THE PRE-TRAVEL CONSULTATION

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Some Slides from Dr. Kojic, Director of The Miriam Hospital Travel clinic
Overview

- Epidemiology
- General recommendations
  - The traveller
  - Diseases
  - Diarrhea
  - Vector and animal bite prevention
- Immunizations
- Other travel related recommendations
Travelers’ Health Risks

Of 100,000 travelers to a developing country for 1 month:
- 50,000 will develop some health problem
- 8,000 will see a physician
- 5,000 will be confined to bed
- 1,100 will be incapacitated in their work
- 300 will be admitted to hospital
- 50 will be air evacuated
- 1 will die

Among more than 42,000 ill returned travelers seen between 2007 and 2011 in the GeoSentinel surveillance network, the most common syndromic diagnoses were:
- gastrointestinal (34%)
- febrile illnesses (23%)
- dermatologic illnesses (19%)

Asia (32%) and sub-Saharan Africa (25%) were the most common regions where illnesses were acquired.

Approximately 40 percent of ill travelers reported pretravel medical visits.

Travelers visiting friends and relatives in their country of origin had a disproportionately high burden of serious febrile illness and very low rate of advice prior to travel.

Causes of death

- Cardiovascular deaths 49%
- Injuries, accidents 22%
  - top on list Egypt, Kenya, India
- Medical illnesses 13.7%
- Infectious causes 1%
- Other

The Traveller: Medical Issues

- Age-specific issues
- Underlying illness, immunosuppression
- Systems review
- Medical history
- Medication use
- Vaccination history
- Allergies
- Contraindications to vaccines and medications
Allergies

Vaccines: don’t use if allergic to...
- Eggs -> YF-vax, flu
- Other excipients -> check ImmunoFacts®

Medications: don’t use if allergic to...
- Sulfa -> acetazolamide, Fansidar
- Antibiotics -> FQs
- Chrysanthemums -> permethrin (?)
Drug-disease interactions
- PPIs or H2 blockers increase risk of developing traveler’s diarrhea
- Minocycline lacks proven malaria protection – consider doxycycline

Drug-drug interactions
- Antimicrobials can interfere with PO Typhoid vaccine, oral contraceptives
- Bismuth subsalicylate can bind quinolones
- Warfarin and doxycycline/mefloquine increase anticoagulant effect
Examples of Medical Conditions and Travel Health Recommendations

**Drug Depressi**on ➞ Mefloquine

**BPH** ➞ Scopolamine

**Precautions**

- Mefloquine is known to exacerbate neuropsychiatric conditions, such as depression even in those successfully treated in the past. **July 2013** FDA updated warnings regarding neurologic and psychiatric side effects associated with mefloquine:
  
  **Neurologic side effects can occur at any time during drug use, and can last for months to years after the drug is stopped or can be permanent.**

- Scopolamine is a strong anticholinergic agent that can augment urinary retention in patients with BPH.
Examples of Medical Conditions and Travel Health Recommendations

- Ulcerative colitis → Traveler’s diarrhea
- Liver disease → Hepatitis A, B, E
  - Patients with UC or other intestinal disorders are not more likely to acquire TD, but are more likely to have severe TD
  - Pre-existing liver disease is an indication to vaccinate against hepatitis A and B to lessen other liver insults
- COPD → High altitude
- Diabetes → Insulin storage
Travel Preparation

- Travel health insurance
  - Medical care
  - Hospitalization
  - Evacuation
- Obtaining medical care abroad
- Awareness of travel notices
- Hand washing and hygiene
- Check airline regulations
- Get a PPD placed
Travel Emergency Kit – If it sounds too good, think twice
Travel Emergency Kit

- Copy of medical records and extra pair of glasses
- Prescription medications
- Over-the-counter medicines and supplies
  - Analgesics
  - Decongestant, cold medicine, cough suppressant
  - Antibiotic/antifungal/hydrocortisone creams
  - Pepto-Bismol tablets, antacid, imodium
  - Band-Aids, gauze bandages, tape, Ace wraps
  - Insect repellant, sunscreen, lip balm
  - Tweezers, scissors, thermometer
Infectious Disease Risks to the Traveler

