

## DAY 08 · 2026 NCLEX-RN TEST PLAN

# Pain, opioids & the antidotes that *save the airway*.

Application-level review aligned to the 2026 NCLEX-RN framework: Pharmacological & Parenteral Therapies, Reduction of Risk Potential, Safety & Infection Prevention, and the NCJMM clinical judgment loop. Every flashcard pushes you into recognize-cues → analyze → prioritize → act → evaluate.

## Flashcards · 18 high-yield cards

---

Tap a card to open the full NCLEX breakdown — mechanism, monitoring, holds, antidote, teaching, NGN cue, priority Q with rationale, and a test-taking tip.

## 5 “Must Not Miss” Safety Rules

These show up disguised in NGN matrix questions and SATA. Memorize them as triggers.

**01**

**Respiratory rate < 10 = no opioid.**

Hold the dose, stay with the client, call provider. Pulse ox can lag — always count the rate first. Sedation scale (e.g., POSS) rises **before** the rate falls; an over-sedated client is the earliest cue.

**02**

**Acetaminophen max = 4 g/day adult, 3 g/day with liver disease or chronic ETOH.**

Check **every** combo product (Percocet, Vicodin, NyQuil, Excedrin). Toxicity = AST/ALT spike at 24–72h. Antidote = N-acetylcysteine, most effective within 8–10 hours of ingestion.

**03**

**NSAIDs + anticoagulant / steroid / SSRI = GI bleed risk multiplies.**

Black stools, coffee-ground emesis, sudden flank pain (renal), or HCT drop demand stopping the NSAID. Ketorolac is hard-capped at **5 days total** across all routes.

**04**

**Fentanyl patch — never cut, never apply heat.**

Cutting destroys the rate-limiting membrane; heat (heating pad, fever, hot tub, sauna) accelerates absorption and causes fatal overdose. Rotate sites, fold sticky-side-in to discard, keep away from children and pets.

**05**

**PCA = patient-controlled, not family-controlled.**

“PCA by proxy” is a sentinel event. Teach family the button is **only** for the patient. If the patient is too sedated to press it, the system is working — that is the built-in safety.

## 5 Medication Calculation & Dose-Safety Questions

Show your work. NCLEX expects you to challenge any dose that lies outside a safe range, not just compute it.

CALC 01

A child weighing 22 kg has a temperature of 39.2 °C. The order is acetaminophen 15 mg/kg PO q4h PRN, max 75 mg/kg/day. The 160 mg / 5 mL suspension is available. How many mL per dose, and what is the maximum number of doses in 24 h?

CALC 02

A client receives morphine 4 mg IV q4h PRN. Equianalgesic ratio: morphine 10 mg IV  $\approx$  hydromorphone 1.5 mg IV. Calculate the equianalgesic IV hydromorphone dose, then apply an opioid-rotation reduction of 25 % for incomplete cross-tolerance.

CALC 03

A fentanyl PCA contains 50 mcg/mL. The order is 25 mcg demand bolus, lockout 10 min, no basal, 1-hour limit 150 mcg. If the patient presses the button every 10 min for 1 hour, what is the maximum mL delivered, and does it exceed the 1-hour limit?

CALC 04

A client is on Percocet 5/325, 2 tablets PO q4h around the clock. How many milligrams of acetaminophen does the client receive in 24 h, and is it within the safe limit?

CALC 05

A 60-kg client requires a naloxone 0.04 mg IV starting dose for opioid-induced respiratory depression. The vial is labeled 0.4 mg/mL. How many mL of naloxone are drawn, and how should it be administered?

## 5 NGN-Style Items

Matrix, bow-tie, SATA, prioritization, and cloze/drop-down formats. Reasoning, not recall.

### MATRIX

#### Anticipated · Contraindicated · Non-essential

A 74-year-old with CKD stage 3 (eGFR 38), hx of GI bleed, chronic neuropathic pain, and a fractured rib. Categorize each option:

| INTERVENTION                                | ANTICIPATED | CONTRAINDICATED | NON-ESSENTIAL |
|---------------------------------------------|-------------|-----------------|---------------|
| Ketorolac 30 mg IV q6h × 5 days             | —           | ✓               | —             |
| Acetaminophen 650 mg PO q6h scheduled       | ✓           | —               | —             |
| Hydromorphone 0.2 mg IV q4h PRN severe pain | ✓           | —               | —             |
| Gabapentin 100 mg PO TID (renal-adjusted)   | ✓           | —               | —             |
| Morphine 10 mg IV q3h PRN                   | —           | ✓               | —             |
| Bowel regimen                               | ✓           | —               | —             |
| Heat patch on rib                           | —           | —               | ✓             |

### BOW-TIE

#### Connect the dots: opioid-induced respiratory depression

A post-op client on morphine PCA: RR 8, SpO2 84 %, somnolent. Drag to the bow-tie.

##### ACTIONS TO TAKE (PICK 2)

- Stop the PCA pump and stimulate the client
- Give naloxone 0.04–0.4 mg IV
- Increase the PCA basal rate
- Administer additional morphine

##### CONDITION

- Opioid-induced respiratory depression

##### PARAMETERS TO MONITOR (PICK 2)

- RR + sedation (POSS) every 5–15 min
- SpO2 and end-tidal CO2 (capnography)
- Bowel sounds q1h
- Blood glucose q1h

SATA

### Select all that apply: fentanyl transdermal patch teaching

Which statements indicate correct understanding of fentanyl patch use? Select all that apply.

- ☒ 'I will rotate sites and not put it on broken skin.'
- ☒ 'I will keep heating pads and saunas away from the patch.'
- 'If half of a 75-mcg patch is enough, I can cut one in half.'
- ☒ 'I will fold the patch on itself before throwing it away.'
- ☒ 'I will keep patches locked away from my grandchildren and pets.'
- 'I can apply two patches if my pain is bad.'

PRIORITIZATION

### Whom to assess first

The nurse just received report on four clients on opioids. List the order of assessment (1 = first).

- 1 78-yr-old · 2 h post-op hip · RR 8, POSS 3, on fentanyl PCA with basal · arousable only to shake
- 2 54-yr-old on methadone with QTc 520 ms reporting palpitations
- 3 30-yr-old on morphine PCA reporting pain 8/10, RR 18, alert
- 4 62-yr-old on oral oxycodone q6h with constipation and abdominal discomfort

CLOZE

### Drop-down: pain pharmacology cloze

Complete the sentence by selecting the best term:

For an opioid-naïve 70-year-old with eGFR 30 requiring IV opioid analgesia, the preferred agent is **hydromorphone** (vs morphine) because morphine has active **renally-cleared metabolites** that cause neurotoxicity. Acetaminophen daily limit in this client is **3,000 mg** (vs 4,000 mg) because of **age and reduced reserve**. The first sign of opioid over-sedation is rising **sedation score (POSS)**, not a falling **respiratory rate**.

## Mini Case Study · NCJMM Walk-Through

---

Post-op hip arthroplasty, day 1. Use all six clinical judgment steps.

## Scenario

A 78-year-old female is post-op day 1 from a right total hip arthroplasty. She has CKD stage 3 (eGFR 38), HTN, and chronic low back pain on home oxycodone 5 mg every 6 h PRN. Orders: morphine 4 mg IV q4h PRN severe pain, acetaminophen 650 mg PO q6h scheduled, ketorolac 30 mg IV q6h × 48 h, ondansetron 4 mg IV q6h PRN nausea, docusate 100 mg BID. At 0800 she rates pain 8/10, RR 18, HR 92, BP 142/86, SpO2 96 % on RA, drowsy but arousable. She received morphine 4 mg IV at 0700. The nursing student asks if she should give the 0800 ketorolac dose.

### 1 · RECOGNIZE CUES

- Age 78 + CKD 3 (eGFR 38)
- Opioid-tolerant (home oxycodone)
- Drowsy after morphine 4 mg IV one hour ago
- Ordered ketorolac in a renal-impaired older adult
- Pain still 8/10 despite morphine

### 2 · ANALYZE CUES

- Ketorolac is **contraindicated** in renal impairment, age > 65, and beyond 5 days – three strikes here.
- Drowsiness + recent opioid + planned NSAID = bleeding + acute kidney injury + over-sedation triad.
- Pain 8/10 with sedation = inadequate analgesia *and* early CNS depression, not just under-medicated.

### 3 · PRIORITIZE HYPOTHESES

**Primary:** impending opioid-induced sedation with concurrent nephrotoxic / GI-bleed risk from ketorolac.

**Secondary:** uncontrolled post-op pain.

**Tertiary:** constipation, nausea, DVT risk.

### 4 · GENERATE SOLUTIONS

- **Hold ketorolac** and call provider for renal-safe alternative.
- Continue scheduled acetaminophen (multimodal).
- Request lower-dose opioid (e.g., morphine 2 mg) or switch to **hydromorphone** (preferred in CKD).
- Initiate non-pharm: ice, repositioning, distraction.
- Bowel regimen + DVT prophylaxis confirmed.

