

TRAVEL MEDICINE EDUCATION

How this has evolved in the UK.

What, if any, new initiatives are needed?

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**Education is not the same as providing
information**

‘First listen to your audience’

The Beginning

The need for information

General Practitioners, Practice Nurses, Private Travel Clinics, Infection and Tropical Disease Specialists (and the public)

SCIEH and now Health Protection Scotland

Continually updated and immediately available information

From before 1982: Phone call advice (100+ calls a day)

From 1985: 'Teletext' (needed special equipment) and then Internet web-based



The need for training

Short day courses on how to use the TRAVAX information

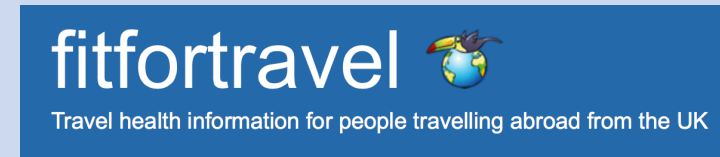
From 1988: Initially in Glasgow and later by Diploma/MSc students

Further Internet developments

1985

Fit for Travel (*Health Protection Scotland*)

- On-line advice for the public [www://FitforTravel.nhs.uk](http://www.FitforTravel.nhs.uk)



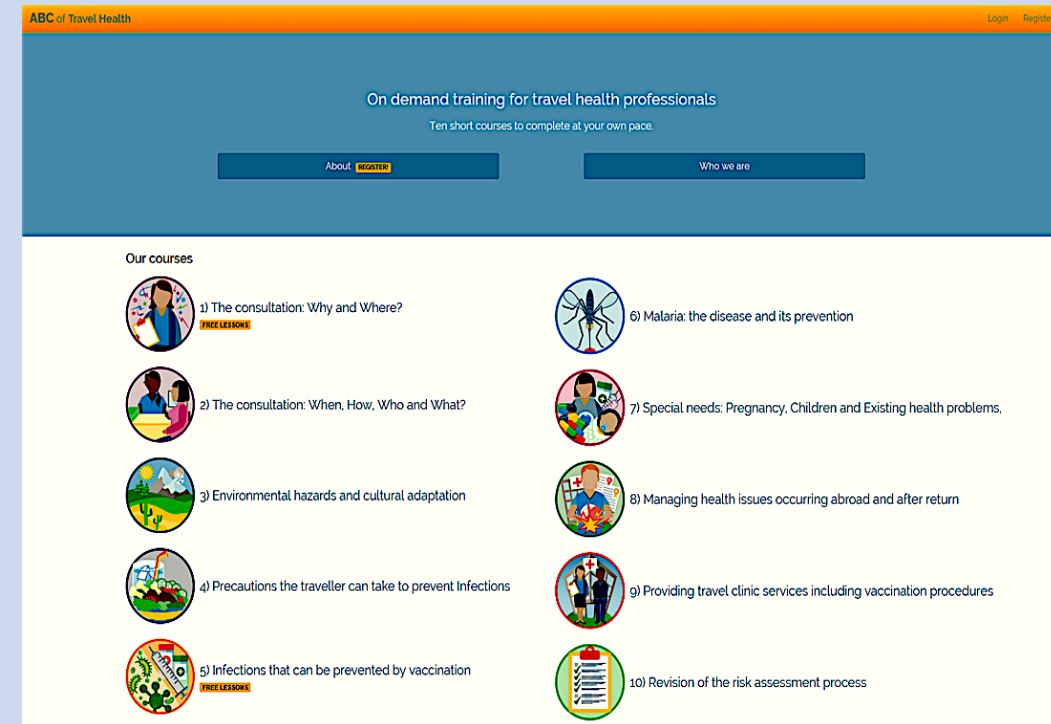
2017

The ABC of Travel Health (*BGTHA*)

- A training or refresher course easily accessible 'in your own time) at work or at home at low cost
- CPD approved (23 hours) [www://abcoftravehHealth.com](http://www.abcoftravehHealth.com)

