveillance system for tuberculosis in England and Wales. This represents a rate of 12.8 per 100,000 population. Of those, a place of birth (UK vs. abroad) was reported for 6139 cases. Seventy percent (4315) of those were foreign-born persons. The tuberculosis rate was 23 times higher in the foreign-born population compared to those born in the UK (90.9 vs. 3.9 per 100,000). Where information on country of origin was available (96% of foreign born cases), 45% of cases originated from South Asia and 38% from sub Saharan Africa. Of all UK born cases, 73% had pulmonary tuberculosis. Foreign born persons were generally less likely than this to have pulmonary tuberculosis, though this varied with country of origin (e.g. central and west Europe 75% and 70% respectively, sub Saharan Africa 55% and South Asia 43%). The proportion of pulmonary cases with a positive sputum smear (infectious pulmonary disease) was also lower among foreign born cases than the UK born (59% vs 66%). The highest rates of disease in the foreign-born occurred in those having entered the UK less than two years prior to diagnosis. Seventy three percent of cases in 2003 however entered the country more than 2 years prior to diagnosis. The implications of these data for public health response will be considered.

Abstract: P-34**IMPORTED VISCERAL TOXOCARIASIS: STUDY OF 14 CASES**

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Objective

To analyse the clinico-epidemiological features of imported toxocariasis diagnosed in a referral Tropical Medicine Unit.

Material and methods: retrospective, descriptive study of imported toxocariasis in a cohort of migrants from tropical areas. Period: January 1989-December 2005.

Results

14 patients (13 females); average age 18.9 years (range 4-45). Origin: 4 Ecuador, 3 Equatorial- Guinea, 3 Dominican Republic, 2 Bolivia, 1 Nicaragua, 1 Colombia. Presentation: a) Respiratory syndrome: 57% (8/14: 3 asthma, 2 asthma and cough, 1 asthma and dyspnoea, 1 dyspnoea and eosinophilic pneumonia, 1 cough); b) Dermatological syndrome: 36% (5/14: 4 urticaria, 1 atopic dermatitis); c) Abdominal syndrome: 28% (4/14: 2 abdominal pain, 2 hepatosplenomegaly); d) Other syndromes: 28% (4/14: 2 asthenia with eosinophilia, 1 joint swelling, 1 asymptomatic with eosinophilia). Blood tests: eosinophilia (> 500 cells/ml) in 86% (12/14). Parasitological diagnosis: anti-*Toxocara* detection using ELISA in all cases. Treatment: 5 received albendazole, 3 diethylcarbamazine, 2 ivermectin, 2 albendazole + ivermectin, 1 mebendazole + ivermectin y 1 diethylcarbamazine + albendazole. Clinical outcomes and control at 6 months: 11/12 decrease in eosinophilia (1 had no post-treatment control analysis), 10/14 decrease in antibody titers (4 without second serology), 13 with resolution of all symptoms and 1 with outstanding improvement.

Conclusions

Visceral toxocariasis (*visceral larva migrans*) should be considered in the diferencial diagnosis of eosinophilia in migrants from tropical areas both children and adults, specially if they present cutaneous or respiratory symptoms.

Abstract: P-35

CLINICO-EPIDEMIOLOGICAL FEATURES IN MIGRANTS ATTENDED IN A REFERRAL TROPICAL MEDICINE UNIT

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Material and methods

Descriptive, retrospective study of a cohort of migrants from tropical areas attended in a referral Tropical Medicine Unit. Period: 1990-2005.

Results

1611 migrants, 847 (53%) males. 219 (14%) were less than 15 years old and 1392 (86%) were adults; average ages were 8 (range 1-14) and 33 years (range 15-82), respectively. Origin: 1131 (70.2%) Sub-Saharan Africa (541 Equatorial-Guinea), 383 (23.8%) Latin-America, 43 (2.7%) North Africa, 42 (2.6%) Asia, 13 (0.8%) Eastern Europe. Average time from arrival to Spain till first visit was 2 years. 184 (11.4%) consulted for a check-up. Symptomatic patients presented: 482 (30%) fever, 439 (27%) cutaneous symptoms, 369 (23%) gastrointestinal symptoms, 282 (18%) respiratory symptoms and 191 (12%) urogenital symptoms. Diagnoses: Sub-Saharan Africa: 315 (27.9%) filariasis, 289 (25.6%) latent tuberculous infection, 186 (16.4%) malaria, 140 (12.4%) intestinal parasitosis, 77 (6.8%) chronic hepatitis B (HBV), 74 (6.5%) hepatitis C (HCV), 51 (4.5%) sexually transmitted diseases, 42 (3.7%) VIH, and 28 (2.5%) active tuberculosis. Latin-America: 73 (19.1%) latent tuberculosis infection (LTI), 45 (11.7%) intestinal parasitosis, 44 (11.5%) non-parasitic diseases, 28 (7.3%) active tuberculosis, 25 (6.5%) Chagas disease, 15 (3.9%) malaria, 5 (1.3%) VIH. North Africa: 19 (44.2%) LTI, 4 (9.3%) active tuberculosis. Asia: 9 (21.4%) LTI, 9 (21.4%) intestinal parasitosis, 6 (14.3%) malaria, 3 (7.1%) active tuberculosis, 2 (4.8%) chronic HBV, 2 (4.8%) HCV, 1 (2.4%) VIH. Eastern Europe: 3 (23.1%) active tuberculosis, 2 (15.4%) LTI. 14% (224 cases) of all migrants presented a self-limited process or were in good health.

Abstract: P-36**DENGUE IS THE MOST FREQUENT CAUSE OF FEVER IN HOSPITALISED IMMIGRANTS IN SINGAPORE**

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Introduction

Hundred thousands of immigrants work as manual labourers in Singapore. We did a prospective study in foreign workers hospitalised for fever.

Methods

From November 1998 to May 2000 all immigrant workers who were admitted to the Communicable Diseases Centre in Singapore for investigation of febrile illness were enrolled.

Results

298 foreign workers were included, mean age was 28.4 years, 83% were male. 35% were from India, 27% from Bangladesh, 21% from China, 8% from Indonesia. 62% were construction workers. 74% had been in Singapore for more than 3 months.

The most frequent diagnosis was Dengue fever (42%), followed by malaria (23%) and typhus (12%). 24% were classified as miscellaneous aetiology (typhoid fever, mumps, measles, viral hepatitis, pneumonia, others). Dengue fever developed after a mean stay of 20 months (range 1-84) in Singapore, malaria after 10 months (range 1-108), Typhus after 21 months (range 1-60). Most malaria cases were from India, 84% were *P. vivax*. All cases with Typhus (95% murine typhus, the rest scrub typhus) were male construction workers.