### 5 · TAKE ACTION

- Hold 0800 ketorolac; document rationale.
- Reassess sedation (POSS) and RR every 15 min × 1 h.
- Notify provider with SBAR; request alternative.
- Coach student on the 3-strike contraindication for ketorolac.

### 6 · EVALUATE OUTCOMES

- Goal: pain ≤ 4/10 with RR ≥ 12, POSS ≤ 2, no new bleeding, no rise in creatinine.
- One hour later: pain 5/10, RR 16, alert, urine output 35 mL/h, no melena → **improving**.
- If pain unrelieved or sedation deepens → escalate again, consider regional anesthesia consult.

# Red Flags · Stop, Hold, Call, or Reverse

If you see this, that is your next action – no second-guessing.

|                                                                        |                                                      |
|------------------------------------------------------------------------|------------------------------------------------------|
| ● RR < 10 / POSS ≥ 3 on any opioid                                     | HOLD DOSE · STAY WITH CLIENT · NALOXONE IF DEPRESSED |
| ● Fentanyl patch + fever or external heat (heating pad, hot tub)       | REMOVE PATCH · MONITOR 12–24 H · PREPARE NALOXONE    |
| ● AST/ALT rising after suspected APAP overdose                         | CONTINUE NAC COURSE · CALL HEPATOLOGY                |
| ● GI bleed, melena, or HCT drop on NSAID or ASA                        | STOP NSAID · TYPE & SCREEN · PPI · PROVIDER          |
| ● Total APAP from combo products > 4 g/day (or > 3 g if liver disease) | HOLD APAP-CONTAINING PRODUCTS · LFTS · EDUCATE       |
| ● Methadone QTc > 500 ms or polymorphic VT                             | HOLD METHADONE · IV MAGNESIUM · TELEMETRY · PROVIDER |
| ● Tramadol or meperidine + SSRI/SNRI with fever, clonus, agitation     | STOP DRUGS · BENZODIAZEPINES · SUPPORTIVE CARE       |
| ● Codeine ordered for child < 12 or post-tonsillectomy                 | HOLD · CLARIFY · REQUEST ALTERNATIVE                 |
| ● PCA-by-proxy (family pressing button)                                | INTERVENE NOW · ASSESS CLIENT · EDUCATE · DOCUMENT   |
| ● Pregabalin or gabapentin + opioid → new respiratory depression       | HOLD OFFENDER · NALOXONE IF NEEDED · NOTIFY          |

# Confusing Drug Comparisons

NCLEX loves to bait you with look-alike, sound-alike, or same-class-different-rules pairs.

## Morphine vs Hydromorphone

|                            | Morphine                             | Hydromorphone                                |
|----------------------------|--------------------------------------|----------------------------------------------|
| POTENCY (IV EQUIANALGESIC) | 10 mg IV                             | 1.5 mg IV ( $\approx 5-7\times$ stronger)    |
| RENAL CLEARANCE            | Active metabolites accumulate in CKD | Preferred in renal impairment                |
| HISTAMINE RELEASE          | Yes – pruritus, $\downarrow$ BP      | Minimal                                      |
| MOST COMMON ERROR          | Routine dosing                       | 0.2 vs 2 mg confusion ( $10\times$ overdose) |
| NCLEX TRAP                 | Use in CKD                           | Opioid-naïve given adult tolerant dose       |

## Acetaminophen vs Ibuprofen

|                   | Acetaminophen         | Ibuprofen (NSAID)                       |
|-------------------|-----------------------|-----------------------------------------|
| ANTI-INFLAMMATORY | No                    | Yes                                     |
| RENAL EFFECT      | Safe                  | Can cause AKI                           |
| GI BLEED RISK     | No                    | Yes (esp. with anticoag, steroid, SSRI) |
| LIVER EFFECT      | Hepatotoxic in OD     | Minimal                                 |
| DAILY CEILING     | 4 g (3 g if liver dz) | 1.2–3.2 g (lowest effective)            |
| ANTIDOTE          | N-acetylcysteine      | None (supportive)                       |
| PREGNANCY         | Preferred             | Avoid 3rd trimester                     |

### Naloxone vs Flumazenil

|                    | Naloxone (opioid)        | Flumazenil (benzo)                 |
|--------------------|--------------------------|------------------------------------|
| REVERSES           | Opioids                  | Benzodiazepines                    |
| ONSET              | 1–2 min IV               | 1–2 min IV                         |
| DURATION           | 30–90 min                | Up to 1 h                          |
| BIG RISK           | Withdrawal + resedation  | Seizures in chronic benzo users    |
| REPEAT DOSING      | Common — short half-life | Used cautiously, often single dose |
| STAND-BY ALWAYS AT | Opioid PCA, sedation, ED | Procedural sedation                |

### NSAID vs Opioid for Pain

|                        | NSAID                                   | Opioid                                |
|------------------------|-----------------------------------------|---------------------------------------|
| MECHANISM              | ↓ Prostaglandins (peripheral + central) | CNS $\mu$ -receptor agonism           |
| BEST FOR               | Inflammation, bone pain                 | Severe acute / visceral / cancer pain |
| RESPIRATORY DEPRESSION | No                                      | Yes — top concern                     |
| GI BLEED               | Yes                                     | No, but constipation common           |
| TOLERANCE / DEPENDENCE | No                                      | Yes                                   |
| COMMON COMBO           | Add to opioid (multimodal)              | Add NSAID + APAP for opioid-sparing   |
| HOLDS                  | RR not relevant; bleed/AKI does         | RR < 10, POSS $\geq$ 3                |

### Gabapentin vs Pregabalin

|                      | Gabapentin                            | Pregabalin                            |
|----------------------|---------------------------------------|---------------------------------------|
| SCHEDULE             | Non-controlled (most states)          | Schedule V                            |
| ONSET OF PAIN RELIEF | 2–4 weeks                             | Days to 2 weeks                       |
| DOSING               | TID, wide titration                   | BID, tighter range                    |
| RENAL ADJUST         | Yes                                   | Yes                                   |
| BOXED COMBO WARNING  | With opioids → respiratory depression | With opioids → respiratory depression |
| DISCONTINUATION      | Taper                                 | Taper                                 |



## Day 8 · Infographic Summary

Everything from today on one page. Print-friendly.

Five families, one principle: **start low, go slow, watch the airway**. Use multimodal therapy whenever possible — acetaminophen + NSAID (if safe) + low opioid beats high-dose opioid alone.

### ● Non-opioid analgesics

- **Acetaminophen:** max 4 g/day (3 g if liver disease). Antidote = NAC.
- **NSAIDs:** GI bleed, AKI, ↑BP, ↑MI risk. Hold pre-op 5–7 d.
- **Ketorolac:** max 5 days total, all routes. No CKD, age > 65 caution.
- **Aspirin:** Reye's syndrome in kids < 19 with viral illness.

### ● Opioids — core 4

- **Morphine:** gold standard. Avoid in renal failure (active metabolites).
- **Hydromorphone:** 5–7× more potent than morphine; safer in CKD.
- **Fentanyl:** 100× morphine. Patch only for opioid-tolerant chronic pain.
- **Oxycodone:** oral; in combo with APAP — count the APAP.

### ● Antidotes

- **Naloxone:** opioid reversal. 0.04–0.4 mg IV/IM/IN; redose q2–3 min.
- **N-acetylcysteine:** APAP overdose. Best within 8–10 h, give up to 24 h.
- Naloxone half-life < many opioids → repeat dose ready, monitor 4–6 h.

### ● Neuropathic pain

- **Gabapentin / pregabalin:** nerve pain, fibromyalgia, seizures.
- Sedation, dizziness, peripheral edema, weight gain.
- Renal-dose adjust. Taper to stop — never abrupt (seizures).
- Pregabalin = Schedule V (abuse potential).

### ● PCA & device safety

- Two-RN verify drug, concentration, dose, lockout, basal.
- No PCA by proxy. Pulse ox + capnography for high-risk clients.
- Naloxone + bag-valve-mask at bedside.
- Reassess pain & sedation every 1–2 h, with every dose change.

### ● Top NGN traps

- RR drop from 18 → 8 with rising sedation = naloxone now.
- Combo opioid + APAP — total APAP exceeded.
- Fentanyl patch on a febrile or warming-blanket patient.
- Tramadol + SSRI = serotonin syndrome + seizure risk.
- Meperidine in older adult or renal failure (normeperidine seizures).

