

The Bulletin from the Clinical Pharmacist



Pharma Today

- The information below here is about a drug which is being given at ER and at clinics as a front line drug for 'nausea, vomiting, diarrhea', without evidence. It is Metronidazole.
- Metronidazole is an antibiotic and antiprotozoal medication used to treat infections caused by certain bacteria and parasites. It works by inhibiting the growth of these microorganisms. It is mainly given for amoebic dysentery.

Clinical Trial findings:

Gastrointestinal	Abdominal discomfort, anorexia, nausea, vomiting, metallic taste, glossitis, hepatitis (rare), pancreatitis (rare).
Neurologic	Peripheral neuropathy, numbness, paraesthesia, ataxia, confusion, encephalopathy, tremors, seizures.
Hematologic	Reversible leukopenia, thrombocytopenia.
Hypersensitivity	Rashes, urticaria, pruritus, bronchospasm, serum sickness.
Other	Metallic taste.

Contraindications^[20, 22, 23]

- First trimester of pregnancy.
- Hypersensitivity to metronidazole, or other nitroimidazole derivatives.

Discussion:

- Metronidazole is effective against many anaerobic bacteria, such as *Bacteroides fragilis*, *Clostridium difficile*, and *Fusobacterium nucleatum*, as well as protozoal organisms like *Giardia lamblia*, *Entamoeba histolytica* and *Trichomonas vaginalis*. It disrupts DNA synthesis in these microbes, leading to cell death and clearing infections.
- Metronidazole is not used for common nausea, vomiting, or diarrhea unless these symptoms are due to infections like *Clostridium difficile* or *Entamoeba histolytica* (NHS, 2021, FDA 2022)
- Metronidazole is not used for diarrhea caused by viral infections like norovirus or rotavirus, as it targets specific bacteria and protozoa, not viruses (CDC, 2021). It is also ineffective against bacterial pathogens like *E. coli* or *Salmonella*, for which other antibiotics are needed (Murray et al., 2016).
- Metronidazole can potentially disrupt fetal development by crossing the placenta and affecting rapidly dividing cells, as suggested by animal studies. It should be used only in extreme situations in pregnancy, after risks have been weighed against benefits.