Also useful for non-health care workers such as:

- leaders of overseas volunteer groups, school and university electives, expedition leaders, travel agents





Higher level training and qualifications

1995

Postgraduate Diploma, MSc and Foundation courses in Travel Medicine

- University of Glasgow (Departments of Public Health and Infectious diseases)

2005

Diploma and Foundation courses moved to the Royal College of Physicians and Surgeons Glasgow)

2014

Undergraduate Modules and Intercalated BSc courses in Travel Medicine and Global Health

- University of Glasgow (Department of Primary Care)

Formal Networking and Professional collaboration

1995

British Travel (and Global) Health Association: education and networking



2015

The Faculty of Travel Medicine for standards of practice and qualifications within the Royal College of Physicians and Surgeons (Glasgow)



International Travel Medicine Conferences

e.g. ISTM, NECTM, APTHC



Academic global collaboration

e.g. BGTHA, RCP&S and Ramachandra Medical College and Research Institute, Chennai



- Currently using the 'ABC of Travel Health' course to facilitate setting up a Travel Medicine and Global Health Faculty

The 'ABC of Travel Health'

ABC of Travel Health

[Login](#) [Register](#)

On demand training for travel health professionals

Ten short courses to complete at your own pace.

[About](#) [REGISTER](#)

[Who we are](#)

Our courses



1) The consultation: Why and Where?

FREE LESSONS



2) The consultation: When, How, Who and What?



3) Environmental hazards and cultural adaptation



4) Precautions the traveller can take to prevent Infections



5) Infections that can be prevented by vaccination

FREE LESSONS



6) Malaria: the disease and its prevention



7) Special needs: Pregnancy, Children and Existing health problems.



8) Managing health issues occurring abroad and after return




9) Providing travel clinic services including vaccination procedures



10) Revision of the risk assessment process

The course includes
140+ self-assessed
questions based on
the course material

Students have 3
attempts before
being given the
correct answers

 Which of the following st... Hotfix

Which of the following statements are correct regarding schistosomiasis?

	Correct answer
It can be contracted in fresh water swimming pools	False
It can cause longterm bowel and bladder complications	True
The source is human faeces or urine contaminating fresh water where the snail vector is present	True
Most cases of seen in the UK are contracted in Malawi	True
There is no effective treatment for schistosomiasis	False

4) Precautions the traveller can take to prevent Infections

[< back to all courses](#)



Lifestyle precautions



1 Preventing mosquito bites



2 Food safety



3 Water safety



4 Travellers' diarrhoea



5 Washing, dental care and going to the toilet



6 Animal bites: Rabies



7 Sexual, blood and body fluid transmitted infections



Food safety

Food may be contaminated at any stage from production to consumption. Crops may be irrigated with contaminated water or fertilised with untreated sewage.

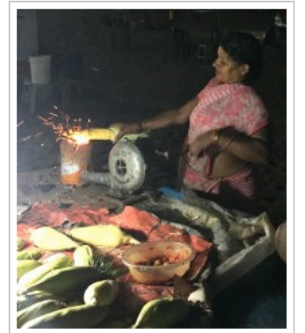
Meats should normally be cooked well and eaten promptly to destroy pathogens

Chicken, especially when reared intensively, is a source of infections like salmonella and campylobacter unless it is fully cooked.

Pork is traditionally not eaten in Jewish or Islamic communities. This is for religious reasons but it may have been originally because pigs are scavengers eating anything they can get hold of including human faeces. Partially cooked pork can be a source of diseases such as cysticercosis and tapeworm. This can still be seen in countries such as India where wild pigs or boar are common.

Lamb and mutton are often eaten lightly cooked or 'rare' as in France where toxoplasmosis, frequently asymptomatic, is common as a result. Outbreaks of E.coli (ETEC) infection may be contracted from infected lamb which causes a serious illness usually most severe in young children or the elderly.