# Flashcards · Full detail

---

All 19 cards, fully expanded for printing.

# 01 • Acetaminophen

NON-OPIOID

*Tylenol, APAP, paracetamol*

**SAFETY-ALERT · TEACHING-HEAVY**

|                |                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Inhibits central COX-2 in the CNS → analgesic and antipyretic. Minimal peripheral anti-inflammatory effect, so it doesn't cause GI bleeding or platelet inhibition like NSAIDs.                                                                                                                                                 |
| WHY GIVEN      | Mild-to-moderate pain, fever, multimodal post-op pain control, OA — safe first-line in pregnancy and in clients with peptic ulcer or anticoagulation.                                                                                                                                                                           |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Allergy</li> <li>• Liver function (AST/ALT) and history of liver disease, hepatitis, chronic alcohol use</li> <li>• Total daily APAP from <b>all</b> sources — combo opioids (Percocet, Vicodin), cold meds, OTC sleep aids</li> <li>• Weight in pediatrics (15 mg/kg/dose)</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• AST, ALT, bilirubin, INR if chronic use</li> <li>• Acetaminophen level (Rumack-Matthew nomogram) for suspected overdose at 4 h post-ingestion</li> </ul>                                                                                                                               |
| MOST DANGEROUS | <b>Hepatotoxicity / acute liver failure. Symptoms appear 24–72 h after toxic dose: RUQ pain, jaundice, nausea, confusion.</b>                                                                                                                                                                                                   |
| SIDE EFFECTS   | Generally well tolerated; rare rash (Stevens-Johnson), nausea.                                                                                                                                                                                                                                                                  |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Total daily dose &gt; 4 g (adult) or &gt; 3 g (liver disease / chronic ETOH / older adult)</li> <li>• AST/ALT rising</li> <li>• Suspected overdose — draw level at 4 h</li> </ul>                                                                                                      |
| ANTIDOTE       | <b>N-acetylcysteine (NAC)</b> — most effective within 8–10 h of ingestion; effective up to 24 h. Oral or IV.                                                                                                                                                                                                                    |
| TEACHING       | <ul style="list-style-type: none"> <li>• Read every OTC label — APAP hides in NyQuil, Excedrin, Theraflu</li> <li>• No more than 4 g in 24 h (3 g if liver disease or &gt; 3 drinks/day)</li> <li>• Avoid alcohol</li> <li>• Call provider if jaundice, dark urine, RUQ pain, persistent nausea</li> </ul>                      |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Verify total APAP across orders (scheduled + PRN + combo)</li> <li>• Educate on combo products at discharge</li> <li>• Monitor LFTs on chronic therapy</li> </ul>                                                                                                                      |
| NGN CUE        | Client on Percocet (5/325) takes 2 tabs q4h + OTC Tylenol Extra Strength 1000 mg q6h. Total APAP = 3,900 + 4,000 = <b>7,900 mg/day</b> → toxic.                                                                                                                                                                                 |

## PRIORITY Q

A client is admitted 18 hours after ingesting an unknown quantity of acetaminophen. Which finding is most concerning?

- A. Nausea and vomiting
- B. AST 480 / ALT 510 units/L
- C. Acetaminophen level pending
- D. Mild RUQ tenderness

**Answer: B**

**B** is correct because rising transaminases at 18 h indicate **hepatocellular injury** – the toxic phase has begun and NAC must continue. **A** is the prodrome (0–24 h) and expected. **C** is pending, not yet a finding. **D** is also early and nonspecific. The latent stage (24–72 h) is when LFTs reveal damage even as the client feels better – a classic NCLEX trap.

## TEST TIP

*If APAP shows up, count **every** source. NCLEX hides it in a Percocet order plus an OTC label – total is the answer.*

## 02 · N-acetylcysteine

ANTIDOTE

NAC, Acetadote, Mucomyst

EMERGENCY · HIGH-RISK

|                |                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Replenishes hepatic glutathione, which conjugates the toxic APAP metabolite NAPQI and prevents hepatocyte death.                                                                                                                                                    |
| WHY GIVEN      | Acetaminophen overdose (single or staggered). Also used as mucolytic in pulmonary disease and as contrast-induced nephropathy prophylaxis (off-label).                                                                                                              |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Time of ingestion (start the clock)</li> <li>• APAP level at 4 h post-ingestion (Rumack-Matthew)</li> <li>• LFTs, INR, BUN/Cr, glucose</li> <li>• Allergy / asthma history — anaphylactoid reactions are common</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• APAP level, AST/ALT, INR, BUN/Cr, glucose, ABG, lactate</li> </ul>                                                                                                                                                         |
| MOST DANGEROUS | <b>Anaphylactoid reaction (flushing, urticaria, bronchospasm, hypotension) within 15–60 min of IV start, especially during the loading dose. Stop or slow infusion, give diphenhydramine, restart at slower rate.</b>                                               |
| SIDE EFFECTS   | Rotten-egg smell with oral form, nausea, vomiting, flushing.                                                                                                                                                                                                        |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Active bronchospasm or anaphylaxis — pause, treat, resume slower</li> <li>• IV extravasation</li> </ul>                                                                                                                    |
| ANTIDOTE       | None — NAC is itself the antidote.                                                                                                                                                                                                                                  |
| TEACHING       | <ul style="list-style-type: none"> <li>• Oral form smells like sulfur; mix with juice/cola and drink through a straw</li> <li>• Continue full course even if you feel better — liver injury can still occur</li> </ul>                                              |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Start IV NAC within 8–10 h of ingestion for max effect</li> <li>• Three-bag IV protocol: loading + two maintenance over 21 h</li> <li>• Have epinephrine and diphenhydramine ready</li> </ul>                              |
| NGN CUE        | During the loading IV NAC dose, client develops facial flushing and wheezing — anaphylactoid reaction, not allergy. Pause, antihistamine, slower rate.                                                                                                              |

## PRIORITY Q

**A 19-year-old presents 6 hours after ingesting 30 acetaminophen extra-strength tablets. The APAP level is in the toxic range. Which action is the priority?**

- A. Administer activated charcoal
- B. Begin IV N-acetylcysteine
- C. Obtain a 24-hour LFT panel
- D. Insert a urinary catheter

**Answer: B**

**B** – NAC must begin within 8–10 h for maximum hepatoprotection; this client is at hour 6 and already toxic. **A** is most effective within 1–2 h of ingestion. **C** wastes the window – LFTs will not yet show damage. **D** is not relevant.

## TEST TIP

*For NCLEX overdose questions, the antidote is always priority within its therapeutic window. NAC = APAP. Always.*

## 03 · Ibuprofen / NSAIDs

NON-OPIOID

*Motrin, Advil, naproxen (Aleve), celecoxib (Celebrex)*

HIGH RISK · COMMONLY TESTED

|                |                                                                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Inhibits COX-1 and COX-2 → ↓ prostaglandins → ↓ pain, inflammation, fever. COX-1 inhibition damages gastric mucosa and impairs platelets. COX-2 selective (celecoxib) spares stomach but raises clot risk.                                                                                                                                                    |
| WHY GIVEN      | Inflammatory pain, OA/RA, dysmenorrhea, post-op multimodal analgesia, fever in children > 6 months.                                                                                                                                                                                                                                                           |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Allergy (esp. ASA triad: asthma + nasal polyps + ASA sensitivity)</li> <li>• Renal function (BUN/Cr, eGFR)</li> <li>• BP, signs of bleeding, GI history (ulcer, GERD)</li> <li>• Concurrent anticoagulant, steroid, SSRI, ACE/ARB</li> <li>• Pregnancy (avoid third trimester – premature ductus closure)</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• BUN/Cr, CBC (hgb/hct for bleed), LFTs, BP trend</li> </ul>                                                                                                                                                                                                                                                           |
| MOST DANGEROUS | <b>GI bleed, acute kidney injury, MI/stroke risk (esp. COX-2 selective and high-dose chronic use), severe HTN exacerbation.</b>                                                                                                                                                                                                                               |
| SIDE EFFECTS   | Dyspepsia, fluid retention, headache, dizziness, tinnitus.                                                                                                                                                                                                                                                                                                    |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Active GI bleed, black/tarry stools, coffee-ground emesis</li> <li>• eGFR drop, rising creatinine</li> <li>• BP not controlled</li> <li>• 5–7 days before elective surgery</li> </ul>                                                                                                                                |
| ANTIDOTE       | None – supportive care, PPI for ulcer, transfuse if bleeding.                                                                                                                                                                                                                                                                                                 |
| TEACHING       | <ul style="list-style-type: none"> <li>• Take with food or milk</li> <li>• Avoid alcohol</li> <li>• Report black stools, vomiting blood, swelling, decreased urine</li> <li>• Don't combine with another NSAID or with daily ASA without provider</li> </ul>                                                                                                  |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Use lowest effective dose, shortest duration</li> <li>• Pair with PPI in high-risk clients</li> <li>• Avoid in CKD, HF, third-trimester pregnancy</li> </ul>                                                                                                                                                         |
| NGN CUE        | Client on warfarin and ibuprofen reports new black stools and HCT down from 38 → 28 – GI bleed, hold NSAID, hold warfarin, notify provider.                                                                                                                                                                                                                   |

## PRIORITY Q

The nurse is reviewing medications for a 72-year-old with HF, CKD stage 3, and OA. Which order should the nurse question?

