

emporiatrics

News, views and reviews from the Faculty of Travel Medicine

In this issue...

Rabies watch

Resuscitation update

Vaccine storage

Travel Health for Pharmacists

Features



**Rabies
watch**

09

Editorial



Sandra
Grieve



Jane
Chiodini



**Resuscitation
update**

07



**Vaccine
storage**

10



**Travel
health for
pharmacists**

14

Regulars

Editorial	02
Letter from the Dean	03
Bulletin Board	04
Updates	05
Resources	15

People

In Focus: Commodore Adriaan Hopperus Buma	11
Traveller's Tale Visiting friends and relatives in Borneo	12

Production

Editors

Sandra Grieve FFTM RCPS(Glasg)

awcg1@btinternet.com

Jane Chiodini FFTM RCPS(Glasg)

janechiodini@btinternet.com

Please address all correspondence to the editors

Assistant editors

Sharon Withey

Elaine Mulcahy

Design and Print

Shaw Marketing and Design

(www.shaw-online.com)

For information on membership of the Royal College of Physicians and Surgeons of Glasgow contact

margaret.conaghan@rcpsg.ac.uk

When our best friend becomes our worst enemy

Coming from a rabies-free nation of dog lovers, British travellers may find it hard to imagine that rabies occurs in 150 countries around the world and kills 55,000 people each year: 99 per cent of those deaths are down to our canine friends. Our focus in this issue on rabies prevention, both pre-and post-exposure, includes a valuable resource bank of guidelines and data.

No matter where we practise, everyone involved in immunisation must uphold high standards of training and always stay current with recommendations for storage and administration of vaccines. Adverse events are rare, but knowing how to cope with them should be commonplace, using updated information often available instantaneously on hand-held devices. Personal accountability is at the root of every profession, so high standards of practice should be the norm for us all.

Who would have thought as the year began that so many 'safe' destinations would become no-go areas before the spring? Not exotic mysterious ports of call but Australia, New Zealand and Japan, frequented by travellers from all over the world, who have seen devastation wreaked on their communities. The added complication of radiation contamination has made an already traumatic situation worse for a nation in chaos. Our thoughts are with those living in or dealing with such catastrophies.

Thanks for your heartening comments following the first edition of Emporiatics. The title attracted a lot of attention, including the suggestion of a new term – "Emporiatricians" – for contributors.

Thanks also to our sponsors Crucell UK, GlaxoSmithKline Travel Health, Novartis Vaccines and Sanofi-Pasteur MSD for supporting this magazine – and to our contributors for filling it with their interests and expertise. If you would like to join our group of "Emporiatricians", then please contact us.

Sandra Grieve and Jane Chiodini

Our Sponsors



GSK is responsible for the printing and had no input into content of this newsletter. Crucell UK, Novartis Vaccines and Sanofi Pasteur MSD have provided funding towards the production of this newsletter.

Affiliates: The first step on the ladder of professional advancement in travel medicine

A letter from the Dean of the Faculty of Travel Medicine

Professor Peter Chiodini FTM RCPS(Glasg) outlines the advantages of a special category of membership which, for some, offers an ideal opportunity to further their professional development.

In this second issue of Emporiatrics I would like to focus on Affiliates in the Faculty of Travel Medicine (FTM).

On its inauguration in 2006 the FTM was composed of Associates, Members and Fellows. Associates were those who held the Glasgow Diploma in Travel Medicine, awarded initially by the University of Glasgow and later by the Royal College of Physicians and Surgeons of Glasgow (RCPSG). Members were those who held the MSc in Travel Medicine from the University of Glasgow and Fellows were those already senior in the speciality. Promotion from Associate to Member and from Member to Fellow can occur as practitioners' careers progress.

A picture from the most recent College ceremony (see inset) shows newly-admitted Associates, Members and Fellows with the College President and the FTM Dean in the Bute Hall.

However, given the nature of travel medicine services, with many health professionals practising in the speciality for only part of their working week, it was recognised that a significant number were interested in the field but unable to commit the time necessary to undertake a Diploma or MSc course in travel medicine. Therefore, the FTM and the College decided to introduce the category of Affiliate which was launched at the Northern European Conference on Travel Medicine, Hamburg in May 2010.

What does this category bring?

Affiliates receive a paper copy of Emporiatrics twice a year, are eligible for discounts on admission to FTM educational events and are able to enrol in the FTM Continuing Professional Development Scheme. They also have the option to pay an additional fee to receive electronic access to the Faculty's official journal *Travel Medicine and Infectious Disease*. Most importantly, Affiliates become part of the FTM community of travel health practitioners with the professional contact and mutual support that brings.

Intended both for the established health professional and for those starting out in the speciality, it is hoped that the Affiliate category will prove to be the first step on the ladder of professional advancement in travel medicine.

Whilst Medical Royal Colleges are relatively familiar institutions to UK medical graduates, other health professionals, especially those outwith the UK, may have little experience of them and their role in promoting education and professional development.

The FTM prides itself on being multidisciplinary and we hope that the Affiliate category will enable travel medicine colleagues from nursing, pharmacy and other disciplines to sample the excellence the College can offer. You will find details of how to apply on page 13 of this magazine.

You can be assured of a warm welcome.



One for your scrapbook!

(front row from left) FTM Dean Peter Chiodini and RCPSG President Ian Anderson posed with Board members and new FTM Diplomates for this celebratory photograph following the College Admission Ceremony in November 2010. Buy your copy from Ede & Ravenscroft at: www.edeandravenscroft.co.uk/aow/ (Click on Groups, then use the Quickfinder drop-down menu to search for Royal College of Physicians and Surgeons of Glasgow. Click on the image to find the FTM portrait.)

OAPs with STIs...OMG!

As Baby Boomers march ever-onward to their dotage it's no surprise that more and more over-50s are starting sexual relationships with new partners, often on holiday – too bad some of them still haven't got the message about condoms. Worries about pregnancy may be over but rates of sexually-transmitted diseases are rising among people in their 50s, 60s, 70s... indeed, the fpa helpline recently clocked an 82-year-old in urgent need of sexual health advice. As most campaigns are aimed at the young, the charity recently launched Middle Age Spread to raise awareness among older folk, with posters harking back to 70s fashions to highlight the need for wearing condoms. See www.fpa.org.uk (under Campaigns & Advocacy).



Interested in expedition & wilderness medicine?

More next time about the Faculty's exciting new special interest group. Meanwhile, email Jim Bond (jim.bond@zen.co.uk) to sign up or get involved with the steering group.

