

HEMATOLOGIC / ONCOLOGIC · CRITICAL CARE

Disseminated Intravascular *Coagulation*

DIC — The paradox of clotting and bleeding at the same time. Always secondary, always serious.

NGN NCLEX 2026

HIGH-YIELD

PRIORITY TOPIC

LIFE-THREATENING

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Definition & Overview

What it is · Why it matters

WHAT IT IS

A life-threatening, acquired clotting disorder where the body simultaneously forms **widespread microclots** and **bleeds uncontrollably**.

ALWAYS SECONDARY

DIC never occurs alone — it is triggered by another condition (sepsis, trauma, OB emergencies, malignancy, transfusion reactions).

WHY IT MATTERS

Clots block organ perfusion → ischemia. Then clotting factors are consumed → catastrophic hemorrhage. Mortality is high.

TWO FACES, ONE DISEASE

Recognize it: **oozing from EVERY puncture site** + signs of poor perfusion (cool, mottled extremities, ↓ urine output).



DIC is a medical emergency. The #1 priority is to identify and treat the underlying cause — DIC will not resolve until the trigger does.

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Pathophysiology (Simplified)

Trigger → Clot → Consume → Bleed

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Trigger event — sepsis, trauma, abruptio placentae, amniotic fluid embolism, malignancy, transfusion reaction, severe burns, snake bite.



2

Massive activation of the clotting cascade releases tissue factor into the bloodstream system-wide.



3

Microthrombi form throughout small vessels → tissue ischemia in kidneys, lungs, brain, skin.



4

Clotting factors and platelets are consumed faster than the body can replace them — fibrinogen drops.



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Fibrinolysis kicks in to break down clots → fibrin degradation products (FDPs) and D-dimer flood the system, further impairing clotting.



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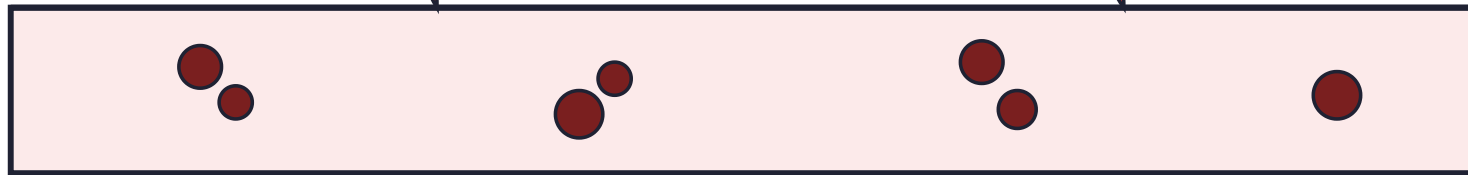
Uncontrolled bleeding from every site (IV, gums, GI, GU, incisions) + ongoing organ ischemia → multi-organ failure.

"Clotting and bleeding — at the same time."

THE CORE PARADOX OF DIC

Inside a vessel during DIC:

MICROCLOTS



BLEEDING / LEAKS

Tiny clots block flow downstream while clotting factors run out — leaks appear everywhere.

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Signs & Symptoms

Early (clotting) vs. Late (bleeding) — both can occur together

PHASE 1

Early — Clotting / Ischemia

- ▶ Cool, pale, mottled extremities
- ▶ Decreased peripheral pulses
- ▶ ↓ Urine output (renal microthrombi)
- ▶ Restlessness, confusion (cerebral ischemia)
- ▶ Chest pain, dyspnea (pulmonary thrombi)
- ▶ Acrocyanosis (fingers, toes, nose)
- ▶ Subtle — easy to miss!

PHASE 2 — RED FLAGS

Late — Hemorrhage

- 🚨 Petechiae, purpura, ecchymosis
- 🚨 Oozing from IV sites, incisions, central lines
- 🚨 Bleeding gums, epistaxis
- 🚨 Hematuria, GI bleeding (melena, hematemesis)
- 🚨 Frank hemorrhage from any orifice
- 🚨 Hypotension, tachycardia (shock)
- 🚨 Multi-organ failure

Diagnostic Lab Findings (Hallmark Pattern)

D-DIMER ↑↑↑

Most specific — markedly elevated

FDPS ↑

Fibrin degradation products elevated

PT / APTT / INR ↑

Prolonged — factors depleted

PLATELETS ↓

Thrombocytopenia from consumption

FIBRINOGEN ↓

Used up forming clots

H&H ↓

From ongoing blood loss

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Priority Nursing Interventions

ABCs · Treat the cause · Bleeding precautions

#1 PRIORITY

Treat the Underlying Cause

Sepsis → antibiotics. Abruptio → deliver baby. Cancer → oncology consult. DIC will not resolve until the trigger is fixed.