Beef when not cooked fully as may happen when burgers are cooked on barbecues can cause food poisoning involving a variety of organisms such as salmonella and E.Coli. In some countries such as India beef is rarely eaten, because of the 'sacred' nature of cattle



Food freshly cooked in front of you is likely to be safe.



Water filtering molluscs can be source of viruses such as hepatitis A

Fish properly cooked is likely to be safe but occasionally toxins are heat resistant

Shellfish may sometimes contain toxins not destroyed by cooking which cause gastrointestinal or neurotoxic symptoms. Bivalve shellfish (e.g. cockles, oysters and clams) that feed by filtration of water can concentrate pathogens in their flesh such as hepatitis A virus. Adequate cooking would normally kill viruses but these shellfish are often eaten raw.

Dairy products

Milk and other dairy products such as cream, yoghurt, cheese and ice cream may be unpasteurised in some countries. However, in much of South Asia, milk is traditionally boiled before use - if in doubt this example should be followed.



Care must be taken with salads and usually avoided unless you can be sure they have been grown on clean conditions,

Salads and fruits

It is difficult to ensure the safety of fresh salads and if in doubt they should be avoided. However, items such as cucumber which can be peeled and tomatoes which have been sterilised in a chlorine solution are likely to be safe. It is unusual to find lettuce (which cannot be safely cleaned) in salads in tropical countries. since they do not grow well in the heat.

Fruits like bananas are usually safe because they are easily peeled. Other fruits should have their skins removed after washing carefully with sterile water.



The flesh inside fruits and nuts that can be peeled or broken open is likely to be safe



Uncommon infections in travellers for which no vaccines are available in the UK



1 Spread by mosquitoes: Dengue, Chikungunya, Lymphatic filariasis, Zika virus



2 Spread by flies: Leishmaniasis, Onchocerciasis and Trypanosomiasis



3 Spread by ticks: Lyme disease (borreliosis) and Tick-bite Fever



4 Spread through the respiratory route: Legionnaires' Disease and Norovirus infection



5 Spread water to skin: Schistosomiasis, Leptospirosis and Hantavirus infections



6 Spread animal faeces: Strongyloides, Larva migrans, Hookworm, Toxoplasmosis, Toxocariasis



7 Spread by blood or sexually: HIV infection, Hepatitis C, Viral Hemorrhagic Fevers



Spread by mosquitoes: Dengue, Chikungunya, Lymphatic filariasis, Zika virus

Hotfix

Dengue

Dengue fever, due to a flavivirus, is spread by the *Aedes aegypti* mosquito, in most tropical and subtropical parts of the world. It presents with a flu-like illness, accompanied by severe muscle and joint pains also known as "break-bone fever" and there is often a rash. Occasionally a serious complication, dengue haemorrhagic fever occurs.

There is no specific treatment and currently, no vaccine is available but the illness usually resolves with supportive treatment. The *Aedes* mosquito usually bites during the daytime.

For more details about [Dengue Fever](#) see this WHO fact sheet



The rash in dengue and chikungunya is similar

Chikungunya

Chikungunya is also due to a flavivirus and has only recently been recognised as distinct infection from dengue since it causes a similar febrile illness with fever and a rash. A serious haemorrhagic shock syndrome, as in dengue, is unusual.

For more details about [Chikungunya](#) see this WHO fact sheet

Lymphatic Filariasis

Filariasis occurs in many tropical and subtropical regions and is uncommon in travellers since repeated infection is usually necessary to cause serious symptoms. It is spread by blood-sucking black flies and mosquitoes.

- It is caused by thread-like parasitic roundworms and the larval forms transmit the infection between humans by mosquito bites.
- It can cause lymphoedema due to obstruction of the lymphatic system which is usually most obvious in the limbs. It can be treated in the early stages but once the lymphatics are obstructed only symptomatic treatment is possible.
- Prevention is through mosquito bite avoidance.