Uncommonly dangerous

The World Health Organization has launched its first report on neglected tropical diseases (NTDs), calling for investment in prevention and control of 14 uncommon but deadly diseases, including rabies and dengue fever. The report is at: www.who.int/neglected_diseases/2010report/en/index.html Watch the campaign ad at: www.youtube.com/watch?v=2JyEpnxYtqs&NR=1

New vaccine for Africa

MenAfriVac, a new meningococcal A conjugate vaccine, was introduced in late 2010 in Burkina Faso, Mali and Niger, three of the worst-affected countries in Africa where as many as 450 million people are at risk. Less than a decade after the Meningitis Vaccine Project (a partnership between WHO and PATH) was established, the new vaccine comes in at an affordable price for Africa and promises long-term protection for children as young as one year. www.who.int/features/2010/meningitis_vaccine/en/index.html

Malaria & The Gambia

Health Protection Agency figures show a big increase during 2010 in UK malaria cases caused by *Plasmodium falciparum* in travellers to or arrived from The Gambia, West Africa – 59 cases in all, with 45 in November-December (compared to six in the same period of 2009). Information was available for 29 of these cases: 26 had taken either inappropriate malaria tablets or none at all and the data included three travellers who had taken either herbal or homeopathic remedies.

The Gambia is popular for winter sun, but malaria is endemic there and a year-round risk. The HPA reported no deaths in these cases, but warned: "The continued reporting of this preventable disease in travellers highlights the need for reinforcement of health messages that all travellers to The Gambia and other destinations with malaria risk should use effective malaria prevention methods, including chemoprophylaxis."



In case of emergency

Whether it's earthquake, revolution or simply a lost passport, British nationals travelling abroad or living overseas can reduce stress and delay in getting consular assistance by registering with the Foreign and Commonwealth Office (FCO) LOCATE service in advance of departure. Registration is free, easy and can cover single or multi-destination trips. You can also update your details at any time. www.fco.gov.uk/en/travel-and-living-abroad/staying-safe/Locate/

How was it for you?

Callers to the NaTHNaC telephone advice line are being asked for feedback on the service via an anonymous online survey, preferably as soon as possible after calling the advice line. The aim is to improve their resources for health professionals, and it will take just a minute to answer four short questions www.nathnac.org/pro/news/advicelinesurvey.htm

Key vaccine information from the DH

A protocol for ordering, storing and handling vaccines was added recently to this specialist section on the Department of Health website. It joins a wealth of resources to enable you to understand the national immunisation programme and ensure that your travellers are protected. www.dh.gov.uk/en/PublicHealth/Immunisation/Keyvaccineinformation/index.htm

Nets & Bolts

Keep an eye out at www.rcpsg.ac.uk for details of the next Nets & Bolts study day. Meanwhile, thanks to Sheila Hall MFTM RCPS(Glasg) and Margaret Umeed MFTM RCPS(Glasg) for facilitating a great event last summer. Here's their report.

Schistosomiasis parasites seen in Glasgow water!

And that's not the half of it... all manner of positive malaria slides were examined and hundreds of mosquitoes were spotted back in June 2010.

Not a public health disaster – just a very successful FTM Nets & Bolts Study Day in the Wilkins Laboratory at the University of Glasgow. This was the third such annual event, continuing the original format of study days organised previously in London and Liverpool.

Co-ordinated by the College's Faculty of Travel Medicine, the day was made possible thanks to Professor Huw Smith from the Scottish Parasite Diagnostic Lab and Professor Michael Barrett and his team at the Faculty of Biomedical and Life Sciences at the University of Glasgow. With this team of expert speakers and the opportunity to use a modern teaching lab, the stage was set for a day-long series of interactive sessions.

Some 23 nurses and doctors formed groups to work their way round six different work stations. In the course of the day this provided each of them with the opportunity to compare mosquito repellents, use malaria rapid diagnostic tests, examine malaria slides, meet the schistosome snail host, try out the latest water purification options and join a "sun awareness" discussion group.

Feedback was very positive and it is hoped that this event will be repeated at different venues every year.



We are sad to report that Professor Huw Smith, shown here at the Nets & Bolts study day, died suddenly on 25 October. He was a world renowned parasitologist and Director of Service at the Scottish Parasite Diagnostic Laboratory based at Stobhill Hospital, Glasgow. Our condolences to his family and friends – he will be greatly missed.

More Apps

Add these specialist apps to your iPhone or android phone and off you go, taking detailed travel health data with you.

HIV iChart (download free)

Use this app to search for potential drug-drug interactions between anti-HIV drugs and other medication a patient may be taking. Results are presented via a "traffic light" system of red, amber and green, along with a brief summary of the interaction and a grading of the quality of evidence. Developed by the HIV Pharmacology Group at the University of Liverpool through support from MSD, the Elton John AIDS Foundation and Janssen.



VacciPad (£1.19 to buy)

For iPads only, this app lets you maintain a log of vaccine fridge temperatures, both in Celsius or Fahrenheit. The log can then be exported and emailed as a comma-separated values (CSV) file for use in a spreadsheet.



Travel iClinic by Dr iSeb (59p to buy)

Written by a London-based GP, this app provides a comprehensive outline illustrating a traveller's risk of exposure to a number of illnesses and infections while travelling abroad. Investigate destinations via a world map or a scrolling list that will then take you to the location on the world map - a useful tool in itself!



Jane Chiodini



Resuscitation update

Changes to the Resuscitation Council UK Guidelines

Jane Lambert, former senior resuscitation officer in the NHS and now the company director of ECG Limited (www.ecgtraining.co.uk), takes us through the changes laid out in the recent five-yearly review and publication of the Resuscitation Council UK Guidelines. She also addresses dealing with anaphylaxis in a community setting.

Every five years the Resuscitation Council UK Guidelines undergo a major revision, the most recent of which was published in late 2010. While the next major review will be carried out in 2015, occasional interim amendments reflecting very important new science may be issued if delaying guideline changes until then is thought to put patients at risk.

For the time being, this is a summary of changes in the current guidelines.

Calling for help

When calling for help, whether from a colleague or the ambulance, if an automated external defibrillator (AED) is available then you should ask for that at the same time to ensure early defibrillation.

Chest compressions

It is known that chest compressions are often undertaken with insufficient depth and at the wrong rate, therefore in adults you should now aim to compress the chest to a **greater depth of 5-6cm** and at an **increased rate of 100-120** per minute. With children you should also follow the same rate and with a depth of one third of their chest.

