DIANE'S NGN NCLEX 2026 STUDY SERIES

Prostate Cancer

Pathophysiology • Screening • Treatment • Nursing Priorities

Genitourinary | Oncology | Men's Health

1 Definition & Overview

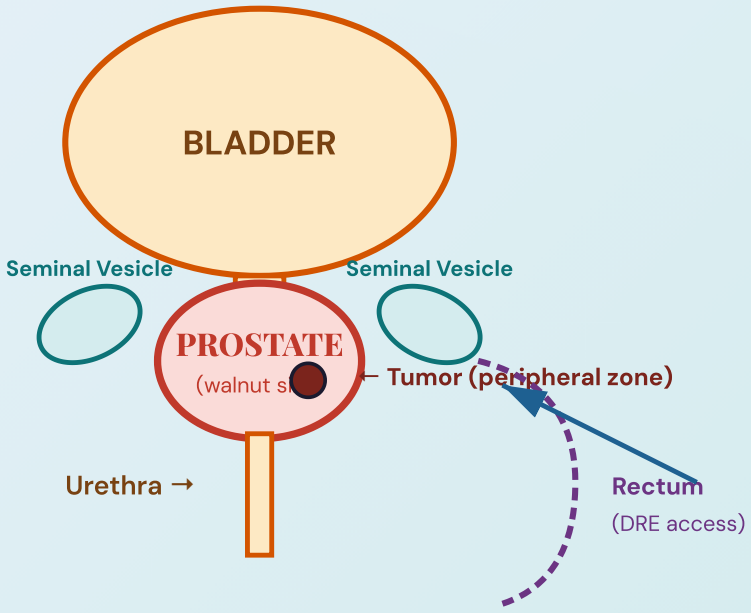
What Is It?

Malignant growth of prostate gland epithelial cells. **95% are adenocarcinomas** arising in the peripheral zone (palpable on DRE).

Why It Matters

Most common non-skin cancer in men and the 2nd leading cause of male cancer death. Often **androgen-dependent**—testosterone fuels growth.

#1	65+	2X
NON-SKIN CANCER IN MEN	MOST COMMON AGE GROUP	HIGHER RISK: BLACK MEN



Prostate anatomy: tumors typically arise in the peripheral zone, accessible via DRE through the rectal wall

2 Pathophysiology

Prostate cancer growth is driven by **androgens (testosterone)**. Most tumors are slow-growing, but aggressive subtypes spread early.

1. Genetic mutation in prostate cells
2. Androgen-driven uncontrolled cell proliferation
3. Tumor enlarges in peripheral zone
4. Local invasion: bladder, urethra, seminal vesicles
5. Lymphatic & hematogenous spread
6. Metastasis: BONE (spine, pelvis), liver, lungs

🦴 **KEY POINT — Metastasis Pattern:** Prostate cancer has a strong tropism for **bone**, especially the spine, pelvis, and ribs. New onset back pain in an older male = **think bone mets until proven otherwise.**

⚠️ Risk Factors

- **Age >50** (most >65)
- **African American** ethnicity
- **Family history** (1st-degree)
- **BRCA1/BRCA2** mutations
- High-fat diet, obesity
- Agent Orange exposure

3 Signs & Symptoms

Early prostate cancer is often asymptomatic—this is why screening matters. Symptoms typically appear once the tumor enlarges or metastasizes.

Early / Localized Disease

- Often **asymptomatic**—detected on screening
- Mild urinary hesitancy
- Weak or interrupted urinary stream
- Difficulty starting urination
- Frequency, nocturia, urgency
- Sensation of incomplete emptying

Late / Advanced / Metastatic

- **Hematuria** & hematospermia (blood in semen)
- Urinary retention
- Erectile dysfunction
- **Bone pain** (back, hips, pelvis—worse at night)
- Pathologic fractures
- Unexplained weight loss, fatigue, anemia
- Lower-extremity edema (lymphatic obstruction)

RED FLAG FINDINGS — Notify HCP Immediately

- **New back pain + leg weakness → Spinal cord compression**
- **New urinary/bowel incontinence + back pain**
- **Saddle anesthesia (loss of perineal sensation)**
- **Sudden bone pain or pathologic fracture**
- **Acute urinary retention**
- **Hypercalcemia (confusion, weakness)**

4 Diagnostics & Screening

🩸 PSA

Prostate-Specific Antigen blood test. Screening tool—not specific to cancer (also elevated in BPH, prostatitis).

