

• NCLEX-RN • PHARMACOLOGY • HEMATOLOGIC SYSTEM • 2026 TEST PLAN

Antifibrinolytics ⚡

The clot-savers — tranexamic acid & aminocaproic acid at a glance

CLASS

ANTIFIBRINOLYTIC

LYSINE ANALOG

PROTOTYPES

TRANEXAMIC ACID • TXA

AMINOCAPROIC ACID • AMICAR

DOES WHAT

Preserves clots • stops bleeding

#1 KILLER RISK

Thrombosis → DVT, PE, stroke, MI

HARD CONTRAINDICATION

Active DIC • ongoing intravascular clotting

OPPOSITE OF

Thrombolytics (alteplase • tPA)

DRUG OVERVIEW

Why we *give* it

- **Trauma hemorrhage** — TXA within 3 hrs reduces mortality (CRASH-2)
- **Postpartum hemorrhage (PPH)** — TXA reduces death from bleeding (WOMAN trial)
- **Heavy menstrual bleeding (menorrhagia)** — Lysteda PO, cyclic dosing
- **Cardiac & orthopedic surgery** — reduces intra-op / post-op blood loss
- **Dental procedures in hemophilia** — mouthwash or PO before extractions
- **Epistaxis** — topical or PO for recurrent nosebleeds
- **Hereditary angioedema prophylaxis** — aminocaproic acid, second-line
- **Prostatectomy / bladder bleeding** — lower urinary tract only

MECHANISM OF ACTION

How it *works*

Lysine analog → binds plasminogen

→ blocks plasminogen → plasmin

conversion

→ no plasmin = no fibrin breakdown

→ clot stays *intact*

→ bleeding stops

*“Anti-fibrin-lysis” — the clot is saved,
not made.*

— **Does NOT form new clots** — only stabilizes existing ones

— **Mirror image** of thrombolytics (tPA breaks clots · TXA preserves them)

THERAPEUTIC EFFECTS

Is it *working*?

- **VISIBLE** Decreased active bleeding / saturated dressings
- **VITALS** Stable BP & HR · no hypotensive trend
- **LABS** Stable or rising H&H · stable fibrinogen
- **OB** Decreased lochia / PPH volume
- **GYN** Reduced menstrual flow & clot passage
- **OUTPUT** Less drainage from chest tubes / surgical drains
- **TRANSFUSION** Fewer PRBC units required

SIDE EFFECTS & ADVERSE REACTIONS

What can go *wrong*

COMMON · USUALLY TOLERABLE

- Nausea, vomiting, diarrhea
- Headache, fatigue
- Muscle / joint pain, back pain
- Nasal congestion, sinus symptoms
- Dizziness with rapid position change

SERIOUS · LIFE-THREATENING

- **#1 Thrombosis** — DVT, PE, stroke, MI, mesenteric ischemia
- **CNS Seizures** (high-dose TXA, cardiac surgery — GABA-A inhibition)
- **EYE Visual changes** / color vision loss (aminocaproic acid, chronic)
- **IV Hypotension** with rapid IV push
- **GU Ureteral obstruction** — clot in upper urinary tract
- **RX Rhabdomyolysis** (rare, aminocaproic acid, prolonged use)
- **ALLERGY** Anaphylaxis (rare but reportable)

PRIORITY NURSING CONSIDERATIONS

Assess • monitor • hold • *notify*

- **ASSESS** baseline bleeding source, VS, neuro status, peripheral perfusion, visual acuity
- **MONITOR** for Homan's—equivalent signs (unilateral calf pain/swelling), chest pain, SOB, neuro deficits, new HA
- **MONITOR** urine output & color — flank pain = possible ureteral clot
- **INFUSE SLOWLY** — no IV push faster than 100 mg/min (hypotension risk)
- **NOTIFY** provider for: chest pain, leg swelling, vision change, seizure activity, decreased urine output

🛑 **HOLD / Do not give if...**

- Active DIC (not yet controlled)
- History of DVT / PE / stroke / MI
- Upper urinary tract bleeding
- Acquired defective color vision
- On combination hormonal contraceptives
- Severe renal impairment (dose-adjust)
- Subarachnoid hemorrhage (aminocaproic acid — cerebral vasospasm/ischemia risk)

✓ **SAFE to give when...**

- Bleeding is confirmed (not clotting)
- No personal thrombotic history
- Labs + renal function reviewed
- IV access patent, pump ready for slow infusion
- Within therapeutic window (TXA < 3 hrs from trauma)

LABS & DIAGNOSTICS

Numbers that *matter*

LAB	WHY
CBC • H&H	Trending hemoglobin = bleeding control marker
PT / INR / aPTT	Rule out coagulopathy • baseline required
Fibrinogen	Low fibrinogen = ongoing consumption • think DIC
D-dimer	Elevated = fibrinolysis or thrombosis — interpret w/ picture
Platelets	Assess clotting capacity before starting
BUN / Creatinine	Renally excreted — dose ↓ if CrCl < 50 mL/min
CK	Rhabdomyolysis screen on long aminocaproic courses
Visual acuity	Baseline + routine — stop if color vision changes

