



NGN NCLEX • PEDIATRIC ONCOLOGY

RHABDOMYOSARCOMA (RMS)

Most common soft tissue sarcoma in children • 2026 Test Plan

📌 FOCUS: Recognize Cues → Prioritize → Take Action

#1

Soft Tissue Sarcoma in Kids

2–6 yrs

Peak Age (also adolescence)

70%

5-Year Survival Rate

♂ > ♀

Slight Male Predominance

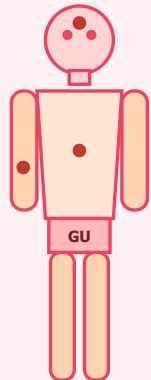


WHAT IS IT?

- ▶ **Rhabdomyosarcoma (RMS)** = malignant tumor of embryonic mesenchymal cells that were meant to become **striated (skeletal) muscle**.
- ▶ Can arise **ANYWHERE** in the body — even in sites that don't normally have skeletal muscle.
- ▶ Highly aggressive — spreads early via **lymph nodes, lungs, bone, and bone marrow**.



COMMON TUMOR SITES (by frequency)



🧠 **Head & Neck** (orbit, nasopharynx, middle ear)

~40%

🫁 **Genitourinary** (bladder, prostate, vagina)

~25%

💪 **Extremities** (arms/legs)

~20%

📍 **Trunk & Other** sites

~15%



HISTOLOGIC TYPES — Know the Difference!

Type	Age	Location	Prognosis
Embryonal (most common ~60%)	Young children (< 6 yrs)	Head/Neck, GU	BETTER ✓
Alveolar	Adolescents / Teens	Extremities, Trunk	WORSE ✗
Pleomorphic	Adults (rare in peds)	Extremities	VARIES
💡 Special Variant: <i>Sarcoma botryoides</i> — "grape-like" cluster, embryonal subtype, arises in vagina, bladder, nasopharynx .			



SIGNS & SYMPTOMS — By Location (Recognize Cues!)

- ▶ **Orbit:** Proptosis (bulging eye), ptosis, periorbital swelling, strabismus
- ▶ **Nasopharynx:** Nasal obstruction, epistaxis, dysphagia, chronic sinusitis, voice change
- ▶ **Middle Ear:** Chronic otitis media unresponsive to abx, facial nerve palsy, ear drainage
- ▶ **Bladder/Prostate:** Hematuria, urinary retention/frequency, obstruction
- ▶ **Vagina:** Bleeding, grape-like mass protruding through introitus (botryoides)
- ▶ **Extremity:** PAINLESS, firm, enlarging mass — often mistaken for injury



DIAGNOSTICS

- ▶ **CT / MRI** of primary tumor site
- ▶ **Biopsy** = DEFINITIVE diagnosis (histology)
- ▶ **Bone marrow aspiration** → rule out metastasis
- ▶ **Chest CT** → lung mets (most common site)
- ▶ **PET / Bone scan** → distant spread
- ▶ **LP** → if parameningeal site
- ▶ **CBC, CMP, LDH, uric acid**



TREATMENT — "Triple Threat"

- ▶ **1. Surgery** → resection if tumor is accessible
- ▶ **2. Chemotherapy** → ALWAYS given (VAC regimen ↓)
- ▶ **3. Radiation** → for local control / residual disease

V

Vincristine

△ Neurotoxicity

A

Actinomycin-D

△ Mucositis, N/V

C

Cyclophosphamide

△ Hemorrhagic cystitis



NURSING PRIORITIES (Take Action!)

- ▶ **Infection:** Neutropenic precautions — private room, NO fresh flowers/live plants, no raw fruits, strict hand hygiene
- ▶ **Fever:** Temp $\geq 38^{\circ}\text{C}$ (100.4°F) in neutropenic child = EMERGENCY → blood cultures + IV antibiotics STAT
- ▶ **Hydration:** For cyclophosphamide → aggressive IV hydration + MESNA to prevent hemorrhagic cystitis; monitor for hematuria
- ▶ **Nutrition:** Small frequent meals, antiemetics (ondansetron) before chemo, mouth care for mucositis
- ▶ **Pain:** PCA pump as appropriate, non-pharm (distraction, play therapy)
- ▶ **Labs:** Monitor CBC — hold chemo if ANC < 500 or platelets $< 50,000$
- ▶ **Body image:** Prepare for alopecia, weight changes; connect to peer support
- ▶ **Family:** Allow parents to room-in, sibling support, spiritual care, anticipatory guidance



NGN CLINICAL JUDGMENT — How NCLEX Tests RMS

1. Recognize Cues

Painless mass + progressive enlargement + proptosis in a toddler? Think RMS.

2. Analyze Cues

Age + location + biopsy findings drive the diagnosis and subtype.

3. Prioritize Hypotheses

Rule out infection first, but don't miss malignancy — persistent mass $\neq$ normal.

4. Generate Solutions

Plan multimodal therapy; coordinate with oncology, surgery, radiation.

5. Take Actions

Neutropenic precautions, hydration for chemo, pain/nausea mgmt, family teaching.

6. Evaluate Outcomes

Tumor size ↓, labs WNL, no infection, adequate nutrition, child/family coping.

▶ NCLEX RED FLAGS — Call Provider IMMEDIATELY

- ▶ Fever $\geq 38^{\circ}\text{C}$ (100.4°F) in neutropenic child
- ▶ New-onset proptosis or vision changes
- ▶ Painless, enlarging, firm mass anywhere
- ▶ Signs of tumor lysis syndrome ($\uparrow\text{K}^+$, $\uparrow\text{PO}_4$, $\uparrow$ uric acid, $\downarrow\text{Ca}^{2+}$)
- ▶ Hematuria during cyclophosphamide therapy
- ▶ Vaginal bleeding / grape-like mass in young girl
- ▶ ANC < 500 or platelets $< 20,000$
- ▶ Persistent otitis media not responding to abx



Rhabdomyosarcoma • NGN NCLEX Pediatric Nursing • 2026 Test Plan Standard

Review daily • Pair with flashcards • Know VAC side effects cold