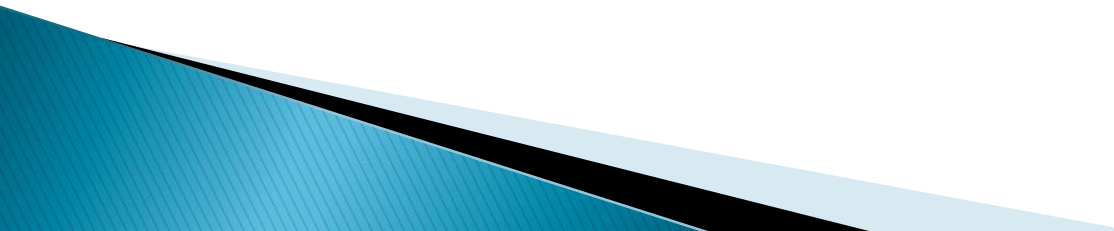


# Health-Related Issues in Afghanistan

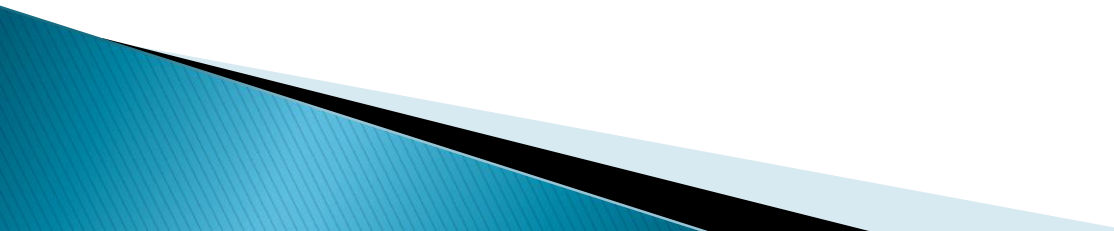
M. Shawn Morehead MD, MPH



# Introduction

- ▶ Preventive Measures
  - ▶ Life–Threatening Issues
  - ▶ Other Common Problems/Frustrations
  - ▶ Special Groups
  - ▶ Vaccinations
  - ▶ Mental Health
  - ▶ Expectations
  - ▶ Contacts
  - ▶ Internet Resources
- 

# I. Preventive Measures

- ▶ Hand washing
  - ▶ Isolation/Rest
  - ▶ Sunscreen
  - ▶ Skin care
  - ▶ Wound care
  - ▶ Mosquito repellent
  - ▶ Water treatment/filtration
    - [www.sawyer.com](http://www.sawyer.com)
- 

**Table 2-29. Microorganism size and susceptibility to filtration**

Organism	Average Size ( $\mu\text{m}$ )	Maximum recommended filter rating ( $\mu\text{m}$ Absolute) <sup>1</sup>
<b>Viruses</b>	0.03	Not specified
<b>Enteric bacteria (<i>E. coli</i>)</b>	0.5 $\times$ 3.0–8.0	0.2–0.4
<b><i>Cryptosporidium</i> oocyst</b>	4–6	1
<b><i>Giardia</i> cyst</b>	6.0–10.0 $\times$ 8.0–15.0	3.0–5.0

# I. Water Treatment

- ▶ Heat:
  - Boiling: 100 C is 100% effective (1–3 min)
  - 60 C tank usually OK
- ▶ Filtration (see table)
- ▶ Chemical Disinfection (halogens)
  - Chlorine (bleach)
  - Iodine
- ▶ Solar Irradiation & Heating
  - Sunlight (UV) for 4 hours
  - Clear plastic bottle, dark surface
- ▶ Cloudy Water
  - Filter plus chemical

**Table 2-30. Iodine and chlorine formulations and doses**

Iodination Techniques added to 1 liter or quart of water	Yield 4 mg/L Contact (Wait) Time 45 min at 30° C 180 min at 5° C <sup>1</sup>	Yield 8 mg/L Contact (Wait) Time 15 min at 30° C 60 min at 5° C <sup>1</sup>
Iodine tablets (tetraglycine hydroperiodide) (e.g., Potable Aqua, Globaline)	1/2 tablet	1 tablet
2% iodine solution (tincture)	0.2 mL 5 gtts <sup>2</sup>	0.4 mL 10 gtts <sup>2</sup>
Saturated solution: iodine crystals in water (e.g., Polar Pure)	13.0 mL	26.0 mL
Chlorination techniques	Yield 5 mg/L	Yield 10 mg/L
Sodium hypochlorite Household bleach 5%	0.1 mL 2 drops	0.2 mL 4 drops
Sodium dichloroisocyanurate (e.g., AquaClear)		1 tablet
Chlorine plus flocculating agent (e.g., Chlor-floc)		1 tablet