Rescue breaths

As in normal breathing, rescue breaths should now be **delivered over one second rather than two seconds** as taught previously. This should also minimise disruption to the chest compression.

Stopping CPR

Studies have shown that checking for breathing in cardiac arrest patients is prone to error, especially as agonal gasps are often misdiagnosed as normal breathing.

Therefore once CPR has been started, you should not stop unless the patient starts to show signs of regaining consciousness (such as coughing, opening their eyes, speaking or moving purposefully) and starts to breathe normally.

Should healthcare professionals still be delivering ventilations?

Yes. When CPR is taught to lay people, the emphasis is on chest compressions, with the option of compression-only CPR if they are unwilling to give rescue breaths. However, as this will be effective for a limited period, health-care professionals are still expected to perform rescue breaths. Rescuers should take appropriate safety pre-cautions

(by using barrier devices such as pocket masks) where feasible, especially if the victim is known to have a serious infection such as tuberculosis or severe acute respiratory syndrome (SARS).

Further advice includes:

- **Oxygen is not recommended for use in basic life support** with patients who do not have a secure airway (apart from a drowning victim) as there is no evidence to suggest its benefit. It actually may lead to interruption in chest compressions.
- **Mouth-to-nose ventilation is an effective alternative** if mouth-to-mouth is not possible.
- **Mouth-to-tracheostomy ventilation should be used for a victim with a tracheostomy tube** or tracheal stoma who needs rescue breaths.
- Considerable practice and skill are required to use a **bag and mask for ventilation**, therefore healthcare professionals who plan to use them should **receive regular training** and follow the two-person technique.
- In most cases it is possible to identify the correct hand position for chest compressions without removing a patient's clothing. However, if in doubt then remove outer clothing.
- **Regurgitation of stomach contents is common during CPR.** If this happens then turn the patient away from you on their side and allow the vomit to drain away, removing any residual debris from their mouth with your fingers, and immediately turn them back onto their back to continue CPR.

Who can use an automated external defibrillator (AED)?

The scientific evidence to support early defibrillation is overwhelming. The delay from collapse to delivery of the first shock is the single most important determinant of survival. Therefore the Resuscitation Council UK now suggests that an AED can be used safely and effectively without previous training. This would mean that the use of an AED should not be restricted to trained rescuers. However, they do recommend that training should still be encouraged to help improve the time to shock delivery and correct pad placement.

Spotlight on anaphylaxis in primary care

The Resuscitation Council UK set out to provide guidelines for healthcare providers who are expected to deal with an anaphylactic reaction during their usual clinical role.

Anaphylaxis is defined as a severe, life-threatening, generalised or systemic hypersensitivity reaction. Anaphylaxis can be triggered by a variety of things, with food being particularly important in children and medicinal products being much more common triggers for older people.

There are approximately 20 deaths from anaphylaxis reported each year in the UK. For those who have suffered and survived one anaphylactic reaction, the evidence suggests they are at substantial risk of recurrent reactions, estimated at approximately one in 12 per year.

When anaphylaxis is fatal, death usually occurs very soon after contact with the trigger. However, it does seem that the route of the trigger can affect this timing. For example, fatal food reactions cause respiratory arrest typically 30-35 minutes later whereas deaths caused by intravenous medication can occur within five minutes.

Identifying anaphylaxis

Anaphylaxis is likely when all of these three criteria are met:

1. sudden onset and rapid progression of symptoms
2. life-threatening airway and/or breathing and/or circulation problems
3. skin and/or mucosal changes (flushing, urticaria, angioedema).

This information supports the diagnosis:

- exposure to a known allergen for the patient.

Remember though:

- Skin or mucosal changes alone are not a sign of anaphylactic reaction.
- Skin and mucosal changes can be subtle or absent in up to 20 per cent of reactions.
- There can also be gastrointestinal symptoms (vomiting, abdominal pain, incontinence).

A single set of signs or symptoms will not identify all anaphylactic reactions, but certain combinations of them make it more likely, which is why these three criteria have been listed.

How to assess your acutely ill patient

The Resuscitation Council strongly recommends that you use a structured ABCDE approach to assessing an ill patient (airway, breathing, circulation, disability and exposure).

For anaphylaxis your patient may present with a combination of these:

Airway problems:

- airway swelling
- hoarse voice
- stridor (high pitched inspiratory noise caused by upper airway obstruction)

A

Breathing problems:

- shortness of breath
- wheeze
- patient becoming tired
- possible confusion caused by hypoxia
- cyanosis (usually a late sign)
- respiratory arrest

B

Circulation problems:

- signs of shock (pale, clammy)
- tachycardia
- hypotension (may feel faint, dizzy or even collapse)
- change or reduction in conscious level
- cardiac arrest

C

Disability:

- Confusion, agitation or loss of consciousness caused by decreased brain perfusion

D

Exposure:

- possible erythema (patchy or generalised red rash)
- possible urticaria (the wheals may be pale, pink or red, and may look like nettle stings). These are usually itchy
- skin changes - can be subtle or dramatic, and may just be skin, just mucosal or both skin and mucosal changes
- likely mucosal changes – swelling of deeper tissues such as eyelids and lips, sometimes the mouth and throat

E

Confusion often occurs when patients have allergic reactions which are less severe (therefore not anaphylaxis). Usually the lack of life-threatening A, B or C problems can confirm it is not anaphylaxis. The use of the three criteria for diagnosis is very helpful.

How to treat anaphylaxis

- Call for an ambulance.
- Position your patient depending on their symptoms.
- Give adrenaline intramuscularly.
- Monitor and repeat if required while waiting for the ambulance
- Give high flow oxygen if available while waiting for the ambulance.

Adrenaline is the most important drug for the treatment of an anaphylactic reaction. Many healthcare professionals working in primary care worry about making the wrong diagnosis. However, the Resuscitation Council recommends that if you suspect anaphylaxis, adrenaline should be given to all patients with life-threatening features. If these features are absent but there are other features of a systemic allergic reaction, then carry out careful observation of the patient and provide symptomatic treatment.

The best site for the IM injection is the anterolateral aspect of the middle third of the thigh. The needle needs to be sufficiently long to ensure the adrenaline is injected into the muscle.

Refer to the anaphylaxis algorithm on the Resuscitation Council UK website for adrenaline doses for all ages.

If the patient's condition does not improve, the same dose can be repeated at five minute intervals while waiting for the ambulance. You should refer to your local policy for advice on how many doses you can give. Doctors can prescribe further doses if required. Non-prescribers can usually give up to 1mg in total in a lifesaving situation.