ADMINISTRATION & SAFETY

How it *goes in*

- **TXA · IV trauma:** 1 g over 10 min, then 1 g over 8 hr — within 3 hrs of injury
- **TXA · PO menorrhagia:** 1.3 g TID × up to 5 days during menses only
- **TXA · topical:** soaked gauze / mouthwash — dental & ENT use
- **Aminocaproic acid · IV:** 4–5 g loading over 1 hr, then 1 g/hr × 8 hr or until bleeding controlled
- **NEVER** rapid IV push — hypotension, bradycardia
- **NEVER** mix in line with penicillin or factor IX complex
- **Renal dose reduction** required for both drugs
- **Do NOT use** prophylactically in patients without documented bleeding

PATIENT EDUCATION

What they *must know*

- **Call 911 immediately** for: chest pain, SOB, one-sided leg pain/swelling, sudden severe headache, facial droop, weakness, slurred speech, vision loss
- **Stop estrogen contraceptives** — combination pill + TXA = high clot risk; use non-hormonal or progestin-only
- **For menorrhagia:** take only during active menstrual bleeding · max 5 days/cycle · not for prevention
- **Take PO with water;** may take with or without food
- **Don't crush** modified-release tablets
- **Report** any new color vision changes, yellow haze, or blurred vision
- **Hydrate well** — reduces ureteral clot risk
- **Avoid** combining with other procoagulants (factor concentrates, estrogens) without provider approval

*Thrombolytics **BREAK** clots · Antifibrinolytics **SAVE** clots — never confuse the two.*

⚠ NCLEX TEST TRAPS

Where students *lose points*

TRAP 01 • THE LOOK-ALIKE

Don't confuse tranexamic acid **vs** alteplase (tPA). **TXA preserves** clots. **tPA dissolves** them. Opposite indications — opposite effects.

TRAP 02 • "BLEEDING = ALWAYS SAFE"

Not in **DIC**. DIC has bleeding and clotting simultaneously — giving antifibrinolytics worsens microvascular clots. Contraindicated until DIC resolves.

TRAP 03 • THE RAPID PUSHER

Fastest-acting ≠ IV push. **Rapid IV = hypotension + bradycardia**. Always slow infusion, never bolus push.

TRAP 04 • "STOP THE NOSEBLEED"

TXA helps epistaxis & lower-GU bleeding, but **upper urinary tract bleeding is a contraindication** — clots lodge in ureters → obstruction.

TRAP 05 • CONTRACEPTIVE COMBO

Young patient on menstruation med? Check for **combination OCPs** — concurrent use multiplies DVT / PE risk. Estrogen + antifibrinolytic = red flag.

TRAP 06 • PRIORITY IN TRAUMA

Airway & hemorrhage control come first. TXA is an adjunct, not a replacement for pressure, transfusion, or surgery. **< 3-hour window** or benefit fades.

MEMORY BOOSTERS

Make it *stick*

CLOT

- C** Conserves the clot (doesn't form one)
- L** Lysine analog blocks plasminogen
- O** Opposite of tPA / thrombolytics
- T** Thrombosis is the #1 adverse effect

STOP

- S** Seizures (high-dose TXA)
- T** Thrombosis (DVT / PE / stroke)
- O** Ocular / color vision changes
- P** Pressure drops with rapid IV push

PATTERN

Drugs ending in "**-ic acid**" in this class = **tranexamic** & **aminocaproic**

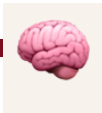
Both are **lysine analogs** → same MOA → same warnings

TXA is ~10× more potent than aminocaproic acid

MOST TESTED DRUGS IN THIS CLASS

Know the *differences*

DRUG	TOP INDICATIONS	ROUTES & DOSING FLAGS	DISTINCTIVE WARNINGS
Tranexamic acid <i>Cyklokapron · Lysteda · TXA</i>	Trauma hemorrhage (CRASH-2) PPH (WOMAN trial) Heavy menstrual bleeding Surgical bleeding · dental/hemophilia	IV · PO · topical Trauma: 1 g over 10 min, then 1 g / 8 hr Must give within 3 hrs of trauma Renal dose reduction required	Seizures at high IV doses (cardiac surgery) Thrombosis risk Hypotension with fast push
Aminocaproic acid <i>Amicar</i>	Systemic hyperfibrinolysis Cardiac surgery bleeding Hereditary angioedema prophylaxis Hyphema (eye bleeding)	IV · PO · oral solution Load 4–5 g over 1 hr, then 1 g/hr Max 30 g/day Renal dose reduction required	Color vision changes on prolonged use Rhabdomyolysis & CK ↑ Contraindicated in upper UT bleeding Avoid in subarachnoid hemorrhage



FINAL SECTION · MANDATORY

Clinical Judgment *Snapshot*

Three questions every NCLEX candidate must be able to answer in under ten seconds.

Q1 · #1 PRIORITY RISK

Thrombosis — the drug that stops bleeding can cause DVT, PE, stroke, or MI.

Same mechanism that saves the clot in a bleeder can propagate a clot in a vessel you don't want occluded. This is why DIC,

Q2 · WHAT HARMS FIRST

Hypotension from rapid IV infusion — happens in the first minutes, before any thrombotic event.

Second-order harm: a forming thromboembolism (hours to days).

Q3 · FIRST NURSING ACTION

In any new chest pain, SOB, calf swelling, or neuro change during infusion → **STOP the infusion.**

Antifibrinolytics — NCLEX-RN High-Yield Infographic

prior VTE, and estrogen-containing contraceptives are red flags.

Seizure risk is highest in the peri-operative cardiac surgery patient on high IV doses.

Then: assess airway/breathing/circulation, obtain vitals & pulse ox, notify provider, prepare for possible anticoagulation / imaging. Never delay stopping to gather data first.