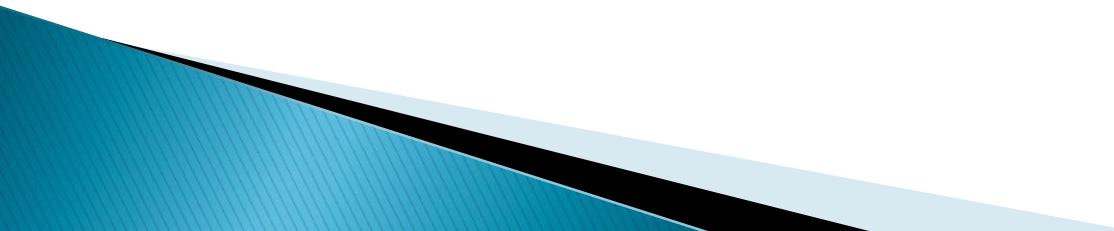
# I. Warning: Iodine

- ▶ Iodine has physiological activity (used by thyroid)
- ▶ WHO recommends limiting iodine water disinfection to a few weeks of EMERGENCY USE
- ▶ NOT RECOMMENDED:
  - Unstable thyroid disease
  - Iodine allergy
  - Pregnancy

## II. Life-Threatening Issues (not what you might think)

- ▶ Traffic Accidents
- ▶ Carbon Monoxide Poisoning
- ▶ Chronic Diseases
  - MI, stroke, hypertension, diabetes mellitus, cancer
- ▶ Acute Diseases
  - Pneumonia, malaria, acute abdomen, pulmonary embolism, pregnancy complications, altitude sickness
- ▶ Environmental Hazards
  - Earthquakes, boilers/heaters, terror-related (IED's, mines, kidnapping/theft)

## II. Traffic Accidents

- ▶ #1 cause of morbidity/mortality for expats everywhere
  - ▶ Wear seatbelts
  - ▶ Beware taxis
  - ▶ Pedestrian-issues
- 

# II. Carbon Monoxide Poisoning

- ▶ Common, misdiagnosed, potentially fatal
- ▶ More common in winter
- ▶ Smoke inhalation, poorly functioning heating systems, improperly vented fuel-burning devices (kerosene, diesel, gas)
- ▶ Symptoms:
  - Headache #1, N/V, dizziness, malaise, fatigue
  - Confusion, disorientation, seizures, coma
- ▶ Treatment:
  - Remove from source immediately
  - 100% oxygen
- ▶ Prevention:
  - CO/Smoke monitor
  - Ventilation (open windows/doors)
  - Turn off at bedtime

# II. Chronic Diseases

- ▶ **MI/Cardiac Disease, HTN, Diabetes, CVA**
  - Occur here at same frequency as at home
  - Little advanced technology/testing available
  - Few specialists (NONE in many areas)
  - Few Western/equivalent physicians
- ▶ **Medications**
  - Bring adequate supply from home, if possible
  - Many newer drugs not available
  - Poor quality meds
- ▶ **Check-ups/Screenings**
  - Get them while at home!

# II. Acute Diseases

## ▶ Examples:

### ○ Infectious Diseases:

- Pneumonia, Malaria\*\*

### ○ Travel-related:

- Pulmonary embolism/DVT

### ○ Surgical:

- Acute abdomen (appendicitis, cholecystitis, strangulated hernia)

### ○ Pregnancy-related:

- Bleeding, Ectopic pregnancy

### ○ Environmental:

- Altitude sickness

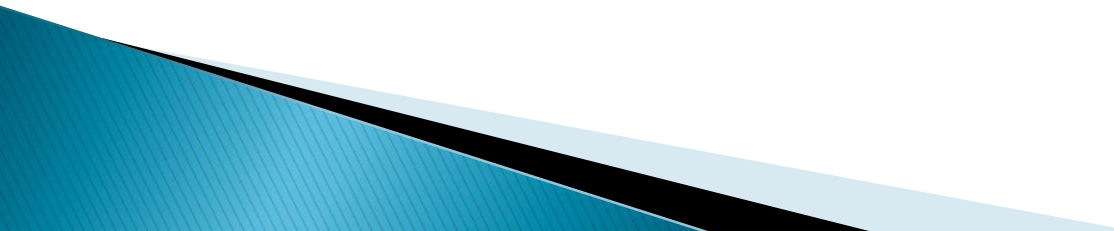
# II. Malaria in Afghanistan

- ▶ **Country areas with malaria**
  - April–December in all areas at altitudes <2,000m (<6,500ft)
- ▶ **Drug resistance**
  - Chloroquine
- ▶ **Malaria species**
  - *P. Vivax* 80%–90%
  - *P. Falciparum* 10%–20%
- ▶ **Recommended chemoprophylaxis**
  - Atovaquone/proguanil, doxycycline, or mefloquine

