NCLEX MENTAL HEALTH · SUBSTANCE USE DISORDERS · 2026 TEST PLAN

COWS & MAT

Opioid withdrawal assessment and medication-assisted treatment — what every nurse must know to safely induct, monitor, and educate patients with opioid use disorder.

- PSYCHOSOCIAL INTEGRITY
- PHARMACOLOGICAL THERAPIES
- SAFETY / INFECTION CONTROL

DEFINITION · OVERVIEW

01

What are COWS & MAT?

Two complementary tools for opioid use disorder (OUD) management

COWS — CLINICAL OPIATE WITHDRAWAL SCALE

- **11-item clinician-administered tool** that objectively quantifies opioid withdrawal severity
- Combines patient report + observable signs (pulse, sweating, pupils, GI sx, tremor, yawning, gooseflesh)
- Guides timing of buprenorphine induction & titration of comfort meds

MAT — MEDICATION-ASSISTED TREATMENT

- Evidence-based use of **FDA-approved medications + counseling/behavioral therapy**
- Reduces overdose mortality by ~50%, improves retention in treatment, decreases illicit use
- Three OUD medications: `METHADONE` · `BUPRENORPHINE` · `NALTREXONE`

PATHOPHYSIOLOGY

02

The Receptor Story

Why withdrawal happens · how MAT works

Dependence develops in 4 steps:

1. Chronic opioid binds **μ (mu)-opioid receptors** → euphoria, analgesia, respiratory depression
2. Receptors **downregulate** → tolerance (need more to feel the same)
3. Abrupt stop → **unopposed noradrenergic surge** from locus coeruleus → autonomic storm
4. Craving + dysphoria drive the **relapse cycle** — MAT interrupts it

MAT MECHANISMS AT THE M RECEPTOR

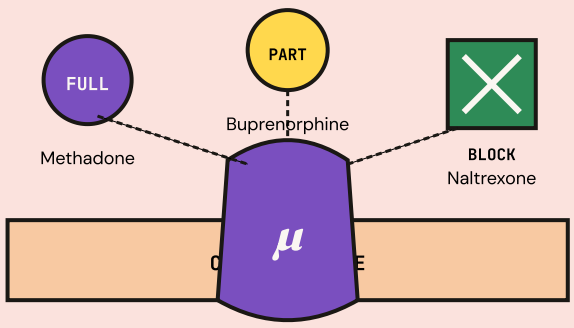
Full agonist
`METHADONE`
Fully activates μ → prevents withdrawal & cravings; long half-life

Partial agonist
`BUPRENORPHINE`
Partial activation → ***ceiling effect*** on respiratory depression

Antagonist
`NALTREXONE`
Blocks μ → no euphoria if patient uses; prevents relapse reinforcement

VISUAL

The μ-Opioid Receptor



withdrawal =
noradrenergic storm
↑HR · ↑BP · sweat · cramps · anxiety

→ *clonidine helps*

SIGNS & SYMPTOMS

03

Opioid Withdrawal Timeline + COWS Scoring

Onset, peak, and severity bands that drive treatment decisions

⏱ EARLY (6-12 HR)

- Anxiety, restlessness, drug craving
- Yawning, lacrimation (tearing)
- Rhinorrhea (runny nose), sweating
- **Dilated pupils (mydriasis)**
- Mild tachycardia

⏱ PEAK (24-72 HR)

- Nausea, vomiting, diarrhea, cramps
- **Piloerection** ("cold turkey" gooseflesh)
- Bone & joint aches, muscle twitching
- Tremor, ↑HR, ↑BP, ↑RR
- Insomnia, irritability, dysphoria

COWS SCORE → SEVERITY BAND

<5	5–12	13–24	25–36	>36
MINIMAL	MILD	MODERATE	MOD-SEVERE	SEVERE

Buprenorphine induction window: wait until COWS **≥ 8–12** (moderate withdrawal) — premature dosing precipitates withdrawal.

