



# **SNS COLLEGE OF ALLIED HEALTH SCIENCES**

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**DEPARTMENT : OPERATION THEATRE AND ANAESTHESIA  
TECHNOLOGY**

**COURSE NAME : PHARMACOLOGY**

**UNIT : H2 BLOCKERS**

**TOPICS : CIMETIDINE, RANITIDINE, FAMOTIDINE**



## H2 BLOCKERS



- H2 blockers, also known as H2 receptor antagonists, are a class of medications that inhibit the action of histamine on the H2 receptors in the stomach lining.
- By blocking these receptors, H2 blockers reduce the production of stomach acid.



# CIMETIDINE



## **Class:**

H<sub>2</sub> receptor antagonist.

## **Mechanism of Action:**

Blocks histamine H<sub>2</sub> receptors on the gastric parietal cells, inhibiting the secretion of gastric acid.



## **Pharmacodynamics:**

Reduces both basal and stimulated gastric acid secretion.

## **Pharmacokinetics:**

Well-absorbed orally, undergoes significant hepatic metabolism, and excreted in urine.



## **Indications:**

Treatment of peptic ulcers, gastroesophageal reflux disease (GERD), and Zollinger-Ellison syndrome.

## **Contraindications:**

Known hypersensitivity, use with certain drugs (like warfarin, theophylline).



## **Side Effects:**

Gynecomastia (enlarged breasts in males), confusion, drug interactions due to CYP450 inhibition.



# RANITIDINE



## **Class:**

H<sub>2</sub> receptor antagonist.

## **Mechanism of Action:**

Blocks histamine H<sub>2</sub> receptors, leading to decreased gastric acid secretion.



## **Pharmacodynamics:**

Reduces both basal and stimulated gastric acid secretion.

## **Pharmacokinetics:**

Well-absorbed orally, undergoes hepatic metabolism, and excreted in urine.





## **Indications:**

Treatment of peptic ulcers, GERD, and conditions where reduction of gastric acid secretion is beneficial.

## **Contraindications:**

Hypersensitivity.



## **Side Effects:**

Rare but may include headache, constipation, diarrhea.



# FAMOTIDINE



## **Class:**

H<sub>2</sub> receptor antagonist.

## **Mechanism of Action:**

Blocks histamine H<sub>2</sub> receptors, resulting in reduced gastric acid secretion.



## **Pharmacodynamics:**

Reduces both basal and stimulated gastric acid secretion.

## **Pharmacokinetics:**

Well-absorbed orally, undergoes hepatic metabolism, and excreted in urine.



## **Indications:**

Peptic ulcers, GERD, and conditions associated with hypersecretion of gastric acid.

## **Contraindications:**

Hypersensitivity.



## **Side Effects:**

Generally well-tolerated; rare side effects may include headache, constipation, diarrhea.



## TECHNICIAN ROLE



- Liver function tests, especially with long-term use.



# ASSESSMENT



- What is the Pharmacodynamics of Cimetidine ?
- What all are the Side effects of Famotidine ?