AIRWAY · BREATHING

Maintain Oxygenation

Administer O₂. Monitor SpO₂, ABGs. Be alert for ARDS — pulmonary microthrombi are common.

CIRCULATION

Hemodynamic Support

IV fluids, vasopressors per protocol. Monitor BP, HR, MAP, urine output (≥ 30 mL/hr) hourly.

MONITOR

Assess for Bleeding — Every Site

Inspect IV sites, gums, urine, stool, sputum, surgical wounds, drains. Note petechiae, purpura, oozing.

MONITOR

Assess for Clotting / Perfusion

Cap refill, peripheral pulses, skin temp/color, mental status, urine output. Watch for organ ischemia.

SAFETY

Bleeding Precautions

Soft toothbrush, electric razor, no IM injections, no rectal temps/suppositories, fall precautions, pad rails.

ADMINISTER

Blood Product Replacement

FFP (factors), cryoprecipitate (fibrinogen), platelets, PRBCs as ordered. Verify with 2 nurses.

LABS

Trend Coag Studies

Serial PT/PTT, INR, platelets, fibrinogen, D-dimer, H&H. Report worsening trends immediately.

PROTECT

Minimize Trauma

Avoid unnecessary venipunctures. Hold pressure ≥ 10 minutes after sticks. Gentle suctioning. No NSAIDs/aspirin.

DOCUMENT

Strict I&O

Hourly urine output. Measure all blood loss (drains, dressings, emesis). Daily weights.

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Pharmacology & Blood Products

Replace what's been consumed · Treat the trigger

AGENT	ACTION	NURSING CONSIDERATIONS
Fresh Frozen Plasma (FFP)	Replaces all clotting factors	ABO compatible. Infuse rapidly once thawed. Monitor for transfusion reaction & circulatory overload.
Cryoprecipitate	Concentrated fibrinogen + Factors VIII, XIII, vWF	Given when fibrinogen < 100 mg/dL. Small volume — good for fluid-restricted patients.
Platelets	Replaces consumed platelets	Given when count < 50,000 with active bleeding. Each unit ↑ count by ~5,000–10,000.
Packed RBCs (PRBCs)	Restores oxygen-carrying capacity	Filter, NS only, 2-nurse check, monitor first 15 min, complete within 4 hours.
Heparin (controversial)	Inhibits clotting cascade — used in clotting-predominant phase	Used cautiously. Monitor aPTT. Have protamine sulfate as antidote available.
Vitamin K / Folate	Supports clotting factor synthesis	Given to support liver-dependent factors (II, VII, IX, X).
Antibiotics (if septic)	Treat the underlying infection — the trigger	Draw cultures BEFORE first dose. Broad-spectrum within 1 hour of sepsis recognition.

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NCLEX Test Traps ⚠️

Where students lose points on DIC questions

TRAP

Treating only the bleeding. Correct: Treat the underlying cause first — DIC won't resolve until the trigger does. Stopping bleeding without fixing the cause is futile.

TRAP

"Heparin can't be right — they're bleeding!" Correct: Heparin can be appropriate in the clotting-predominant phase. The question stem will tell you which phase the patient is in. Don't reflexively reject anticoagulants.

TRAP

Confusing DIC with ITP, hemophilia, or TTP. Correct: DIC = elevated D-dimer/FDPs + prolonged PT/PTT + low fibrinogen. ITP = low platelets only. Hemophilia = inherited factor deficiency.

TRAP

Choosing IM injection. Correct: IM injections cause hematomas and uncontrolled bleeding. Use IV route. Same goes for rectal temps, suppositories, and venipunctures.

TRAP

Picking aspirin or NSAID for the patient's pain. Correct: These inhibit platelets and worsen bleeding. Use acetaminophen or opioids per orders.

CUE

Recognize the pattern early: Patient with sepsis/trauma/OB emergency + oozing from IV sites + petechiae + ↓ platelets + ↑ D-dimer = DIC. The earlier you recognize it, the better the outcome.

CUE

D-dimer is the most specific lab. If only one lab is given and it's a markedly elevated D-dimer in a critically ill patient, think DIC.