For more details about [Filariasis](#) see this WHO fact sheet

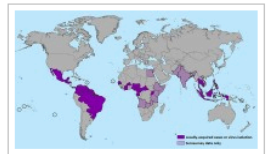


Lymphoedema from longstanding filariasis

Zika virus

This infection is also due to a flavivirus and is present in South America especially Brazil, Central America (including the Caribbean Islands), southern states of the USA, islands in the western Pacific and some African countries. It also occurs in Central Asia including the Indian subcontinent.

- Like dengue, chikungunya and yellow fever transmitted through the day biting *Aedes Aegypti* mosquito.
- There is a small risk of sexual transmission and it can be transmitted from mother to the unborn baby.
- The illness is asymptomatic in around 80% of instances but if not it can cause mild fever, rash and conjunctivitis as its main features.
- If a mother is infected during pregnancy there is an association with microcephaly and Guillain Barre syndrome - the incidence of this is uncertain.
- As yet there is no widely available vaccine (2017)



Distribution of Zika virus (ref CDC 2017)
CLICK TO ENLARGE

Remember to always check [TRAVAX](#) or [TravelHealthPro](#) websites for updates



It includes the immediate management of travel related illnesses

Introduction

Diarrhoea affects many people travelling from areas with high standards of public hygiene to areas with lower standards.

The incidence is higher in those going to Africa or poorer parts of Asia and South America, for example, than those going to Mediterranean countries, Australasia or North America.

Prevention is primarily related to avoiding contaminated food, water and personal hygiene such as hand washing before eating.

Acute symptoms

Most cases of diarrhoea in travellers last less than three to four days. Immunity to a specific type of *Escherichia coli* is thought to last about six months, but further episodes are to be expected when staying in high-risk areas due to different serotypes.

With acute diarrhoea, it is essential to try and prevent dehydration through maintaining a good fluid intake and note the signs that medical help may be needed

As dehydration becomes more severe:

- The skin and mucous membranes become dry
- The eyes appear sunken
- Skin elasticity is reduced
- Urine becomes darker in colour
- Blood pressure falls
- Heart rate and breathing becomes rapid
- Delirium and unconsciousness follow

Progressive signs of dehydration

Prevention is considered in Course 4

Persistent and atypical symptoms

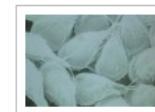
These require further evaluation as other organisms such as giardia and amoebiasis may be a problem.

Malaria must be excluded and fever is present

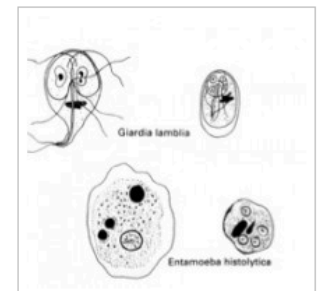
Giardiasis

The onset of symptoms is usually gradual with loose motions (often frothy and smelling of bad eggs) mostly passed in the morning. Sudden onset of profuse runny diarrhoea is unusual.

- Symptoms may appear weeks or months after exposure and the diagnosis is often delayed or confused, for example, with irritable bowel syndrome.
- A negative stool sample for trophozoites or cysts does not exclude the disease and empirical treatment may be necessary.



To see motile giardia trophozoites, stool must be examined as soon as it is passed



Drawings of a giardia trophozoite and an amoeba as well as their cysts

Amoebiasis

This infection can cause fever, diarrhoea and hepatitis.

There may be delayed or persistent problems such as bowel strictures



It includes advice on setting up travel medicine services



Travel Health services within NHS



1 Introduction



2 Services and Facilities in the NHS setting



3 When and when not to charge



Services within Independent Travel Clinics



1 Introduction



2 Considerations when setting up a private travel clinic



3 Marketing, charging and banking



4 A staff recruitment checklist



Advice on the use of vaccines in the clinic



1 Informed consent



2 Storage and equipment



3 The administration of vaccines



4 Anaphylaxis and being prepared for adverse reactions



5 Recording the consultation and vaccination details



On-line travel health information resources



1 Essential web resources for UK practitioners



By injection

Injection (parenteral) methods of administering vaccines are subcutaneous (just beneath the skin), intramuscular (within the substance of the muscle), and intradermal within the dermis (the skin itself).