# II. Environmental Hazards

- ▶ Earthquakes
  - ▶ Heat-related Illness
    - Heat Stroke
  - ▶ Cold-related Illness
    - Frostbite
    - Hypothermia
  - ▶ Boiler Explosions
  - ▶ IEDs/Mines
- 

# III. Other Common Problems

- ▶ GI / Diarrheal Diseases
  - ▶ Upper Respiratory Illnesses
  - ▶ Tuberculosis
  - ▶ Altitude Adjustments
  - ▶ Insects / Arthropods
  - ▶ Dental Problems
- 

# III. GI /Diarrheal Diseases

- ▶ Expats: ~ 3 episodes/year; mostly food-borne; more in hotter climates
- ▶ Bacteria (80–90%)
  - Sudden onset, mild cramps to severe pain, fever, N/V, bloody or non-bloody diarrhea, urgency
  - Treatment: Antibiotics (ciprofloxacin, azithromycin), ORS, motility agents (bismuth, loperamide)
  - Incubation: 6–48 hours
- ▶ Viral (5–8%)
  - Same symptoms as bacterial except no bloody diarrhea
  - Treatment: ORS, motility agents
- ▶ Parasites/Protozoa (10%)
  - Giardia, Amoeba
  - Gradual onset, milder symptoms, 1–2 week incubation
  - Treatment: Metronidazole, Tinidazole; specific tx

# III. Other Problems

- ▶ URI: Mostly viral
- ▶ TB:
  - 2–step TST baseline, then yearly TST
  - Infection vs. active case
- ▶ Altitude Adjustments
  - Dehydration
  - Cold/Heat
  - UV exposure
  - Acclimatization
- ▶ Insects / Arthropods
  - Mosquitoes / Flies / Scorpions
- ▶ Dental problems:
  - ACOMET, Roshan clinic

# IV. Vaccinations

## ▶ Adults

### ◦ Routine:

- Measles, Mumps, Rubella (MMR) > booster x 1 or proven immunity
- Polio (IPV) > booster x 1
- Tetanus, Diphtheria (Td) plus Acellular Pertussis (Tdap) > Tdap x 1, then Td every 10 years
- Varicella (Chickenpox) > 2 shots or proven immunity
- Pneumococcal > age >65 or specific conditions
- Influenza > yearly
- H1N1 > Oct. 2009

# IV. Vaccinations

## ▶ Adult

### ◦ Travel:

- Hepatitis A
- Hepatitis B
- Meningococcal
- Polio
- Typhoid Fever
- Rabies ?

**Table C-01. Travel vaccine summary**

Vaccine	Dose	Route	Schedule	Booster	Age
Hepatitis A (HAVRIX)	1.0 mL (1440 ELISA units)	IM	0 and 6–12 months	None	Ages 19 years or older
Hepatitis A (HAVRIX) pediatric	0.5 mL (720 ELISA units)	IM	0 and 6–12 months	None	Ages 1–18 years
Hepatitis A (VAQTA)	1.0 mL (50 units)	IM	0 and 6–18 months	None	Ages 19 years or older
Hepatitis A (VAQTA) pediatric	0.5 mL (25 units)	IM	0 and 6–18 months	None	Ages 1–18 years
Combined hepatitis A and hepatitis B (TWINRIX)	1.0 mL (20µg of hepatitis B antigen and 720 ELISA units of hepatitis A antigen)	IM	0, 1 month, and 6 months	None	Ages 18 years or older
Combined hepatitis A and hepatitis B (TWINRIX), accelerated schedule	1.0 mL (20µg of hepatitis B antigen and 720 ELISA units of hepatitis A antigen)	IM	Days 0, 7, and 21, with a fourth dose at 12 months	None	Ages 18 years or older
Japanese encephalitis (JE-VAX) <sup>1</sup>	0.5 mL for ages 1–2 years; 1.0 mL for ages 3 years or older	SQ	Days 0, 7, and 30	3 years <sup>2</sup>	Ages 1 year or older
Meningococcal conjugate (Menactra)	0.5 mL	IM	1 dose	>5 years <sup>3</sup>	Ages 2–55 years
Meningococcal polysaccharide (Menomune)	0.5 mL	SQ	1 dose	3 years, if vaccinated before 4 years of age; 5 years, if vaccinated at >4 years of age	Ages 2 years or older
Inactivated polio (Adult)	0.5 mL	SQ or IM	One dose at >18 years of age, if patient has already had an acceptable polio vaccine series	None	Age 18 years or older <sup>4</sup>
Rabies (IMOVAX)	1.0 mL	IM	Pre-exposure series; Days 0, 7, and 28	See the <a href="#">Rabies</a> section in Chapter 2	No age restrictions
Rabies (RabAvert)	1.0 mL	IM	Pre-exposure series; Days 0, 7, and 28	See the <a href="#">Rabies</a> section in Chapter 2	No age restrictions
Typhoid capsular polysaccharide (Typhim Vi)	0.5 mL	IM	1 dose	Every 2 years	Ages 2 years or older
Typhoid oral (Vivotif)	1 pill	Orally	1 pill every other day for 4 doses	Every 5 years	Ages 6 years or older
Yellow fever (YF-VAX)	0.5 mL	SQ	1 dose	Every 10 years	Never give to infants <6 months of age. Give only under special circumstances for ages 6–8 months