Resuscitation Council UK 2010 Guidelines are at:
www.resus.org.uk/pages/guide.htm

Rabies Watch

Carolyn Driver FFTM RCPS(Glasg) provides a comprehensive overview of rabies vaccination for overseas travellers.

Bites or scratches from animals in a rabies endemic country should always be followed up with immediate first aid and appropriate post-exposure treatment. Globally the availability of treatment and healthcare practitioners' knowledge can vary so the traveller should be advised of both the need for, and what comprises, complete post-exposure treatment.

Rabies infection

Rabies is an acute viral infection causing progressive encephalomyelitis, which is almost always fatal. It is estimated that there are some 55,000 deaths from rabies each year and the World Health Organization suggests this would be as high as 327,000 were it not for post-exposure prophylaxis.

Rabies virus (RABV) is one of 11 species of the genus *Lyssavirus* that have now been identified. RABV is associated with canine rabies, but all *Lyssaviruses* are known to, or are expected to, cause acute progressive encephalomyelitis in humans. Bats worldwide have been found to be reservoirs for *Lyssaviruses*.

Infection occurs following a bite or scratch (which breaks the skin), but is also possible if infected saliva contacts mucosa or a fresh open wound. Rarely, infection has resulted from inhalation of infected secretions - for example, in a bat-infested cave. Although primarily associated with dogs or bats, a bite from any mammal in an endemic area should be assessed for treatment. The incubation period is usually one-to-three months but can vary from days to years. Shorter incubation periods are associated with wounds in highly innervated parts of the body such as the head, neck or hand. The virus travels to the brain via peripheral nerve pathways and prevention relies on intercepting it before it enters a nerve.

Rabies vaccine

Production of the nerve tissue vaccines, which were poorly immunogenic and reactogenic, has stopped nearly everywhere. Most countries either produce or import modern cell cultured vaccines (CCV), which have an excellent safety and efficacy record. Their cost can keep them out of the reach of poorer communities, but they are usually available through private healthcare providers.

Rabies immunoglobulin (RIG)

There are three types of rabies specific immunoglobulin. Human rabies immunoglobulin (HRIG), equine rabies immunoglobulin (ERIG) and a highly purified product derived from ERIG - F (ab')₂.

HRIG is more efficacious and less reactogenic, but extremely expensive and in short supply, especially in resource poor countries. Modern ERIG is much cheaper and is now highly purified so adverse events have been reduced, but experts recommend that it is only administered where there are facilities for dealing with anaphylaxis. HRIG is the preferred product, especially where there are multiple wounds around the head, face or hands. However, if it's unavailable, modern ERIG products should be used.

“Given the almost certain fatality of rabies infection there are no contraindications to post-exposure vaccination.”

“Always encourage travellers to take their vaccine records with them as documentary evidence is essential in any assessment for post-exposure treatment.”

Post-exposure treatment

Immediate first aid

Wounds should be washed immediately with soap and running water for about 15 minutes and then treated with antiseptic, preferably iodine-based. Suturing should be delayed until after post-exposure prophylaxis (PEP) has commenced.

PEP for those not previously vaccinated

RIG is infiltrated around the wound or wounds. This offers some immediate protection whilst the individual's own immune system responds to active vaccination. When there are multiple bites RIG may need to be diluted so that all wounds are infiltrated. If a wound is not large enough to receive all of the RIG (say, a finger) inject as much as possible into the wound and the remainder into a large muscle distant from the site of administration of the first dose of vaccine.

A five-dose course of CCV should also be administered intramuscularly on days 0, 3, 7, 14 and 28.

NB: The USA Advisory Committee on Immunisation Practice (ACIP) now omits the fifth dose. In the UK, the Joint Committee on Vaccination and Immunisation (JCVI) continues to advise the fifth dose because post-exposure vaccine is usually administered to those who have commenced PEP abroad and consequently there may be uncertainty as to the quality of products administered.

The JCVI also advises that all doses administered in the UK should be by the intramuscular route regardless of how they were administered abroad.

If CCV has been given in the absence of RIG and more than seven days have elapsed, then it is considered unnecessary to administer RIG.

As the incubation period is unpredictable, anyone presenting with a history of a potential exposure should be assessed for PEP, no matter how long the interval since exposure. National guidelines should be checked for contact details for expert opinion.

Pre-exposure vaccination

This consists of three doses of vaccine administered intramuscularly on days 0, 7, 21-28. Intervals should not be shortened but longer intervals will not impair the immune response. It is generally considered unnecessary to restart a course of vaccines in an immunocompetent individual even if a significant amount of time has elapsed since the last dose.

Always encourage travellers to take their vaccine records with them as documentary evidence is essential in any assessment for post-exposure treatment.

PEP of a previously vaccinated individual RIG is not required if three doses of vaccine have been received in the past. The immediate first aid measures outlined here are still important and two doses of rabies vaccine should be given as soon as possible on days 0 and 3. These doses boost existing immune memory, thus ensuring sufficient circulating rabies antibodies. *(Note: Those who have received fewer than three doses of pre-exposure vaccine should always be advised to try to obtain full PEP including RIG).*

Are boosters required?

As studies have shown very long-lasting immune memory in those who have received a three-dose series of CCV, the WHO position paper states that those at infrequent exposure, such as travellers or those living in rabies endemic areas, do not require routine pre-exposure boosters. The JCVI, Health Protection Scotland and ACIP agree. Expert advice should be sought for those who are immunocompromised.

For those whose occupation puts them at continual or frequent risk of exposure (that is, laboratory technicians, bat handlers, quarantine centre workers) a single reinforcing dose should be given 12 months after the primary series. Additional periodic boosters may be necessary, but if possible, check antibody levels and offer vaccine only if titres drop below 0.5 IU/ml. There are variations in national guidelines as to the exact timing of these checks so healthcare practitioners are advised to check their relevant national guidance documents.

Contraindications to vaccination

Given the almost certain fatality of rabies infection there are no contraindications to post-exposure vaccination.

Pre-exposure vaccination would be contraindicated in anyone with a history of anaphylaxis to a previous dose or any constituent of the vaccine. Children under one year and pregnant women should only be given pre-exposure vaccine after thorough risk assessment and expert advice.

Intradermal administration of vaccine

Current UK guidance: Although there is robust evidence that rabies vaccine administered via the intradermal route is equally as effective as the intramuscular route, current vaccines are not licensed for this purpose and are not supplied in ampoules designed for multi-dose use.

