NGN NCLEX · 2026 TEST PLAN • PEDIATRIC ONCOLOGY

Wilms Tumor vs. Neuroblastoma

The two most commonly tested solid tumors in pediatric nursing. One golden rule separates them on exam day — and it could save a child's life.

NGN HIGH-YIELD
PEDS ONCOLOGY
QUICK-REVIEW V.1

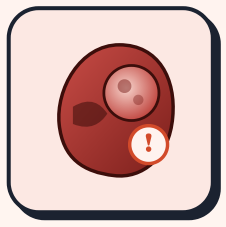
WILMS · PEAK AGE	ORIGIN
2 – 5 yrs	Kidney

NEUROBLASTOMA · PEAK AGE	ORIGIN
< 2 yrs	Neural Crest / Adrenal

01 · NEPHROBLASTOMA

Wilms Tumor

Nephroblastoma · Most common renal tumor of childhood



PATHO WHAT IS IT?

- **Malignant embryonal tumor** of the kidney — typically **unilateral** & encapsulated.
- Associated with: **WAGR**, **Beckwith-Wiedemann**, **Denys-Drash**, hemihypertrophy, aniridia.
- Generally **excellent prognosis** (~90% cure with early-stage disease).

S/SX SIGNS & SYMPTOMS

- **Firm, painless, unilateral flank/abdominal mass — does NOT cross midline**.
- **Hypertension** (↑ renin from tumor compression).
- Hematuria (microscopic > gross), low-grade fever, fatigue.
- Weight loss, abdominal pain, anemia (late).

DO NOT PALPATE THE ABDOMEN

Palpation can **rupture the tumor capsule** and seed cancer cells into the peritoneum. Post a sign above the crib: **"DO NOT PALPATE ABDOMEN."** Bathe & handle gently — no rough play, no tight clothing.

DX DIAGNOSTICS

- IMG **Abdominal ultrasound** first-line → **CT/MRI** for staging.
- LAB CBC, BMP, UA (hematuria), LDH; **chest CT** (lung mets).
- DX Definitive: surgical biopsy / nephrectomy pathology.

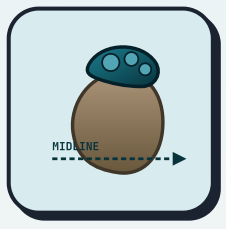
Rx Management

1. **Surgery first** (within 24–48h of dx when possible) — unilateral **nephrectomy**; partial if bilateral.
2. **Chemotherapy** for all stages: vincristine + dactinomycin ± doxorubicin.
3. **Radiation** reserved for Stage III–IV or unfavorable histology.
4. **Protect the remaining kidney for life**: no contact sports, monitor BP, avoid nephrotoxic drugs.
5. Monitor for post-op ileus, hemorrhage, & small-bowel obstruction.

02 · SILENT TUMOR

Neuroblastoma

Most common extracranial solid tumor of infancy



PATHO WHAT IS IT?

- Arises from **embryonic neural crest cells** → sympathetic nervous system.
- Most common site: **adrenal medulla** (~40%), also paraspinal chain (neck → pelvis).
- **"Silent tumor" — 70% have metastasized** at diagnosis (bone, marrow, liver, skin).

S/SX SIGNS & SYMPTOMS

- **Firm, irregular, non-tender abdominal mass — CROSSES midline**.
- **"Raccoon eyes"** (periorbital ecchymosis) from orbital mets.
- **Opsoclonus-myoclonus** — "dancing eyes & dancing feet" syndrome.
- **Horner's syndrome** (ptosis, miosis, anhidrosis) if cervical involvement.
- Bone pain, limp, bluish skin nodules ("**blueberry muffin**" infant), FTT.

> **Catecholamine Signature**
> Tumor cells secrete catecholamines → ↑ **urinary VMA** (vanillylmandelic acid) & **HVA** (homovanillic acid). A **24-hr urine** collection is a hallmark NGN lab clue.

DX DIAGNOSTICS

- LAB **24-hr urine VMA & HVA** ↑ in ~90% of cases.
- IMG CT/MRI of primary; **MIBG scan** for mets; bone scan.
- DX **Bone-marrow biopsy** (bilateral) + tumor biopsy for MYCN amplification.

Rx Management

1. **Risk-stratified** by age, stage, histology, & **MYCN** amplification (low / intermediate / high risk).
2. **Surgery** for localized disease; may follow neoadjuvant chemo to shrink tumor.
3. **Multi-agent chemo** (cyclophosphamide, doxorubicin, cisplatin, etoposide) for high risk.
4. **Autologous stem-cell transplant** + **radiation** + **immunotherapy** (dinutuximab anti-GD2) + isotretinoin for high-risk.
5. Infants < 18 mo with low-stage disease may undergo **spontaneous regression** — observation alone.

The *NGN Cheat Sheet* — If You Miss Nothing Else...

Select-N-Apply: these are the exact distinctions the NGN loves to test.

FEATURE	WILMS TUMOR	NEUROBLASTOMA
Origin	Kidney (metanephric blastema)	Neural crest → **adrenal medulla**
Peak Age	**2 – 5 years** (toddler)	**< 2 years** (infant; median 17 mo)
Mass Quality	**Smooth, firm, unilateral**	**Irregular, hard, nodular**
Midline		

Does NOT cross midline	
CROSSES the midline	
Signature Lab	
UA → hematuria; ↑ BP	
↑ Urinary VMA & HVA (24-hr)	
Unique Finding	
HTN, genitourinary anomalies, aniridia	
Raccoon eyes, opsoclonus-myoclonus, Horner's	
Mets at Dx	
Usually **localized** (lung if spread)	
~70% metastatic (bone, marrow, skin)	
Prognosis	
Excellent (~90% 5-yr survival)	
Variable — age & MYCN dependent	
#1 Nursing Rule	
DO NOT PALPATE the abdomen	
Collect 24-hr urine; assess for mets pain	

🧠 Memory Hooks

W-I-L-M-S
WARNING sign on crib · **I**nternal tumor (unilateral) · **L**eave it alone — **NO palpation** · **M**onitor BP (renin) · **S**urgery first, then chemo ± radiation.

N.E.U.R.O.
Neural crest origin · **E**yes — **raccoon** & dancing · **U**rine **VMA/HVA ↑** · **R**apidly metastasizing · **O**ver the midline mass.

⚑ Top Nursing Priorities

01 **Prevent tumor rupture** — gentle handling; NO deep abdominal palpation in **any** child with an abdominal mass until malignancy ruled out.

02 **Monitor BP & renal function** pre & post-op; report HTN immediately.

03 **Protect remaining kidney** post-nephrectomy — lifelong renal precautions.

04 **Support the family** — age-appropriate teaching, therapeutic play, sibling support.

05 **Chemo safety** — monitor CBC (neutropenia), mouth care, antiemetics, infection precautions.

06 **Collect specimens accurately** — **24-hr urine** for VMA/HVA; keep on ice, acidify per protocol.