UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

TRAVEL MEDICATIONS

When traveling, it is best to keep all medications in their original packaging when possible and to keep them with you in your carry-on luggage.

MALARIA PREVENTION

If you are traveling to a malaria-risk area, it is recommended that you take one of the following medications to prevent infection from this serious and sometimes fatal disease. The medication prescribed will be based on where you will be traveling, your medical history, and potential medication side effects.

1. Atovaquone/Proguanil 250/100 mg (Malarone)
   - Dose: Take once daily. Start 1 to 2 days before arrival in a malaria-risk area, and continue for 7 days after leaving the malaria-risk area. Take with food. Repeat the dose if vomiting occurs within 30 minutes of taking the drug.
   - Potential side effects: Stomach upset, headache. Generally well tolerated.
   - Avoid taking if you are pregnant or have kidney disease.

2. Doxycycline 100 mg
   - Dose: Take once daily. Start 1 to 2 days before arrival in a malaria-risk area, and continue for 30 days after leaving the malaria-risk area.
   - Potential side effects: Stomach upset, increased risk of sunburn (wear sunscreen with a minimum SPF 40), increased incidence of vaginal yeast infections in some individuals.
   - Avoid taking if you are pregnant or breastfeeding.

3. Mefloquine 250 mg (Lariam)
   - Dose: Take once weekly. Start 3 weeks before arrival in a malaria-risk area, and continue for 4 weeks after leaving the malaria-risk area.
   - Potential side effects: Stomach upset, headache, seizures, heart irregularities, depression, psychosis, abnormal dreams, insomnia, mood swings. May cause neuropsychiatric adverse effects that persist after medication has been discontinued.
   - Avoid taking if you have a history of seizures, psychiatric disorder(s) or cardiac arrhythmia.
   - Can be taken during pregnancy.

4. Chloroquine 500 mg (Aralen) *Limited availability in the U.S.*
   - Widespread resistance in most malaria-risk areas except Central America.
   - Dose: Take once weekly. Start 1-2 weeks before arrival in a malaria-risk area, and continue for 4 weeks after leaving the malaria-risk area.
   - Potential side effects: May worsen psoriasis.
   - Can be taken during pregnancy.

5. Primaquine 30 mg (Primaryl)
   - Resistance has developed in most malaria-risk areas except Mexico and Central America.
   - Dose: Take once daily. Start 2 days before arrival in a malaria-risk area, and continue for 7 days after leaving the malaria-risk area. Take with food.
   - Potential side effects: Heart irregularities, dizziness, skin rash, stomach cramping, anemia (can cause hemolytic anemia in patients with G6PD deficiency).
   - Testing for G6PD deficiency must be completed before primaquine can be prescribed.

6. Tafenoquine 200 mg (Arakoda)
   - Dose: Take once daily for 3 days before arrival in a malaria-risk area, then once weekly (starting 7 days after loading dose) while in the malaria-risk area, and finally a single dose after leaving the malaria-risk area.
   - Avoid taking if are you pregnant, have G6PD deficiency, or have a history of a psychotic disorder.
   - As with Primaquine, G6PD testing is required prior to taking this medication.

TRAVELERS' DIARRHEA TREATMENT

Sometimes, despite following all food and drink precautions for your destination, travelers' diarrhea may still occur. The following information pertains to the treatment of travelers' diarrhea:

- **Fluid Replacement**
  Staying hydrated is the primary form of treatment! Replace fluids and electrolytes with juices, broth, or similar fluids. A World Health Organization-approved Oral Rehydration Solution (ORS), such as Pedialyte is recommended. You can also make your own ORS by mixing ½ teaspoon of salt, ½ teaspoon of baking soda, and 4 tablespoons of sugar into 1 liter of purified/filtered water.
- **Medications** may be helpful in some cases.
  1. Loperamide (Imodium) is an over-the-counter medication commonly used to treat mild to moderate diarrhea symptoms. Do not take Imodium if bloody diarrhea or fever is present.
  2. Bismuth (Pepto-Bismol, Kaopectate) can also be used to treat diarrhea, but the doses are so large (4 tablets every ½ hour) that it is an impractical option for most travelers. Do not take Bismuth with aspirin or if you are allergic to aspirin.
  3. Antibiotics are usually reserved for the treatment of moderate to severe diarrhea. They should NOT be used to prevent travelers' diarrhea. Two commonly used antibiotics include:
     - Azithromycin 1000mg taken as one dose. An alternative dosing regimen is 500mg a day for 3 days. Taking azithromycin with a small meal can reduce the chance of stomach upset.
     - Ciprofloxacin 500mg taken twice daily for 3 days.
       - This medication cannot be taken during pregnancy.
       - Rare side effects include tendon rupture or heart rhythm problems.
       - There is increasing resistance to this medication, especially in South and Southeast Asia.

ALTITUDE SICKNESS PREVENTION

The most important preventive method is to acclimatize! If gradual ascent to high altitudes is possible, routine prophylaxis with medication is not recommended for otherwise healthy patients.

- **Medications**
  1. Acetazolamide (Diamox) 125mg to 250mg (if >100kg body weight) every 12 hours, starting 24 hours before your ascent. Discontinue after staying at the same elevation for 2 to 4 days or if starting descent. Potential side effects include numbness of the fingers/toes and urinary frequency. Do not take this medication if you have a significant sulfonamide (sulfa) allergy.
  2. Aspirin 325mg twice daily or ibuprofen (Advil, Motrin) 600mg 3 times daily may be substituted for Diamox to prevent headaches when ascending to moderate altitudes (less than 3500m).
- **Dietary Considerations**
  1. Stay well hydrated.
  2. Avoid or reduce alcohol intake for 48 hours before the ascent.
  3. Maintain your usual caffeine intake.

OTHER OVER-THE-COUNTER (OTC) PRODUCTS

- **Insect Repellents**: These products are available online or at camping/wilderness supply stores.
  1. Insect repellents containing DEET or Picaridin are the most effective in repelling mosquitos that spread malaria and zika virus. Follow manufacturer instructions for frequency of reapplication.
     - The effectiveness of DEET plateaus at concentrations of approximately 30%, but higher concentrations do not need to be reapplied as frequently if you plan on being outdoors for more than 3-4 hours at a time.
     - Picaridin 20% has been shown to be as effective as DEET when used for short periods. DEET remains effective for a longer period of time.
  2. Other insect repellents, such as lemon eucalyptus products, are generally not recommended for use in malaria-risk areas. These products have either not been thoroughly studied or have not been found to be as effective as DEET or Picaridin.
  3. If both sunscreen and repellent are being applied, apply the sunscreen first, then the insect repellent.
  4. Permethrin is effective against mosquitoes, flies, ticks, and chiggers. Treat outer clothing with permethrin prior to departure. Pre-treated clothing can also be purchased.
- **Sunscreens**: Choose sunscreens labeled "**broad spectrum**", with at least **SPF 40.**
- **Nausea/Motion Sickness Medications**: Chewable meclizine is available OTC. Ondansetron (Zofran) is effective and generally non-sedating but requires a prescription.
- **Other OTC Medications**: Ibuprofen (Advil, Motrin) or acetaminophen (Tylenol); antihistamines (Zyrtec, Benadryl, etc.); 1% hydrocortisone cream for insect bites and allergic reactions.