In addition, practitioners require training and practice in intradermal injection technique to avoid the risk of incorrect administration. It is therefore not recommended that this route be routinely used in the UK and if it is, the prescriber would take full responsibility for the off-label administration of the product.

Summing up

Prompt and complete post-exposure prophylaxis has an excellent record in preventing rabies infection. Pre-exposure vaccine greatly simplifies and significantly reduces the cost of post-exposure treatment. As routine boosters are no longer considered necessary for travellers, this represents a good investment for the long term or frequent traveller. Whatever they decide, travellers must be aware of the necessary action to take should they be put at risk of rabies infection.

National and international guidelines

WHO Weekly Epidemiological Record (6 August 2010) *Rabies vaccines: WHO position paper No 32, 2010, 85, 309–320.* www.who.int/wer/2010/wer8532.pdf

Centres for Disease Control (CDC) Morbidity and Mortality Weekly Report (MMWR) (19 March 2010) *Use of a reduced (4-dose) vaccine schedule for post-exposure prophylaxis to prevent human rabies. Recommendations of the Advisory Committee on Immunization Practices (ACIP)* www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm

CDC MMWR (23 May 2008) *Human rabies prevention - United States 2008. Recommendations of the ACIP* www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm

Health Protection Network Scottish Guidance (December 2010) *Rabies: Guidance on prophylaxis and management in humans in Scotland* www.documents.hps.scot.nhs.uk/about-hps/hpn/rabies-guidelines-2010-12.pdf

Department of Health (JCVI) *Immunisation against infectious disease, Chapter 27, "Rabies". Look for the updated chapter, soon available online (only).* www.dh.gov.uk/en/PublicHealth/Immunisation/Greenbook/index.htm

Source: International Travel and Health WHO 2010. www.who.int/ith/chapters/en/

The importance of vaccine cold storage

The correct ordering, storing and handling of vaccines may not seem exciting, but the consequences of getting it wrong certainly are! Jane Chiodini FFTM RCPS(Glas) outlines the careful procedure that underpins safe and efficient immunisation and protects individuals and communities from infectious disease.

A rapid response report issued by the National Patient Safety Agency (NPSA) in January 2010 illustrated the importance of ensuring that vaccines are stored within the temperature range recommended by the manufacturers (+2°C to +8°C).

Between January 2005 and April 2009, a range of NHS organisations received 260 reports by the NPSA regarding incidents related to vaccination cold storage. Reports included delays in storage of vaccines especially after delivery, storage at the wrong temperature, fridges switched off or broken, power cuts or fridge doors left open, no temperature monitoring, inadequate or missing equipment, and inappropriate use of domestic fridges.

In June 2009, a primary care trust audit of vaccine storage in GP practices also shared details with the NPSA. A retrospective audit of 96 practices over two years identified a significant proportion of vaccines being stored outside the recommended temperature range. As a result, 560 patients from two practices were recalled for repeat vaccination.

All of these incidents were reported as “no harm” to specific patients at the time of incident. While this is technically correct, it does not reflect the potential for future harm from possible vaccine failure. More details of the reports are at www.nrls.npsa.nhs.uk/resources/patient-safety-topics/medication-safety/?entryid45=66111&p=2

The storage and handling of vaccines forms a section of the Core Curriculum for Immunisation Training, published by the Health Protection Agency in 2005. Chapter

3 in Immunisation against infectious disease (the Green Book) comprehensively outlined guidance on the storage, distribution and disposal of vaccines in 2006.

A new protocol for ordering, storing and handling vaccines was published on the Department of Health England website in October 2010. The guidance states that two named, trained people (one from the nursing team and one from management) need to be responsible for the ordering, receipt and care of vaccines but all members of the primary care team should be aware of the importance of good vaccine management.

Points of particular interest

- A validated fridge and a validated carrier should be used (costs £600-£1,200 and around £300, respectively).
- While vaccines should be stored between +2°C to +8°C, a mid-range of +5°C was considered good practice.
- It is preferable to have the vaccine fridge wired into a switch-less socket and temperature monitoring should observe the four R's – read, record, reset and react.
- All fridges should ideally have two max/min thermometers with one independent of mains power.
- There should be a maintenance contract that allows for at least yearly servicing and calibration of the temperature gauge.
- The temperature should be calibrated at least every month against an independently powered external thermometer.



- If needing to use vaccines away from the area where they are normally stored, then a validated medical grade cool box and cool packs should be used and a max/min thermometer used in this box to monitor the temperature when in use.
- An audit of vaccine stock and temperature management should be carried out on a regular basis.

Some of this guidance may well be more comprehensive than practices have previously undertaken and it would be wise to study the information, ensuring a protocol and appropriate practice systems are in place.

Key resources

Protocol for ordering, storing and handling vaccines from the Department of Health, England (October 2010) at: www.dh.gov.uk/en/PublicHealth/Immunisation/Keyvaccineinformation/index.htm

Core curriculum for immunisation training from the Health Protection Agency (2005) at: www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1204100468732. Search at www.hpa.org for “Slide Sets for Core Curriculum Teaching” to download slides for core topic 8.

Storage, distribution and disposal of vaccines in Chapter 3, Immunisation against Infectious disease (The Green Book) at: www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_063612.pdf

Surgeon Commodore Adriaan Hopperus Buma RNLN FFTM RCPS(Glasg)



Continuing our series of profiles of FTM Members, Fellows and Associates, Sandra Grieve talks with a distinguished practitioner who has spent the past 30 years with the Royal Netherlands Navy, travelling round the world to safeguard the health of military and civilian populations.

Travel medicine comes in many guises and most require practising “outside the box”. If proof were needed, Adriaan Hopperus Buma’s experiences show just how diverse the discipline can be.

Adriaan’s decision to pursue a medical career with the Royal Netherlands Navy combined his professional training with his passion for travel. He was born in Arnhem and grew up loving sport, playing high level and competition field hockey. He decided to join the Navy as a medical student cadet, and graduated MD from Utrecht University in 1982. The ensuing years have been divided between postings both ashore and at sea with the Fleet and the Marine Corps, travelling and practising all over the world.

His deployments led to service in many different countries and as senior staff officer during recent overseas assignments he’s been able to stay fully involved in travel medicine. Currently he is the Inspector General Military Health Care, looking after clinical governance and the quality of military health care, all of which include travel medicine-related issues.

