Top 5 Academic & Clinical Pearls by Michael Nowak MPAS, PA-C, FAPACVS

I. Malaria
   A. Prevalence: 200-300 million cases per year (1 million deaths/year)
   B. Common symptoms:
      1. Cold (shaking chills) →
      2. Hot (dry fever) →
      3. Sweating (diaphoresis, fever resolves & fatigue)
   C. Diagnosis: Parasitemia on blood smear, hemolytic anemia, mild leukopenia
   D. Treatment
      1. Uncomplicated Malaria
         a. Malarone or quinine; chloroquine (if sensitive)
      2. Severe Malaria
         a. US: IV quinidine + doxycycline or clindamycin
         b. Africa: IV quinine + doxycycline or clindamycin
         c. SE Asia: IV Artesunate + doxycycline, mefloquine, clindamycin or atovaquone-proguanil

II. Zinc
   A. Works well in developed countries to decrease acute diarrhea (non-bloody)
   B. Dosage
      1. 20mg/day x 10-14 days if > 6 months
      2. 10 mg/day x 10-14 days if < 6 months

III. Neglected Tropical Diseases: The UNHOLY Trinity

<table>
<thead>
<tr>
<th></th>
<th>Ascariasis (roundworm)</th>
<th>Trichuriasis (whipworm)</th>
<th>Hookworm</th>
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</thead>
<tbody>
<tr>
<td>Population infected</td>
<td>800 million</td>
<td>600 million</td>
<td>580 million</td>
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<tr>
<td>Mode of transmission</td>
<td>Ingestion of eggs</td>
<td>Ingestion of eggs</td>
<td>Burrow through skin</td>
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<tr>
<td>Size</td>
<td>Largest, up to 40 cm</td>
<td>3-5 cm</td>
<td>0.5-1cm</td>
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<td>Adult habitat</td>
<td>Small intestine (jejunum)</td>
<td>Caecum, coloorectum</td>
<td>Small intestine</td>
</tr>
<tr>
<td>Lifespan</td>
<td>1-2 years</td>
<td>1-3 years</td>
<td>1-7 years</td>
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<tr>
<td>Symptoms</td>
<td>Pneumonitis → abdominal discomfort, malnutrition, obstruction</td>
<td>90% are asymptomatic, stunted growth, anemia, cognitive defects, rectal prolapse</td>
<td>Iron deficiency anemia, failure to thrive, fatigue, decreased IQ</td>
</tr>
<tr>
<td>Treatment</td>
<td>Albendazole x 1 dose</td>
<td>Mebendazole, Albendazole x 3 days</td>
<td>Albendazole x 1 dose</td>
</tr>
</tbody>
</table>
IV. Shistosomiasis – the most deadly neglected tropical disease
   A. 200,000 + annual deaths
   B. Venous trematode – bladder venous plexus or bowel/rectum mesenteric venules
   C. Requires fresh water snail host to complete lifecycle
   D. Transmitted by contact with contaminated lakes, ponds, rivers, dams
   E. Symptoms: fever, sweats, chills, myalgia, urticaria, cough, abdominal pain, diarrhea, headache, hepatosplenomegaly, if S. haematobium – hematuria, urinary obstruction, renal failure
   F. Chronic schistosomiasis causes fibrosis and tissue injury
   G. Treatment: Praziquantel
      1. 40 mg/kg/d in 2 doses x 1 day (S. mansoni, haematobium)
      2. 60 mg/kg/d in 3 doses x 1 day (S. japonicum)

V. Travel Medical Kit
   A. Over the counter medications & supplies
   B. Prescription medications & supplies
      1. Travelers diarrhea antibiotic, antimalarial, acetazolamide
      2. Epi-pen
      3. Nausea & anti-emetics
      4. Sleeping pills
      5. Routine medications
      6. Pain medications
   C. Simple First Aid Kit
      1. Adhesive bandages of various sizes, gauze swabs, adhesive tape
      2. Antiseptic power, solution or wipes
      3. Nonadhesive dressings
      4. Small scissors (keep in check-in baggage)
      5. Thermometer
      6. Tweezers for splinters & tics
      7. IV fluids, syringes & needles

This was a very good conference and I would recommend it to all interested in global health

The conference was videotaped and will soon be available online at:
www.mayo.edu/msgme/mihp-tropical-medicine.html

Sincerely,

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