# V. Special Populations

- ▶ Pregnant Women
  - ▶ Fertility Issues
  - ▶ Children
- 

# V. Special Populations

## ▶ Pregnancy

### ◦ Travel

- No international travel after 32–35 weeks
- Increase in thrombosis (clots): hydration, exercise

### ◦ Prenatal Care

- Limited options: CURE

### ◦ Delivery Options

- CURE (Only place to handle OB emergencies)
- 2 NICU's: CURE, French Hospital
- **Recommend: Go Home (26–28 weeks)!**

# V. Special Populations

## ▶ Fertility Issues

- No Western/expat OB/GYN fertility specialists
- Limited testing available
- Stress issues
- Unrealistic expectations/stress/boredom/peer pressure

## ▶ Contraception

- Depo-Provera
- Oral Contraceptives: limited number/combos
- IUD's: CURE
- Tubal Ligation: CURE

# V. Special Populations

## ▶ Children

- Vaccinations\*\*\*
- Psychological stressors/manifestations of disease
- Illness:
  - Think as if you were at home: common things are common!
  - Utilize resources and common sense (ORS/Tylenol)
  - Call MD if needed; may need clinic visit
- Prevention:
  - Hygiene
  - Diet/multivitamin
  - Childproof home/lead paint
  - First aid kit/Sunscreen
  - Animals
  - Insects

# VI. Mental Health

## ▶ Risk Factors:

- Pre-existing psychiatric issues
- Side effects of drugs
- Stressful events: loneliness, loss of control, financial difficulties, illness

## ▶ Common problems:

- Sleep disturbance
- Depression/Anxiety
- Interpersonal conflict

## ▶ Prevention:

- Pre-post travel evaluations
- Eat/sleep/exercise
- Take all of your breaks/vacation time

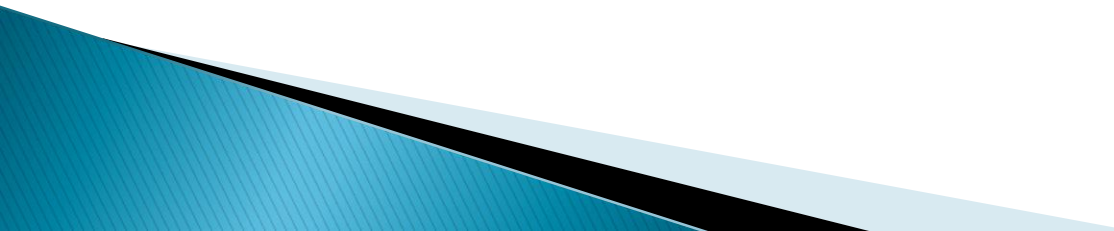
# VII. Expectations

- ▶ Availability/Access of “Western”-equivalent care
- ▶ Finding a Happy Medium
  - Hypervigilance with kids
  - Denial with adults
- ▶ Insurance/Costs
  - No insurance at home
  - Who controls costs?
- ▶ Professionalism/Responsibility
- ▶ Medical Records: Bring copies from home
- ▶ Screenings, annual exams, vaccines, specialist work-ups
  - Get them at home!

# VIII. Contacts

- ▶ CURE Appointment line: 0799883830
  - OB; NICU; inpatient pediatrics; private clinic/consultation; vaccines
- ▶ French Hospital: 0799723728/32
  - Children; NICU; CT/MRI
- ▶ ACOMET Hospital: 0752090001 /2 /3
  - Western equivalent peds/adult clinic, adult inpatient
- ▶ All have good lab facilities
  - German diagnostic center
  - ESCORT (also CT/MRI)

# IX. Internet Resources

- ▶ [www.cdc.gov](http://www.cdc.gov) (Traveler's Health, Yellow Book)
  - ▶ [www.missionarycare.com](http://www.missionarycare.com) (mental health, stress, kids, communication)
  - ▶ [www.familydoctor.org](http://www.familydoctor.org) (patient-oriented site, primary care)
  - ▶ [www.uptodate.com](http://www.uptodate.com) (patient information section)
- 

# Summary

## ▶ Prevention

- Water Treatment
- Vaccines: Routine and Travel
- Screening/Check-ups at home
- Bring Medications
- Use resources

## ▶ Treatment

- Common sense (ORS, Tylenol, rest)
  - Realistic expectations regarding available care
  - Medical records for previous problems
  - Seek care when necessary
- 