Health on the high seas

During his junior years in the Navy he served as chief medical officer in a frigate taskforce, preparing crews for their many exotic port visits and having his first exposure to travel medicine. More travel medicine experience came with the Marine Corps, including both arctic and tropical exposures. As his interest grew in public health, disease prevention and infectious diseases, he completed specialist training in community medicine and public health at Leiden University in 1994.

As part of his public health training, Adriaan worked with the Dutch Marines on preparations for their UN Cambodia deployment in 1992-1994. He advised on vaccinations and malaria chemoprophylaxis and developed a health surveillance system, forming the basis for his PhD studies (University of Amsterdam, 1999).

But he was soon being deployed himself. As International Executive Officer 212th MASH, US Army, during MEDFLAG 95-1, Côte d’Ivoire, he provided a public health training course for local doctors and practised in several villages, earning the US Army Achievement Medal. Later tours saw him serve as Commanding Officer NL Field Dressing Station, St Martin after Hurricane Luis in 1995 and, in 1999, as Deputy Force Medical Adviser AFOR, Albania, where he was NATO medical co-ordinator for the refugee camps.

All this was sound preparation for his role as co-founder of the Diploma in the Medical Care of Catastrophes (DMCC) offered by the Worshipful Society of Apothecaries of London, which acknowledges the special needs and abilities of both military and civilian doctors in conflict and catastrophe situations. As Deputy Convener and Examiner for the DMCC he now makes frequent visits to London.

In his years as senior staff officer he’s been involved with Liberia, Sudan, Iraq and Afghanistan, planning all aspects of travel medicine and making inspection visits to the deployed areas.

Sharing expertise

A passion for all things military and medical sees Adriaan using his skills and experience in a variety of ways.

He has co-authored textbooks related to military medicine, preventative medicine, medical care of the catastrophes, ballistic trauma and conflict, and catastrophe medicine, and has written articles for national and international journals. He also peer reviews articles in various journals and is involved in numerous taskforces and executive boards.

Adriaan is a renowned speaker at conferences, delivering presentations on preventive and travel medicine in the military, and has himself been a member of the scientific committee for five consecutive European Conferences on Travel Medicine. He is now preparing a workshop on military medicine for the next CISTM in Boston in May.

Among his personal accolades: the 25th Michael E DeBakey International Military Surgeons Award (USUHS, Bethesda MD, 2008) and FFTM RCPS (Glasg). In 2009 he was knighted to Officer in the Order of Orange-Nassau by Her Majesty Queen Beatrix of the Netherlands.

As the son of an army officer, Adriaan comes naturally by the ability to combine military and personal life, and his career has involved periodic moves for his family including three happy years in England at Northwood. He now lives in Rotterdam with his wife Albertine de Goederen a solicitor, and sons, Coen (15) and Pieter (13). A sporting family (golf, tennis and football), they especially enjoy holidays on the beaches of Zeeland or elsewhere in Europe.



A traveller's tale

Sharon Graham MFTM RCPS(Glasg) did what any sane person approaching her 50th birthday would do – she fled the country! Here she lets us tag along as she puts a new twist on VFR travelling.

Visiting friends and relatives in Borneo

Our trip to Borneo would involve nine flights and a hectic schedule with never more than two nights in the same place, but for once there would be no tents, no sleeping bags... we'd have a bit of luxury as befits our maturing years. Thus we booked into quality hotels and arranged for personal tour guides, one in Sarawak and one in Sabah as these areas remain somewhat independent of each other.

Vaccinations up-to-date and kitted out with malaria prophylaxis, insect repellents, lightweight clothing and waterproofs, we arrived via Kuala Lumpur at Kuching in the southern Sarawak area.

After a night's rest we set off by road and then boat to a 'long house' in the rain forest. Ours was a swish tourist affair, but we did visit a more traditional one and its former head-hunter occupants welcomed us with the local hooch and dancing. We sat enthralled while our gifts were distributed equally among the 38 families that live in the longhouse. We'd stocked up earlier at a local store clearly catering for tourists, with biscuits, tins of food, pens and pencils in multiples of 38 so our gifts could be shared equitably.

We were taken to walk high in the canopy (15 metres above the floor) on precarious wooden planks with so much movement it was hard to believe the ropes would hold us. We could hear but not see birds in the dense greenery, and had a glimpse of skittish squirrel and even more skittish snake.

Off track trekking

Our excursion to Kinabalu National Park and Poring Hot Springs in the northern Sabah region included a view of Mount Kinabalu (highest mountain in SE Asia) and the rarely fruiting rafflesia plant (good job it's rare as it smells like rotting flesh!).



Another day, another plane, and we were walking with our guide in the Danum Valley conservation area, some three hours drive off the main road. This took us deep into primary rain forest, where we saw many birds, three varieties of monkey, snakes, skinks and chameleons, swam in a rock pool where the fish nibbled our feet, and had another canopy walkway experience (much more stable this time). I was only quick enough to get a blurred photo of a pigmy elephant's rear end.

Jungle tattoo

Our first encounter with somewhat distant relatives was when we saw orang-utan high in the forest tree tops preparing their nest for the day's rest. It was here I had my real "travel experience". Before embarking on our first jungle walk we donned long sleeves, long trousers, leech socks and plenty of insect repellent so it was a surprise to suddenly feel something biting my abdomen. Without thinking I pulled the offender away to find I had received a "jungle tattoo" from a lively though not fully-fed brown leech. Small as it was the wound still took 30 minutes to stop bleeding – imagine if the tiger leeches we saw later had bitten me!

Meet the family

A two-hour boat ride took us to Turtle Island, a sanctuary, where we were fortunate to see a turtle lay her eggs and watch some of the previous day's hatchlings being released. We also saw a two-metre long monitor lizard who obviously knew where its next meal was coming!

This was the eve of my 50th birthday and pure coincidence that from a clutch of 65 eggs only 50 had hatched. So as 50 baby turtles were released in my presence, I quietly named each one Sharon. Given their poor survival rate to adulthood I hope at least one Sharon will return in years to come.

The VFR element continued back on the mainland at the orang-utan sanctuary where four arrived at the feeding station. We were particularly lucky as not one had shown up on the preceding three days - a special treat for my special day! These five-to-eight year olds have been reared in the sanctuary and are about to be released into the rain forest, but always with the option of returning occasionally for a little human contact.

The travel health perspective

We chose luxury and, compared to our previous travelling in other parts of SE Asia, risks were minimal. The vehicles were modern, roads occasionally potholed but apart from the 4X4 element in the Danum Valley no different to the UK. Hygiene in hotels and restaurants was of a high standard.