- A. Acetaminophen 650 mg PO q6h
- B. Ibuprofen 600 mg PO TID
- C. Topical capsaicin
- D. Tramadol 25 mg PO BID

**Answer: B**

**B** – chronic NSAIDs are contraindicated in this triple-risk client (older adult + CKD + HF). They worsen renal function, cause fluid retention (HF decompensation), and raise GI bleed risk. **A** is safe up to 3 g/day. **C** is topical with minimal systemic effect. **D** is acceptable at low dose with renal adjustment, though seizure risk must be monitored.

## TEST TIP

*Spot the elderly client with HF or CKD – that's a near-automatic 'question the NSAID' answer.*

# 04 · Ketorolac

NON-OPIOID

*Toradol*

**SAFETY-ALERT · HIGH-RISK · TEACHING-HEAVY**

|                |                                                                                                                                                                                                                                                                                |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Potent COX inhibitor (mostly COX-1). IV/IM/PO/intranasal — opioid-sparing for acute moderate-severe pain.                                                                                                                                                                      |
| WHY GIVEN      | Short-term acute pain (post-op, renal colic, migraine) when opioid-sparing is desired.                                                                                                                                                                                         |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>Renal function (avoid if Cr &gt; 1.5 or eGFR &lt; 30)</li> <li>Age &gt; 65 (use reduced dose)</li> <li>Bleeding risk, recent or planned surgery (esp. CABG — contraindicated)</li> <li>GI bleed history</li> <li>Hypovolemia</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>BUN/Cr, CBC, urine output, BP</li> </ul>                                                                                                                                                                                                |
| MOST DANGEROUS | <b>Acute kidney injury, GI bleed, prolonged bleeding from platelet inhibition.</b>                                                                                                                                                                                             |
| SIDE EFFECTS   | Headache, dyspepsia, drowsiness, injection-site burning.                                                                                                                                                                                                                       |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>5-day maximum across <b>all routes combined</b> — IV + IM + PO + nasal</li> <li>Cr rising, oliguria</li> <li>Active bleed, low platelets</li> <li>Pre-CABG (contraindicated)</li> </ul>                                                 |
| ANTIDOTE       | None — supportive.                                                                                                                                                                                                                                                             |
| TEACHING       | <ul style="list-style-type: none"> <li>This is a strong drug — do not use more than 5 days total</li> <li>Report bruising, dark stools, decreased urination</li> </ul>                                                                                                         |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Verify cumulative duration if client transferred between units</li> <li>Pair with PPI in high GI-risk clients</li> <li>Use lower dose for ≥ 65 yr or &lt; 50 kg</li> </ul>                                                              |
| NGN CUE        | Post-op day 4 client on IV ketorolac × 4 days about to be discharged with oral ketorolac script — total would exceed 5 days. Clarify with provider.                                                                                                                            |

## PRIORITY Q

A 70-year-old post-op client has received IV ketorolac 30 mg q6h for 4 days. The provider writes for oral ketorolac 10 mg q6h × 5 days at discharge. The nurse should:

- A. Administer the discharge dose
- B. Hold and clarify the order with the provider
- C. Ask the pharmacist to fill the prescription
- D. Reduce the dose to 5 mg q6h

**Answer: B**

**B** – ketorolac is capped at **5 days total across all routes**; 4 IV days + 5 oral days = 9 days, far exceeding the limit. Also, age > 65 already requires dose reduction. **A** is unsafe. **C** bypasses the safety check the RN owns. **D** still violates the duration ceiling.

## TEST TIP

*If ketorolac is in the stem, count the days. Five is the magic number.*

## 05 · Aspirin (analgesic)

NON-OPIOID

ASA, acetylsalicylic acid

COMMONLY TESTED · TEACHING-HEAVY

|                |                                                                                                                                                                                                                                                                   |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Irreversibly acetylates COX-1 / COX-2 → ↓ prostaglandins (analgesia, antipyresis, anti-inflammation) and ↓ thromboxane A2 (antiplatelet).                                                                                                                         |
| WHY GIVEN      | Pain/fever (rarely first-line now), low-dose 81 mg for secondary prevention of MI/stroke, acute MI suspected (chewable 162–325 mg).                                                                                                                               |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Age (no ASA in &lt; 19 yr with viral illness)</li> <li>• Bleeding, peptic ulcer history</li> <li>• Allergy (ASA triad)</li> <li>• Concurrent anticoagulant, NSAID</li> <li>• Tinnitus (early salicylism)</li> </ul>      |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• CBC, BUN/Cr, salicylate level if toxicity suspected</li> </ul>                                                                                                                                                           |
| MOST DANGEROUS | <b>Reye's syndrome in children with viral illness (chickenpox, flu) – encephalopathy + fatty liver. Salicylate toxicity: tinnitus, hyperventilation, mixed acid-base, hyperthermia, seizures.</b>                                                                 |
| SIDE EFFECTS   | GI upset, easy bruising, tinnitus.                                                                                                                                                                                                                                |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Children with viral illness</li> <li>• Active bleed, recent intracranial bleed</li> <li>• Tinnitus / hearing changes (early toxicity)</li> <li>• 7 days before elective surgery</li> </ul>                               |
| ANTIDOTE       | Salicylate toxicity → alkalinize urine with sodium bicarbonate; hemodialysis for severe toxicity.                                                                                                                                                                 |
| TEACHING       | <ul style="list-style-type: none"> <li>• Never give to a child with fever or flu – use acetaminophen</li> <li>• Take with food, report black stools or ringing in the ears</li> <li>• Stop 7 days before surgery unless cardiologist directs otherwise</li> </ul> |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• For suspected MI, give 162–325 mg chewable ASA promptly</li> <li>• Monitor for bleeding and tinnitus on chronic therapy</li> </ul>                                                                                       |
| NGN CUE        | 10-year-old with fever and rash given 'baby aspirin' at home now confused and vomiting → think Reye's syndrome, escalate.                                                                                                                                         |

## PRIORITY Q

The nurse is teaching parents of a 6-year-old with influenza about home care. Which statement requires further teaching?

- A. 'I will offer cool fluids frequently.'
- B. 'I will give acetaminophen for fever.'
- C. 'I will give baby aspirin if the fever is high.'
- D. 'I will call if she becomes hard to wake.'

**Answer: C**

**C** — ASA in a child with a viral illness raises the risk of Reye's syndrome, a potentially fatal encephalopathy. **A, B, D** are correct.

## TEST TIP

*Child + fever/flu/chickenpox + aspirin = automatic wrong answer. Spot it instantly.*

## 06 · Opioid Class · Foundations

OPIOIDS

*morphine, hydromorphone, fentanyl, oxycodone, hydrocodone*

**HIGH RISK · SAFETY-ALERT · EMERGENCY**

|                |                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Bind $\mu$ -opioid receptors in CNS → altered perception of pain, decreased response, euphoria. Also inhibit medullary respiratory center.                                                                                                                                                                                                     |
| WHY GIVEN      | Moderate-to-severe acute pain, cancer pain, perioperative analgesia, palliative care, MI pain (morphine).                                                                                                                                                                                                                                      |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Pain (location, quality, 0–10) <b>and</b> sedation (POSS or RASS)</li> <li>• Respiratory rate, SpO<sub>2</sub>, BP, HR</li> <li>• Allergies / prior opioid response</li> <li>• Bowel function</li> <li>• Concurrent benzodiazepines, alcohol, sleep aids</li> <li>• Renal/hepatic function</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• No routine drug level; monitor CO<sub>2</sub> in high-risk clients (capnography)</li> </ul>                                                                                                                                                                                                           |
| MOST DANGEROUS | <b>Respiratory depression → hypoxia → arrest. Greatest risk: first 24 h, opioid-naïve, sleep apnea, concurrent CNS depressants, IV bolus.</b>                                                                                                                                                                                                  |
| SIDE EFFECTS   | Constipation (does not tolerate), nausea, pruritus, sedation, urinary retention, miosis, hypotension.                                                                                                                                                                                                                                          |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• RR &lt; 10</li> <li>• Excessive sedation (POSS ≥ 3, can't stay awake while talking)</li> <li>• SBP &lt; 90 with new opioid</li> <li>• Recent benzodiazepine or alcohol</li> </ul>                                                                                                                     |
| ANTIDOTE       | <b>Naloxone</b> (Narcan).                                                                                                                                                                                                                                                                                                                      |
| TEACHING       | <ul style="list-style-type: none"> <li>• Don't mix with alcohol or sleep meds</li> <li>• Start a bowel regimen immediately – constipation is universal</li> <li>• Use safe storage; never share</li> <li>• Get up slowly – orthostatic hypotension</li> </ul>                                                                                  |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Assess pain AND sedation before each dose</li> <li>• Reassess: IV at 15–30 min, PO at 60 min</li> <li>• Stand-by naloxone, BVM, oxygen for high-risk clients</li> <li>• Stagger with other sedatives</li> </ul>                                                                                       |
| NGN CUE        | After 2nd opioid dose, client moves from POSS 1 (alert) → POSS 3 (frequently drowsy, drifts off mid-sentence) <b>before</b> the RR falls. Hold next dose; reassess.                                                                                                                                                                            |