- If more than one vaccine is given at the same time it can be prudent to use different sites so that if a local reaction occurs then the responsible vaccine can be identified

Subcutaneous injections

These are given just beneath the skin into a pinched up fold of skin with the needle at about a 45-degree angle and usually into the outer aspect of the upper arm.

Intramuscular injections

These are usually given again into the upper outer arm and occasionally the anterolateral thigh (muscle contractures are a rare complication)

- The needle is inserted at a 90-degree angle to the skin, through the skin and subcutaneous tissue into the underlying muscle.

Intradermal injections

These are given into the upper layer of the skin with the needle at an angle of 10-15 degrees and the bevel facing upwards. It must produce a raised 'bleb' in the skin.

- The only vaccine given routinely in the UK intradermally is BCG against tuberculosis.
- However, in some other countries and in the UK rabies vaccine is given (**off licence**) to reduce cost. This is an option for travellers such as backpackers on a tight budget who might otherwise decide to 'risk it' because of the high cost.
- BCG **must** be given securely intradermally because if the vaccine goes subcutaneously an abscess is almost certain to develop at the site of the injection.



A successful intradermal vaccination

Oral and intranasal administration

- An orally administered Sabin live poliomyelitis vaccine is used in countries where the injectable Salk inactivated vaccine is not part of the national vaccination programme.
- An intranasal spray influenza vaccine is used as part of the national childhood vaccination programme in the UK and some other countries. The injectable form is used for adults when indicated.

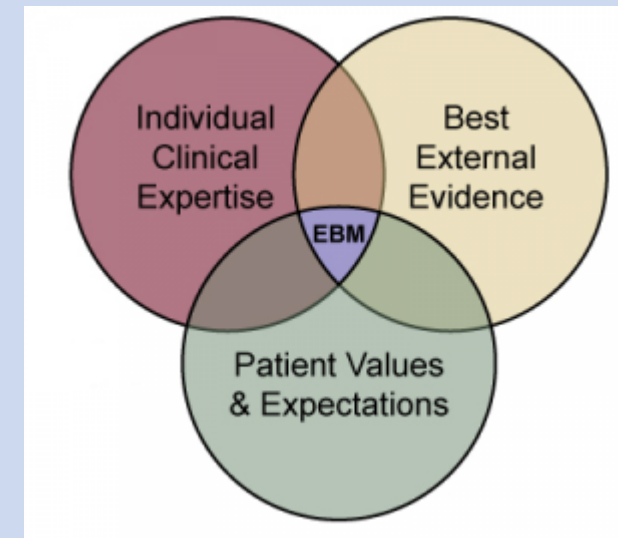
Questions for feedback

**Do Travel Medicine practitioners understand
how the information they use to advise travellers
is accumulated and updated?**

Is its accuracy just taken for granted?

Estimating what is good evidence in travel medicine practice involves all of these 3 criteria

- **External evidence** is found through research, based on accumulating empirical information using the scientific methods of humility (truth is relative not absolute), observation and evaluation.
- **Clinical expertise** refers to the clinician's cumulated, education, experience and clinical skills
- **Patient values** which are the unique preferences, concerns and expectations each patient brings to the consultation



Why are Travel Medicine and Global Health are inseparable?

The Interdependence of Global and Travel Health

Malaria (everyone could benefit from eradication)

- The most effective way to prevent malaria in travellers is for it to be eradicated in the countries being visited



HIV/AIDS (travel caused the pandemic)

- The exponential increase in overland and air travel in the 1970/80s started the spread of HIV from Central Africa to the rest of the world



Influenza (changing epidemiological patterns)

- Air travel means pandemics now develop very much more rapidly – over a few months not a few years



Thank you coming !