Where in the World: Keys for Pharmacist with Traveling Patients

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Objectives

- Understand the marketplace and need for travel medicine clinics
- Execute a comprehensive travel medicine clinic at your site
- Describe the barriers to implement a travel medicine clinic in Alabama
- Implement technicians into workflow
What is Travel Medicine?

• Travel medicine is devoted to the health of travelers who visit foreign countries.

• An interdisciplinary specialty concerned with
  – Prevention of infectious diseases
  – Personal safety of travelers
  – Avoidance of environmental risks
How many are Traveling?

• In 2012 there were more then 1 billion international tourists
  – Expected to double by 2030

• Both Africa and Asia have seen increases from 2011 to 2012
  – Most common regions where travel related illnesses were contracted
    • Less then half of these travelers reported receiving pre-travel medical advice

CDC Yellowbook 2016
What are the Risks to the Typical Traveler?

- 100,000 travelers/month
- 50-75,000 will get sick
- 8,000 will seek medical care
- 300 will be hospitalized
- 50 will be evacuated
- 1 will die

Who is getting Travel Advice?

• JFK airport survey in the International terminal
  – 36% of travelers sought travel health advice
    • 60% used PCP
    • 30% used family and friends
    • 19% used the internet
    • 12% used occupational health or company physician
    • 10% used travel medicine specialist
Are they getting good advice?

- 30% of travelers were going to malaria risk areas
  - Only 72% had antimalarial medications with them
  - 42% of those going to high-risk areas had chloroquine with them

- Vaccines received
  - Tetanus (11%), hepatitis A (14%), hepatitis B (13%), yellow fever (5%)

J Travel Med 2004; 11:23-26
How do Pharmacist compare?

• Pharmacist vs Primary Care Provider (without special training)
  – Ordered more antibiotics and antimalarials when indicated
  – Ordered more vaccines per patient when indicated
  – Followed guidelines better for medications and vaccines

J Travel Med 2011;18:20-25
What is expected in Travel Medicine?

• Five elements of practice
  1. Assess the health of the traveler
  2. Assess the health risk of travel
  3. Preventive advice
  4. Vaccination
  5. Post-Travel assessment
1. Assess the Health of the Traveler

- Underlying medical conditions
- Medications
- Allergies
- Immunization history
2. Assess the Health Risk of Travel

- Itinerary
- Season of travel
- Duration
- Reason for travel
- Style of Travel
- Planned activities
How to gather information?

- Patients fill out travel history form and return it before appointment
What can Technicians do?

• Scheduling and reminder calls
• Help gather pre-trip information
Where to go for information?

- Infectious Disease Society of America
  - Practice of Travel Medicine Guidelines
- CDC.gov/travel
  - 2016 Yellow Book online
- International Society of Travel Medicine (ISTM)
  - Travelmed listserve
  - Certificate of Knowledge in Travel Health (CTH)

CID 2006; 43:1499–539; lstm.org
Where to go for training?

- CDC
  - Free CE courses for travel medicine
- APhA
  - Pharmacy-Based Travel Health Services
- USC
  - International Travel Medicine Review Certificate Course
- ISTM
  - Travel Medicine Review and Update Course
Where to go for specific destination information?

- Gideon
  - http://www.gideononline.com
- Shoreland Travax
  - http://www.shoreland.com/services/travax
- TravelCare
  - http://www.travelcare.com
- Tropimed
  - http://www.tropimed.com
What is needed in your pharmacy?

- Same recommendations as for MTM or Immunization administration

- Will depend on how long you expect the visit to take
3. Preventive Advice

- Vaccine-preventable illness
- Water-borne illness
  - e.g. traveler’s diarrhea
- Vector-borne illness
  - e.g. malaria, zika
- Environmental illness
  - e.g. altitude sickness, jet lag
- Special needs travelers
- Travel medical kits
- Medical evacuation insurance

CID 2006; 43:1499–539
4. Vaccination

**Travel Vaccines**
- Hepatitis A*
- Japanese encephalitis
- Meningococcal*
- Rabies
- Typhoid fever
  - Oral
  - IM
- Yellow fever

**Standard Immunizations**
- Hib
- Hepatitis B
- Influenza
- Measles/ mumps/ rubella
- Pneumococcal
- Poliomyelitis
- Rotavirus
- Tetanus/ diphtheria/ pertussis
- Varicella

* Also considered standard for children
What is allowed in Alabama?

- Alabama pharmacists are authorized to administer ANY vaccine to ANY age patient
  - Protocol or prescription
  - Except yellow fever

- Trained students can administer under supervision of a trained pharmacist
What changes for recommendations with travel?

- **Yellow Fever**
  - Just need one dose
- **Tetanus**
  - Every 5 years
- **Hepatitis B**
  - Accelerated schedule
- **Hepatitis A**
  - One shot will protect most healthy patients
  - Second shot gives life long immunity
- **Meningococcal**
  - May need booster for specific countries.
5. Post-Travel Assessment

• Recognize key syndromes

• Refer for medical treatment if warranted
What else can Technicians do?

• Recruit patients
Which patients to recruit?

- Antibiotics with shorter than normal duration
  - Instructions to leave “unmixed”
- Antimalarial prescriptions
- Vivotif prescriptions
- Requests for early refills for vacation
- Travel sized products
- Medical Kits
How to get the word out for your service?