## PRIORITY Q

The nurse caring for four post-op clients on opioids should assess which client first?

- A. 45-yr-old · RR 14, POSS 1, pain 7/10
- B. 62-yr-old · RR 8, POSS 3, pain 2/10
- C. 30-yr-old · RR 18, nausea after morphine
- D. 78-yr-old · RR 12, POSS 2, pain 5/10

**Answer: B**

**B** — RR 8 with POSS 3 (over-sedated) is the earliest sign of impending respiratory failure. Naloxone may be needed. **A** is uncontrolled pain, important but stable airway. **C** is a tolerable side effect. **D** is borderline but stable.

## TEST TIP

*Airway always wins. POSS > pain on the priority ladder for any opioid client.*

# 07 · Morphine

OPIOIDS

MS Contin, Roxanol, Duramorph

HIGH RISK · COMMONLY TESTED

|                |                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | μ-receptor agonist. IV onset 5–10 min, peak 20 min. Metabolized in liver, active metabolites (M3G, M6G) renally cleared — accumulate in CKD.                                                                                               |
| WHY GIVEN      | Moderate-severe acute pain, MI pain (also reduces preload), cancer/palliative pain, sickle-cell crisis.                                                                                                                                    |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Pain + sedation</li> <li>• Vitals (esp. RR, BP)</li> <li>• Renal function — active metabolites accumulate</li> <li>• Allergies</li> <li>• Concurrent sedatives</li> <li>• Bowel sounds</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• BUN/Cr; capnography for high-risk</li> </ul>                                                                                                                                                      |
| MOST DANGEROUS | <b>Respiratory depression, hypotension (histamine release), urinary retention, accumulation in CKD.</b>                                                                                                                                    |
| SIDE EFFECTS   | Constipation, nausea, pruritus, miosis, drowsiness.                                                                                                                                                                                        |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• RR &lt; 10</li> <li>• POSS ≥ 3</li> <li>• SBP &lt; 90</li> <li>• Severe renal impairment (consider hydromorphone or fentanyl)</li> </ul>                                                          |
| ANTIDOTE       | <b>Naloxone</b> 0.04–0.4 mg IV q2–3 min until RR ≥ 10.                                                                                                                                                                                     |
| TEACHING       | <ul style="list-style-type: none"> <li>• Get up slowly; expect drowsiness</li> <li>• Start senna or docusate</li> <li>• Don't drive</li> <li>• Report shortness of breath or inability to urinate</li> </ul>                               |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Dilute IV push in NS over 4–5 min</li> <li>• Have naloxone available</li> <li>• Reassess in 15–30 min after IV</li> </ul>                                                                         |
| NGN CUE        | Renal failure client receiving repeated morphine doses becomes progressively more drowsy and develops myoclonus — metabolite accumulation; switch opioid.                                                                                  |

## PRIORITY Q

**A client receives morphine 4 mg IV. Fifteen minutes later: RR 8, SpO2 88 %, BP 92/58, POSS 4 (somnolent). The priority action is:**

- A. Notify provider
- B. Administer naloxone 0.4 mg IV and call for help
- C. Place client in left lateral position
- D. Recheck vital signs in 5 minutes

**Answer: B**

**B** — over-sedation + RR 8 + hypoxia is opioid-induced respiratory depression. Naloxone is indicated immediately along with airway support. **A** is appropriate after the action. **C** won't reverse hypoxia. **D** delays life-saving care.

## TEST TIP

*RR < 10 + sedation = naloxone NOW. Don't titrate to 'maybe.'*

## 08 · Hydromorphone

OPIOIDS

*Dilaudid*

HIGH RISK · SAFETY-ALERT

|                |                                                                                                                                                                                                                                              |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | μ-agonist; more lipophilic than morphine, faster onset, fewer active metabolites — preferred in renal impairment.                                                                                                                            |
| WHY GIVEN      | Moderate-severe acute pain, especially when morphine intolerance or CKD.                                                                                                                                                                     |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>Same as morphine; emphasize <b>opioid-naïve vs tolerant</b> status</li> <li>Renal preferred over morphine, but still use lowest effective dose</li> </ul>                                             |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>Renal function, RR, sedation</li> </ul>                                                                                                                                                               |
| MOST DANGEROUS | <b>Respiratory depression amplified by dose-confusion errors — milligram-for-milligram more potent than morphine.</b>                                                                                                                        |
| SIDE EFFECTS   | Same as morphine; less histamine release so less pruritus/hypotension.                                                                                                                                                                       |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>RR &lt; 10</li> <li>Excessive sedation</li> <li>SBP &lt; 90</li> </ul>                                                                                                                                |
| ANTIDOTE       | <b>Naloxone.</b> May require larger or repeat doses.                                                                                                                                                                                         |
| TEACHING       | <ul style="list-style-type: none"> <li>This is a stronger drug than morphine — start a bowel regimen, no alcohol, no driving</li> </ul>                                                                                                      |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Two-RN verify IV dose for opioid-naïve clients</li> <li>Common starting IV dose 0.2–0.5 mg, not 2 mg</li> <li>Look-alike/sound-alike: morphine vs hydromorphone — independent double check</li> </ul> |
| NGN CUE        | Order reads 'hydromorphone 2 mg IV q4h PRN' for an opioid-naïve 65-yr-old — clarify, likely intended 0.2 mg.                                                                                                                                 |

## PRIORITY Q

The nurse receives a verbal order for 'Dilaudid 1 milligram IV push now' for an opioid-naïve client with renal failure. The best action is:

- A. Administer 1 mg IV push over 2 minutes
- B. Request the order be entered, verified, and read back; clarify dose appropriateness
- C. Give 0.5 mg and reassess
- D. Hold all opioids and call rapid response

**Answer: B**

**B** – verbal orders must be written, read-back, and verified; this is also an opportunity to discuss starting dose (0.2–0.5 mg IV) for opioid-naïve renal client. **A** bypasses safety steps and may overdose. **C** still bypasses order verification. **D** is reactive without need.

## TEST TIP

*Hydromorphone in 1-mg increments for opioid-naïve = NCLEX trap. Always verify.*

# 09 · Fentanyl IV

Sublimaze

OPIOIDS

EMERGENCY · HIGH-RISK

|                |                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Highly lipophilic $\mu$ -agonist. Onset 1–2 min IV, duration 30–60 min. Hepatic metabolism, no active renal metabolites.                                                                        |
| WHY GIVEN      | Procedural sedation, intubation, ICU analgesia, breakthrough cancer pain (transmucosal forms).                                                                                                  |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Continuous SpO<sub>2</sub> + capnography</li> <li>• Airway equipment, naloxone at bedside</li> <li>• BP, HR</li> <li>• Concurrent sedatives</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• Capnography preferred over SpO<sub>2</sub> alone for early CO<sub>2</sub> retention</li> </ul>                                                         |
| MOST DANGEROUS | <b>Respiratory depression, chest-wall rigidity (with rapid high-dose IV – give over 1–2 min, treat with naloxone or paralytic + intubation), bradycardia.</b>                                   |
| SIDE EFFECTS   | Pruritus, nausea, drowsiness.                                                                                                                                                                   |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• RR &lt; 10</li> <li>• Loss of airway protection without backup</li> <li>• Hypotension</li> </ul>                                                       |
| ANTIDOTE       | <b>Naloxone</b> – multiple doses may be needed.                                                                                                                                                 |
| TEACHING       | <ul style="list-style-type: none"> <li>• For transmucosal: only for opioid-tolerant breakthrough pain</li> <li>• Never share devices; keep away from children</li> </ul>                        |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Push slowly over 1–2 min</li> <li>• Continuous monitoring during procedure</li> <li>• Be prepared to bag-mask</li> </ul>                               |
| NGN CUE        | During colonoscopy, after IV fentanyl bolus, client develops rigid thoracic muscles, can't be bagged – chest-wall rigidity, call anesthesia.                                                    |

## PRIORITY Q

During moderate sedation, after IV fentanyl 100 mcg, the client cannot be ventilated with a bag-valve-mask despite a patent airway.