RED FLAG Severe dehydration with electrolyte imbalance / arrhythmia · RED FLAG Withdrawal in pregnancy (fetal distress, preterm labor — **never abrupt taper**) · RED FLAG Neonatal Abstinence Syndrome (NAS) · RED FLAG Suicidal ideation during dysphoric crash

PRIORITY NURSING INTERVENTIONS

04

What the nurse does — in order

ABCs · Safety · NCLEX prioritization

A · ASSESS

- **COWS score**, time of last opioid use, substance(s) involved
- **Airway, breathing, RR & SpO_2** baseline before MAT
- Suicide risk, pregnancy status, co-occurring substance use (especially benzos/alcohol)
- Hydration, electrolytes, LFTs, baseline ECG (QTc) if methadone

B · BEDSIDE CARE

- **Monitor VS q1–4h** during acute withdrawal; **RR before/after every dose** of agonist
- **Keep naloxone at bedside** — overdose risk especially with combined sedatives
- Hydrate (PO/IV), strict I&O, replace electrolytes
- Quiet environment, suicide precautions, fall precautions

C · COMFORT & COLLABORATION

- **Clonidine** for autonomic sx (↑HR, sweat, anxiety) — hold for BP <90/60
- **Loperamide** (diarrhea), **ondansetron** (nausea), **NSAIDs** (aches), trazodone/hydroxyzine (sleep)
- Refer to counseling, peer recovery, NA/12-step; coordinate MAT bridge to outpatient

QUICK REFERENCE

The 11 COWS Items

Each scored 0–4 or 0–5

1. Resting pulse rate
2. Sweating
3. Restlessness
4. Pupil size
5. Bone / joint aches
6. Runny nose or tearing
7. GI upset
8. Tremor
9. Yawning
10. Anxiety / irritability
11. Gooseflesh skin

Reassess COWS before each buprenorphine dose during induction (typically q1–2h). Document score, vitals, and patient response.

PHARMACOLOGY · THE BIG THREE

05

OUD Medications

Mechanism · Side effects · Nursing pearls

METHADONE

Full μ-agonist (long half-life)

MOA	Saturates μ-receptors → blocks withdrawal & cravings; long t½ allows once-daily dosing
SE	Respiratory depression, **QTc prolongation → torsades**, sedation, constipation, sexual dysfunction
NURSING	Baseline + serial **ECG**; dispensed only at certified **OTP clinics**; CYP3A4 interactions; safe in pregnancy

BUPRENORPHINE

Partial μ-agonist (± naloxone = Suboxone)

MOA	Partially activates μ; **ceiling effect** on respiratory depression makes overdose less likely
SE	HA, constipation, sweating, **precipitated withdrawal** if given too soon; rare hepatotoxicity
NURSING	**SUBLINGUAL — don't swallow**; wait until COWS ≥ 8–12; office-based prescribing (no X-waiver needed since 2023)

NALTREXONE

μ-antagonist (oral or Vivitrol IM)

MOA	Blocks μ-receptor → no euphoria from opioids; also reduces alcohol craving
SE	**Hepatotoxicity**, injection site reactions, nausea, headache, dysphoria
NURSING	Patient must be **opioid-free 7–10 days** (urine confirmation); monthly IM (Vivitrol); monitor LFTs; **carry medical ID**

ALCOHOL USE DISORDER MAT (BONUS PHARMACOLOGY)

NALTREXONE
Reduces alcohol cravings & reward. Same opioid-free precautions apply.

ACAMPROSATE
Restores glutamate / GABA balance. **Renal dosing**; avoid in severe renal impairment.

DISULFIRAM
Aldehyde dehydrogenase inhibitor → **severe reaction with any alcohol** (flushing, N/V, ↓BP, chest pain).

⚠ NCLEX TEST TRAPS

06

What students confuse on exam day

Trap on the left · truth on the right

TRAP "COWS and CIWA are interchangeable scales for any substance withdrawal."	TRUTH **COWS = opioids · CIWA-Ar = alcohol.** Different items, different risks. Mixing them up changes the entire treatment.
TRAP "Give buprenorphine as soon as the patient asks for it — they're suffering."	TRUTH Wait until **COWS ≥ 8–12**. Early dosing = **precipitated withdrawal** (worse than spontaneous because buprenorphine displaces the full agonist).
TRAP "Opioid withdrawal is life-threatening like alcohol withdrawal."	TRUTH **Opioid withdrawal is miserable but rarely fatal** in healthy adults. **Alcohol & benzo withdrawal CAN kill** (seizures, DTs). Exceptions: pregnancy, neonates, severe dehydration.
TRAP "Naltrexone any time the patient is ready to stop."	TRUTH Patient must be **opioid-free 7–10 days** first. Giving it too early causes severe precipitated withdrawal.
TRAP "Naloxone one dose fixes any opioid overdose."	TRUTH **Methadone & fentanyl outlast naloxone.** Repeat doses or naloxone drip may be needed; monitor for re-sedation.
TRAP "Disulfiram + 'a tiny sip won't matter.'"	TRUTH Even **hidden alcohol** (mouthwash, aftershave, cough syrup, vanilla extract, hand sanitizer) triggers the reaction. Lasts up to **14 days** after the last dose.
TRAP "Methadone is just like other opioids — convert mg-for-mg."	TRUTH Methadone has a **complex, non-linear equianalgesic ratio** + **QTc risk**. Never assume morphine-equivalent dosing.

