

Parasitic Infections

Acanthamoeba

keratitis-

itraconazole PO **PLUS** topical miconazole **OR**
polyhexamethylene biguanide 0.02% (PHMB, Baquacil) **PLUS**
propamidine isethionate 0.1% (Brolene) (1)

Granulomatous Amoebic Encephalitis (GAE)-

pentamidine isethionate IV **PLUS** topical chlorhexidine **PLUS**
ketoconazole cream **PLUS** surgery, followed by itraconazole PO (2)

Amoebiasis (*Entamoeba histolytica*)

cysts (lumenalcides) (3)

iodoquinol 650 mg tid x 20d **OR**
paromomycin 25-35 mg/kg/d divided tid x 7d **OR**
diloxanide furoate 500 mg tid x 10d

intestinal disease

metronidazole 500 mg tid x 10d **OR**
tinidazole 2 g/d x 3d **OR**
ornidazole xxx

extraintestinal disease

metronidazole 750 mg tid x 10d **OR**
tinidazole 600 mg bid or 800 mg tid x 5d **OR**
ornidazole xxxxx

Amebic Meningoencephalitis, Primary (PAE) (4)

Naegleria fowleri

amphotericin B 0.1-1.0 mg intraventricular (not wt based) **OR**
amphotericin B 1 mg/kg/d IV unclear duration **PLUS**
ketoconazole PO, rifampin PO, chloramphenicol

Ancylostoma caninum (Eosinophilic enterocolitis) (5)

mebendazole 100 mg bid x 3d **OR**
pyrantel pamoate 10-11 mg/kg (max. 1 g) x 3d **OR**
albendazole 400 mg x 1 dose **OR**
levamisole 5 mg/kg x 1 dose

Ancylostoma duodenale (see Hookworm)

Angiostrongyliasis,

Angiostrongylus cantonensis (6)

mebendazole 100 mg bid x 5d

Angiostrongylus costaricensis

mebendazole 200-400 mg tid x 10d **OR**
thiabendazole 75 mg/kg/d (max. 3 g) divided tid x 3d (7)

Anisakis (Anisakiasis)

surgical or endoscopic removal

Ascaris lumbricoides (Ascariasis) (8)

albendazole 400 mg x 1 dose **OR**

mebendazole 100 mg bid x 3d **OR**

mebendazole 500 mg x 1 dose **OR**

mebendazole 100 mg bid x 1d (9) **OR**

*pyrantel pamoate 10 mg/kg (max. 1 g) x 1 dose **OR**

*levamisole 5 mg/kg x 1 dose (adult worm only)

Babesia spp. (Babesiosis)

clindamycin 1.2 g bid IV or 600 mg tid PO x 7d **PLUS**

quinine 650 mg tid PO x 7d **OR**

azithromycin 1 g qd **PLUS** atovaquone 750 mg bid (10) **OR**

azithromycin 1 g qd **PLUS** quinine (11)

B. divergens- (12)

pentamidine **PLUS** TMP-SMX

Balantidium coli (Balantidiasis)

tetracycline 500 mg qid x 10d **OR**

iodoquinol 650 mg tid x 20d **OR**

metronidazole 750 mg tid x 5d

Baylisascaris procyonis (Baylisascariasis)

albendazole, mebendazole, levamisole, ivermectin (13)

Blastocystis hominis

metronidazole 750 mg tid x 10d **OR**

iodoquinol 650 mg tid x 20d

Brugia malayi (see Filariasis)

Capillaria philippinensis (capillariasis)

mebendazole 200 mg bid x 20d **OR**

albendazole 400 mg bid x 10d

Clonorchis sinensis (see Fluke)

Cryptosporidium parvum (Cryptosporidiosis) (15)

paromomycin 25-35 mg/kg/d divided tid

Cutaneous Larva Migrans (CLM, dog/cat hookworm)

ivermectin 150-200 mcg/kg x 1 dose **OR**

albendazole 400 mg qd x 3d **OR**

thiabendazole topical

Cyclospora (16)(33)

TMP-SMX 160/800 mg bid x 7d **OR**
ciprofloxacin 500 mg bid x7d

Cystercercosis (see Tapeworm)

Dientamoeba fragilis

iodoquinol 650 mg tid x 20d **OR**
paromomycin 25-30 mg/kg/d divided tid x 7d **OR**
tetracycline 500 mg qid x 10d

