



SNS COLLEGE OF ALLIED HEALTH SCIENCES

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Affiliated to Dr MGR Medical University, Chennai



**DEPARTMENT : OPERATION THEATRE AND ANAESTHESIA
TECHNOLOGY**

COURSE NAME : PHARMACOLOGY

UNIT : NARCOTICS

**TOPICS : MORPHINE, PETHIDINE, FENTANYL,
PENTAZOCINE**



NARCOTICS



- Narcotics" is a broad term that historically referred to substances that induce sleep, dull the senses, and relieve pain.
- In modern usage, the term is often associated with opioid drugs, which are powerful analgesic (pain-relieving) medications.



MORPHINE



Class: Opioid analgesic.

Mechanism of Action:

Binds to opioid receptors in the central nervous system, modulating pain perception and producing analgesia.



Pharmacodynamics:

Acts on mu-opioid receptors primarily.

Pharmacokinetics: Administered orally, intravenously, or via other routes. Metabolized in the liver.



Indications: Severe pain, such as post-surgical pain, trauma, and pain associated with certain medical conditions.

Contraindications: Hypersensitivity, respiratory depression, paralytic ileus.

Side Effects: Respiratory depression, constipation, nausea, sedation.



PETHIDINE



Class:

Opioid analgesic.

Mechanism of Action:

Similar to morphine, binding to mu-opioid receptors in the central nervous system.



Pharmacodynamics:

Exhibits analgesic effects.

Pharmacokinetics:

Metabolized in the liver.



Indications: Pain relief, including post-operative pain.

Contraindications: Hypersensitivity, respiratory depression, epilepsy.

Side Effects: Similar to morphine, including respiratory depression, nausea, constipation.



FENTANYL



Class:

Synthetic opioid analgesic.

Mechanism of Action:

Binds to mu-opioid receptors in the central nervous system.



Pharmacodynamics:

Potent analgesic.

Pharmacokinetics:

Rapid onset and short duration of action. Various formulations, including patches, injections, and lozenges.



Indications: Severe pain, often used in surgical and anesthesia settings.

Contraindications: Hypersensitivity, respiratory depression.

Side Effects: Similar to other opioids, with the potential for rapid onset of respiratory depression.



PENTAZOCINE



Class:

Mixed opioid agonist-antagonist.

Mechanism of Action:

Binds to kappa-opioid receptors as a partial agonist and acts as an antagonist at mu-opioid receptors.



Pharmacodynamics:

Provides analgesia with less risk of respiratory depression compared to pure opioid agonists.

Pharmacokinetics:

Metabolized in the liver.



Indications: Moderate to severe pain.

Contraindications: Hypersensitivity, respiratory depression, acute respiratory conditions.

Side Effects: Nausea, sedation, sweating.



ASSESSMENT



- What is Narcotics ?
- What is the Pharmacodynamics of Pentazocine ?