Discussion

The high incidence of Dengue fever in foreign workers is in keeping with national data that Singapore is a dengue endemic country. Despite malaria screening for all foreign workers at entry into Singapore, malaria occurred in 69 patients, in the majority Vivax malaria in immigrants from India. This is most likely due to relapse rather than new acquisition as Singapore is officially malaria free. All cases of murine typhus were found in construction workers, a profession known to have epidemiological risk factors of exposure to rodents.

Abstract: P-37

CROSS-BORDER TRUCK DRIVERS IN HONG KONG: THEIR PSYCHOLOGICAL HEALTH, SEXUAL DYSFUNCTIONS AND SEXUAL RISK BEHAVIOURS

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Background

Due to their job nature, cross-border truck drivers working between Hong Kong and China are exposed to many health risks. The aim of this study was to find out the impact of their occupation on their psychological health and sexual dysfunction, and to assess their sexual risk behaviours.

Methods

A cross sectional survey of 193 male cross-border truck drivers was conducted in 2004 using a 47-item multifaceted questionnaire. Descriptive statistics and Chi square tests were used for analysis.

Results

One third of the respondents (31.21%) experienced road traffic accidents (RTAs), and those who had 'drink and drive' were much more likely to experience RTAs (odd ratio [OR] 4.68, 95% confidence interval [CI] 2.33-9.41). 14.51% and 25.91 % of respondents reported feeling depressed and anxious respectively while 24.08% reported sexual dysfunction. They were strongly related to smoking (OR 2.79, 95%CI 1.35-5.74) and drinking habits (OR 2.27, 95%CI 1.15-4.47), which was common in this group of men: About half of them had smoking (53.12%) and drinking habits (45.31%). Over half (51.00%) admitted risky sexual behaviours. Those engaged in these behaviours were more likely to feel depressed (OR 7.39, 95%CI 2.44-22.36) and be worried contracting sexually transmitted infections (STIs) (OR 5.29, 95%CI 2.73-10.26) or HIV (OR 3.80, 95%CI 1.99-7.26).

Conclusion

The problems of poor psychological health, sexual dysfunction and sexual risk behaviours are common among cross-border truck drivers in Hong Kong. These problems are also found to be interrelated. Community programs to promote psychological health and proper sexual values, reducing smoking and drinking, and educated on STIs/ HIV are urgently needed.

Abstract: P-38**DIARRHOEA PATIENTS WERE MINIMAL AMONG TSUNAMI DISASTER DISPLACED**

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Background

Epidemics of water borne disease were anticipated with the massive tsunami disaster of 2004. To provide a more realistic picture of infectious diarrhoea and medical needs created by tsunami disaster and to enable better prepared medical response for further assistance in current and future disasters of this type, medical relief and investigation about potable water were done.

Method

2 Korean medical relief teams were deployed to Southern Sri Lanka from the 1st week to 3rd week of the tsunami disaster. Along the disaster medical relief, potable water situations of the displaced were investigated. Medical records of treated victims of tsunami disaster in refugee camp were analyzed.

Results

Total 4,710 people were treated by 2 Korean medical relief teams for 9 days of operation in southern Sri Lanka. Although epidemics of water borne diarrhoea diseases such as cholera or typhoid fever were expected, only 4.3 isolated patients per day with diarrhoea were identified. The incidence rates of diarrhoea were not different by the date from the tsunami disaster.

Conclusions

With the provision of adequate quantities of portable water, the likelihood of water borne communicable disease is low until 3rd week from the tsunami disaster.

Abstract: P-39

SEROPREVALENCE OF TOXOPLASMA GONDII INFECTION AMONG INHABITANTS IN THE DEMOCRATIC REPUBLIC OF SAO TOME AND PRINCIPE, WESTERN AFRICA

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Objective

Status of *Toxoplasma gondii* infection among inhabitants of the Democratic Republic of Sao Tome and Principe (DRSTP), Western Africa, is unknown to date.

Methods

A serologic survey of *T. gondii* infection among inhabitants who visited National Central Hospital in the Sao Tome Island in the DRSTP was assessed by the latex agglutination (LA) test from November 2003 to March 2004.

Results

The overall seroprevalence of *T. gondii* infection was quite high, reaching 74.5% (120/161). No significant gender difference in seroprevalence was found between male (68.3%, 41/60) and female (78.2%, 79/101) ($\chi^2 = 1.94$, $P = 0.16$). The older age group of 45 years had significantly higher seroprevalence (80.0%, 28/35) than that of the younger age group of < 15 years (20.0%, 3/15) ($\chi^2 = 16.04$, $P < 0.001$).

Conclusion

Our study is the first report indicating the *T. gondii* infection is prevalent in the DRSTP inhabitants. People who visited the DRSTP should be aware of avoidance of being infected with *T. gondii* due to poor environmental hygiene.

Abstract: P-40**TRAVEL MEDICINE, AS A NEW SEGMENT IN THE INSURANCE MEDICINE IN HUNGARY**

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In 2004, during the IXth. Congress of Hungarian Insurance Physician, an important decision had been made on the acceptance of Travel Medicine, as a separate medical sub-specialty within the framework of the Insurance Medicine. Since than the TM science has achieved an outstanding success: it has become a subject in the medical school.

This breaking-through decision made the road open for the travel medicine as a medical science in Hungary. In the same year, the basic knowledge of the travel medicine has already been educated as a part of the postgraduate course for the candidates for Insurance medicine specialty. The first publications has already been appeared, as well.

The author of this presentation is the first lecturer on this topic in Hungary. We consider the Travel Medicine a most important knowledge for the young generation of doctors, because after the Hungary's joining to EU. growing number of Hungarian tourists, and the possible refugees and migrants arriving to Hungary is expectable.

The Travel Medicine as a specialty did not exist in Hungary before. Our task to built up an international connections, a local scientific basic of the topic, including education and facilities. We also must adapt the current scientific results to the special local conditions and traditions.

This presentation tells not only the story of the birth of Travel Medicine in Hungary, but gives a brief information on present situation and the initial results. It would be interesting for the northern European countries' expert as well, taking into consideration of the growing number of tourists coming from there.

