



## Travel Medicine

### An Emergency Medicine Approach

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## History of Travel Medicine

- Traditionally falls into public health and internal medicine infectious disease subspecialties
- Emergency medicine contributes to travel medicine but often overshadowed
- EP with area of study in infectious disease, disaster medicine, or wilderness medicine may have interest in TM

## Military Medicine contribution to Travel Medicine

- Military physicians have long had an interest in Tropical Disease
- Walter Reed AIR laboratory
- WWII and Vietnam experience
- Iraq and Afghanistan have rekindled interest in Tropical Medicine and Parasitology



## Traditional TM Approach

- Much time devoted to trip planning
- Travel Med Pharmacology
- Issues of special populations
- Vaccinations
- Post-Travel TM consultations
- Typically take place in outpatient Travel Clinic

## Fee for Service Clinics

- Non-hospital based travel clinics have emerged
- Passport Health is a franchise business model that provides pre-travel vaccinations
- Does not address acute disease

## Role of Emergency Physician

- Unlike the travel clinic, an EP does not have luxury of a lengthy pre-travel questionnaire
- However, travel medicine patients come to us
- Returned traveler will be most important group

## Emergency Physicians likely to have exposure to TM

- ♦ Are often expedition doctors
- ♦ Well represented in disaster medicine and search and rescue
- ♦ Leaders in wilderness medicine development
- ♦ Cruise ship medicine

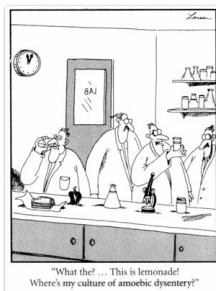


## Emergency Travel Med

- ♦ Will see many patients post-travel
- ♦ Potential poor or misleading history
- ♦ History is paramount
- ♦ Broad travel med knowledge and resources are important
- ♦ ED can be "front-line" in international epidemic disease.

## ED Travel Med: more than fever in returned traveler

- ♦ Skin: Wounds, Rashes
- ♦ GI disease
- ♦ Toxidromes
- ♦ Chronic parasitic disease
- ♦ STDs
- ♦ Emerging diseases
- ♦ Sequelae of disasters
- ♦ Acute vaccinations often required



## The SARS experience

- ♦ Changed triage in Singapore, elsewhere
- ♦ New appreciation of travel related infectious disease
- ♦ Avian flu, epidemic influenza
- ♦ EP likely to be first provider to see patient



## Emergency Providers

- ♦ Need to be able to take a directed travel history
- ♦ Need to know likely diseases for specific locales
- ♦ Need to have resources to update advisories (CDC, WHO, others)
- ♦ Should have knowledge of travelers diarrhea, travel pharmacology, vaccinations, tropical and parasitic diseases.

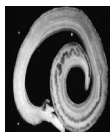
## ED General Travel History

- ♦ Geographic itinerary
- ♦ Time and Duration of travel
- ♦ Urban vs. Rural Travel
- ♦ Backpack vs. Four Star
- ♦ High risk situations and behaviors
- ♦ Medical Care encountered during trip



## Directed Travel History

- ♦ Visit family abroad?
- ♦ Adventure travel?
- ♦ Freshwater exposure?
- ♦ Animal exposure?
- ♦ Insect bites?
- ♦ Sexual contacts?
- ♦ Extreme environments - caving, high alt?
- ♦ Other directed queries can be prompted by CDC website: [www.cdc.gov/travel/destinat.htm](http://www.cdc.gov/travel/destinat.htm)



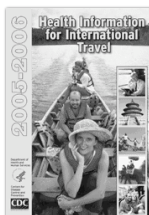
## Common Travel Problems

- ♦ Salmonella, Shigella, Giardiasis, Amoebiasis, Hepatitis, Gonorrhea, Malaria, Helminth Infestations
- ♦ Drug Reactions
- ♦ Hypobaric hypoxia-associated cardiac and pulmonary problems



## Complaints of Returned Travelers

- ♦ Persistent GI Illness 10%
- ♦ Skin lesions/rashes 8%
- ♦ Respiratory infections 5-13%
- ♦ Fever 3%
- ♦ Non-tropical = majority of fevers
- ♦ Tropical fever = Malaria
- ♦ Illnesses present < 12wks, Malaria can be delayed



Source: CDC Yellow Book - [www.cdc.gov/travel/yb/index.htm](http://www.cdc.gov/travel/yb/index.htm)

## Can't Miss Diagnoses

- ♦ Cannot miss falciparum malaria 90% cases from Subsaharan Africa & present in less than 30 days
- ♦ Malaria and pregnancy
- ♦ Hepatitis A,B
- ♦ Viral Hemorrhagic Fevers, Dengue Shock Syndrome



## Unique features of ED & Travel Medicine

- ♦ Rapid assessment of patients required to screen for emerging ID & potential bioterror threats
- ♦ Extreme environments: diving injuries, high altitude
- ♦ Many patients will not call themselves "travelers"