- Malaria
- Diarrhea
- Hepatitis A
- Typhoid fever
- Cholera
- Leishmaniasis
- Rabies
- Dengue
- Chikungunya
- Meningococcal Meningitis
- Schistosomiasis
- Tuberculosis
- Leptospirosis
- Polio
- Measles
- Yellow Fever
- JEV
- Zika

ETC.
Travel Itinerary

• Full itinerary
  – Dates, duration, stopovers
  – Seasonal considerations

• Styles of travel
  – Rural vs. urban
  – Budget vs. luxury

• Accommodation
  – Hotel vs. camping

• Activities
  – Business vs. tourism
  – Adventure, safari
  – Missionary/Humanitarian/NGO
The 3 “R’s” of Immunization

Routine
– Childhood, adolescent, adult

Required (World Health Organization)
– Yellow Fever vaccine may be required by W.H.O. regulations for certain countries

Recommended – depending on…
– Geographic destination
– Activities planned during travel
– Individual traveler’s underlying health
Routine Vaccines

Tetanus-diphtheria and pertussis (IM) TDap
- Routine boost q10 yrs; 5 yrs minimum
- Contains pertussis antigen for adults/adolescents

Influenza (IM or intranasal)
- Same indications/contraindications as for domestic use

**MMR (SQ)**
- Travelers should have 2 doses of MMR
- Can give to children <1 yr, but then need 2 doses after 1 year & before school

Update other routine vaccines
- Pneumococcal (≥65 yrs + other indications) – IM/SC
- Zoster vaccine (≥50 yrs) - SC
Recommended-Required Immunizations
Depending on region and risk of exposure:

Hepatitis A - IM

Hepatitis B - IM

Hepatitis A + B (Twinrix) – IM

Japanese encephalitis

Meningococcal meningitis A,C,Y,W-135

– MCV4 (Menactra) – IM, MPSV4 (Menomune) - SC

Polio - IM

Rabies - IM

Typhoid Fever (PO/IM)

Yellow Fever - SC
*Yellow fever (YF) vaccination is generally not recommended in areas where there is low potential for YF virus exposure. However, vaccination might be considered for a small subset of travelers to these areas who are at increased risk for exposure to YF virus because of prolonged travel, heavy exposure to mosquitoes, or inability to avoid mosquito bites. Consideration for vaccination of any traveler must take into account the traveler’s risk of being infected with YF virus, country entry requirements, and individual risk factors for serious vaccine-associated adverse events (e.g., age, immune status).

Meningitis Belt of Sub-Saharan Africa

Traveler’s Diarrhea (TD)

Montezuma’s revenge, Aztec two-step, Delhi belly, Turkey trots

- >3 unformed stools/day
- N/V, abdominal cramps, low-grade fever
- Most likely within the first 14 days of travel
- More associated with food than water
- Highest incidence in children/adolescents
- Self-limiting, 3-5 days
Food Precautions
“Boil it, peel it, cook it, or forget it!”

Okay to eat...
- Well-cooked meats, vegetables and other foods, served piping hot
- Freshly boiled foods such as beans, soups, rice and pasta, served hot
- Breads, tortillas and other baked goods
- Fruits, nuts and vegetables with thick skins or shells which you have removed yourself
- Canned foods

NOT okay to eat...
- uncooked vegetables and salads
- unpasteurized dairy products
- chutneys or salsas
- food from street vendors
Water Precautions Abroad

What to drink...

– beverages made only with boiled water (such as coffee or tea)
– canned or commercially bottled carbonated water and other drinks

What NOT to drink...

– tap water or anything mixed with water
– anything with ice (including alcohol)
– don’t rinse after brushing with tap water, use bottled water
TD Treatment

- **Antibiotics:**
  - Ciprofloxacin 500 mg BID x1-3 days (*Campylobacter* resistance developing)
  - Azithromycin >90% 500mg x3d or 1 gm x1d
  - Rifaxamin – non-invasive E coli, generally only used due to ddi

- **Antimotility Agents:**
  - safety of loperamide when used along with an antibiotic has been well established, even in cases of invasive pathogens.
  - generally not recommended for patients with bloody diarrhea or those who have diarrhea and fever.