The nurse anticipates:

- A. Repeat fentanyl dose
- B. Administer naloxone and call for anesthesia
- C. Increase IV fluids
- D. Position supine with head flat

**Answer: B**

**B** – chest-wall rigidity from rapid fentanyl is reversed with naloxone and may require neuromuscular blockade by anesthesia. **A** worsens it. **C, D** don't treat the rigidity.

## TEST TIP

*Fentanyl + 'can't bag' = chest-wall rigidity. Recognize and escalate.*

# 10 • Fentanyl Transdermal Patch

OPIOIDS

*Duragesic*

**SAFETY-ALERT · TEACHING-HEAVY**

|                |                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Continuous transdermal delivery over 72 h. Subcutaneous depot — peak effect at 24–48 h, residual effect 12–24 h after removal.                                                                                                                                                                                                                                                                 |
| WHY GIVEN      | Chronic, around-the-clock pain in <b>opioid-tolerant</b> adults (e.g., cancer pain). <b>Never</b> for acute or post-op pain in opioid-naïve clients.                                                                                                                                                                                                                                           |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Opioid-tolerant status (<math>\geq 60</math> mg oral morphine/day for <math>\geq 1</math> wk)</li> <li>• Skin integrity, hair</li> <li>• Fever, ambient heat (heating pad, sauna, hot tub, electric blanket)</li> <li>• Concurrent CNS depressants</li> </ul>                                                                                         |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• RR, SpO<sub>2</sub>, sedation</li> </ul>                                                                                                                                                                                                                                                                                                              |
| MOST DANGEROUS | <b>Fatal respiratory depression from heat-induced absorption increase, cutting, or pediatric/pet exposure.</b>                                                                                                                                                                                                                                                                                 |
| SIDE EFFECTS   | Sedation, constipation, dry mouth, application-site irritation.                                                                                                                                                                                                                                                                                                                                |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Opioid-naïve client</li> <li>• Fever or external heat source</li> <li>• Need for acute/rapid pain control</li> </ul>                                                                                                                                                                                                                                  |
| ANTIDOTE       | <b>Remove patch, give naloxone, expect prolonged monitoring (12–24 h)</b> because depot continues releasing.                                                                                                                                                                                                                                                                                   |
| TEACHING       | <ul style="list-style-type: none"> <li>• Don't cut or damage the patch</li> <li>• Avoid heat — no heating pads, hot showers, saunas, electric blankets</li> <li>• Rotate sites; clean skin with water only (no soaps/lotions)</li> <li>• Fold sticky-sides together to dispose; flush per facility policy</li> <li>• Keep away from children and pets — secondary exposure can kill</li> </ul> |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Confirm opioid tolerance before initiation</li> <li>• Document application date, site, and removal</li> <li>• Look for old patches on body before applying new one</li> </ul>                                                                                                                                                                         |
| NGN CUE        | Patch client develops fever 39 °C — absorption surges, monitor for over-sedation; consider patch removal.                                                                                                                                                                                                                                                                                      |

## PRIORITY Q

**Which client is most appropriate for a fentanyl transdermal patch?**

- A. Opioid-naïve post-op knee replacement
- B. 6-yr-old with sickle-cell crisis
- C. 60-yr-old with metastatic breast cancer taking morphine 90 mg PO/day for 3 weeks
- D. 80-yr-old with new fall and acute hip fracture

**Answer: C**

**C** — opioid-tolerant adult with chronic, stable cancer pain meets criteria. **A, D** are opioid-naïve and acute. **B** is pediatric and acute. Each of those carries fatal overdose risk.

## TEST TIP

*Patches = chronic + tolerant. Anything 'acute,' 'pediatric,' or 'naïve' is the wrong answer.*

# 11 · Oxycodone

OPIOIDS

*OxyContin (ER), Roxicodone (IR), Percocet (w/ APAP), Percodan (w/ ASA)*

**HIGH RISK · TEACHING-HEAVY**

|                |                                                                                                                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | μ-agonist, hepatic metabolism. ER form (OxyContin) provides 12-h pain control; never crush ER (rapid-release overdose).                                                                                                          |
| WHY GIVEN      | Moderate-severe pain, post-op step-down from IV opioids, chronic pain (ER form).                                                                                                                                                 |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Combo product? Count total APAP / ASA</li> <li>• Tolerance status</li> <li>• RR, sedation, bowel function</li> <li>• Hx of substance use disorder</li> </ul>                            |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• LFTs if combined with APAP chronically; renal function</li> </ul>                                                                                                                       |
| MOST DANGEROUS | <b>Respiratory depression, abuse potential, APAP hepatotoxicity with combo overuse.</b>                                                                                                                                          |
| SIDE EFFECTS   | Constipation, nausea, drowsiness, pruritus.                                                                                                                                                                                      |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• RR &lt; 10, POSS ≥ 3</li> <li>• Total daily APAP would exceed 4 g (3 g if liver disease)</li> </ul>                                                                                     |
| ANTIDOTE       | <b>Naloxone.</b>                                                                                                                                                                                                                 |
| TEACHING       | <ul style="list-style-type: none"> <li>• Don't crush, chew, or split ER tablets — fatal</li> <li>• Don't mix with alcohol or benzos</li> <li>• Bowel regimen</li> <li>• Store locked; dispose of unused via take-back</li> </ul> |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Verify formulation (IR vs ER) before giving</li> <li>• Count APAP across orders</li> </ul>                                                                                              |
| NGN CUE        | Client takes Percocet 5/325, 2 tabs q4h around the clock (12 tabs/day) = 3900 mg APAP; adds OTC Tylenol for headache → toxicity risk.                                                                                            |

## PRIORITY Q

**A client is prescribed Percocet (oxycodone 5 mg / acetaminophen 325 mg) 2 tabs PO q4h PRN. Which client statement requires intervention?**

- A. 'I'll start a stool softener daily.'
- B. 'I'll add Tylenol Extra Strength between doses if needed.'
- C. 'I'll avoid driving on this medication.'
- D. 'I'll keep it locked away from my grandchildren.'

**Answer: B**

**B** – Percocet already contains acetaminophen; adding more risks exceeding the 4 g/day ceiling. The other statements are correct teaching.

## TEST TIP

*Combo opioid in the stem? Always count APAP first.*

# 12 · Codeine

OPIOIDS

Tylenol #3 (w/ APAP), Robitussin AC

**PEDIATRIC SAFETY-ALERT**

|                |                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Prodrug, converted by CYP2D6 to morphine. 'Ultra-rapid metabolizers' make too much morphine; 'poor metabolizers' get no analgesia.                                              |
| WHY GIVEN      | Mild-moderate pain, antitussive (low dose).                                                                                                                                     |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>Age — avoid in children &lt; 12 and in breastfeeding mothers</li> <li>History of tonsillectomy/adenoidectomy</li> <li>Allergy</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>No routine</li> </ul>                                                                                                                    |
| MOST DANGEROUS | <b>Fatal respiratory depression in ultra-rapid metabolizers, especially pediatric post-tonsillectomy and breastfed infants of UM mothers.</b>                                   |
| SIDE EFFECTS   | Constipation, drowsiness, nausea.                                                                                                                                               |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>Children &lt; 12</li> <li>Adolescents &lt; 18 post-tonsillectomy</li> <li>Breastfeeding mother</li> </ul>                                |
| ANTIDOTE       | <b>Naloxone.</b>                                                                                                                                                                |
| TEACHING       | <ul style="list-style-type: none"> <li>Not for kids</li> <li>If breastfeeding, ask provider about alternatives</li> </ul>                                                       |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Use alternatives (acetaminophen ± ibuprofen) in peds</li> </ul>                                                                          |
| NGN CUE        | Pediatrician orders codeine elixir for a 9-year-old post-tonsillectomy — clarify; this is contraindicated.                                                                      |

## PRIORITY Q

### Which prescription should the nurse question?

- A. Codeine syrup 10 mg PO q6h for a 5-yr-old post-tonsillectomy
- B. Acetaminophen 15 mg/kg PO q4h for a 5-yr-old with otitis media
- C. Ibuprofen 10 mg/kg PO q6h for a 7-yr-old with sprain
- D. Morphine 0.05 mg/kg IV q4h for an 8-yr-old with sickle-cell crisis

#### Answer: A

**A** — codeine is contraindicated in children < 12 and especially post-tonsillectomy. Risk of fatal respiratory depression. **B, C, D** are appropriate weight-based pediatric orders.