Diphyllobothrium latum (see Tapeworm)

Dracunculus medinensis (guinea worm) (17)

metronidazole 250 mg tid x 10d **OR**
mebendazole 400-800 mg/d divided bid x 6d

Echinococcus (see Tapeworm)

Entamoeba histolytica (see Amoebiasis)

Entamoeba polecki

metronidazole 750 mg tid x 10d

Enterobius vermicularis (Pinworm)

pyrantel pamoate 11 mg/kg (max. 1 g) x 1 dose, repeat in 2 weeks **OR**
albendazole 400 mg x 1 dose, repeat in 2 weeks **OR**
mebendazole 100 mg x 1 dose, repeat in 2 weeks

Fasciola hepatica (see Flukes)

Filariasis,

Wuchereria bancrofti

diethylcarbamazine Day 1: 50 mg, Day 2: 50 mg tid, Day 3: 100 mg tid,
Day 4-14: 6 mg/kg/d divided tid (18)
ivermectin 200-400 mcg/kg x 1 dose **PLUS**
albendazole 400 mg x 1 dose (19)

Brugia malayi

diethylcarbamazine Day 1: 50 mg, Day 2: 50 mg tid, Day 3: 100 mg tid,
Day 4-14: 6 mg/kg/d divided tid

Loa loa

diethylcarbamazine Day 1: 50 mg, Day 2: 50 mg tid, Day 3: 100 mg tid,
Day 4-14: 9 mg/kg/d divided tid
ivermectin 200-400 mcg/kg x 1 dose **PLUS**
albendazole 400 mg x 1 dose (19)
diethylcarbamazine 300 mg q week (20)

Mansonella ozzardi

ivermectin 6 mg x 1 dose (21)

Mansonella perstans

mebendazole 100 mg bid x 30d

Mansonella streptocerca

ivermectin 150 mcg/kg x 1 dose OR

diethylcarbamazine 6 mg/kg/d divided tid x 14d

Onchocerca volvulus

ivermectin 150 mcg/kg x 1 dose, repeat every 6-12 months (22)

Tropical Pulmonary Eosinophilia (TPE)

diethylcarbamazine 6 mg/kg/d divided tid x 14 d

Flukes

Clonorchis sinensis (chinese liver fluke)

praziquantel 75 mg/kg/d divided tid x 1d OR

albendazole 10 mg/kg x 7d

Fasciola hepatica (sheep liver fluke) (23)

bithionol 30-50 mg/kg qod x 10-15 doses OR

triclabendazole 10 mg/kg x 1 dose

Fasciolopsis buski

praziquantel 75 mg/kg/d divided tid x 1d

Heterophyes heterophyes

praziquantel 75 mg/kg/d divided tid x 1d

Metagonimus yokogawai

praziquantel 75 mg/kg/d divided tid x 1d

Metorchis conjunctus (north american liver fluke) (24)

praziquantel 75 mg/kg/d divided tid x 1d

Nanophyetus salmincola

praziquantel 60 mg/kg/d divided tid x 1d

Opisthorchis viverrini (SEA liver fluke)

praziquantel 75 mg/kg/d divided tid x 1d

Paragonimus westermani (lung fluke)

praziquantel 75 mg/kg/d divided tid x 2d OR

bithionol 30-50 mg/kg qod x 10-15 doses OR

triclabendazole 5 mg/kg qd x 3d OR

triclabendazole 10 mg/kg bid x 1d

Giardia lamblia (giardiasis)

metronidazole 250 mg tid x 5d **OR**
metronidazole 2 g qd x 3d **OR**
tinidazole 2 g x 1 dose **OR**
ornidazole 1.5 g x 1 dose **OR**
furazolidone 100 mg qid x 7-10d **OR**
paromomycin 25-35 mg/kg/d divided tid x 7d (27) **OR**
albendazole 400 mg qd x 5d (25) **OR**
bacitracin 120,000 U bid x 10d (26)

Gnathostoma spinigerum (gnathostomiasis)

albendazole 400 mg bid x 21d **and/OR**
surgical removal/ivermectin (28)