👆 DRE

Digital Rectal Exam. Cancer feels **hard, nodular, asymmetric** (vs. smooth/rubbery in BPH).

🔬 TRUS Biopsy

DEFINITIVE

Transrectal ultrasound-guided biopsy confirms diagnosis. Provides Gleason score.

📊 Gleason Score

Range 2–10. **Higher = more aggressive.** Score ≥7 indicates higher-grade disease.

🦴 Bone Scan

Detects skeletal metastasis. Indicated if PSA >20, high Gleason, or bone pain.

📷 CT / MRI / PSMA PET

Stage local & distant disease. PSMA PET highly sensitive for recurrence.

PSA Level (ng/mL)	Interpretation	Action
< 4.0	Generally normal	Routine screening per guidelines
4.0 – 10.0	Borderline / suspicious	Repeat PSA, consider DRE, possible biopsy
> 10.0	High suspicion of cancer	Biopsy strongly indicated

⚠️ PSA Pitfalls — Things That FALSELY Elevate PSA:

- Recent ejaculation (within 48 hr)
- DRE before blood draw
- Vigorous exercise / cycling
- Urinary tract infection
- BPH (benign enlargement)
- Prostatitis

Draw PSA BEFORE the DRE—not after.

5 Priority Nursing Interventions

Apply the **ABCs + Safety** framework. With prostate cancer, bone mets and spinal cord compression top the priority list.

A — AIRWAY / ASSESS

Recognize Cues Early

- ✓ Assess pain (PQRST)—especially bone & back pain
- ✓ Monitor urinary patterns: hesitancy, retention, hematuria
- ✓ Neurovascular checks for cord compression
- ✓ Monitor PSA trend & lab values (Hgb, Ca^{2+})

B — BLEEDING / BONE

Bleeding & Bone Safety

- ✓ Post-biopsy: monitor for hematuria, rectal bleeding, fever
- ✓ Implement **fall precautions** for bone mets
- ✓ Calcium & vitamin D for bone integrity
- ✓ Position carefully—pathologic fracture risk

C — COMFORT / CARE

Comfort & Symptom Mgmt

- ✓ Manage pain with multimodal analgesia (often opioids)
- ✓ Prevent constipation from opioids/vincristine-like drugs
- ✓ Strict I&O; bladder scan PRN for retention
- ✓ Catheter care post-prostatectomy (1–2 wks)

D — DIGNITY

Psychosocial & Sexuality

- ✓ Address ED, incontinence, body image openly
- ✓ Encourage Kegel exercises post-op
- ✓ Provide emotional support; involve partner
- ✓ Refer to support groups

SOS

ONCOLOGIC EMERGENCY: Spinal Cord Compression

Triad: Severe back pain + lower-extremity weakness/numbness + bowel/bladder incontinence.
Action: Notify HCP STAT, keep patient flat, anticipate steroids (dexamethasone), emergency MRI, and radiation/surgery. Delay = permanent paralysis.

6 Pharmacology

Treatment is **androgen-driven**: most therapy aims to lower or block testosterone (Androgen Deprivation Therapy / ADT).

Drug / Class	Mechanism	Side Effects	Nursing Considerations
Leuprolide (Lupron) **Goserelin (Zoladex)** LHRH Agonist	↓ pituitary release of LH → ↓ testosterone production	Hot flashes, ↓ libido, ED, osteoporosis, gynecomastia, fatigue. Initial **tumor flare**.	Give SQ/IM monthly. Often paired with antiandrogen at start to block flare. Monitor bone density.
Bicalutamide (Casodex) **Flutamide** Antiandrogen	Blocks androgen receptors at the prostate cell	Hot flashes, gynecomastia, hepatotoxicity, diarrhea	Monitor LFTs. Often given with LHRH agonist. PO daily.
Abiraterone (Zytiga) CYP17 Inhibitor	Blocks androgen synthesis (testes, adrenals, tumor)	HTN, hypokalemia, edema, hepatotoxicity	Give with prednisone. Empty stomach. Monitor BP, K^+, LFTs.
Enzalutamide (Xtandi) Androgen Receptor Inhibitor	Blocks androgen binding & receptor signaling	Fatigue, HTN, falls, seizures (rare)	Monitor BP, fall risk; caution in seizure history.
Docetaxel (Taxotere) **Cabazitaxel** Chemotherapy	Disrupts microtubules → halts cell division	Bone marrow suppression, neuropathy, alopecia, nausea	Premedicate with steroids. Monitor CBC. Neutropenic precautions.
Denosumab / Zoledronic acid Bone-protective	Inhibits osteoclasts → ↓ bone resorption	Hypocalcemia, osteonecrosis of jaw	Calcium + vitamin D supplements. Dental exam BEFORE starting.