Abstract: P-41

PSYCHOSOMATICS STUDY OF OVERSEAS JAPANESE

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Recently, Japanese workers are increasing in foreign countries. But, all workers are not pleased with the overseas assignment, because some people experience the loss of experience by the move to foreign countries and some people go to foreign countries by relegation. Therefore, the person who has the psychosomatic disease is not rare in overseas Japanese. In this time, we studied psychosomatic conditions of overseas Japanese (male 59, female 34) in the Arabian Peninsula. And neurosis and psychosomatic disease were analyzed by the Conell Medical Index (CMI) and General Health Questionnaire (GHQ). The results were as follows: By CMI analysis, normal group was 87% and neurosis group was 13%. By GHQ (12 items) analysis, 3 points under group (normal group) was 74%. 4 points over group (neurosis group) was 26%. Especially, the persons, who did not want to go to their assignment countries, had the psychosomatic diseases, significantly. Therefore, overseas Japanese need to support for stress management from their employer.

Abstract: P-42**THE FINNISH SOCIETY FOR INTERNATIONAL HEALTH**

Katja Mänttari, Arja Burgos, Leena Välikangas, Heli Siikämäki, Taneli Puumalainen, Ahti Vainio

The Finnish Society for International Health, Helsinki, Finland

The Finnish Society for International Health (FSIH) was founded in 1982 to promote Finnish education and research in international health and travel medicine. The Society was originally named (in Finnish: David Livingstone -seura) after Dr. David Livingstone to emphasise the spirit of explorers in improving the health of humankind. The Society's 200 members include medical doctors and other health and/or development cooperation experts. Most members have extensive experience in working abroad in government or I/NGO –related health sector development duties.

The FSIH organises several different training courses and lectures. The first course on Medicine in the Developing Countries, held in 1982 has since been repeated bi-annually. The course lecturers have included prominent national and international professionals such as our former president Mr Martti Ahtisaari. The Society also organises, together with other Finnish healthcare organisations and universities, Global Health courses for medical students and graduates from Finland, Chile, Nigeria, Tanzania and the Philippines. Travel medicine has been addressed annually in training workshops in the Finnish National Medical Congress as well as in various expert courses.

The FSIH is a member of the Federation of European Societies for Tropical Medicine and International Health as well as national organisations such as the Finnish Service Centre for Development Cooperation.

Learn more from the Finnish Society for International Health through www.fsih.fi or by contacting Society's President Dr. Taneli Puumalainen taneli.puumalainen@ktl.fi or Secretary Dr. Ahti Vainio ahti.vainio@mehilainen.fi

Abstract: P-43

TRAVEL AND TROPICAL MEDICINE IN THE FAMILY PHYSICIAN PRACTICE IN SLOVENIA

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Whether travel is for business or pleasure, it must be planned and studied carefully in advance, considering all possible risk factors. The adoption of proper guidelines for travellers is of great importance. They enable travellers to get rational and practical advice from their family or general practitioners. Advice about using a traveller's medical kit is also of special importance. In world medicine, family practitioners increasingly concern themselves with travel medicine, as they are very familiar with their patients who travel. Therefore, they must be aware of the basic principles of travel medicine and information about travel medicine must be accessible to them. They should also cooperate with their colleagues on issues related to travel medicine.

Abstract: P-44**HOW TO PREDICT WHETHER JAPANESE PEOPLE TRANSFERRED TO FOREIGN COUNTRIES FEEL INCONVENIENT OR NOT?**

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Introduction

The total number of Japanese workers and their families staying in foreign countries is about 900,000 in 2003. Some of them feel inconvenient in their new circumstances and get mental illness, such as neurosis and depression.

Methods

We investigated their feeling by using self-administered questionnaire. It contained several questions about their circumstances, and two psychological tests, 12-item General Health Questionnaire (GHQ-12) and the Center for Epidemiologic Studies Depression Scale (CES-D). The statistical difference was determined by Mann-Whitney's U test or X^2 test followed by logistic regression analysis to identify the variables that make Japanese people feel inconvenient.

Results

One thousand and four hundreds and forty-five people (868 males, 577 females) filled out this questionnaire. Using monovariate analysis, "region of transference", "satisfaction of work", "satisfaction of domestic life", "ability of language", "marital states", "length of transference", "motivations for transference", "GHQ score", and "CES-D score" were related to the feeling of inconvenient in male cases. And in female cases, almost same variables were related except "length of transference". Using logistic regression analysis, "motivation for transference", "marital states", "satisfaction of domestic life", "ability of language", and "GHQ score" were significantly related in male cases. In female cases, "Region of transference" and "motivation for transference" were related.

Conclusion

Male and female are in different circumstances. In male cases, it is important whether they easily live in new circumstances or not. In female cases, most of them are housewives, it is important whether they want to live in that region or not.

Abstract: P-45

TRAVELLER DIARRHOEA. ETIOLOGICAL STUDY IN A TROPICAL MEDICINE UNIT.

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Introduction

International travels are continuously increasing. 12 millions Spaniards travelled abroad last year; 900.000 went to tropical countries. Over 10% of travellers went to doctor's at their return. Diarrhoea was the most frequent cause (over 40%).

Material and method

37 patients were under study, between October 2005 and January 2006, showing diarrhoea after a travel to the tropic. Final travel destination by continent was 22 (59,4%) to Africa, 8 (21,6%) to Asia and 7 (18,9%) to Latin America. 3 faeces samples were collected from all of them, and microbiological study was done.

Results

100% exhibit diarrhoea, with a duration <7 days in 8 cases (21,6%), between 7-30 days in 14 cases (37,8%) and ≥30 days in 15 cases (40,5%). In 3 cases diarrhoea lasted more than 300 days. 20 cases (54%) developed no-invasive diarrhoea and 17 cases (46%) developed invasive diarrhoea. Fever in 14 cases (37,8%) and abdominal pain in 27 cases (72,9%) appeared as associated symptom.

Microbiological diagnostic: pure bacterial culture was obtained in 28 cases (75,6%): *Escherichia coli* 27 cases (72,9%), *Shigella flexneri* 1 case (2,7%). In parasitological study *Giardia intestinalis* (3 cases), *Entamoeba histolytica* (2 cases), *Cyclospora cayetanensis* (2 cases), *Cryptosporidium parvum* (1 case), *Blastocystis hominis* (5 cases), *Endolimax nana* (1 case) was obtained.

Conclusions

We confirmed *Escherichia coli* as the most frequent etiology. Microbiological study of faeces from travellers with diarrhoea arriving from tropical countries must be done to rule out potentially treatable bacterial and parasitological etiology. We cannot conclude that chronic diarrhoea are of parasitological etiology.

