



Drug Name: Acetylsalicylic Acid

Trade Name: Aspirin, ASA

REVISED: 01May18

Class:

- NSAID (Analgesic, anti-inflammatory)
- Anti-platelet aggregation agent
- Antipyretic

Mechanism of Action:

- Aspirin inhibits the formation of COX, which is responsible for the conversion of arachidonic acid to prostaglandin (the first step in the arachidonic acid cascade).
- Blocks the formation of Thromboxane A₂ & prostacyclin. Thromboxane A₂ causes platelet aggregation and vasoconstriction. Prostacyclin inhibits platelet aggregation and vasodilation. Clinically the blockage of Thromboxane A₂ predominates.
- By suppressing the formation of prostaglandins near the hypothalamus, aspirin promotes a return to a normal body temperature set point.
- The effects of pain relief and anti-inflammation are also related to the blockage of the arachidonic acid cascade.

Indications:

- Chest pain suggestive of AMI

Contraindications:

- Active bleeding disorders
- Under 18 y/o (Reye's syndrome)
- Pregnancy (D)
- Known hypersensitivity

Relative Contraindications:

Asthma (Aspirin triad—hypersensitivity, asthma, nasal polyps)

Precautions:

- Use with caution in patients who report allergies to any NSAID.

Dosage:

Adults:

- Four 81 mg tablets PO, chewed & swallowed.

Pediatrics:

- Not administered to children with an acute viral illness including varicella & influenza (Reye's Syndrome)

Onset:

- 15-30 minutes

Duration:

- 4-6 hours

Side Effects:

- GI Irritation (i.e. Heartburn)
- GI Bleeding
- N/V
- Hypersensitivity Reaction—bronchospasm, urticaria.
- Prolonged bleeding time

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This document is for **reference only**. Please refer to SWO's for specific indications, dosages, and applications

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Interactions:

- When administered together, ASA & other anti-inflammatories may cause increased side effects, and increased blood levels of both drugs.
- Administration of ASA with antacids may reduce blood levels by reducing GI absorption.

PEARLS:

- ***ASA should be administered to ALL ACS patients in the acute setting even if they are regularly taking ASA. Unless ASA has been taken by the patient immediately prior to or after the onset of symptoms.***
- ***Previously, if the patient was on other anticoagulants (i.e. Plavix, Warfarin) ASA would be withheld. That is no longer the case. ASA should be administered (when indicated) even if the patient is on other anticoagulants.***
- ***Toxicology:***
 - ***150-300 mg/kg—mild toxicity***
 - ***300-500 mg/kg—serious toxicity***
 - ***> 500 mg/kg—lethal toxicity***