Drug Name: **Acetylsalicylic Acid**  
Trade Name: **Aspirin, ASA**  

**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 arachadonic acid to prostaglandin (the first step in the arachadonic 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 hypothalmus, 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 arachadonic acid cascade.  

**Indications:**  
- Chest pain suggestive of AMI  

**Contraindications:**  
- Active Bleeding Disorders  
- 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
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.**
- **The exception is if patients are currently taking anticoagulants, ASA should be withheld.**
- **Toxicology:**
  - 150-300 mg/kg—mild toxicity
  - 300-500 mg/kg—serious toxicity
  - > 500 mg/kg—lethal toxicity