Abstract: P-46**PERSISTENCE OF ANTIBODY TITRES 10 YEARS AFTER PRIMARY AND BOOSTER VACCINATION WITH AN ALUMINIUM-FREE, VIROSOME-ADJUVANTED HEPATITIS A VACCINE**

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Objective

To determine the long-term protection induced after immunisation with an aluminium-free, virosome-adjuvanted hepatitis A virus (HAV) vaccine (Epaxal).

Methods

Adult volunteers (mean age 22 years) enrolled in a clinical trial in 1993 who completed a 0/12-month (primary/booster dose) immunisation regimen [1] were followed-up for 10 years after the booster. Anti-HAV antibody titres were measured yearly using an in-house EIA (Berna Biotech). The cut-off for seroprotection was set at ≥ 20 mIU/mL. Long term persistence of antibody titres was estimated using a linear mixed model of the log-transformed titre value assuming constant yearly decline rates over time [2].

Results

62 (30 f/ 32 m) of 117 subjects originally vaccinated with two doses of the HAV vaccine could be followed-up for 3-10 years post-booster. All subjects available for follow-up 3-5 years (n=28), 6-8 years (n=12), and 9-10 years (n=22) post-booster had anti-HAV antibody titres > 20 mIU/mL. Based on the model, titres of ≥ 20 mIU/mL were predicted to last for more than 30 years for 95% of vaccinees.

Conclusions

All subjects who received two doses of the virosome-adjuvanted HAV vaccine and were followed-up for up to 10 years remained seroprotected. The estimated long-term persistence of antibodies confirms a similar mathematical modelling performed for another study with this vaccine [3]. No additional booster seems necessary after the 0/12 month immunisation schedule in young adults.

References

[1] Ambrosch F, et al. Vaccine 1997;15:1209-13; [2] Bovier PA, et al. J Med Virol 2002;68:489-93; [3] Bovier PA, et al. Poster at 9th CISTM, Lisbon, 1-5 May 2005.

Abstract: P-47

CHOICE FOR & ADHERENCE TO A PROPHYLACTIC ANTIMALARIAL

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Aim

To assess the adherence behaviour of travellers prescribed a licensed antimalarial prophylactic and to investigate reasons for choice of antimalarial.

Methods

Travellers prescribed an antimalarial completed a baseline questionnaire to record their characteristics, opinions on malaria & antimalarial treatment, and reasons for therapy initiation/choice. Approximately a week after completing medication, travellers completed a post-travel questionnaire to assess adherence.

Results

252 travellers completed the baseline questionnaire; 182 (72%) completed both questionnaires, mean age 37 years, 57% male. Factors rated highly important by travellers when choosing an antimalarial were: effectiveness 84%; concerns about side effects 65%; doctor's/clinic's recommendation 63%; previous bad experiences 47%; convenience of doses 45%. Factors rated highly important for investigators when prescribing were: effectiveness 87%; concerns about side effects 64%; convenience of doses 56%; previous good (47%) & bad (41%) experiences. Cost was rated highly important by only 22% of travellers & 27% of investigators. A higher percentage of travellers choosing atovaquone plus proguanil (AP) compared to those choosing doxycycline (DOX) rated effectiveness, convenience of doses & concerns about side-effects as highly important. Median overall adherence was higher in the AP group (100% inter-quartile range (IQR): 87% to 106%) compared to the DOX group (84% IQR: 55% to 100%), which was statistically significant, $p < 0.001$.

Discussion

Travellers choosing atovaquone plus proguanil were more adherent with their medication than those choosing doxycycline. In addition, the results suggest that the choice of antimalarial was influenced by factors other than cost, particularly effectiveness, side-effects & convenience of doses.

Abstract: P-48**SYSTEMIC ADVERSE EVENTS AFTER YELLOW FEVER VACCINATION**

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Background

In Slovenia vaccination against yellow fever (YF) is performed in accordance with the International Health Regulations and recommendations of WHO. A live attenuated YF vaccine is used for vaccination. Our study's aim was to monitor adverse events after YF vaccination.

Methods: In July 2005 we conducted prospective study of adverse events in travellers receiving YF vaccine. We've administered a questionnaire to all travellers and asked them to send it back 2 weeks after vaccination.

Results

Till the end of the year 2005 a total of 117 out of 218 travellers vaccinated against YF responded (response rate: 53,7%). 32,5% of respondents did notice systemic reactions after vaccination, 65,8% of which reported malaise, 52,8% myalgia, 47,4% fatigue, 44,7% headache and 36,8% fever. Serious adverse events were not reported. In majority problems started 4 to 7 days after inoculation and lasted 1 to 3 days. There was no significant difference in rate of systemic adverse events regarding age and sex ($p=0,54$ and $p=0,55$). Travellers who received YF vaccine together with hepatitis A, typhoid fever or tetanus vaccine reported significantly more systemic reactions than those receiving only YF vaccine (95% CI 1,23 – 3,94; $p<0,05$).

Conclusions

Despite the limits of our study we noticed only slightly higher rate of systemic adverse events following administration of YF vaccine than stated in product data sheet. However, adverse reactions observed were mild. Neither age nor sex showed significant difference in occurrence of systemic adverse events. These were more frequent in travellers receiving two different vaccines at same time.

Abstract: P-49

INFLUENCE OF SEMI-STANDARDISED PRE-TRAVEL HEALTH ADVICE ON KNOWLEDGE AND PRACTICES OF INTERNATIONAL TRAVELLERS ATTENDING A TRAVEL CLINIC IN ANTWERP, BELGIUM

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Background

Little evidence exists on the impact of pre-travel health advice on knowledge and practices of international travellers.

Methods

International travellers attending the travel clinic were surveyed if they were 18 years or older, Dutch-speaking, travelling to a region endemic for hepatitis A, departing within two months for a journey up to three months and willing to participate. The survey focused on knowledge and practices regarding prevention of hepatitis A, hepatitis B, malaria and traveller's diarrhoea. Participants were assessed at three distinct points in time: in the clinic before and immediately after the pre-travel consultation, and after their return from travel. Both questionnaires taken at the travel clinic were self-administered, in presence of an investigator; the third questionnaire was a telephone interview. All travellers consulting this clinic receive semi-standardised pre-travel health advice.

Results

Among 231 participating travellers, 30% had been ill during travel. Transmission of travellers' diarrhoea and hepatitis A and B was known by 55-65%, and of malaria by 90%; knowledge improved after the consult, resulting in slightly higher knowledge after travel. Eating restrictions were poorly followed, especially for salads (2/3), ice cubes (1/2) and street food (1/3). Pre-consult as well as post-travel, over half of the travellers underestimated their malaria risk; about a third were estimating correctly.