Research before departure indicated that malaria was only in the Danum Valley area, where even the locals discussed malaria in terms of its seasonal effect on local populations. Guided by web-based travel sites we started our medication (Malarone®) a day before entering the valley and had thus finished the course before going back to work on return (I hate that feeling of taking medication for weeks after the holiday is over). That one leech aside, there were no adverse health issues.

Tips?

If you fancy going there, travel light and travel around to see the variety of flora and fauna. And oh yes, I look upon my photos of orang-utans as pictures of my cousins and my friends and of turtles as my new family – so if you happen upon a turtle named Sharon, do say hello!



ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW
My College • Your College • Our College

DEVELOP YOUR KNOWLEDGE

Foundation in Travel Medicine

A course for health professionals with an interest in Travel Medicine

The **Foundation in Travel Medicine** is a six-month e-learning course including:

- Introductory educational training session (2 days, attendance required)
- Four e-learning units with assignments
- A personal adviser allocated to each student
- Access to the course website, TRAVAX and RCPSG library catalogue
- Online staff/student communications


Register now to reserve your place

NEXT INTAKE: 23-24 May 2011

COURSE FEE: £900*

*Expenses incurred during the residential components are additional.

More information and applications:
Lesley Haldane, Course Coordinator | lesley.haldane@rcpsg.ac.uk
Ann McDonald, Course Manager | ann.mcdonald@rcpsg.ac.uk
0141 221 6072 | www.rcpsg.ac.uk



ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW
My College • Your College • Our College

Faculty of Travel Medicine

AFFILIATE MEMBERSHIP

Are you a:

Practice Nurse or GP?	Microbiologist?
Occupational Health Specialist?	Pharmacist?
Public Health Specialist?	Expedition Medicine Specialist?
Migrant Health Specialist?	Allied Professional?

Affiliate Membership of the Faculty of Travel Medicine of the Royal College of Physicians and Surgeons may be for you.

Affiliate Members receive:

- Free hard copy of Emporiatrics (two issues per year)
- Discounted admission to educational events
- Access to journals and books via the Knowledge Network and SHELCAAT
- Research support
- Access to extensive international professional network
- Discounted subscription to the journal *Travel Medicine and Infectious Disease*

Annual subscription fee: £25 (no formal qualification required)

Sign up now
Contact Margaret Conaghan
Tel: +44 (0)141 2216072
e-mail: Margaret.conaghan@rcpsg.ac.uk
or download an application form: www.rcpsg.ac.uk

Travel Health for Pharmacists

In the last issue of *Emporiatics*, Professor Larry Goodyer FFTM RCPS(Glasg) described the growing trend for travel medicine being delivered in pharmacies in the UK. This time he describes the undergraduate education of pharmacists and takes a more detailed look at a specialist elective in travel medicine.

Development of current and future pharmacy undergraduate education

The pharmacy degree is of four years' duration leading to a Masters in Pharmacy, following which students undertake a one year pre-registration period in practice, usually in the community or a hospital.

This practice experience is currently completely separate from the university-based degree being run through the General Pharmaceutical Council (GPhC). At the end of that year they are signed off by their employer as regards meeting various competencies and must pass a final examination set by the GPhC before registering.

Compared to medicine and nursing though, the amount of compulsory placement experience during the four year degree is very small, usually little more than a few weeks.

To better prepare pharmacists for what is perceived as an importantly increased clinical role, particularly in the community sector, new pharmacy degree standards are currently being consulted upon and will be in place over 2011. Together with the ongoing Modernising Pharmacy Careers review, the degree and pre-registration year are expected to be harmonised with more placement experience for pharmacists to bring their training in line with the other professions.

Travel medicine in the undergraduate curriculum

In most schools of pharmacy, travel medicine is only introduced briefly in a few sessions. However, pharmacy students in their final year can undertake one or more specialist "elective" modules and I run one in travel medicine in my own school of pharmacy at De Montford University.

As pharmacists we are quite focused on "product", therefore the lectures, seminars and workshops not only cover the pharmaceuticals used in travel medicine, but also other products such as repellents, water purification and first aid. We introduce the usual clinical topics associated with travel medicine, ranging from vaccination, travellers' diarrhoea and malaria to environmental extremes.

Novel approaches to learning

It is, however, important that the principles of risk assessment and management are understood as being at the core of travel medicine practice. To this end much of the learning is achieved through novel approaches to the course work.

Each group of six students receives a different case scenario that they must investigate and form a risk assessment and management plan for. Each case represents a particular aspect of a traveller with special needs, such as diabetic, immunocompromised or pregnant, which is written up and given as a presentation. In this way the whole group can benefit from the feedback concerning the particular traveller profile.

This theme of risk assessment/management is also a focus of the end of module examination, which is just a single question consisting of a case scenario and a range of data from the NaTHNaC and TRAVAX databases. Students must analyse this data and not only form a risk assessment and management plan, but also demonstrate an understanding of the disease processes involved.

The evidence base is thin or controversial in many areas of travel medicine and students are each assigned a research paper to evaluate critically. They also work in pairs to produce a short opinion on an evidence-based question on the papers they have reviewed and any others they can find.

For instance, for the question: How useful is oral rehydration and the recommendations regarding safe food and water in treating and preventing travellers' diarrhoea, students would have been given two papers with differing or conflicting results upon which they must comment.

In conclusion, pharmacy undergraduate education is about to change quite markedly to better prepare pharmacists for roles such as delivery of travel medicine services. It is possible through an elective option for some pharmacists to develop an interest and specialism in travel medicine before they graduate.

Larry Goodyear is head of the School of Pharmacy at De Montford University.

Publications

Migrant Health Guide

This comprehensive guideline is a free online resource from the Health Protection Agency, aimed at supporting primary care practitioners looking after our migrant population. It was developed by a multidisciplinary team in collaboration with the HPA's travel and migrant health section, and is endorsed by the Royal College of General Practitioners and the Royal College of Nursing.

