

Pyrimethamine:

Class: Antimalarial Agent

Indications:

Prophylaxis of malaria due to susceptible strains of plasmodia; used in conjunction with a sulfonamide for the treatment of uncomplicated malaria due to susceptible strains of plasmodia (alternative agent; not preferred therapy); synergistic combination with sulfonamide in treatment of toxoplasmosis.

Available dosage form in the hospital: 25MG TABLET.

Dosage:

-Isosporiasis (*Isospora belli* infection) in HIV-positive patients (unlabeled use; CDC, 2009): Oral:

-*Treatment (alternative to trimethoprim-sulfamethoxazole):* 50-75 mg once daily in combination with leucovorin calcium

-*Chronic maintenance (secondary prophylaxis):* 25 mg once daily in combination with leucovorin calcium

-Malaria chemoprophylaxis: Oral: **Note:** Current CDC recommendations for malaria prophylaxis do not include the use of pyrimethamine; resistance to pyrimethamine is prevalent worldwide.

-*Manufacturer's labeling:* 25 mg once weekly

-Malaria treatment (non-*falciparum* malaria; use in conjunction with a sulfonamide [eg, sulfadoxine]): Oral: **Note:** Current CDC recommendations for malaria treatment do not include the use of pyrimethamine; resistance to pyrimethamine is prevalent worldwide.

-*Manufacturer's labeling:* 25 mg daily for 2 days; following clinical cure, administer a once-weekly chemoprophylaxis regimen for ≥ 10 weeks. **Note:** Pyrimethamine use alone is **not** recommended; if circumstances arise where it must be used alone in semi-immune patients, give adults 50 mg daily for 2 days; then (following clinical cure) administer a once-weekly chemoprophylaxis regimen for ≥ 10 weeks.

-Pneumocystis jirovecii pneumonia (PCP) in HIV-positive patients (unlabeled use; CDC, 2009): Oral:

-*Prophylaxis (alternative to trimethoprim-sulfamethoxazole):* 50 mg once weekly in combination with dapsone and leucovorin calcium; **or** 25 mg once daily with atovaquone in combination with oral leucovorin calcium

-*Chronic maintenance (secondary prophylaxis; alternative to trimethoprim-sulfamethoxazole):* 50-75 mg once weekly in combination with dapsone and leucovorin calcium; **or** 25 mg once daily with atovaquone in combination with leucovorin calcium

-Toxoplasmosis treatment: Oral: *Manufacturer's labeling:* 50-75 mg/day for 1-3 weeks depending on patient's tolerance and response, then may reduce dose by 50% and continue for 4-5 weeks; use with a sulfonamide in combination with leucovorin calcium

-Toxoplasmosis prophylaxis and treatment in HIV-positive patients (unlabeled; CDC, 2009): Oral:

-Prophylaxis for first episode of Toxoplasma gondii (alternative to trimethoprim sulfamethoxazole): 50 mg or 75 mg once weekly with dapsone in combination with oral leucovorin calcium; **or** 25 mg once daily with atovaquone in combination with oral leucovorin calcium

-Prophylaxis to prevent recurrence of Toxoplasma gondii: 25-50 mg once daily with sulfadiazine in combination with leucovorin calcium (preferred); **or** 25-50 mg once daily with clindamycin in combination with leucovorin calcium; **or** 25mg once daily with atovaquone in combination with leucovorin calcium

-Treatment of Toxoplasma gondii encephalitis: 200 mg as a single dose, followed by 50 mg (<60 kg) or 75 mg (≥60 kg) daily with sulfadiazine in combination with leucovorin calcium for at least 6 weeks (preferred); **or** 200 mg as a single dose, followed by 50 mg (<60 kg) or 75 mg (≥60 kg) daily with clindamycin, atovaquone, or azithromycin in combination with leucovorin calcium

Common side effect:

Cardiovascular: Arrhythmias (large doses)

Dermatologic: Erythema multiforme, rash.

Gastrointestinal: Anorexia, atrophic glossitis, vomiting

Hematologic: Leukopenia, megaloblastic anemia, pancytopenia, pulmonary eosinophilia, thrombocytopenia

Genitourinary: Hematuria

Pregnancy Risk Factor: C