Conclusions

This study showed that semi-standardised pre-travel health advice improved knowledge and practices immediately after the consultation. However, its influence on post-travel results was markedly lower. Even in travellers consulting a travel clinic, knowledge and practices need substantial improvement.

Abstract: P-50**VIATIM™: FOUR YEARS OF EXPERIENCE PROTECTING TRAVELLERS AGAINST HEPATITIS A AND TYPHOID FEVER.**

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Two of the most frequently encountered infectious diseases, especially by travellers to more exotic travel destinations, are hepatitis A and typhoid fever. Their common faeco-oral route of transmission, and extensive overlap in their epidemiologies, has led the world's two leading vaccine manufacturers to develop combined formulations (HA/Vi) of their inactivated hepatitis A (HA) and typhoid fever (Vi polysaccharide) vaccines.

Four years post-marketing surveillance of sanofi pasteur's HA/Vi vaccine, Viatim™, following distribution of over 860,000 doses, has not revealed any clinical safety concerns. Fewer than 70 cases of unsolicited adverse events, none serious, have been reported. The most common reactions are injection site pain, and to lesser extents, headache, malaise, and myalgia.

Viatim™ induces rapid immune responses to the two vaccine components, similar to those obtained when administered separately. Single component HA vaccines require two doses to provide long-term immunity, administered 6-12 months apart. Several studies have shown that Viatim™ can be given as the primary or booster dose of such a series, with any of the currently marketed HA vaccines, although highest responses are seen when it is used with its constituent component HA vaccine, Avaxim™. More recent studies have shown that the delay between primary and booster doses of Viatim™ can be up to 3 years without compromising the protection afforded against hepatitis A or the booster response to the second dose.

Four years of experience with Viatim™ has confirmed the good acceptance of this vaccine for travellers, to provide rapid protection against hepatitis A and typhoid fever.

Abstract: P-51

THE IMPACT OF PRE-TRAVEL HEALTH ADVICE ON THE RISK OF TRAVEL ASSOCIATED ILLNESS – A CASE-CONTROL STUDY ON HEPATITIS A AMONG FINNISH TRAVELLERS IN YEARS 2003-2005

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Introduction

International travel is becoming increasingly popular among Finns. Hepatitis A infection is one of the health risks during travel. To assess the impact of pre-travel health advice on the risk of getting ill a case - control study was conducted on hepatitis A among travellers. Also travellers' knowledge, attitudes and practices with regards to hepatitis A infection and prevention were studied.

Material and methods

The cases were obtained from the infectious diseases register of the Finnish National Public Health Institute. All travel associated hepatitis A infections notified from 1.1.2003 to 23.11.2005 (N=46) were included. The control group was obtained via a Finnish travel agency. Cases and controls were matched by age, sex, travel destination and travel time. A structured questionnaire and a consent form were sent to 35 cases and 132 controls. The response rate was 63 % for cases and 58 % for controls. The non-responders were not significantly different from the responders.

Results

The mean age of all the responders was 42 years (range 15-62 yrs), 55 % were male. The most frequent reason for travel in both groups was tourism. The cases were more likely to travel alone, spend time in countryside, visit friends or relatives and travel often. 14 % of cases and 39 % of controls had received health advice before travel (p=0,026). 55 % of controls had mono- or bivalent vaccination against hepatitis. One of the cases claimed having received vaccination. Among the controls pre-travel health advice correlated with vaccination. Half of the cases and 69 % of controls were aware of the hepatitis A risk in destination country. 82 % of cases and 72 % of controls would like to have travel health advice in the future, especially from internet and travel agency.

Conclusion

Pre-travel health advice is associated with protection from hepatitis A infection. In addition those who were given advice were more likely to have been vaccinated against hepatitis A. Only third or less of study population had received health advice but over two thirds would like to have advice in the future. In conclusion, there is need for high-quality pre-travel health advice.

Abstract: P-52**KNOWLEDGE, ATTITUDE AND PRACTISES TOWARDS PERTUSSIS IN ADULT TRAVELLERS**

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Introduction

Pertussis is a worldwide, highly communicable, vaccine-preventable respiratory disease and is a frequent but often underestimated cause of prolonged cough illness in adults. Immunity from childhood pertussis immunization is thought to last only up to 10 years. The incidence of adult pertussis has been estimated to be 200 -500 per 100,000 persons years. Acellular pertussis vaccines have been evaluated in adults and confer safe and effective protection, and now exist as combination vaccine together with tetanus and diphtheria.

Methods

We did a questionnaire survey to assess the knowledge, attitude and practices towards pertussis in adult travellers. We consecutively enrolled all travellers who presented at the Travellers' Health & Vaccination Centre in one month.

Results

Of 218 consecutively enrolled travelers, 184 completed the questionnaire. Seventy persons (38%) did not know or gave a wrong answer for the mode of transmission of pertussis, 147 (83%) had never heard of a pertussis vaccine for adults, and almost none had received an adult pertussis vaccine booster. Travellers from Western countries were 7 times (95% CI: 2-27) more likely than Asians to have knowledge about pertussis; males were 0.2 times (95% CI: 0.1-0.6) less likely than females to be aware of the booster vaccine.

Conclusion

Knowledge about pertussis was poor amongst adult travelers. Although pertussis was viewed as a serious illness by the majority of participants, only 37% considered a pertussis vaccine booster in adults as important. Awareness about pertussis, its risks and prevention via vaccination need to be increased amongst adult travellers.

Abstract: P-53

MALARONE THERAPY FOR FALCIPARUM MALARIA: REPORT OF TWO CASES OF SUBOPTIMAL RESPONSE.

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Malarone is being used increasingly in developed countries as a safe and effective treatment for malaria, which is well tolerated.

We report two cases in which the response to malarone was suboptimal. Both patients were Australian ex-patriots working in Africa, who received a standard treatment course of malarone, without resolution of either parasitaemia or clinical features, who both responded well to alternative anti-malarial therapy.

In our presentation, we postulate on possible reasons for the inadequate response.

Abstract: P-54**TRAVEL HEALTH ADVISORY GROUP: ACTIVITIES OF A JOINT TRAVEL INDUSTRY AND TRAVEL MEDICINE GROUP PROMOTING HEALTH TRAVEL**NA Zwar¹, B Hudson², PA Leggat³*¹University of New South Wales, Sydney, NSW, Australia, ²University of Sydney, Sydney, NSW, Australia, ³James Cook University, Townsville, Queensland, Australia***Background**

The Travel Health Advisory Group (THAG) is a joint initiative between travel industry and travel medicine professionals that aims to promote healthy travel amongst travellers. THAG seeks to promote cooperation in improving the health of travellers between the travel industry and travel medicine professionals and to raise awareness of the importance of travel health in the Australian public.