Recognising that migrant patients may have additional or more complex health needs, the guide profiles over 100 countries based on their disease epidemiology and UK census ranking. Topic pages on each infectious disease guide practitioners in diagnosis and management according to UK national guidelines. You can also sign up for alerts when significant changes in migrant health occur. www.hpa.org.uk/migranthealthguide

A focus on travellers' diarrhoea

Also from the HPA, this new report arms travel health advisers with detailed information on the most common infection reported in international travellers. The highest risk countries for gastro-intestinal illness in British travellers are India, Thailand, Pakistan and Morocco with Egypt topping the stats. With no vaccine available, it stresses preventative measures on food and water advice and personal hygiene, and urges health professionals dealing with TD back home to report a history of travel, including the destination, or record "no travel" to aid data collection in the UK. www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1287146186602

Good asthma care for adults and children with asthma

This guide from the charity Asthma UK describes what a good service should look like in line with recommended clinical guidance and UK and international best practice. Leaflets on travelling with asthma are available to purchase. www.asthma.org.uk/how_we_help/good_asthma_care/guide_to_good_asthma.html Health Protection Scotland also provides an asthma advice sheet for travellers at: www.fitfortravel.nhs.uk/advice/advice-for-travellers/asthma.aspx

Rabies guidelines

The HPA has updated its guidelines relating to pre- and post-exposure prophylaxis. The new rabies post-exposure form incorporates the risk assessment tool, country risk table and the Rabies Immunoglobulin Calendar-Calculator. The Calendar-Calculator can be used separately if required. www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Rabies/Guidelines/

Travel-related venous thrombosis

New guidance from the British Committee for Standards in Haematology is at: www.bcshtguidelines.com/documents/travel-related_vte_bjh_2011.pdf

AHA Guidelines for CPR and ECC science

The American Heart Association *Guidelines for cardiopulmonary resuscitation and emergency cardiovascular care science* was published in *Circulation* in October 2010. The newest development is a change in the basic life support sequence of steps from "A-B-C" (airway, breathing, chest compressions) to "C-A-B" for adults and paediatric patients (excluding newborns). http://circ.ahajournals.org/cgi/content/full/122/18_suppl_3/S640

WHO Global status report on alcohol and health

The 2011 report gives a comprehensive perspective on global, regional and country consumption of alcohol. Harmful use of alcohol has many implications on public health and traveller accidents abroad. www.who.int/substance_abuse/publications/global_alcohol_report/en/index.html

WHO Global status report on road safety. (2009) recommends a blood alcohol concentration limit of 0.05 gram per decilitre (g/dl) for adult drivers and reports: "Less than half of countries worldwide have drink-driving laws set at this limit." www.who.int/violence_injury_prevention/road_safety_status/2009/en/index.html

Recommendations on immunisation

A revision of the general recommendations from the Committee on Immunization Practices has been published by the Centers for Disease Control and Prevention (CDC) in *Mortality and Morbidity Weekly Report (MMWR)* Ref: January 28, 2011 / 60(RR02), 1-60 www.cdc.gov/mmwr/

From the journals

Dhingra, N; Jha, P; Sharma, VP et al. (2010) "Adult and child malaria mortality in India: a nationally representative mortality survey". *The Lancet*, Early Online Publication 21 October 2010. doi:10.1016/S0140-6736(10)60831-8 [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)60831-8/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60831-8/abstract)

Rey, S; Zuza, I; Martinez-Mondejar, B et al. (20 October 2010) "Imported malaria in an area in southern Madrid, 2005-2008". *Malaria Journal*, 9:290doi:10.1186/1475-2875-9-290 www.malariajournal.com/content/9/1/290

Behrens, RH; Carroll, B; Hellgren, U, et al. (4 October 2010) "The incidence of malaria in travellers to South-East Asia: is local malaria transmission a useful risk indicator?" *Malaria Journal*, 9:266. www.malariajournal.com/content/pdf/1475-2875-9-266.pdf

Moore, J (2010) "Preparing people for adventurous travel", *Practice Nurse*, 40(10), pp. 36-40.

Grieve, S (2011) "Meningitis and travel", *Practice Nurse*, 41(1), pp. 23-26.

Deer, B (2011) "How the case against the MMR vaccine was fixed", *BMJ*, 342:c5347, pp. 77-82.

Review

Schlagenhauf, P; Adamcova, M; Regep, L; Schaerer, MT and Rhein, H (9 December 2010) "The position of mefloquine as a 21st century malaria chemoprophylaxis". *H Malaria Journal*, 9:357. www.malariajournal.com/content/pdf/1475-2875-9-357.pdf

In-depth review

Patel, D (2011) "Occupational travel", *Occupational Medicine*, 61 (1), pp. 6-18. <http://occmed.oxfordjournals.org/content/61/1/6.full>

Noone, P (2011) "Global health, social participation, disability and employment", *Occupational Medicine*, 61 (1), p. 71. <http://occmed.oxfordjournals.org/content/61/1/6.full>

Conferences

USA

8-12 May 2011
International Society of Travel Medicine
CISTM 12
Boston, Massachusetts
www.istm.org

SINGAPORE

2-5 May 2012
9th Asia Pacific Travel Health Conference/
5th Regional Conference ISTM
Grand Cophthorne Waterfront Hotel
www2.kenes.com/apthc/Pages/Home.aspx

IRELAND

6-8 June 2012
NECTM4
Northern European Conference on Travel Medicine
Burlington Hotel Conference Centre
Dublin
www.nectm.com



triennial conference

SETTING STANDARDS, ACHIEVING EXCELLENCE

The Royal College of Physicians and Surgeons of Glasgow 2nd Triennial Conference for Physicians, Surgeons, Travel Medicine Practitioners, Nurses, Dentists and associated professionals

TRAVEL MEDICINE SYMPOSIUM 11 NOVEMBER 2011 - AT THE SECC, GLASGOW

The Symposium held on 11.11.11 for the Faculty of Travel Medicine in this *2nd Triennial Conference* will have a military theme as well as considering topics such as expedition medicine, preparation for long term expatriation and charity challenges

Highlights include:

- The Livingstone Lecture: David Livingstone and Military Travel Medicine: What do they have in Common? Lt Col (Dr) Mark Bailey - RAMC
- The Triennial Travel Medicine Lecture: Malaria and the Military Col. Alan Magill, President of the International Society of Travel Medicine
- From Crimea to Afghanistan: Infections on the Battlefield, Group Captain Andy Green, RCDM
- The Highs and Lows of the Expedition Doctor, Dr Alastair Miller
- Preparation of the Long Term Traveller, Dr Ted Lankester
- Walking the Walk: Preparing for Charity Challenges, Gillian Farrell

FOR A FULL PROGRAMME AND FURTHER INFORMATION PLEASE VISIT WWW.RCPSG.AC.UK
EMAIL TRIENNIALINFO@RCPSG.AC.UK



Supported generously by the William & Elizabeth Davies Foundation Trust