## TEST TIP

*Kid + codeine = wrong, almost every time.*

# 13 · Tramadol

OPIOIDS

Ultram

SAFETY-ALERT · INTERACTION-HEAVY

|                |                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Weak $\mu$ -agonist <i>plus</i> inhibits serotonin and norepinephrine reuptake.                                                                                                                                                                |
| WHY GIVEN      | Moderate pain when stronger opioid not desired; chronic pain.                                                                                                                                                                                  |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Concurrent SSRI, SNRI, MAOI, triptans, linezolid (serotonin syndrome)</li> <li>• Seizure history</li> <li>• Renal/hepatic function</li> <li>• Older adult, dehydration (hypoglycemia risk)</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• Renal function; glucose if symptomatic</li> </ul>                                                                                                                                                     |
| MOST DANGEROUS | <b>Serotonin syndrome (hyperthermia, agitation, clonus, autonomic instability), seizures, hypoglycemia, respiratory depression.</b>                                                                                                            |
| SIDE EFFECTS   | Nausea, dizziness, drowsiness, constipation.                                                                                                                                                                                                   |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Concurrent serotonergic medications</li> <li>• Active seizure disorder</li> <li>• Severe renal/hepatic impairment</li> </ul>                                                                          |
| ANTIDOTE       | <b>Naloxone</b> (partial reversal), benzodiazepines for seizures, cyproheptadine for serotonin syndrome.                                                                                                                                       |
| TEACHING       | <ul style="list-style-type: none"> <li>• Don't mix with antidepressants without provider review</li> <li>• Don't stop abruptly (withdrawal)</li> <li>• Watch for confusion, fever, tremor</li> </ul>                                           |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Med reconciliation — flag SSRI/SNRI combos</li> <li>• Avoid in epilepsy</li> </ul>                                                                                                                    |
| NGN CUE        | Depressed client on sertraline started on tramadol develops fever 39 °C, clonus, agitation — serotonin syndrome.                                                                                                                               |

PRIORITY Q

A client on sertraline 100 mg daily is started on tramadol for back pain. Two days later: HR 124, BP 168/96, temp 38.9 °C, agitated, ocular clonus. The priority action is:

- A. Administer acetaminophen for fever
- B. Stop tramadol and sertraline; notify provider; prepare benzodiazepines
- C. Increase tramadol to better control pain
- D. Apply cooling blanket only

**Answer: B**

**B** – classic serotonin syndrome. Stop offending agents, supportive care, benzodiazepines for agitation/clonus, possible cyproheptadine. **A, D** treat symptoms, not cause. **C** worsens the toxicity.

TEST TIP

*Tramadol + SSRI in the stem? Think serotonin syndrome before opioid effect.*

# 14 • Methadone

OPIOIDS

*Dolophine, Methadose*

**SAFETY-ALERT · HIGH-RISK**

|                |                                                                                                                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | μ-agonist + NMDA antagonist. Half-life 8–60 h — accumulation is the danger.                                                                                                                                             |
| WHY GIVEN      | Opioid use disorder (maintenance), chronic pain (especially neuropathic), opioid rotation.                                                                                                                              |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>ECG (QTc baseline + follow-up; risk &gt; 450 ms)</li> <li>Cardiac history, concurrent QT-prolonging drugs</li> <li>Liver function</li> <li>Concurrent CNS depressants</li> </ul> |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>ECG / QTc, LFTs, electrolytes (K, Mg)</li> </ul>                                                                                                                                 |
| MOST DANGEROUS | <b>Torsades de pointes from QT prolongation, delayed respiratory depression (peaks 2–4 h after dose).</b>                                                                                                               |
| SIDE EFFECTS   | Sedation, constipation, sweating, weight gain.                                                                                                                                                                          |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>QTc &gt; 500 ms</li> <li>Concurrent ondansetron at high dose, fluoroquinolones, antipsychotics — additive QT risk</li> </ul>                                                     |
| ANTIDOTE       | <b>Naloxone</b> — but may need repeat dosing because methadone half-life > > naloxone half-life.                                                                                                                        |
| TEACHING       | <ul style="list-style-type: none"> <li>Don't adjust your own dose</li> <li>Daily dosing is supervised (OUD program)</li> <li>Report palpitations, fainting</li> </ul>                                                   |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Baseline ECG, periodic ECG</li> <li>Caution at dose titration; watch for delayed depression</li> </ul>                                                                           |
| NGN CUE        | Opioid-tolerant client on methadone started on ondansetron + ciprofloxacin develops QTc 530 ms and palpitations — hold methadone, notify provider, telemetry.                                                           |

## PRIORITY Q

**A client on methadone develops dizziness; ECG shows QTc 510 ms and runs of polymorphic ventricular tachycardia. The priority action is:**

- A. Give the next scheduled methadone dose
- B. Hold methadone, notify provider, replete magnesium, prepare for defibrillation if torsades degenerates
- C. Administer naloxone
- D. Increase methadone for better pain control

**Answer: B**

**B** – polymorphic VT in long QT context = torsades. Stop offending drug, give IV magnesium, prepare to defibrillate if pulseless. **A** worsens. **C** isn't indicated (not respiratory depression). **D** is dangerous.

## TEST TIP

*Methadone + QT + polymorphic VT = torsades. Magnesium first.*

# 15 · Naloxone

Narcan

ANTIDOTE

EMERGENCY · SAFETY-ALERT

|                |                                                                                                                                                                                                                                                                                              |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Competitive $\mu$ -opioid receptor antagonist. Onset IV 1–2 min, IN/IM 2–5 min. Duration 30–90 min.                                                                                                                                                                                          |
| WHY GIVEN      | Opioid-induced respiratory depression or overdose, suspected overdose in unresponsive patient.                                                                                                                                                                                               |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Airway, breathing, RR, SpO<sub>2</sub></li> <li>• Stimulus response, pupil size (miosis)</li> <li>• Known opioid exposure</li> <li>• Pregnancy status (precipitates withdrawal in neonate)</li> </ul>                                               |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• Not required to give, but consider opioid screen, ABG</li> </ul>                                                                                                                                                                                    |
| MOST DANGEROUS | <p><b>Acute opioid withdrawal in dependent clients (severe agitation, vomiting, autonomic surge, pain crisis), pulmonary edema, dysrhythmias.</b></p> <p><b>Recurrence of respiratory depression after naloxone wears off – extended monitoring is critical.</b></p>                         |
| SIDE EFFECTS   | Nausea, sweating, tachycardia, hypertension.                                                                                                                                                                                                                                                 |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Adequate spontaneous ventilation and arousability – over-reversal causes pain crisis and withdrawal</li> </ul>                                                                                                                                      |
| ANTIDOTE       | None – naloxone is the antidote.                                                                                                                                                                                                                                                             |
| TEACHING       | <ul style="list-style-type: none"> <li>• For take-home naloxone: spray in one nostril, lay person on side (recovery position), call 911, repeat in 2–3 min if no response</li> <li>• Even after naloxone works, the person must go to ED – the opioid may outlast the naloxone</li> </ul>    |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Start low (0.04–0.4 mg IV) and titrate to RR <math>\geq</math> 10, not to full alertness</li> <li>• Monitor for at least 2 hours, longer for long-acting opioids (methadone, ER) – up to 24 h</li> <li>• Have BVM, oxygen, suction ready</li> </ul> |
| NGN CUE        | After naloxone bolus client wakes, walks out AMA at 30 min – 45 min later EMS finds them unresponsive again. Always counsel about resedation.                                                                                                                                                |

## PRIORITY Q

A client received naloxone 0.4 mg IV for over-sedation from morphine PCA. Twenty minutes later: RR 18, alert, pain 8/10. The nurse should next:

- A. Discharge the client home
- B. Continue to monitor closely; naloxone duration is shorter than morphine and resedation is possible
- C. Administer another dose of naloxone
- D. Restart the PCA at the same settings

**Answer: B**

**B** — naloxone's 30–90 min half-life is shorter than morphine; resedation is the classic post-reversal danger. Monitor at least 2 hours. **A** is unsafe. **C** is unnecessary; client is breathing. **D** needs re-evaluation by provider before resuming.