PATIENT & FAMILY EDUCATION

07

Teaching points that save lives

Adherence, safety, and stigma

- **MAT is treatment, not "trading one addiction for another."** Address stigma directly — it kills adherence.
- **Carry naloxone (Narcan) nasal spray.** Teach family/friends to recognize overdose (pinpoint pupils, ↓RR, unresponsive) and how to use it.
- **No alcohol, benzos, or sedatives** while on methadone or buprenorphine — additive respiratory depression.
- **Suboxone (sublingual):** place under tongue, do not chew or swallow; no eating/drinking until fully dissolved (5–10 min).
- **Vivitrol (naltrexone IM):** keep monthly appointments — missed dose = breakthrough relapse risk.
- **Pregnancy:** methadone and buprenorphine are **preferred**; never abruptly stop opioids — fetal distress.
- **Engage in counseling, peer support, NA.** MAT works best paired with behavioral therapy.
- **Identify relapse triggers** (people, places, emotions) and rehearse a coping plan.
- **Disulfiram patients:** read all labels for ethanol; effects last 14 days after last dose.

TEACH-BACK CARD

If you see overdose…

Family-friendly teach-back script

1. **Call 911.** Don't leave the person alone.
2. **Give naloxone (Narcan)** nasal spray in one nostril.
3. **Rescue breathing** — one breath every 5 seconds.
4. **Repeat naloxone** every 2–3 min if no response.
5. **Recovery position** when breathing returns.
6. **Stay until EMS arrives** — opioids outlast naloxone.

Good Samaritan laws in most states protect bystanders from prosecution when reporting an overdose. Teach this — fear of arrest costs lives.

MEMORY BOOSTERS

08

Mnemonics & pattern recognition

Stick the high-yield facts

🐷 *Opioid Withdrawal — "WITHDRAW"*

W ide pupils (mydriasis)
I nsomnia
T earing & tremor
H yperactive bowels (cramps, diarrhea)
D iaphoresis (sweating)
R hinorrhea + restlessness
A ches (bone & joint)
W ave of yawning

💊 *MAT — "The 3 M's"*

Methadone — *Maintenance*, full agonist (clinic-dispensed)
Mostly partial — Buprenorphine, partial agonist (sublingual)
Monthly shot — Vivitrol (naltrexone), antagonist (IM)

🐷 **vs** 🐮 **scale check:**
COWS = Cows in the Opioid pasture
CIWA = "*See ya, wine!*" (alcohol)

📊 *COWS Scale — "5 · 12 · 24 · 36"*

`<5` minimal · `5–12` mild
`13–24` moderate · `25–36` mod-severe
`>36` severe

"8 to 12" rule: wait for COWS ≥ 8–12 before first `BUPRENORPHINE` dose.

🚫 *Disulfiram avoid — "VAMC"*

V anilla extract, cologne, perfume
A ftershave, hand sanitizer
M outhwash (Listerine, etc.)
C ough syrup (alcohol-based)

Reaction lasts up to 14 days after the last dose.

🎯 *Pattern Recognition — fast NCLEX recall*

"Dilated pupils + yawning + runny nose" → opioid *withdrawal* (not intoxication)

"Pinpoint pupils + ↓RR + unresponsive" → opioid *overdose* → `NALOXONE`

"Flushing + N/V + chest pain after mouthwash" → disulfiram-alcohol reaction

"Patient on methadone with prolonged QTc" → check ECG, hold dose, notify provider

"COWS 18, last heroin 14 hr ago" → safe to induct `BUPRENORPHINE`

"7 days clean, wants to start naltrexone" → confirm with urine; wait full 7–10 days