Hookworm

Ancylostoma duodenale, Necator americanus

mebendazole 100 mg bid x 3d **OR**
mebendazole 500 mg x 1 dose **OR**
levamisole xxxxxx **OR**
pyrantel pamoate 11 mg/kg (max. 1 g) x 3d **OR**
albendazole 400 mg x 1 dose

Hymenolepis nana (see Tapeworm)

Isospora belli (isosporiasis) (29)

TMP-SMX 160/800 mg qid x 10d, then bid x 3 weeks **OR**
pyrimethamine 50-75 mg qd (30) **OR**
ciprofloxacin 500 mg bid x 10d (33)

Leishmania

Visceral (Kala Azar)

sodium stibogluconate 20 mg Sb/kg/d IV or IM x 20-28d **OR**
meglumine antimonate 20 mg Sb/kg/d x 20-28d **OR**
amphotericin B 0.5-1.0 mg/kg qd or qod x \pm 8 weeks **OR**
amphotericin lipid 15-20 mg/kg total dose over >5d **OR**
pentamidine isethionate 2-4 mg/kg qd or qod IM x 15 doses **OR**
the new drug xxxxxx

Cutaneous

sodium stibogluconate 20 mg Sb/kg/d IV or IM x 20-28d **OR**
meglumine antimonate 20 mg Sb/kg/d x 20-28d **OR**
paromomycin topical bid x 15d **OR**
nitric oxide xxxxxx

Mucocutaneous

sodium stibogluconate 20 mg Sb/kg/d IV or IM x 20-28d **OR**
meglumine antimonate 20 mg Sb/kg/d x 20-28d **OR**

Loa loa (see Filariasis)

Malaria (see [Malaria Treatment Document](#))

Metagonimus yokogawai (see Flukes)

Metorchis conjunctus (see Flukes)

Microsporidiosis

Ocular (Encephalitozoon hellem, E. Cuniculi, Vittaforma corneae)
albendazole 400 mg bid

Intestinal (Enterocytozoon bienersi, Septata intestinalis)
albendazole 400 mg bid

Disseminated (E. Hellem, E. Cuniculi, E. Intestinalis, Pleistophora sp)
albendazole 400 mg bid

Moniliformis moniliformis

pyrantel pamoate 11 mg/kg x 1 dose, repeat q 2 weeks x 2

Naegleria spp. (See Amoebic Meningoencephalitis)

Nanophyetus salmincola (see Flukes)

Necator americanus (see Hookworms)

Oesophagostomum bifurcum
footnote

Onchocerca volvulus (see Filariasis)

Opisthorchis viverrini (see Flukes)

Paragonimus westermani (see Flukes)

Pinworm (see Enterobius)

Pneumocystis carinii (PCP)

Treatment

OR TMP-SMX 15mg/kg/d TMP/75 mg/kg/d SMX divided tid or qid x 21d

pentamidine 3-4 mg/kg IV qd x 21d **OR**
trimetrexate 45 mg/m² IV qd **PLUS**
folinic acid 20 mg/m² q6h PO or IV x 21d **OR**
trimethoprim 5 mg/kg tid PO x 21d **PLUS**
dapson 100 mg qd PO x 21d **OR**
atovaquone 750 mg bid PO x 21d **OR**
primaquine 30 mg base qd PO x 21d **PLUS**
clindamycin 600 mg q6h IV **OR** 450 mg q6h PO x21d

ALL PLUS

prednisone 40 mg/d x 5d, then

Prophylaxis

TMP-SMX 1 tab qd PO (reg or DS) *OR*

TMP-SMX 1 DS tab 3x/week PO *OR*

dapsone 50 mg bid or 100 mg qd PO *OR*

dapsone 200 mg q week PO *PLUS*

pyrimethamine 50-75 mg q week PO *OR*

pentamidine aerosol 300 mg inhaled monthly *OR*

atovaquone 750 mg bid PO

Schistosomiasis,

S. haematobium

praziquantel 40 mg/kg/d divided bid x 1d

S. japonicum

praziquantel 60 mg/kg/d divided tid x 1d *OR*

artemunate xxxxx?