Methods

The poster will describe the major activities of THAG which include: promotion of travel health awareness through a bookmark distributed by travel service providers; public relations activities to increase awareness of travel health risks and the importance of seeking pre-travel health advice and vaccination; regular telephone surveys of Australian travellers in capital cities; and recently a major initiative in the creation of a website to provide travel health information to Australian travellers.

Results

The travel health bookmark developed by THAG has been distributed extensively through travel agents, Qantas Holidays and Youth Hostels Association. A series of media campaigns have taken place to raise travel health awareness. Travel surveys took place in 2001, 2002 and 2003 and results from these have been published and/or presented at ISTM conferences. The welltogo.com.au website was developed in 2004 and expansion of the content took place in 2005. Analysis of use has shown a good rate of uptake with an average of 281 hits per day in the period July to December 2005. An online survey of 968 welltogo website users in the period August 2005 to January 2006 found that 20% had sought professional pre-travel health advice; 60% intended to get advice and 15% had no intention of seeking such advice.

Conclusions

A partnership approach between the travel industry and travel medicine professionals can effectively support a range of activities to promote the health of travelers.

Abstract: P-55

DIABETES AND TRAVEL: HOW A LITTLE SUGAR GOES A LONG WAY

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Diabetes is a global epidemic affecting over 21 million people. Control of diabetes is important on a daily basis but can be challenging as people travel for business and pleasure. Changes in time zones, meal times, types of food and activity are examples of the challenges that travelers with diabetes face. This session will focus on some strategies for pre trip preparation, medication adjustment across time zones and resources such as the National Diabetes Education Program, a joint Centers for Disease Control and Prevention (CDC), and National Institutes of Health (NIH) program to help the person with diabetes travel successfully.

Abstract: P-56**BP'S DUTY OF CARE TO CLIENTS LIVING IN A *P. FALCIPARUM* ENDEMIC COUNTRY**

H Bookham

BP, Luanda, Angola

Introduction

BP has a duty of care to its employees; this duty extends to the management and the ability to mitigate exposure to malaria when travelling or living in an endemic country. It also extends to the dependents of employees who reside with them in these countries.

Although all companies are responsible in providing a duty of care, corporate organisations should strive to set a precedent on developing and maintaining aspirational standards.

BP has implemented a malaria management plan which all staff are required to abide by, this provides assurance to the company they have adequate standards in place to minimise the risk of malaria to its employees' & dependants residing in Angola.

Adequate policies and procedures should be in place, with the documents to be reviewed regularly to ensure recommendations meet the latest global trends in the management of the risk of malaria.

Main points to cover

- Current malaria management plan
- Survey results of clients
- External expert peer review of current plan
- Alignment with industry bodies in recommendations for change of plan
- Future challenges
- Develop deeper engagement with NGO's & ministerial bodies to develop sustainable long term plans.
- Adopt a pro-active approach to education.
- Success in ensuring no client contracts malaria.

Abstract: P-57

MEDICAL STUDENT ELECTIVES: RISKS OF ILLNESS, ACCIDENTS AND ASSAULTS AT DIFFERENT DESTINATIONS

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Objectives

To determine the health and personal safety problems experienced by third year British medical students whilst on elective.

Methods

In 2005, all 287 returning medical elective students anonymously completed a one page questionnaire about illnesses during or on return from their elective, and about incidents whilst away such as robberies, accidents or assaults.

Results

232 (83%) travelled overseas and 55 remained in the UK. Sixty five (22.6%) reported being unwell whilst abroad; 32 sought medical advice, of whom 5 required hospital admission. 57/177 (32.2%) of those going to resource poor countries were unwell during their elective, compared to 8/110 (7%) who travelled in the UK, Western Europe, North America, Australia or New Zealand (RR= 4.43, 95% CI 2.2-8.92 p <<0.0001). Illness was most frequently reported from Asia 25/58 (43%) and Africa 11/38 (28.9%). 8/177 (4.5%) reported being robbed whilst abroad in resource poor countries compared to none studying in the UK or similar destinations; three of these incidents involved violence or assault, Most episodes of violence/assault occurred in Central/South America 3/6 (50%), followed by 2/38 (5.3%) in Africa.

Conclusions

Despite considerable pre-elective preparation, students may develop illness, often gastrointestinal, which varies according to destination.

The incidence of infections was less than in previous elective student studies, possibly due to the compulsory student preparation programme.

A minority of students will have serious accidents or be affected by assault or robbery, particularly in resource poor settings. This aspect of pre-travel advice needs more emphasis for all travellers.

Abstract: P-58**MALARIA PROPHYLAXIS FOR CHILDREN WITH HIV/AIDS ON ANTI-RETROVIRAL THERAPY**

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Eleven children from a children's home in Johannesburg, South Africa were sponsored to visit the Kruger National Park for a one week holiday. Their ages varied from 5 to 10 years and 7 of the children were on Highly Active Anti-Retroviral Treatment.

The authors discuss the malaria risk, clinical considerations, the HAART regime, the options for malaria prevention and prophylaxis and the rationale for using the chosen drugs and the clinical outcome of the outing.

Abstract: P-59

BRIEF SELECTIVE HYPNOTHERAPY IN TREATMENT OF FLYING PHOBIAS

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Flying phobias are common, prevalent in women and respond to time consuming behaviour and conventional hypnotherapy. Selective, brief, solution-orientated, hypnotherapy can cure disabling fear, disturbed conditioned responses and avoidance behaviour.

Objective

Comparison of conventional hypnotherapy(CH) with selective ,limited contact, brief, solution-orientated, hypnotherapy(BSH) for flying phobias.

Methodology

Opportunistic, between-group study of consecutive flying phobics presenting for treatment. Alternative patients given open session, long duration hypnotherapeutic deconditioning therapy (treated to successful outcome), or standardised tape recording-assisted,15 minute sessions (limit three.)

Measure

Questionnaire detailing demography and phobia. Linear analogue scales recording severity and avoidance behaviour, Timing of patient/therapist contact. Outcome follow-up.

Results

33 patients.30 participants. Compliance: 87%. 20 women and 6 men,admitted to one phobia(flying), creating personal problems. 23% rated it severe and 42% scored avoidance of flying as phobic response. 21(81%) were greatly improved or cured with treatment .Avoidance scores, markedly reduced or nullified in 20 (77%) No gender/age difference in response to treatment. 3 were lost to long term follow up but in remainder,16(70%) successfully undertook panic free flight within 6 months after treatment. In (BSH) group, 10 were available for follow-up, 8 (80%) of whom were improved and had flown. In CH group, 8 had flown successfully,. One in each group still exhibited phobic symptoms and avoidance but remainder objectively and subjectively improved. (BSH) patients-4 times less therapist contact than (CH) group.