- Local churches
  - Mission department
- High schools and colleges
  - International programs
- Local PCPs
- CDC
  - Yellow fever vaccine clinic listing
- ISTM
  - Online clinic directory
Sample Case

• 32 yo healthy female traveling to Peru for vacation and medical mission work
  – June 9th – June 20th
  – Birmingham to Lima
  – Fly to Cusco and stay 4 days
  – Fly to Lima then Puerto Maldonado and stay 7 days
  – Puerto Maldonado to Lima to Birmingham
### Vaccines recommended for Peru

<table>
<thead>
<tr>
<th>Disease</th>
<th>Risk</th>
<th>Vaccination</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Fever</td>
<td>low</td>
<td>recommended</td>
<td></td>
</tr>
<tr>
<td>Dengue</td>
<td>Yes</td>
<td>recommended</td>
<td></td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td>No.</td>
<td>recommended</td>
<td>CDC recommends that all international travelers be fully vaccinated against polio; thus, basic immunization is recommended if not already received.</td>
</tr>
<tr>
<td>Measles</td>
<td>low</td>
<td>recommended</td>
<td>Should be given to Americans born after 1967 if they have not had measles or 2 immunizations live-virus.</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>moderate</td>
<td>recommended</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>moderate</td>
<td>if at risk</td>
<td></td>
</tr>
<tr>
<td>Typhoid Fever</td>
<td>moderate</td>
<td>recommended</td>
<td></td>
</tr>
<tr>
<td>Rabies</td>
<td>high</td>
<td>if at risk</td>
<td>Rabies vaccination is recommended for travelers spending a lot of time outdoors, especially in rural areas, involved in activities such as bicycling, camping, hiking, gold. Also recommended for travelers with significant occupational risks (such as veterinarians), for long-term travelers and expatriates living in areas with a significant risk of exposure, and for travelers involved in any activities that bring them into direct contact with bats, carnivores, — other and mammals. Children are regarded at higher risk because they tend to play with animals, may receive more severe bites, or may not report bites.</td>
</tr>
<tr>
<td>Meningococc</td>
<td>low</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>Meningitis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tick-Borne Encephalitis</td>
<td>No.</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>Jaundiceatitis</td>
<td>No.</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>Cholera</td>
<td>No.</td>
<td>No.</td>
<td></td>
</tr>
</tbody>
</table>

[www.tropimed.com](http://www.tropimed.com)
Map 3-39. Yellow fever vaccine recommendations in Peru

Question 1

• Will she need a yellow fever vaccination?
  – Lima
    • No
  – Cusco
    • No
  – Puerto Maldonado
    • YES
Malaria recommendations for Peru

**Malaria**

<table>
<thead>
<tr>
<th>Transmission months</th>
<th>Year round</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant species</td>
<td><em>P. vivax</em> 65%, <em>P. falciparum</em> 15%</td>
</tr>
<tr>
<td>Resistant species</td>
<td>Chloroquine resistant</td>
</tr>
<tr>
<td>Mosquito protection</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Risk**

- All departments <2,000 m (6,562 ft), including the cities of Iquitos and Puerto Maldonado and only the remote eastern regions of La Libertad and Lambayeque.

**Measure**

- Presumptive Self-Treatment

**Treatment**

- Atovaquone-proguanil (Malarone), doxycycline or mefloquine (Lariam), do NOT use chloroquine

**Presumptive Antireaplace Therapy**

- Primaquine (warning) must test for G6PD deficiency before starting primaquine

**Mosquito Avoidance Only**

- Mosquito repellent products

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No risk in Lima Province: the cities of Arequipa, Ica, Moquegua, Nazca, Puno and Tacna; the Highland tourist areas (Cusco, Machu Picchu, Lake Titicaca and, and along the Pacific Coast.

www.tropimed.com
Map 3-40. Malaria transmission areas in Peru

Question 1

• Will she need to take prophylactic antimalarials?
  – Lima
    • No
  – Cusco
    • No
  – Puerto Maldonado
    • YES
    • Start medications 1-2 days before arrival in Puerto Maldonado
### Other risk in Peru

#### Additional Risks

<table>
<thead>
<tr>
<th>Disease</th>
<th>Manual Transmission</th>
<th>Risk</th>
<th>How</th>
</tr>
</thead>
<tbody>
<tr>
<td>brucellosis</td>
<td>Oral / Respiratory / Contact</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>dengue Fever</td>
<td>Vector</td>
<td>yes</td>
<td>Frequent or Continuous in the N. Sporadic Uncertain gold in the SE (voir aussi news and healthmap.org)</td>
</tr>
<tr>
<td>Filariasis, Lymphatic</td>
<td>Vector</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>HIV / AIDS</td>
<td>Sexual</td>
<td>ubiquitous</td>
<td>risk behavior-dependent</td>
</tr>
<tr>
<td>Leishmaniasis</td>
<td>Vector</td>
<td>low</td>
<td>cutaneous, mucocutaneous, visceral</td>
</tr>
<tr>
<td>leptospirosis</td>
<td>Oral / Respiratory / Contact</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>Loiasis</td>
<td>Vector</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>Plague</td>
<td>Respiratory / Contact / Vector</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>Sandfly Fever</td>
<td>Vector</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>STD</td>
<td>Sexual</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>Travelers’ Diarrhea</td>
<td>Oral</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td>Trypanosomiasis - HAT and Chagas’ Disease</td>
<td>Contact / Vector</td>
<td>yes</td>
<td>Chagas’ Disease</td>
</tr>
</tbody>
</table>

#### Venomous Animals

<table>
<thead>
<tr>
<th>Animal</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scorpion</td>
<td>low</td>
</tr>
<tr>
<td>Snake</td>
<td>low</td>
</tr>
<tr>
<td>Spider</td>
<td>low</td>
</tr>
</tbody>
</table>
QUESTIONS?

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