## TEST TIP

*After naloxone, the work isn't over — watch for the rebound.*

# 16 · Gabapentin

NEUROPATHIC

Neurontin

COMMONLY TESTED · TEACHING-HEAVY

|                |                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Binds $\alpha 2\delta$ subunit of voltage-gated calcium channels in CNS → ↓ excitatory neurotransmitter release. Not a true GABA agonist despite the name.                                                                                                                 |
| WHY GIVEN      | Neuropathic pain (diabetic, postherpetic), partial seizures (adjunct), restless legs, off-label for hot flashes and anxiety.                                                                                                                                               |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>Renal function (dose adjust if eGFR &lt; 60)</li> <li>Fall risk in older adults</li> <li>Suicidal ideation</li> <li>Concurrent CNS depressants, opioids (additive sedation + respiratory depression)</li> </ul>                     |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>BUN/Cr</li> </ul>                                                                                                                                                                                                                   |
| MOST DANGEROUS | <b>Respiratory depression when combined with opioids or benzodiazepines, suicidal ideation, withdrawal seizures with abrupt stop.</b>                                                                                                                                      |
| SIDE EFFECTS   | Drowsiness, dizziness, ataxia, peripheral edema, weight gain, blurred vision.                                                                                                                                                                                              |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>Severe sedation or respiratory depression, especially with concurrent opioid</li> <li>New suicidal ideation</li> </ul>                                                                                                              |
| ANTIDOTE       | None — supportive; dialyzable in severe overdose.                                                                                                                                                                                                                          |
| TEACHING       | <ul style="list-style-type: none"> <li>Start at bedtime to ease drowsiness</li> <li>Don't stop abruptly — taper over a week or more</li> <li>Avoid alcohol</li> <li>Report mood changes, swelling, falls</li> <li>May take 2–4 weeks for full nerve-pain effect</li> </ul> |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Renal dose adjust</li> <li>Fall precautions in older adults</li> <li>Re-educate at every refill about taper and mood</li> </ul>                                                                                                     |
| NGN CUE        | Client on gabapentin + hydrocodone reports new daytime somnolence and trips on stairs — additive CNS depression and fall risk.                                                                                                                                             |

## PRIORITY Q

**A 78-year-old with diabetic neuropathy is started on gabapentin. Which teaching point is most important?**

- A. 'Stop the medication if you feel no relief after 3 days.'
- B. 'Take it on an empty stomach for best absorption.'
- C. 'Do not stop suddenly; we will taper if you discontinue.'
- D. 'This medication is non-sedating.'

**Answer: C**

**C** — abrupt discontinuation can precipitate seizures (and rebound pain). **A** is wrong: it takes 2–4 weeks. **B** is wrong: food doesn't significantly affect efficacy. **D** is wrong: sedation, especially in elderly, is a major effect.

## TEST TIP

*Anticonvulsants/neuropathics → always taper to stop. Memorize this.*

# 17 · Pregabalin

NEUROPATHIC

*Lyrica*

COMMONLY TESTED · SAFETY-ALERT

|                |                                                                                                                                                                                                                              |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | Same $\alpha 2\delta$ calcium-channel mechanism as gabapentin — more potent, more predictable absorption.                                                                                                                    |
| WHY GIVEN      | Diabetic peripheral neuropathy, postherpetic neuralgia, fibromyalgia, partial-onset seizures, spinal cord injury pain, generalized anxiety (off-label).                                                                      |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>Renal function</li> <li>CHF history (peripheral edema)</li> <li>Substance use history (Schedule V)</li> <li>Concurrent CNS depressants</li> </ul>                                     |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>BUN/Cr; CPK if myopathy suspected</li> </ul>                                                                                                                                          |
| MOST DANGEROUS | <b>Angioedema, respiratory depression when combined with opioids, suicidal ideation, withdrawal seizures.</b>                                                                                                                |
| SIDE EFFECTS   | Dizziness, drowsiness, peripheral edema, weight gain, blurred vision, dry mouth.                                                                                                                                             |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>New angioedema (face/lip/tongue swelling)</li> <li>Severe edema or HF decompensation</li> <li>Severe sedation with concurrent opioid</li> </ul>                                       |
| ANTIDOTE       | None — supportive; dialyzable.                                                                                                                                                                                               |
| TEACHING       | <ul style="list-style-type: none"> <li>Take consistently; effects in days to 2 weeks</li> <li>Don't stop abruptly</li> <li>Watch for swelling, mood change, sedation</li> <li>Controlled substance — keep secured</li> </ul> |
| NURSING ACTION | <ul style="list-style-type: none"> <li>Renal dose adjust</li> <li>Fall precautions</li> <li>Bowel regimen if combined with opioid</li> </ul>                                                                                 |
| NGN CUE        | Client on pregabalin develops new lip and tongue swelling after second dose — angioedema, stop drug, airway management.                                                                                                      |

## PRIORITY Q

A client on pregabalin and oxycodone for chronic pain reports RR 10, SpO2 92 %, and excessive sleepiness. The most appropriate action is:

- A. Continue both medications and reassess in 4 hours
- B. Notify provider; pregabalin + opioid potentiates CNS and respiratory depression
- C. Increase pregabalin to reduce opioid need
- D. Discontinue oxygen

**Answer: B**

**B** – FDA boxed warning describes the additive respiratory depression of gabapentinoids with opioids. Hold and notify. **A** delays. **C** compounds. **D** is unsafe.

## TEST TIP

*Gabapentinoid + opioid in stem = look for respiratory compromise. It's a boxed warning combo.*

# 18 · PCA Pump (Patient-Controlled Analgesia)

PCA SAFETY

SAFETY-ALERT · HIGH-RISK

*morphine PCA, hydromorphone PCA, fentanyl PCA*

|                |                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MECHANISM      | IV pump delivers a pre-set bolus when the patient presses a button, with lockout intervals to prevent stacking; optional basal/continuous rate.                                                                                                                                                                                                                       |
| WHY GIVEN      | Moderate-severe acute pain (post-op, trauma, cancer) in alert clients able to self-administer.                                                                                                                                                                                                                                                                        |
| ASSESS BEFORE  | <ul style="list-style-type: none"> <li>• Cognitive ability to understand button</li> <li>• Hand strength</li> <li>• Sedation, RR, SpO2, capnography in high-risk</li> <li>• Concurrent CNS depressants</li> <li>• Sleep apnea screen (STOP-BANG)</li> </ul>                                                                                                           |
| LABS / MONITOR | <ul style="list-style-type: none"> <li>• Not specific; monitor signs of opioid depression</li> </ul>                                                                                                                                                                                                                                                                  |
| MOST DANGEROUS | <b>Respiratory depression, especially with basal rate in opioid-naïve, OSA, older adult; PCA-by-proxy (family/staff pressing button) – never acceptable.</b>                                                                                                                                                                                                          |
| SIDE EFFECTS   | Constipation, nausea, pruritus, sedation, urinary retention.                                                                                                                                                                                                                                                                                                          |
| HOLD / NOTIFY  | <ul style="list-style-type: none"> <li>• Confused or non-arousable client</li> <li>• Family member pushing button</li> <li>• RR &lt; 10, POSS ≥ 3</li> <li>• Pump alarm, occlusion</li> </ul>                                                                                                                                                                         |
| ANTIDOTE       | <b>Naloxone</b> , plus pause pump.                                                                                                                                                                                                                                                                                                                                    |
| TEACHING       | <ul style="list-style-type: none"> <li>• You – and only you – push the button when you hurt</li> <li>• If you fall asleep, the pump will not give more – that is the safety feature</li> <li>• Family: do not press the button, call the nurse instead</li> </ul>                                                                                                     |
| NURSING ACTION | <ul style="list-style-type: none"> <li>• Two-RN independent double-check at start and change of shift (drug, concentration, dose, lockout, basal)</li> <li>• Hourly assessment of pain, sedation, RR, basal vs bolus totals</li> <li>• Document attempts vs delivered (high attempts = inadequate analgesia)</li> <li>• Naloxone + BVM + oxygen at bedside</li> </ul> |
| NGN CUE        | Family asks 'should I press the button while he sleeps?' – opportunity to teach; documents proxy risk.                                                                                                                                                                                                                                                                |

## PRIORITY Q

During morning rounds the nurse finds a spouse pressing the PCA button for a sleeping post-op client. The priority action is:

- A. Document teaching
- B. Stop the spouse immediately, assess the client (LOC, RR, SpO2), and educate on PCA-by-proxy risk
- C. Call security
- D. Continue and report at end of shift

**Answer: B**

**B** – intervene first to protect the patient, assess for respiratory depression, then educate. **A** is incomplete. **C** is excessive. **D** delays patient safety.

## TEST TIP

*PCA stems with family or visitors = PCA-by-proxy is almost always the right concern.*