aspirin (aspirin)

Classification
Therapeutic: antipyretics, nonopioid analgesics
Pharmacologic: salicylates

Pregnancy Category D

Indications

Action
Produce analgesia and reduce inflammation and fever by inhibiting the production of prostaglandins. Decreases platelet aggregation.

Therapeutic Effects:
Analgesia. Reduction of inflammation. Reduction of fever. Decreased incidence of transient ischemic attacks and MI.

Pharmacokinetics
Absorption: Well absorbed from the upper small intestine; absorption from enteric-coated preparations may be unreliable; rectal absorption is slow and variable.
Distribution: Rapidly and widely distributed; crosses the placenta and enters breast milk.
Metabolism and Excretion: Extensively metabolized by the liver; inactive metabolites excreted by the kidneys. Amount excreted unchanged by the kidneys depends on renal function; amount excreted unchanged increases from 2–10% up to 80%.
Half-life: 2–3 hr for low doses, up to 15–30 hr with larger doses because of saturation of liver metabolism.

TIME/ACTION PROFILE (analgesia/fever reduction†)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>5–30min</td>
<td>1–3hr</td>
<td>3–6hr</td>
</tr>
</tbody>
</table>

Contraindications/Precautions
Contraindicated in: Hypersensitivity to aspirin or other salicylates; Cross-sensitivity with other NSAIDs may exist; Cross-sensitivity may exist with nonaspirin salicylates; Bleeding disorders or thrombocytopenia. Use Cautiously in: History of GI bleeding or ulcer disease; Chronic alcohol use/abuse; Severe hepatic or renal disease; OB: Salicylates may have adverse effects on fetus and mother and should be avoided during pregnancy, especially during the 3rd trimester. Lactation: Safety not established. Geri: q risk of adverse reactions especially GI bleeding; more sensitive to toxic levels.

Adverse Reactions/Side Effects
EENT: Tinnitus.
GI: GI BLEEDING, dyspepsia, epigastric distress, nausea, abdominal pain, anorexia, hepatotoxicity, vomiting.
Hemat: Anemia, hemolysis.
Derm: Rash, urticaria.
Misc: Allergic reactions including ANAPHYLAXIS and LARYNGEAL EDEMA.

Interactions
Drug-Drug: May increase risk of bleeding with warfarin, heparin, heparin-like agents, thrombolytic agents, dipyridamole, ticlopidine, clopidogrel, tirofiban, or eptifibatide, although these agents are frequently used safely in combination and in sequence. May negate the cardioprotective antiplatelet effects of low-dose aspirin. May increase the anticoagulant effect, risk of bleeding, and platelet reactivity with clopidogrel. May increase the cardioprotective effect of low-dose aspirin.
Ibuprofen: May negate the cardioprotective antiplatelet effects of low-dose aspirin. May increase the anticoagulant effect and bleeding risk with cefoperazone, cefotetan, and valproic acid.
May decrease the activity of penicillins, phenytoin, methotrexate, valproic acid, oral hypoglycemic agents, and sulfonamides. Primary acidification of urine may increase the risk of GI irritation with NSAIDs.
May blunt the therapeutic response to diuretics and ACE inhibitors. Risk of Glemia increases with NSAIDs.
Drug-Natural Products: May increase the anticoagulant effect and bleeding risk with arnica, chamomile, feverfew, garlic, ginger, ginkgo, Panax ginseng, and others.
Drug-Food: Foods capable of acidifying the urine may blunt salicylate levels.

DOSAGE AND ADMINISTRATION

- Consider drug name. - Generic Implication. - CONTRAINDICATIONS: INJURY. - LACTATION: Safety not established. - ADVERSE REACTIONS: ESPECIALLY GI BLEEDING; MORE SENSITIVE TO TOXIC LEVELS.
Route/Dosage

Pain/Fever
PO, Rect (Adults): 325–1000 mg q 4–6 hr (not to exceed 4 g/day). Extended-release tablets—650 mg q 8 hr or 800 mg q 12 hr.
PO, Rect (Children 2–11 yr): 10–15 mg/kg/dose q 4–6 hr; maximum dose: 4 g/day.

Extended-release tablets—650 mg q 8 hr or 800 mg q 12 hr.
PO, Rect (Children): 60–100 mg/kg/day in divided doses (up to 130 mg/kg/day for acute rheumatic fever).

Prevention of Transient Ischemic Attacks
PO (Adults): 50–325 mg once daily.

Prevention of Myocardial Infarction/Platelet effects
PO (Adults): 80–325 mg once daily; Suspected acute MI—160 mg as soon as MI is suspected.
PO (Children): 3–10 mg/kg/day given once daily (round dose to a convenient amount).

Kawasaki Disease
PO (Children): 80–100 mg/kg/day in 4 divided doses until fever resolves, may be followed by maintenance dose of 3–5 mg/kg/day as a single dose for up to 4 wk.

Potential Nursing Diagnoses

Acute pain (Indications)
Impaired physical mobility (Indications)

Implementation

● Use lowest effective dose for shortest period of time.
● PO: Administer after meals or with food or an antacid to minimize gastric irritation. Food does not alter the total amount absorbed.
● Do not crush chew enteric-coated tablets. Do not take antacids within 1–2 hr of enteric-coated tablets. Chewable tablets may be chewed, dissolved in liquid, or swallowed whole. Some extended-release tablets may be broken or crumbled but must not be ground up before swallowing. See manufacturer’s prescribing information for individual products.

Patient/Family Teaching

● Instruct patient to take tablets with a full glass of water and to remain in an upright position for 15–30 min after administration.
● Advise patient to report tinnitus, unusual bleeding or bruising, black, tarry stools, or fever lasting longer than 3 days.
aspirin

● Caution patient to avoid concurrent use of alcohol with this medication to minimize possible gastric irritation; 3 or more glasses of alcohol per day may increase risk of GI bleeding. Caution patient to avoid taking concurrently with acetaminophen or NSAIDs for more than a few days, unless directed by healthcare professional to prevent analgesic nephropathy.

● Teach patient on a sodium-restricted diet to avoid effervescent tablets or buffered aspirin preparations.

● Tablets with an acetic (vinegar-like) odor should be discarded.

● Advise patients on long-term therapy to inform healthcare professional of medication regimen before surgery. Aspirin may need to be withheld for 7–10 days before surgery.

● PDI: Centers for Disease Control and Prevention warns against giving aspirin to children or adolescents with varicella (chickenpox) or influenza-like or viral illnesses because of a possible association with Reye’s syndrome.

● Transient ischemic attacks or MI: Advise patients receiving aspirin prophylactically to take only prescribed dose. Increasing dose has not been found to provide additional benefit.

Evaluation/Desired Outcomes

● Relief of mild to moderate discomfort.

● Improved ease of joint movement. May take 2–3 wk for maximum effectiveness.

● Reduction of fever.

● Prevention of transient ischemic attacks.

● Prevention of MI.

Why was this drug prescribed for your patient?

- Generic Implication.  - Underlines indicate most frequent.
- Strikethrough = Discontinued.