Summary

Patients lost flying fears, or symptoms greatly ameliorated. No significant between-group, outcome difference. (BSH) -time efficient/therapeutically effective and practical, for primary care and travel health professionals.

Abstract: P-60**CLINICO-EPIDEMIOLOGICAL FEATURES IN MIGRANTS VISITING FRIENDS AND RELATIVES ATTENDED IN A REFERRAL TROPICAL MEDICINE UNIT**

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Objective

To describe the clinico-epidemiological features in migrants that travel to their countries of origin (VFRs, *visiting friends and relatives*).

Material and methods

Descriptive, retrospective study of a cohort of VFRs seen in a referral Tropical Medicine Unit during the last ten years.

Results

114 patients, 59 (51.7%) males. Average age 34.5 (range 2-73). Average stay was 1.8 months. Origin and area visited: 89 (78%) were Africans (53 of them from Equatorial Guinea), 21 (18.4%) were Latin-Americans and 4 (3.5%) were Asians. Average time from return to first visit was 4.3 months. In 64 patients it was possible to recover information about malaria prophylaxis: 37 (58%) did not take any and 27 (42%) did (52% correct and 48% incorrectly). On first visit, the most frequent symptoms were: fever in 79 (69.3%), skin problems in 26 (22.8%), gastrointestinal symptoms in 26 (22.8%), urogenital symptoms 13 (11.4%) and respiratory symptoms in 9 (7.9%). Four (3.5%) patients were asymptomatic and consulted just for a check-up after travel.

Diagnoses

Among the 89 African patients, 47 (52.8%) presented malaria, 11 (12.4%) non-parasitic infectious diseases, 10 (11.2%) parasitic diseases, 4 (4.5%) traveller's diarrhoea and 13 (14.7%) presented a self-limited non-identified process. Among the 21 Latin-Americans, 7 (33.3%) had non-parasitic infectious diseases, 5 (23.8%) had dengue fever, 3 (14.3%) malaria and 2 (9.5%) presented a self-limited non-identified process. Diagnoses in the 4 Asian patients were: malaria, dengue, pulmonary tuberculosis and parasitic disease.

Abstract: P-61

SURVEILLANCE AND CONTROL OF COMMUNICABLE DISEASES IN CRUISE SHIPS DURING THE ATHENS 2004 OLYMPIC GAMES

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Background

During the Athens 2004 Olympic Games, 10 cruise ships berthed in Piraeus port and hosted visitors of the games. These cruise ships were included in the enhanced surveillance plan of the games in order to prevent, timely detect and investigate an outbreak or deliberate release related diseases.

Methods

The Epidemiological Surveillance in the cruise ships was carried out using: The Syndromic Surveillance System and the Notifiable Diseases System. The priorities focused on gastroenteritis and diseases of the respiratory System (pneumonia like syndrome, legionnaire's disease). A daily report was sent to HCDCP by the ship's medical team. More than two cases of gastroenteritis and isolated cases of pneumonia like disease reported in a cruise ship motivated an initial verification and eventual enhancement of control measures.

Results

A total of 16500 passengers and 4400 crew members were accommodated in the cruise ships. Overall, 369 passengers and 1037 crew consultations were reported, in a 25 day period. Among them 27 passengers and 9 crew members presented with a SPHI, 35 gastroenteritis cases (3 in food handlers), and 1 Influenza like syndrome.

Conclusion

The most common infectious disease reported in cruise ships was gastroenteritis; no cluster / outbreak was detected, probably as a result of effective primary & secondary prevention measures.

Abstract: P-62**IS BEING AN EXPATRIATE OR TRAVELLER IN AFRICA A SERIOUS THREAT TO LIFE AND LIMB?**

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Background & Objective

Medical evacuations from remote and inaccessible sites in Africa to appropriate medical facilities are often a challenge to companies working in these destinations. The day-to-day illnesses may well be catered for locally but serious disease and trauma needing the “golden hour” approach, in Africa may mean days of travel, even by air-ambulance.

Method

The authors review and evaluate the medical evacuations assisted by a TRAVEL HEALTH RISK MANAGEMENT COMPANY for the years 2004 to 2006. A total of 30 cases varying from trauma, infectious diseases, acute or unresolved medical and surgical conditions will be discussed.

Taking a look at balancing ethics surrounding medical evacuations, and the key role players in the interest of the patient, the employer and insurance company. The aim is the most efficient, shortest safest and cost effective way to the closest appropriate medical facility for the specific condition.

Conclusion

Up-to-date working- knowledge of the site of operation as well as the medical facilities of the local and the referral areas in Africa is vital to the company and/or client. The pre-travel consultation and vaccination, appropriate travel insurance cover as well as intensive education to the traveller and company management may decrease the risks involved.

Abstract: P-63

TRAVEL ISSUES IN PATIENTS WITH HIV OR HEPATITIS C

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Newcastle upon Tyne, United Kingdom*

Introduction

Since the 1980s the global travel industry has doubled. In that time both HIV and Hepatitis C have emerged and are now affecting 40 million and 170 million patients worldwide respectively. With the emergence of antiretroviral therapy patient's life expectancy and quality of life has improved dramatically and patients are globally more mobile. However information about previous travel, travel advice, health, drug adherence, recreational drug use and sexual behaviour is limited.

Methods

Travel questionnaires were developed and sequentially used in adapted forms in a HIV cohort and Hepatitis C cohort in a regional unit in the North East of England. All patients self-completed and consented to the questionnaire.

Results

A total of 120 patients completed the questionnaires. 73 were HIV-positive, 47 HCV-positive. Of those 108 (90%) had travelled. Of the 108 70% had travelled within Europe and 30% had travelled outside Europe with visits to all continents except Antarctica. 56% travellers never received any formal or informal pre-travel advice. 8 of 11 travellers to malaria-endemic countries had received malaria prophylaxis. Over 50% had no specific travel insurance for patients with HIV or Hepatitis C. Although 23% of the HCV traveller reported being ill whilst travelling, this amounted to only 2.6% illness period of total travel period within the HIV traveller. A quarter of HIV travellers on antiretroviral medication admitted to variable non-adherence but only 1 of 12 HCV travellers on antiviral treatment admitted to non-adherence. 44% of travellers were sexually active whilst travelling and 4 admitted to unsafe sex with a new sexual partner. Of the 47 HCV travellers 5 (13%) admitted to intravenous recreational drug use and 2 admitted to sharing of equipment.

