

CARE OF EMPLOYEE TRAVELLING TO DEVELOPING COUNTRIES

Company Strategy

Employees working in developing countries face multiple challenges and company management has an obligation of care. All companies should compile a strategy dealing with the unique risks their employees may face. This document discusses some of these issues.

Employees traveling to developing countries should be medically fit. Laboratory tests, together with a general assessment by a health care provider are essential in evaluating employees prior to travelling. The following laboratory tests are suggested:

- Full blood count
- Fasting glucose – so as to exclude diabetes mellitus
- Lipogram
- Urea/creatinine – to assess kidney function
- GGT,AST and ALT – to assess liver function
- PSA – to exclude abnormalities of the prostate in males
- Tests to exclude the use of drugs of abuse

In addition preventive measures for the following infectious diseases should be considered:

- YELLOW FEVER
- MALARIA
- FOOD AND WATER-BORNE DISEASES
- RABIES
- BILHARZIA
- TUBERCULOSIS

YELLOW FEVER

Yellow fever is found in certain African (see Table 1) and South American countries. The disease is prevented by vaccination which must be given at least 10 days prior to entering an area of risk. A World Health Organisation (WHO) accredited certificate of vaccination is mandatory for entry into some countries (see Table 1). The certificate of vaccination is valid for 10 years.

Vaccination is contraindicated with:

- egg allergy
- pregnancy
- individuals with a weakened immune system
- children under 9 months of age

The following conditions increase the risk for adverse events and individuals with these conditions should not be vaccinated:

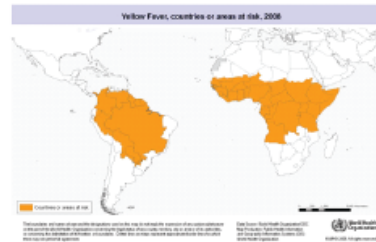
- weakened immune system
- chronic medical conditions associated with varying degrees of immune deficiency e.g. chronic renal disease, chronic liver disease, diabetes mellitus
- immunosuppressive and immunomodulatory therapies
- breast feeding (risk to the infant)
- 60 years of age and older

A letter of waiver should be issued to those for whom vaccination is contraindicated or may be hazardous. The risk of infection however must be considered and unvaccinated individuals should be discouraged from traveling to high risk areas.

Table 1: Areas with Risk of Yellow Fever Virus Transmission in Africa

Countries with Risk of Yellow Fever Virus Transmission (require proof of vaccination)
Angola, Benin, Burundi, Cameroon, CAR, Chad, Congo, Côte d'Ivoire, DRC, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Mauritania, Niger, Nigeria, Republic of the Congo, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda
Countries with Low Potential for Exposure to Yellow Fever Virus ² (should not require proof of vaccination)
Eritrea, São Tomé, Somalia, Tanzania, Zambia

<http://www.cdc.gov/yellowfever/maps/africa.html>, accessed 10 February 2014



MALARIA

Malaria is transmitted by the night-biting anopheles mosquito.

The disease is prevented by:

- avoiding mosquito bites
- using prophylactic medication

Early diagnosis and treatment of those who become ill after travel to a malaria area is essential.

<http://allaboutchris.org/wpcontent/uploads/2012/08/Malaria.png>

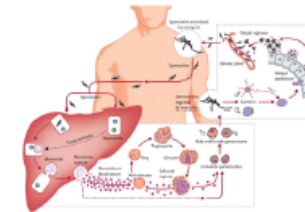
Utilisation of Prophylactic Medication

Ideally medication should be started prior to travel so that effective serum levels may be reached before exposure occurs. In addition, alternative medication may be required should side effects develop. Travellers must be informed of the importance of completing the course of medication as parasites inoculated just prior to departure from the malaria endemic areas must be eliminated.

Recommended medications:

- MEFLOQUINE
- DOXYCYCLINE
- MALANIL® (ATOVAQUONE AND PROGUANIL)

Healthcare providers should prescribe chemoprophylaxis bearing in mind adverse events of medication and the individual's health profile.



Early Treatment of Those Who Become Ill

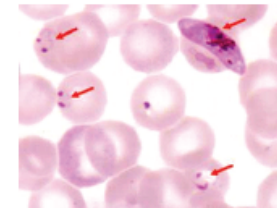
Early diagnosis of malaria improves the prospect of recovery and travellers must be informed of the importance of seeking early medical care. Atypical presentations of malaria should be emphasised so as to avoid delay in presentation. Health care providers could take advantage of supplying their patients with request forms that allow them access to laboratory testing prior to medical consultation and thereby facilitating early diagnosis.

Laboratory Tests for the Diagnosis of Malaria

Laboratory test suggested for the diagnosis of malaria include:

- Full blood count and differential
- Thick and thin malaria smear
- Malaria antigen test
- QBC -Quantitative buffy coat

If the initial testing is negative, tests should be repeated at least daily until the patient's condition improves as false negative results are known to occur due to low parasite counts.



Malaria parasites in red blood cells

Laboratory Tests for the Assessment of the Severity of Illness in Patients Diagnosed with Malaria

While clinical assessment is critical in the staging of the severity of illness, laboratory tests may be of assistance. Suggested tests include:

- Parasitaemia (a high parasite count is associated with severe disease)
- Liver functions
- Renal functions (UCE)

FOOD AND WATER-BORNE DISEASES

Many bacterial, viral and parasitic illnesses are transmitted through food and water. Safe food and water hygiene should be observed so as to reduce the potential of acquiring these illnesses.

