NGN NCLEX 2026 · MATERNAL NEWBORN / PEDIATRICS

Umbilical Cord Care & Teaching

High-yield newborn nursing protocol — anatomy, care of the cord stump, signs of omphalitis, parent teaching, and NCJMM clinical judgment for the postpartum & nursery setting.

CLUSTER · NEWBORN CARE | PRIORITY · INFECTION PREVENTION | NCJMM · 6-STEP SCENARIO INCLUDED

Source Transparency: This topic was not present in the uploaded personal notes. Content is synthesized from standard NCLEX references and clinical guidelines: **Saunders Comprehensive Review for the NCLEX-RN (2026)**, **ATI Maternal Newborn Nursing**, **Lippincott Manual of Nursing Practice**, **AWHONN Perinatal Nursing Standards**, **AAP Clinical Report on Umbilical Cord Care**, and **WHO Recommendations on Postnatal Care of the Mother & Newborn**.

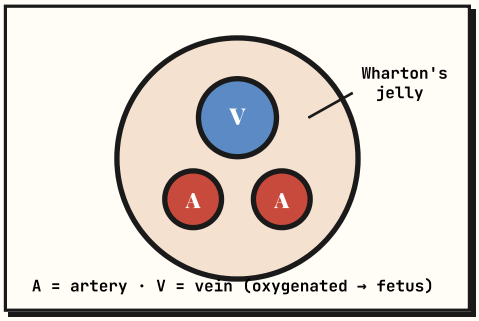
1 Definition & Overview

WHAT IT IS · WHY IT MATTERS

- The **umbilical cord** connects fetal circulation to the placenta during pregnancy; after birth, the stump is clamped, cut, and left to dry and detach naturally.
- Cord care focuses on **infection prevention** — the cord stump is necrotic tissue with no blood supply, providing a direct portal of entry to the bloodstream.
- **Omphalitis** (infection of the cord) can progress rapidly to **neonatal sepsis** and is potentially life-threatening; early teaching is essential.

2 Cord Anatomy: AVA

2 ARTERIES · 1 VEIN



- **3 vessels normal:** 2 arteries + 1 vein (AVA).
- **2 vessels (only 1 artery)** → assess for **renal & cardiac anomalies**.

3 Normal Cord Healing Timeline

BIRTH → SEPARATION → FULL CLOSURE

Step 1 · Birth
Cord clamped 1–2 in from abdomen. Bluish-white, gelatinous (Wharton's jelly).

→

Step 2 · Day 1-3
Stump begins drying, darkens to brown/black. Clamp removed after stump is dry.

→

Step 3 · Detachment
Cord falls off naturally at **7–14 days** (range 5–21 days). A few drops of blood are normal.

DAY 0-1	DAY 2-4	DAY 5-10	DAY 7-14
Moist, white-blue, gelatinous	Drying, yellow-brown	Hard, black, shriveled	Separates; small bleed OK

4 Signs & Symptoms · Normal vs. Infected

RED FLAG FINDINGS = REPORT IMMEDIATELY

✓ NORMAL FINDINGS

- Bluish-white at birth, drying over hours
- Yellow-brown → black/shriveled by day 3–5
- Small amount of dried blood at base
- A few drops of blood at separation
- Minor crusting around stump
- Falls off between 7–14 days
- Skin around base is the same color as the abdomen

SIGNS OF OMPHALITIS / INFECTION

- **Foul / fetid odor** from stump
- **Purulent** (yellow, green, white) discharge
- **Erythema** radiating onto the abdominal wall
- **Edema / swelling** at base
- **Active bleeding** (more than spotting)
- **Fever** ≥ 38°C (100.4°F) or hypothermia
- **Lethargy, poor feeding, irritability**
- Failure to separate by **3 weeks**

HIGHEST PRIORITY RED FLAG

Foul odor + purulent drainage + periumbilical erythema = omphalitis → escalate immediately. Newborns decompensate to sepsis rapidly.

5 Priority Nursing Interventions

ABC · SAFETY · INFECTION PREVENTION

A

Assess

Inspect cord stump **every shift**: color, odor, drainage, surrounding skin. Confirm **3 vessels (AVA)** were documented at birth.

B

Be Dry & Clean

Practice **dry cord care** (current AAP/WHO standard in resource-rich settings). Wash hands before and after handling. Expose stump to air.

C

Contain Contamination

Fold the diaper **down below the stump** to prevent urine/stool contact. Use sponge baths only until cord detaches and area is healed.

D

Do Not Pull

Allow natural detachment. Never pull, twist, or pick at the cord — risks bleeding and infection.

E

Escalate

Report fever, foul odor, purulent drainage, periumbilical erythema, active bleeding, or delayed separation > 3 weeks to the HCP.

6 Cord Care Products

PHARM COMPARISON · WHAT'S USED & WHY

AGENT	USE / NOTES
Dry care (none)	**Current AAP/AWHONN standard** for healthy term newborns in clean environments. Clean, dry, expose to air.
Chlorhexidine 4% (gluconate)	**WHO-recommended** in high neonatal-mortality / resource-limited settings. Reduces omphalitis & mortality.
Isopropyl alcohol 70%	**Outdated** — no longer routinely recommended. Delays separation, does not reduce infection.
Triple dye / Bacitracin	Largely abandoned. Not first-line.
Soap & water	Use only if visibly soiled with urine/stool, then pat dry thoroughly.