S. mansoni

praziquantel 40 mg/kg/d divided bid x 1d *OR*

oxamniquine 15 mg/kg x 1 dose

S. mekongi

praziquantel 60 mg/kg/d divided tid x 1d

Strongyloides stercoralis (strongyloidiasis)

ivermectin 200 mcg/kg/d x 1 dose *OR*

albendazole 400 mg bid x 3d

mebendazole, levamisole, pyrantel *

Tapeworms,

Diphyllobothrium latum (fish)

praziquantel 5-10 mg/kg x 1 dose

Taenia saginata (beef)

praziquantel 5-10 mg/kg x 1 dose

Taenia solium (pork)

praziquantel 5-10 mg/kg x 1 dose

Dipylidium caninum (dog)

praziquantel 5-10 mg/kg x 1 dose

Hymenolepis nana (dwarf tapeworm)

praziquantel 25 mg/kg x 1 dose

Tissue (larval) Stages-

Echinococcus granulosus (hydatid cyst disease)

albendazole 400 mg bid x 28d, repeated prn OR
albendazole 10 mg/kg/d divided bid x 3 months

Echinococcus multilocularis (hydatid cyst)

footnote

Cysticercus cellulosae (cysticercosis)

albendazole 7.5 mg/kg divided bid x 8d OR
albendazole 400 mg bid x 8-30d, repeated prn OR
praziquantel 20 mg/kg/d x 14d OR
praziquantel 50 mg/kg/d divided tid x 15d OR
(surgery)

Toxocara canis (viseral larva migrans)

albendazole 400 mg bid x 3-5d OR
mebendazole 100-200 mg bid x 5d OR
diethylcarbamazine 6 mg/kg/d divided tid x 7-10d

Toxoplasma gondii (toxoplasmosis)

Treatment-

pyrimethamine 25-100 mg/d x 3-4 weeks PLUS
sulfadiazine 1-1.5 g qid x 3-4 weeks OR
spiramycin 3-4 g/d

Prophylaxis-

xxxxxx

Trichinella spiralis (trichinosis)

mebendazole 200 mg bid x 10d OR
thiabendazole 50 mg/kg divided bid x 10d
PLUS
steroids for severe symptoms

Trichomonas vaginalis (trichomoniasis)

metronidazole 2 g x 1 dose OR
metronidazole 250 mg tid x 7d OR
metronidazole 500 mg bid x 7d OR
tinidazole 2 g x 1 dose

Trichostrongylus

levamisole 2.5 mg/kg x 1 dose OR
pyrantel pamoate 11 mg/kg (max. 1 g) x 1 dose OR
albendazole 400 mg x 1 dose OR
mebendazole 100 mg bid x 3d OR
thiabendazole xxxx

Trichuris trichiura (trichuriasis, whipworm)

albendazole 400 mg x 1 dose **OR**
mebendazole 500 mg x 1 dose **OR**
mebendazole 100 mg bid x 3d **OR**
pyrantel pamoate 11 mg/kg (max. 1 g) x 1 dose

Trypanosomiasis

T. Cruzi (Chaga's disease)

nifurtimox 8-10 mg/kg/d divided tid-qid x 90-120d **OR**
benznidazole 5-7 mg/kg/d x 30-90d

T. brucei gambiense (western, indolent) (30, 31)

eflornithine xxxxx **OR**
suramin 100-200 mg (test dose) IV, then 1 g IV days 1, 3, 7, 14, 21 **OR**
suramin new regimen **OR**
pentamidine isethionate 4 mg/kg/d IM x 10d

T. Brucei rhodesiense (eastern, acute) (30, 31)

suramin 100-200 mg (test dose) IV, then 1 g IV days 1, 3, 7, 14, 21 **OR**
pentamidine isethionate 4 mg/kg/d IM x 10d

Late Stages (second stage and beyond) or with CNS involvement-

T. brucei gambiense (30, 31)

eflornithine xxxxxx
suramin 100-200 mg (test dose) IV, then 1 g IV days 1, 3, 7, 14, 21 **OR**
suramin new regimen **OR**
melarsoprol 2.2 mg/kg qd IV x 10 consecutive days (32) **OR**
melarsoprol 1.2 mg/kg d1, 2.4 mg/kg d2, then 3.6 mg/kg/d d3-4 IV, then
d12-14 3.6 mg/kg qd IV x 3d, then repeat d 23-25

T. Brucei rhodesiense (30, 31)

melarsoprol 1.2 mg/kg d1, 2.4 mg/kg d2, then 3.6 mg/kg/d d3-4 IV, then
d12-14 3.6 mg/kg qd IV x 3d, then repeat d 23-25 **OR**
eflornithine xxxxx

