Tinidazole (Tindamax): Drug Information

Tinidazole is a synthetic nitroimidazole, an antiprotozoal, antibacterial agent used to treat certain types of vaginal infections and also used to treat certain types of parasite infections (giardiasis, amebiasis).

Class: Synthetic nitroimidazole
Use: Antiprotozoal and antibacterial agent
Pregnancy Category: C

Pharmacological Properties

- Active against protozoa: *Trichomonas vaginalis, Entamoeba histolytica, Giardia lamblia*
- Active against anaerobic bacteria including *Helicobacter pylori, Gardnerella vaginalis, Bacteroides spp., Clostridium spp., Eubacterium spp., Veillonella spp.*
- Mechanism: Intracellular reduction under anaerobic conditions ? DNA strand breakage ? inhibition of nucleic acid synthesis ? microbial death

Therapeutic Indications

- **Helicobacter pylori** eradication (combined with antibiotics & acid suppression)
- Anaerobic infections: peritonitis, abscesses, gynecological infections (endometritis, tubo-ovarian abscess)
- Bacterial septicemia, postoperative wound infections
- Skin, soft tissue infections
- Respiratory tract infections: pneumonia, empyema, lung abscess
- Nonspecific vaginitis
- Acute ulcerative gingivitis
- Urogenital trichomoniasis (both sexes)
- Giardiasis, intestinal amoebiasis, amoebic liver involvement
- **Prophylaxis:** Prevent post-operative infections from anaerobes in GI and gynecological surgery

Contraindications & Warnings

- Contraindicated in:
    - Patients with blood dyscrasias history
    - Neurological disorders (risk of dizziness, vertigo, ataxia, incoordination)
    - First trimester pregnancy and lactation
    - Allergy to tinidazole or related nitroimidazoles
- Avoid alcohol during treatment and for 72 hours post-treatment (risk of disulfiram-like reaction)
- Monitor closely for neurological symptoms; discontinue if they appear
- Potential mutagenicity—prolonged use should be cautious

Side Effects

- **Blood:** leukopenia
- **Nervous system:** dizziness, headache, ataxia, convulsions, paresthesia, peripheral neuropathy
- **Gastrointestinal:** nausea, vomiting, anorexia, stomatitis, glossitis, diarrhea, metallic taste
- **Skin:** rash, pruritus, urticaria, angioneurotic edema (rare severe hypersensitivity)
- **Renal:** dark urine
- General: fever, tiredness

Drug Interactions

- **Alcohol:** disulfiram-like reaction
- **Anticoagulants (e.g., warfarin):** may potentiate effect, monitor INR closely
- **Cholestyramine:** decreases tinidazole absorption
- **Cimetidine, ketoconazole:** may increase tinidazole levels
- **Cyclosporine, tacrolimus:** increased serum levels
- **Disulfiram:** combined toxicity risk
- **Fluorouracil:** decreased clearance
- **Lithium:** increased levels
- **Oxytetracycline:** diminished tinidazole effect
- **Phenobarbital, phenytoin, rifampin:** increased metabolism, decreased levels

Pharmacokinetics

- Oral absorption: rapid, peak plasma in 1–3 hours
- Protein binding: low (10–20%)
- Half-life: 12–14 hours
- Widely distributed, intracellular concentrations approximate plasma levels

Dosage and Administration

- Oral administration with food to minimize gastric irritation
- Tablets may be crushed and mixed with artificial cherry syrup for those unable to swallow

Specific Dosages:

Indication	Adult Dose	Pediatric Dose
H. pylori eradication	500 mg twice daily (7 days), with omeprazole + clarithromycin	Not specified
Anaerobic infections	2 g first day, then 1 g daily or 500 mg twice daily (?7 days)	Monitor if prolonged
Nonspecific vaginitis	2 g single dose	—
Ulcerative gingivitis	2 g single dose	—
Urogenital trichomoniasis	2 g single dose	50-75 mg/kg body weight
Giardiasis	2 g single dose	50-70 mg/kg body weight
Intestinal amoebiasis	2 g daily for 2-3 days	50-70 mg/kg for 3 days
Amoebic liver abscess	1.5-2 g single dose daily for 3-6	50-60 mg/kg/day for 5 days

Indication	Adult Dose	Pediatric Dose
	days (4.5-12 g total)	
Postoperative prophylaxis	2 g single dose ~12 hrs before surgery	Not established (<12 yrs)

- Renal failure: no dose adjustment needed, give supplemental dose after hemodialysis

Overdose

- No reported overdose cases
- Management: symptomatic and supportive care
- Gastric lavage may be useful
- Tinidazole is dialyzable