Vaccination against common pathogens transmitted through food and water is essential for travellers especially those traveling to developing areas.

Vaccines to be considered include:

- Hepatitis A vaccine
- Typhoid vaccine
- Polio vaccine

Hepatitis A vaccine

Infection with Hepatitis A is one of the most common vaccine preventable diseases associated with travel. Infection in older children and adults is often associated with severe illness. Vaccination with Hepatitis A vaccine is strongly recommended for all.

Diagnosis: Hepatitis A is diagnosed with serology testing on blood – a positive Hepatitis A IgM is diagnostic.

Typhoid vaccine

Typhoid fever is an important infection in those travelling to developing countries. Illness is often severe and may be life threatening. Vaccination is especially important in individuals travelling to or residing in rural areas.

Diagnosis: Typhoid fever is diagnosed by isolating the bacteria in the blood (blood culture) or stool.

Diarrhoea

Diarrhoea is a common illness in travellers principally prevented by the observance of food and water hygiene. Standby therapy for diarrhoea can be prescribed for individuals who will not have access to acceptable medical facilities. Antibiotic reagents (e.g. ciprofloxacin), together with anti-diarrhoeal agents (contraindicated in small children), are recommended. It is important to warn travellers that diarrhoea may be a symptom of malaria and that they should seek medical attention if they are extremely ill or the diarrhoea does not improve.

Laboratory tests for the assessment of diarrhoea

Travellers who are febrile or who have severe diarrhoea should be investigated. In addition to malaria studies, a stool for microscopy, culture, sensitivity and detection of parasites should be submitted to the laboratory. Stool for Clostridium difficile detection should be requested in those with chronic diarrhoea, especially if there is a history of prior antibiotic use; those on H2 antagonists; and in those with chronic inflammatory bowel disease or other chronic debilitating illness.

Parasitic infections of the intestine

All travellers and those residing in developing countries are at risk for parasitic infections of the gastrointestinal tract. Referring a stool for identification of parasites should be considered in these individuals especially if they are symptomatic, but can be considered periodically as part of the routine investigation of those working or residing in developing areas

RABIES

Rabies is a life threatening disease transmitted by animal bites. Travellers must be warned to avoid contact with animals. They should understand the urgency of seeking post- exposure prophylaxis should they be bitten.

Post- exposure prophylaxis consists of:

- cleaning the wound
- injection of rabies immunoglobulin into the wound
- a series of rabies vaccine injected intramuscularly

Physicians should consider pre-exposure prophylaxis for individuals who are at high risk for exposure to potentially rabid animals and those who will be resident in areas where post- exposure prophylaxis is unlikely to be available. Pre- exposure rabies vaccination consists of a course of rabies vaccine administered prior to any animal bite.



BILHARZIA

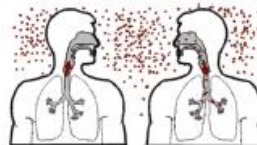
Bilharzia is found in rivers and streams in many countries. Travellers should be counselled regarding the importance of avoiding exposure to the parasite.

Infection should be considered in all individuals potentially exposed to the parasite. While serology is helpful in individuals with no history of infection, the diagnosis should be confirmed by visualising the parasite in urine and stool referred to the laboratory.



TUBERCULOSIS

Tuberculosis is common in developing countries and should be considered in individuals presenting with suggestive symptoms. Exposure to tuberculosis can be documented via the Quantiferon T.B. gold assay. In those with suspected disease clinical specimens should be referred for detection of mycobacteria.



TETANUS, DIPHTHERIA PERTUSSIS AND INACTIVATED POLIO VACCINE

The Tetanus, Diphtheria and Pertussis vaccine should be recommended to all travellers regardless of their destination as this is considered a routine adult vaccination. The vaccine is indicated for all adults every 10 years. Inactivated polio vaccine should be administered to those traveling to rural areas.

TRAVEL INSURANCE

Travel insurance should be considered for all as illness and injury is a real risk for travellers and those residing in developing countries. The risk is compounded as medical facilities may be sub-optimal in many countries and evacuation of ill patients may be indicated. The high cost of evacuation and the necessity of case management re- enforces the importance of travel insurance.

PRE- EMPLOYMENT SCREENING FOR DRUGS OF ABUSE

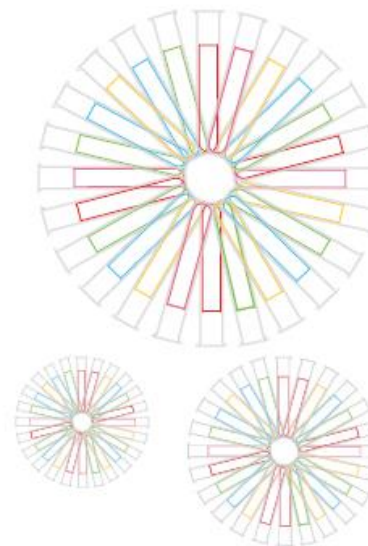
Companies should consider pre-employment screening for drugs of abuse

EMPLOYEES EXPOSED TO HAZARDOUS CHEMICAL SUBSTANCES

Tests to monitor employees who are potentially exposed to hazardous chemical substances should be periodically conducted

References:

CDC 2014, Travellers' Health, <http://wwwnc.cdc.gov/travel/diseases>
WHO 2012, International Travel and Health, <http://www.who.int/ith/en/>



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