Ketoprofen (kee-toe-proe-fen)

**Classifications**
- Antipyretics
- Antirheumatics
- Nonopioid analgesics
- Nonsteroidal anti-inflammatory agents
- Pharmacologic: nonopioid analgesics

**Pregnancy Category B** (first trimester)

**Indications**
Inflammatory disorders, including: Rheumatoid arthritis, Osteoarthritis. Mild to moderate pain, including dysmenorrhea and fever.

**Action**
Inhibits prostaglandin synthesis.

**Therapeutic Effects:** Suppression of pain and inflammation. Reduction of fever.

**Pharmacokinetics**
- **Absorption:** Well absorbed from the GI tract.
- **Distribution:** Unknown.
- **Protein Binding:** 99%.
- **Metabolism and Excretion:** Mostly (60%) metabolized by the liver; some renal excretion.
- **Half-life:** 2–4 hr.

**TIME/ACTION PROFILE**
- **ROUTE ONSET PEAK DURATION**
  - PO (analgesic) within 60 min 1 hr 4–6 hr
  - PO (anti-inflammatory) few days–1 wk unknown up to 24 hr (SR products)

**Contraindications/Precautions**
- **Contraindicated in:** Hypersensitivity; Cross-sensitivity may exist with other NSAIDs, including aspirin; Active GI bleeding; Ulcer disease; Some products contain tartrazine and should be avoided in patients with known intolerance; Peri-operative pain from coronary artery bypass graft (CABG) surgery.

- **Use Cautiously in:** Cardiovascular disease or risk factors for cardiovascular disease (may q risk of serious cardiovascular thrombotic events, myocardial infarction, and stroke, especially with prolonged use); Severe renal, or hepatic disease; History of ulcer disease; Renal impairment (dosage suggested); Geri: Extended-release product should not be used in geriatric patients, patients of small stature, or patients with renal impairment; Risk of bleeding; Chronic alcohol use/abuse; OB, Lactation, Pedi: Safety not established; avoid use during second half of pregnancy.

**Adverse Reactions/Side Effects**
- **CNS:** Drowsiness, headache, dizziness.
- **EENT:** Blurred vision, tinnitus.
- **CV:** Edema.
- **GI:** Drug-induced hepatitis, GI bleeding, constipation, diarrhea, dyspepsia, nausea, vomiting, anorexia, discomfort, flatulence.
- **GU:** Cystitis, hematuria, renal failure.
- **Derm:** Exfoliative dermatitis, Stevens-Johnson syndrome, toxic epidermal necrolysis, photosensitivity, rashes.
- **Endo:** Gynecomastia.
- **Hemat:** Blood dyscrasias, prolonged bleeding time.
- **MS:** Myalgia.
- **Misc:** Allergic reactions including anaphylaxis, fever.

**Interactions**
- **Drug-Drug:** Aspirin alters distribution, metabolism, and excretion of ketoprofen (concurrent use not recommended). May q risk of adverse renal reactions. May q risk of bleeding with other NSAIDs, corticosteroids, or alcohol. Chronic use with aminoglycosides may q risk of adverse renal reactions. May q effectiveness of diuretics or antihypertensives. May q risk of bleeding with cimetidine, proton pump inhibitors, valproic acid, theophylline, agents, clopidogrel, ticlopidine, eptifibatide, tirofiban, or anticoagulants. May q effectiveness of methotrexate. Probenecid q risk of toxicity from ketoprofen (concurrent use not recommended). May q risk of toxicity from methotrexate.

**Route/Dosage**
- **PO (Adults):**
  - Anti-inflammatory—150–300 mg/day in 3–4 divided doses or 150–200 mg once daily as extended-release product; Analgesic—25–50 mg q6–8 hr.

**Overdosage**
- **Symptoms:** Cardiac depression, hypotension, respiratory depression, anaphylaxis.
- **Treatment:** Supportive. Use Caution in: Cardiovascular disease or risk factors for cardiovascular disease (may q risk of serious cardiovascular thrombotic events, myocardial infarction, and stroke, especially with prolonged use); Severe renal, or hepatic disease; History of ulcer disease; Renal impairment (dosage suggested); Geri: Extended-release product should not be used in geriatric patients, patients of small stature, or patients with renal impairment; Risk of bleeding; Chronic alcohol use/abuse; OB, Lactation, Pedi: Safety not established; avoid use during second half of pregnancy.
NURSING IMPLICATIONS

Assessment

- Patients who have asthma, aspirin-induced allergy, and nasal polyps are at increased risk for developing hypersensitivity reactions. Assess for rhinitis, wheezing, and urticaria.
- Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome or toxic epidermal necrolysis. Discontinue therapy if severe or if accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, conjunctivitis, hepatitis and/or eosinophilia.

Activities

- NOTE: Assess pain and range of motion prior to and 1 hr following administration.
- NOTE: Assess pain (type, location, and intensity) prior to and 1 hr following administration.
- Fever: Measure temperature, note signs associated with fever (diaphoresis, tachycardia, malaise).

Lab Test Considerations:

- Evaluate BUN, serum creatinine, CBC, and liver function tests periodically in patients receiving prolonged therapy.
- Serum potassium, BUN, serum creatinine, alkaline phosphatase, LDH, AST, and ALT tests may show ↑ levels. Blood glucose, hemoglobin and hematocrit concentrations, leukocyte and platelet counts, and CO may be ↓.

- May produce bleeding time by 3–9 min.
- May alter results of urine albumin, 17-ketosteroid, and 17-hydroxycorticosteroid determinations.

Potential Nursing Diagnoses

- Acute pain (Indications)
- Impaired physical mobility (Indications)

Implementation

- Administration in higher-than-recommended doses does not provide increased effectiveness but may cause increased side effects. Use lowest effective dose for shortest period of time.
- Coadministration with opioid analgesics may have additive analgesic effects and may permit lower opioid doses.
- Analgesic is more effective if given before pain becomes severe.

PO:
- For rapid initial effect, administer 50 mg or 1 hr after meals. Capsules may be administered with food, milk, or antacids containing aluminum hydroxide and magnesium hydroxide to decrease GI irritation.
- Extended-release capsules should be swallowed whole; do not open or chew.
- Dysmenorrhea: Administer as soon as possible after the onset of symptoms.

Patient/Family Teaching

- Advise patient to take this medication with a full glass of water and to remain in an upright position for 15–30 min after administration.
- Instruct patient to take medication exactly as directed. Take missed doses as soon as remembered but wait until next dose is due. Do not double doses.
- May cause drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid the concurrent use of alcohol, aspirin, acetaminophen, or other OTC medications without consulting health care professional.
- Advise patient to inform health care professional of medication regimen prior to treatment or surgery.
- Caution patient to wear sunscreen and protective clothing to prevent photosensitivity reactions.
- Instruct patient not to take OTC ketoprofen preparations for more than 10 days for pain or more than 3 days for fever and to consult health care professional if symptoms persist or worsen.
- Caution patient that use of ketoprofen with 3 or more glasses of alcohol may increase risk of GI bleeding.
- Advise patient to consult health care professional if rash, itching, visual disturbances, tinnitus, weight gain, edema, black stools, persistent headache, or influenza-like syndrome (chills, fever, muscle aches, pain) occurs.

Evaluation/Desired Outcomes

- Improved joint mobility.
- Decrease in severity of pain. Improvement in arthritis may be seen in a few days to 1 wk, 1–2 wk may be required for maximum effectiveness. Patients who do not respond to one NSAID may respond to another.
- Improved joint mobility.
- Decrease in severity of pain.

Why was this drug prescribed for your patient?

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