7 NCLEX Test Traps ⚠

COMMON MISTAKES · WRONG VS. RIGHT

TRAP 1 · "CLEAN THE CORD WITH ALCOHOL AFTER EVERY DIAPER CHANGE"

✗ Wrong Routinely applying alcohol — this is an outdated practice that **delays cord separation** and offers no infection benefit for term, healthy newborns.

✓ Right Keep the cord **clean, dry, and exposed to air**. Clean only with water if visibly soiled, then pat dry.

TRAP 2 · "SUBMERGE THE BABY IN A TUB BATH THE DAY AFTER DISCHARGE"

✗ Wrong Tub baths while the cord is still attached — moisture **delays drying** and increases infection risk.

✓ Right Give **sponge baths only** until the cord has detached AND the umbilicus is healed (no drainage).

TRAP 3 · "TUCK THE DIAPER UP OVER THE CORD TO HOLD IT IN PLACE"

✗ Wrong Diaper covering the stump traps moisture and exposes the cord to urine and stool.

✓ Right Fold the diaper **down below the cord** — many newborn diapers have a pre-cut notch for this.

TRAP 4 · "A FEW DROPS OF BLOOD WHEN THE CORD FALLS OFF MEANS INFECTION"

✗ Wrong Treating a small amount of bleeding at separation as an emergency.

✓ Right A few **drops of blood is normal** at detachment. Active bleeding, foul odor, purulent drainage, or redness spreading onto the abdomen = call HCP.

TRAP 5 · "TWO-VESSEL CORD — JUST DOCUMENT AND MOVE ON"

✗ Wrong Ignoring an absent umbilical artery as a benign finding.

✓ Right A **2-vessel cord** (single umbilical artery) is associated with **renal & cardiac anomalies** — assess and report.

8 Patient & Family Teaching

DISCHARGE EDUCATION · "WHAT TO DO AT HOME"

HAND HYGIENE FIRST

Always wash hands with soap and water **before and after** touching the cord or changing diapers.

KEEP IT DRY & OPEN TO AIR

Expose the stump to air. Avoid lotions, oils, powders, or covering with clothing that traps moisture.

FOLD DIAPER BELOW

Fold the front of the diaper down so it sits below the cord stump — keeps urine and stool away from the area.

SPONGE BATHS ONLY

Give sponge baths only until the cord falls off and the area is fully healed (usually 1–3 weeks).

NEVER PULL THE CORD

Let the cord fall off on its own. Pulling, twisting, or picking can cause bleeding and infection.

WHEN TO CALL THE HCP

Foul odor · pus or yellow-green drainage · redness spreading onto the belly · active bleeding · fever ≥ 100.4°F (38°C) · cord not off by 3 weeks.

9 Memory Boosters & Mnemonics

PATTERN RECOGNITION FOR EXAM DAY

A · V · A

2 Arteries, 1 Vein.
The cord is symmetric — an Artery on each side hugging the central Vein. Only 1 artery = check kidneys & heart.

"Clean, Dry, & to the Air"

The three-word rule of dry cord care. If parents remember nothing else, this prevents most omphalitis.

3 P's of Infection

Pus · **P**utrid odor · **P**eriumbilical redness. Any of the three = call the provider.

7–14

Cord falls off between **7 and 14 days**. After **21 days (3 weeks)** = delayed separation, may signal immune disorder or infection.

Down-and-Out Diaper

Diaper folded **DOWN below** the cord = cord stays **OUT** of pee & poop.

"Sponge until it Falls"

Sponge baths only until the stump **F**alls off — no submersion until healed.

10 NCJMM Clinical Judgment Scenario

SIX-STEP NEXT GENERATION NCLEX FRAMEWORK

Scenario: *A 10-day-old term newborn is brought to the postpartum clinic. Mother reports the cord stump "smells bad" and the baby has been "fussy and not feeding well" since yesterday. Vital signs: T 100.8°F (38.2°C) axillary, HR 178, RR 64, SpO_2 96%. Assessment reveals a yellow-green discharge at the cord base with erythema radiating 2 cm onto the abdominal wall. The cord is still attached. Mother states she has been "cleaning it with rubbing alcohol after every diaper change and keeping a Band-Aid on it."*

1 RECOGNIZE CUES

Fever (100.8°F), tachycardia (HR 178), tachypnea (RR 64), foul odor, purulent drainage, periumbilical erythema, poor feeding, irritability, alcohol use, occluded stump under Band-Aid.

2 ANALYZE CUES

Classic findings of **omphalitis** with early systemic involvement. Vital signs trending toward **neonatal sepsis**. Alcohol + occlusive dressing delayed drying and trapped bacteria.

3 PRIORITIZE HYPOTHESES

#1 priority: Omphalitis with possible early neonatal sepsis. Rule out: bleeding disorder, congenital anomaly (delayed separation), local skin infection only.

4 GENERATE SOLUTIONS

Notify HCP STAT · obtain blood cultures, CBC, CRP · prepare for IV antibiotics (ampicillin + gentamicin or per protocol) · admit for monitoring · stop alcohol & remove occlusive dressing · re-educate caregiver.

5 TAKE ACTION

Escalate to HCP immediately · obtain ordered labs & cultures · initiate IV access & antibiotics per order · maintain thermoregulation · expose stump to air · provide trauma-informed caregiver teaching on dry cord care.

6 EVALUATE OUTCOMES

Within 24–48 hrs: temperature normalizing, HR & RR within range, erythema receding, drainage resolving, feeding improving, caregiver demonstrates correct dry cord technique & verbalizes when to call HCP.

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