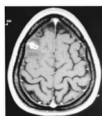
## Special travelers encountered in ED

- ♦ Recent Immigrants
- ♦ Expatriates
- ♦ Medical tourists
- ♦ Homeless travelers
- ♦ Returned Military Personnel
- ♦ Disaster Evacuees
- ♦ Colleagues may be recently deployed search and rescue or disaster medical personnel



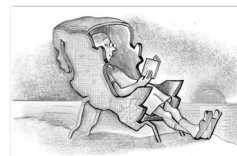
## Recent Immigrants

- ♦ Disproportionately seen in ED
- ♦ Illiteracy common, language barrier
- ♦ Diseases will reflect place of origin
- ♦ Not so exotic findings, e.g. Chagas disease, Neurocysticercosis
- ♦ Potentially toxic traditional remedies



## Expatriates

- ♦ US citizens live abroad for inexpensive cost of living.
- ♦ Public health threats of developing countries
- ♦ Return for specialized or subsidized care, e.g. Veterans Administration
- ♦ ED is access point for services.



## Medical Tourism



- ♦ Patients may have recently sought care in developing countries
- ♦ Blood-borne disease
- ♦ Infections following dental work
- ♦ Pharmaceuticals obtained without prescription

## Returned Military Personnel

- ♦ Leishmaniasis, the "Baghdad Boil"
- ♦ Global War on Terror - increasingly exposes Americans to tropical diseases
- ♦ Special forces pride themselves on "going native"
- ♦ Dengue, Malaria, Chagas disease, Rickettsial diseases



## Disaster Evacuees

- ♦ Shelter-related Norwalk virus
- ♦ Flooding concerns for dengue/malaria
- ♦ Contaminated water sources
- ♦ Hepatitis
- ♦ Skin Infections



## Katrina

- ♦ First large scale disaster in US to occur with endemic West Nile Virus
- ♦ Flavivirus
- ♦ Mosquito population in LA areas increased 800% over pre-Katrina



Source: [www.promedmail.org](http://www.promedmail.org)

## Sick Colleagues

- ♦ Many EPs volunteer for disaster medical teams and search and rescue teams.
- ♦ Potential environmental toxic exposures
- ♦ Infectious disease risks



## Regional Travel

- ♦ Coccidioidomycosis for Arizona and CA central valley
- ♦ Hanta virus for four-corners region
- ♦ Lyme Disease in NE
- ♦ Likely to seek care in ED first



## Need for useful tools

- ♦ Emergency Providers need rapid tools for triage and ED use
- ♦ Checklists for more serious sequelae
- ♦ Updated resources/screening tools for changing conditions, e.g SARS, Katrina.



## Triage Travel Checklist for Emerging Threats

### Have You Had:

- ♦ Fever now, recently
- ♦ Travel Internationally (timing important)
- ♦ Travel with Ill companions
- ♦ Exposure to Ill patients abroad

### Location of Travel

- ♦ Asia
- ♦ International hubs
- ♦ Rural Travel Farms/Animal Markets
- ♦ Hospitalization
- ♦ More emerging threats: [www.promedmail.org/](http://www.promedmail.org/)

## Checklist for ED Special Travelers

### Medical Tourists

- ♦ Care sought abroad
- ♦ Medications/who prescribed/how taken
- ♦ History of transfusions & procedures

### Immigrants, Expatriates

- ♦ Country last visited
- ♦ Family members/contacts recently abroad
- ♦ Illness abroad



## Returned Military

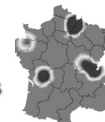
- ♦ Duration and Location of deployment
- ♦ Conditions treated during deployment
- ♦ Fever, rashes, GI symptoms
- ♦ History of Insect Bites
- ♦ Use of repellents, mosquito nets
- ♦ High risk environments - local dwellings



## Homeless/Disaster Victims

- ♦ Locations visited
- ♦ Shelters visited
- ♦ Environmental risks
  - disaster specific
- ♦ Exposure to Contaminated water
- ♦ Ill contacts
- ♦ Diarrheal disease
- ♦ Vaccinations
- ♦ Wound care
- ♦ Skin infections
- ♦ Potential marine pathogens (Katrina)
- ♦ High index suspicion for arthropod-borne disease

## Travel Resources



- ♦ CDC Yellowbook, International Bulletins  
[www.cdc.gov/travel/](http://www.cdc.gov/travel/)  
<http://www.cdc.gov/travel/yb/index.htm>  
[www.cdc.gov/mmwr/international/world.html](http://www.cdc.gov/mmwr/international/world.html)
- Travel Health Info Line 877-FYI-TRIP
- ♦ UptoDate Travel Med monograph  
[www.uptodate.com](http://www.uptodate.com)
- ♦ International Society of Travel Medicine  
[www.istm.org/](http://www.istm.org/)
- ♦ World Health Organization  
[www.who.int/en/](http://www.who.int/en/)

## Summary

- ♦ ED is different from Travel Clinic
- ♦ Many entities involving extra-local travel will present first to the ED
- ♦ Much travel med literature not designed for quick ED reference
- ♦ Screening for emerging diseases important
- ♦ Rapid tools necessary to identify disease and direct patient care

## Questions?