Conclusion

Patients with HIV or HCV travel but are often ill prepared or uninsured. High-risk behaviour including unsafe sex and drug use may occur and adherence to antiretroviral treatment is a particular issue. Patients and their carers should encourage more specific pre-travel advice including vaccination and specific travel insurance.

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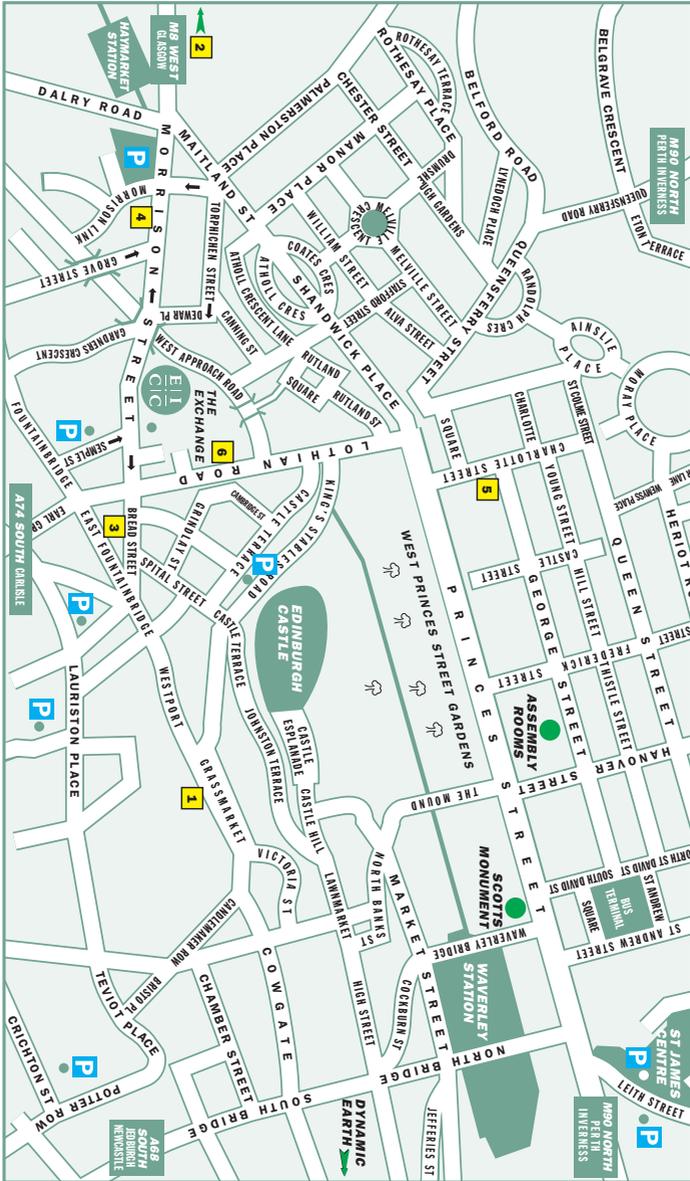
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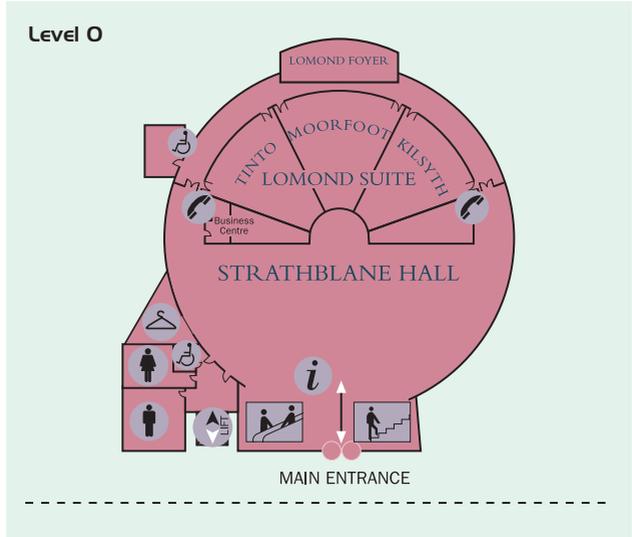
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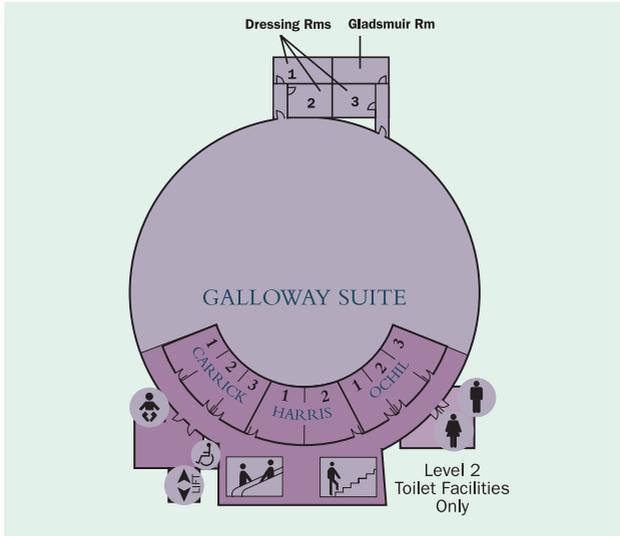
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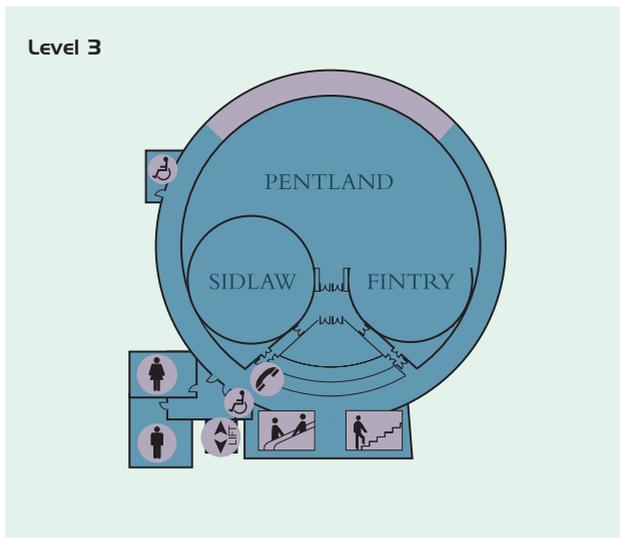
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