

## CBC & DIC Labs in the NICU

**“Know the numbers. Know when to act.”**

### Hematocrit (Hct)


- **Normal:** 40–65% (may be higher in preterm or cord blood)
- **Level to Treat:** <35% (symptomatic) or <30% (preterm, anemic, ventilated)
- **Treat With:** Packed red blood cells (PRBCs)

 *Nurse Tip: Watch for tachycardia, apnea, increased FiO<sub>2</sub> needs.*

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### Hemoglobin (Hgb)


- **Normal:** 14–20 g/dL (term), may be lower in preterm
- **Level to Treat:** Often mirrors Hct treatment thresholds
- **Treat With:** PRBCs

 *Nurse Tip: Low Hgb = oxygen-carrying capacity is compromised. Watch for desats and poor perfusion.*

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### Platelets

- **Normal:** 150–400 x10<sup>3</sup>/mm<sup>3</sup>
- **Level to Treat:**
  - <50k (with bleeding or invasive procedure)
  - <30k (routine threshold in stable neonates)
  - <100k (if very unstable or post-surgery)
- **Treat With:** Platelet transfusion

 *Low platelets = increased risk for IVH, GI bleed, petechiae.*

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### PT (Prothrombin Time)

- **Normal:** 10–14 seconds (may be slightly prolonged in preterms)
- **Level to Treat:** >20 seconds or clinical bleeding
- **Treat With:** Fresh frozen plasma (FFP)

 *Prolonged PT? Think liver dysfunction, vitamin K deficiency, or DIC.*

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### PTT (Partial Thromboplastin Time)

- **Normal:** 30–40 seconds (longer in preterms)
- **Level to Treat:** >60 seconds or clinical bleeding



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- **Treat With:** Fresh frozen plasma (FFP)

 Often prolonged before PT in early DIC.

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### ● **INR (International Normalized Ratio)**


- **Normal:** <1.3 in neonates
- **Level to Treat:** >1.5 or signs of bleeding
- **Treat With:** FFP or Vitamin K

 Useful to monitor in liver disease or warfarin exposure (rare).

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### **Fibrinogen**

- **Normal:** 150–400 mg/dL
- **Level to Treat:** <100 mg/dL (esp. if bleeding)
- **Treat With:** Cryoprecipitate or FFP

 Low fibrinogen = classic sign of consumptive coagulopathy (DIC).

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### **D-Dimer**

- **Normal:** <0.5 mcg/mL (can be higher in neonates)
- **Level to Treat:** Not treated directly—used to **support diagnosis of DIC**
- **Treat With:** Address the cause of DIC, support with blood products

 D-Dimer = marker of clot breakdown. Think infection, sepsis, or HIE.

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### ● **White Blood Cell Count (WBC)**

- **Normal:**  $9\text{--}30 \times 10^3/\text{mm}^3$
  - **Red Flags:**
    - <5 or >30 can indicate sepsis or bone marrow suppression
    - **Left shift** (↑ bands) = infection
  - **Treat With:** Broad-spectrum antibiotics, supportive care
  - *Neutropenia can be an early warning sign in DIC, sepsis, or NEC.*
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### **Absolute Neutrophil Count (ANC)**

- **Normal:**  $>1500/\text{mm}^3$
- **Level to Treat:**  $<1000/\text{mm}^3$  (increased risk for infection)
- **Treat With:** GCSF (rare), antibiotics, reverse isolation
- *ANC <500 is considered severe neutropenia.*



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