Whipworm (see Trichuris)

Wuchereria bancrofti (see Filariasis)

Ectoparasites

Pediculus capitis, P. Humanus, Phthirus pubis (lice)

permethrin cream 1 or 5% cover entire body, repeat in 7-10d **OR**
lindane 1%, as per permethrin, repeat in 7-10d (not age <2y or pregnant) **OR**
ivermectin 200 mcg/kg PO single dose

Sarcoptes scabiei (scabies)

permethrin cream, 5% cover entire body, leave on x 10-12h, repeat in 7-10d **OR**
ivermectin 200 mcg/kg PO single dose, repeat q 14d x2, combine w/ permethrin
for crusted/norwegian scabies

See Also [JHU Antibiotic Site](#) (not good for parasitology)
[Cocci Serology](#) page as well

NOTES:

1. PHMB is a pool disinfectant. Aquacil by Zeneca.
2. No good treatment. Regimen is based upon successful treatment of one patient (Slater CA).
3. Should eradicate cyst stage with these drugs following treatment of invasive disease.
4. Paucity of data on treatment of this disorder. Most are fatal. See (XYZ)
5. All treatments are reportedly equally efficacious.
6. Treatment with antiparasitic drugs may exacerbate neurological symptoms. Steroids and removal of CSF to reduce pressure may be sufficient. Levamisole, albendazole and ivermectin are effective in animals. See (XYZ).
7. In general a more toxic and less well tolerated drug. Higher doses may cause significant toxicity and may not be tolerated.
8. Both pyrantel pamoate and levamisole quickly kill adult worms and should be treatment of choice in face of an acute abdomen (obstruction, biliary, pancreatitis).
9. Manson' Tropical Medicine, 1996, p1380.
10. See Wittner M, et al, Am J Trop Med Hyg, 1996, 55:219.
11. See Weiss LM, et al, JID 168:1289, 1993.
12. See Raoult D, et al, Ann Intern Med, 107:944, 1987.
13. These drugs may be tried as therapy. Ocular disease has been treated with photo coagulation of intraretinal larvae with steroid treatment. See (XYZ).
14. Clinical correlation is highly advised before initiating treatment of this FUNGUS. See Boreham and Keystone).
15. Clinical infection is self-limited in immunocompetent patients.
16. Special considerations for HIV infected persons, including long-term suppressive therapy and higher initial dosing. See (XYZ).
17. Mebendazole reportedly kills the adult worm. Metronidazole reduces inflammation and facilitates removal.
18. Patients without significant microfilaremia may be given full doses from Day 1.
19. Ivermectin and albendazole kill microfilaria but not adult worms. See Addiss.
20. Possible preventative strategy. See Nutman.
21. Diethylcarbamazine ineffective, ivermectin may be effective. See Chadee.
22. This treatment will prevent blindness in endemic areas. See Mabey, others.
23. Does not respond to praziquantel, these are effective. See Apt.
24. See MacLean.
25. See Hall A.
26. May also be effective. See Andrews BJ.
27. Not absorbed, especially useful in pregnancy.
28. Ivermectin may be effective in animals. See Anantaphruti.
29. May work for patients intolerant of TMP-SMX. See Ackers.
30. Toxic reactions occur, most severe is encephalopathy in 5-10% with 10-50% fatality rate. Neuropathies up to 10%, exfoliative dermatitis (bullous) around 1% (control with

steroids). Also fever, headache, diarrhea, maculopapular eruptions, pruritus, abd pain and chest pain.

31. Pretreat with prednisolone 1 mg/kg, 0.5 mg/kg, then 0.25 mg/kg during 1st, 2nd, and 3rd series of treatments for standard Rx. For modified Rx for gambiense give 1 mg/kg d1-7, 0.75 mg/kg d8, 0.5 mg/kg d9, 0.25 mg/kg d10.

32. Modified treatment for second stage disease, resulting in similar outcomes, but less drug and shorter treatment time. Not tried on rhodesiense. See Burri C, Nkunku S, et al and further update on long-term outcome.

33. A comparison trial of TMP-SMX vs. ciprofloxacin in HIV+ pts showed TMP-SMX to be superior to cipro for initial treatment and prophylaxis. see Verdier.

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