misoprostol (mye-soe-prost-ole)

Classification
Therapeutic: antiulcer agents, cytoprotective agents
Pharmacologic: prostaglandins

Pregnancy Category X

Indications
Prevention of gastric mucosal injury from NSAIDs, including aspirin, in high-risk patients (geriatric patients, debilitated patients, or those with a history of ulcers). With mifepristone for termination of pregnancy. Unlabeled Use: Treatment of delivery

Action
Acts as a prostaglandin analogue, decreasing gastric acid secretion (antisecretory effect) and increasing the production of protective mucus (cytoprotective effect). Causes uterine contractions. Therapeutic Effects: Prevention of gastric ulceration from NSAIDs. With mifepristone terminates pregnancy of less than 49 days.

Pharmacokinetics
Absorption: Well absorbed following oral administration and rapidly converted to its active form (misoprostol acid).
Distribution: Unknown.
Protein Binding: 85%.
Metabolism and Excretion: Undergoes some metabolism and is then excreted by the kidneys.
Half-life: 20–40 min.

TIME/ACTION PROFILE (effect on gastric acid secretion)

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<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<td>PO</td>
<td>30 min</td>
<td>unknown</td>
<td>3–6 hr</td>
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Contraindications/Precautions
Contraindicated in: Hypersensitivity to prostaglandins; DB: should not be used to prevent NSAID-induced gastric injury due to potential serious fetal harm or death. Exercise Extreme Caution in: When used for cervical ripening (unlabeled use) may cause uterine rupture (risk factors are late trimester pregnancy, previous caesarean section or uterine surgery or >5 previous pregnancies).

Adverse Reactions/Side Effects
CNS: headache.
GI: abdominal pain, diarrhea, constipation, dyspepsia, flatulence, nausea, vomiting.
GU: miscarriage, menstrual disorders.

Interactions
Drug-Drug: ↑ risk of diarrhea with magnesium-containing antacids.

Route/Dosage
PO (Adults): Antiulcer—200 mcg 4 times daily with or after meals and at bedtime, or 400 mcg twice daily, with the last dose at bedtime. If intolerance occurs, dose may be titrated to 100 mcg 4 times daily.

Termination of pregnancy—400 mcg single dose 2 days after mifepristone if abortion has not occurred.

Intravaginally (Adults): 25 mcg (1/4 of 100–mcg tablet); may repeat q 3–6 hr, if needed.

NURSING IMPLICATIONS
Assessment
● Assess patient routinely for epigastric or abdominal pain and for frank or occult blood in the stool, emesis, or gastric aspirate.
● Assess women of childbearing age for pregnancy. Misoprostol is usually begun on 2nd or 3rd day of menstrual period following a negative pregnancy test result.
● Termination of pregnancy: Monitor uterine cramping and bleeding during therapy.
● Cervical Ripping: Assess dilation of cervix periodically during therapy.

Potential Nursing Diagnoses
Acute pain (Indications)

Implementation
● Do not confuse Cytotec (misoprostol) with Mifeprex (mifepristone).
● Misoprostol therapy should be started at the onset of treatment with NSAIDs.

Use Cautiously in: DB: Patients with childbirthing potential should be counselled to avoid pregnancy during misoprostol therapy for prevention of NSAID-induced gastric injury. Pregnancy status should be determined before initiating therapy. Pedi: Safety not established.

Exercise Extreme Caution in: When used for cervical ripening (unlabeled use) may cause uterine rupture (risk factors are late trimester pregnancy, previous caesarean section or uterine surgery or >5 previous pregnancies).

Canadian drug name.
● PO: Administer medication with meals and at bedtime to reduce severity of diarrhea.

Antacids may be administered before or after misoprostol for relief of pain. Avoid those containing magnesium, because of increased diarrhea with misoprostol.

**Patient/Family Teaching**

- Instruct patient to take medication as directed for the full course of therapy, even if feeling better. Take missed doses as soon as possible unless next dose is due within 2 hr; do not double doses. Emphasize that sharing of this medication may be dangerous.

- Advise patient not to share misoprostol with others, even if they have similar symptoms; may be dangerous.

- Inform patient that misoprostol will cause spontaneous abortion. Women of childbearing age must be informed of this effect through verbal and written information and must use contraception throughout therapy. If pregnancy is suspected, the woman should stop taking misoprostol and immediately notify her health care professional.

- Inform patient that diarrhea may occur. Health care professional should be notified if diarrhea persists for more than 1 wk. Also advise patient to report onset of black, tarry stools or severe abdominal pain.

- Advise patient to avoid alcohol and foods that may cause an increase in GI irritation.

**Evaluation/Desired Outcomes**

- Prevention of gastric ulcers in patients receiving chronic NSAID therapy.

- Termination of pregnancy.

- Cervical ripening and induction of labor.

**Why was this drug prescribed for your patient?**