- **Oral rehydration therapy:**
  - oral rehydration solution (ORS), prepared from packaged oral rehydration salts, such as those provided by the World Health Organization, which are widely available at stores and pharmacies in most developing countries. ORS is prepared by adding 1 packet to the indicated volume of boiled or treated water—generally 1 liter

Bloodborne and STD Precautions

- Prevalence of
  - STDs
  - Hepatitis B
  - Hepatitis C
  - HIV
- Unprotected sexual activity
- Commercial sex workers
- Tattooing and body piercing
- Auto accidents
- Blood products
- Dental and surgical procedures
Vector Precautions

- Covering exposed skin
- Insect repellent containing DEET 25 – 50%
- Treatment of outer clothing with permethrin
- Use of permethrin-impregnated bed net
- Use of insect screens over open windows
- Air conditioned rooms
- Use of aerosol insecticide indoors
- Use of pyrethroid coils outdoors
- Inspection for ticks
Zika virus

- Mosquito-borne virus, first identified in rhesus monkeys in Uganda in 1947
- Identified in human in Uganda and republic of Tanzania in 1952
- About 64 countries have reported outbreaks since 2007
- Transmitted by the Aedes mosquito (mainly Aedes aegypti) that bites during the day
- Other modes of transmission include blood transfusion, sex and perinatal transmission
Zika virus disease – symptoms and signs

- Symptoms similar to other arborvirus infections such as Dengue or Chikungunya
- Fever, skin rash, conjunctivitis, muscle and joint pain, malaise and headache
- Symptoms are usually mild and last 2 to 7 days
- Complications include Guillain-Barre syndrome, microcephaly in babies born to infected mother, other fetal malformations and neurological disorders
- Diagnosis is by testing for the presence of virus in blood
- There is no antiviral agent. Treat symptoms
Vector precautions is key

Aedes aegypti
the yellow fever mosquito
Tuberculosis (TB)
Environmental Precautions

- Air Travel
- Jet Lag
- Sun Protection
- Extreme Heat and Cold
  - dehydration, heat stroke
  - hypothermia, frostbite
- Altitude
- Water recreation
  - Drowning, boating & diving accidents
  - Risk of schistosomiasis or leptospirosis
  - Biological and chemical contamination
Animal Precautions

- Animal avoidance
- Rabies
  - Specific animal threats
  - Medical evaluation of bites/scratches
  - Post exposure immunization and immunoglobulin
- Envenomations
  - Snakes, scorpions, spiders
  - Maritime animals
Pay attention to warning signs

WARNING
OSTRICHES ARE DANGEROUS
Post-Travel Care

- Post-travel checkup
  - Long term travelers >1 month
  - Adventure travelers
  - Expatriates in developing world

- Post-travel care
  - Fever, chills, sweats
  - Persistent diarrhea
  - Weight loss
Injury and Crime

- Vehicles
  - Risk of road and pedestrian accidents
  - Night travel
  - Seat belts and car seats

- Use of drugs and alcohol

- Understanding local crime risks
  - Scam awareness
  - Situational awareness
  - Location avoidance
Safety

- Assess risk carefully
- Do some home work before you set off on local trips within country
- Avoid areas with violence and tensions
- Watch out for people offering services that you have not requested
Keep valuables safe and locked
Travel Health Resources

- CDC Travelers’ Health Website
  - www.cdc.gov/travel
- World Health Organization
  - www.who.int/int
- State Department
  - travel.state.gov
- International Society of Travel Medicine
  - www.istm.org
- Health Information for International Travel
  - CDC “Yellow Book”
- International Travel and Health
  - WHO “Green Book”
Travelers’ Health Website
www.cdc.gov/travel

Infographics
Diseases spread by mosquitoes, food and water safety, and more

VACCINES. MEDICINES. ADVICE.

For Travelers
Where are you going?
Afghanistan

What kind of traveler are you? (optional)

For Clinicians
Destination
Afghanistan

Special population(s) (optional)
Travel Notices & Announcements

cdc.gov/travel/notices

http://wwwnc.cdc.gov/travel/notices
Safe travels and thank you!