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NCJMM Clinical Judgment Framework

The 6-step thinking process for the NGN

STEP 1

Recognize Cues

Bleeding from IV sites, petechiae, ↓ urine output, mental status changes, abnormal coags, ↑ D-dimer in a patient with sepsis/trauma/OB emergency.

STEP 2

Analyze Cues

Connect bleeding + clotting + lab pattern to DIC. Identify the trigger. Distinguish from ITP, hemophilia, TTP.

STEP 3

Prioritize Hypotheses

ABCs first. Then: stabilize hemodynamics, stop bleeding, reverse the cause. Multi-organ failure is the highest threat.

STEP 4

Generate Solutions

Treat trigger (antibiotics, deliver baby, etc.). Plan blood product replacement, bleeding precautions, perfusion support, family teaching.

STEP 5

Take Action

Administer O₂, fluids, blood products. Implement bleeding precautions. Insert large-bore IVs. Monitor labs q4–6h.

STEP 6

Evaluate Outcomes

Bleeding controlled? Coags normalizing? Urine output ≥ 30 mL/hr? MAP ≥ 65? Trigger resolving? Adjust plan accordingly.

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Patient & Family Education

Critical illness · Bleeding precautions · Recovery

For the Family (Acute Phase)

- ✓ Explain DIC is a complication of another illness
- ✓ Many treatments are happening at once — that is expected
- ✓ Frequent labs and blood products are necessary
- ✓ Critical condition; outcomes depend on the underlying cause
- ✓ Encourage presence and emotional support

Bleeding Precautions at Home

- ✓ Use a soft-bristle toothbrush; avoid flossing with thread
- ✓ Use an electric razor — no straight blades
- ✓ Avoid contact sports and high-fall-risk activities
- ✓ No aspirin, NSAIDs, or herbal blood thinners
- ✓ Report nosebleeds, blood in urine/stool, easy bruising

When to Call the Provider

- ✓ Bleeding that won't stop after 10 min of pressure
- ✓ New petechiae or unexplained bruises
- ✓ Headache, confusion, vision changes (intracranial bleed)
- ✓ Black/tarry stools, coffee-ground emesis
- ✓ Decreased urine output, swelling, shortness of breath

Recovery & Follow-Up

- ✓ Adhere to treatment for the underlying disease
- ✓ Keep all coag and CBC follow-up labs
- ✓ Wear medical alert ID if on long-term anticoagulation
- ✓ Eat a balanced diet — Vit K rich foods only if not on warfarin
- ✓ Rest and gradual return to activity

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Memory Boosters & Mnemonics

Anchor it · Recall it · Apply it

MNEMONIC — TRIGGERS

"STOP Making Clots"

- S** Sepsis — #1 cause in adults
- T** Trauma / burns / crush injury
- O** OB emergencies — abruption, amniotic embolism, retained fetus
- P** Pancreatitis / liver failure
- M** Malignancy — APL, adenocarcinoma
- C** Cardiac arrest / shock states

MNEMONIC — SIGNS

"BLEED & CLOT"

- B** Bruising (petechiae, purpura, ecchymosis)
- L** Leaking from IV sites and incisions
- E** Epistaxis & gum bleeding
- E** Emesis with blood (GI bleed)
- D** Decreased perfusion (cool, mottled)
- C** Confusion (cerebral microthrombi)

LAB PATTERN

"D-Dimer DOUBLES"

- ⬆️ **D-dimer** — sky high (most specific)
- ⬆️ **PT/PTT/INR** — prolonged
- ⬆️ **FDPs** — elevated
- ⬇️ **Platelets** — consumed
- ⬇️ **Fibrinogen** — used up
- ⬇️ **H&H** — from bleeding

QUICK ANCHOR

"DIC = Death Is Coming"

- D** Detect early — oozing + abnormal coags
- I** Identify the trigger (sepsis, trauma, OB)
- C** Correct the cause + replace blood products
- ★ Time is tissue — minutes matter

★ *Quick-Recall Pearls*

- ★ DIC is always **secondary** — find and treat the trigger or the patient won't recover.
- ★ **Clotting AND bleeding happen at once** — the textbook paradox.
- ★ **D-dimer is the most specific lab finding** — markedly elevated.
- ★ **FFP replaces factors. Cryoprecipitate replaces fibrinogen.** Don't mix them up.
- ★ **No IM injections, no aspirin, no rectal anything** — minimize bleeding sites.
- ★ **Heparin in DIC?** Yes, sometimes — in the clotting-predominant phase. Look at the question stem.
- ★ **Sepsis is the #1 trigger in adults.** OB emergencies are leading triggers in pregnancy.