7 Treatment Options

1 Active Surveillance

- For low-risk, slow-growing tumors
- Routine PSA, DRE, periodic biopsy
- Avoids treatment side effects

2 Radical Prostatectomy

- Surgical removal of prostate + seminal vesicles
- Indwelling catheter 1–2 weeks post-op
- **Risks:** incontinence, ED, lymphedema
- Teach Kegel exercises to restore continence

3 External Beam Radiation

- Daily treatments over weeks
- Skin care: pad dry, no lotions/metals/powder
- Side effects: fatigue, urinary irritation, proctitis

4 Brachytherapy (Seed Implants)

- Radioactive seeds implanted into prostate
- Patient is mildly radioactive—**limit close contact** with pregnant women & children <18
- Strain urine for displaced seeds × few days

5 Hormone Therapy (ADT)

- LHRH agonists, antiandrogens, CYP17 inhibitors
- Controls disease—**not curative**
- Long-term: osteoporosis, cardiovascular risk

6 Chemotherapy / Orchiectomy

- Chemo for advanced/metastatic disease
- Bilateral orchiectomy = surgical castration
- Permanent ↓ testosterone

8 NCLEX Test Traps

⚠️

❌ TRAP	✅ CORRECT
Doing the DRE before drawing PSA blood	**Draw PSA FIRST**—DRE manipulation can falsely elevate PSA
Assuming an elevated PSA = cancer	BPH, prostatitis, recent ejaculation, UTI, & cycling all elevate PSA. **Biopsy is definitive**.
Treating new back pain as a strain in a man with prostate cancer history	Bone pain = **think mets / cord compression**. Notify HCP, get imaging, neuro check.
Telling a brachytherapy patient there are no precautions because the radiation is sealed	Patient remains **mildly radioactive**. Avoid close contact (>6 ft) with pregnant women & children. Strain urine for seeds.
Reassuring the patient that hormone therapy will cure the cancer	ADT **controls** growth—it is **not curative**. Hot flashes & ↓ libido are expected.
Pulling the catheter at the first sign of incontinence post-prostatectomy	Catheter stays in **1–2 weeks** post-op. Mild incontinence after removal is expected; teach **Kegel exercises**.
❌ TRAP	✅ CORRECT Initial flare ↑ symptoms briefly. Often **antiandrogen given alongside LHRH agonist**

Ignoring an "expected" tumor flare in the first weeks of leuprolide

at start to prevent flare.

9 Patient & Family Education

Screening Guidelines

- ✓ Discuss screening with HCP starting age **50**
- ✓ Age **45** if Black or family history
- ✓ Age **40** if multiple first-degree relatives
- ✓ Avoid ejaculation 48 hr before PSA draw

Pre-Test Instructions

- ✓ No vigorous cycling/exercise 48 hr before PSA
- ✓ Report current UTI before testing
- ✓ List all supplements/finasteride (lowers PSA)

Post-Prostatectomy

- ✓ Daily Kegel exercises 4–6×/day
- ✓ Catheter care—keep bag below bladder
- ✓ No heavy lifting (>10 lbs) × 6 weeks
- ✓ Expect incontinence—usually resolves

Brachytherapy Precautions

- ✓ Avoid close contact with pregnant women & children <18 × first weeks
- ✓ Use condom—seed could expel during sex
- ✓ Strain urine; seal any expelled seed in container per protocol

Hormone Therapy Coping

- ✓ Hot flashes are expected—dress in layers
- ✓ Weight-bearing exercise to protect bones
- ✓ Calcium 1200 mg + Vit D 800–1000 IU daily
- ✓ Bone density scan (DEXA) baseline + yearly

When to Call HCP

- ✓ New severe back pain or leg weakness
- ✓ Loss of bladder/bowel control
- ✓ Fever >100.4°F, chills
- ✓ Heavy hematuria, no urine output, severe pain

10 NCJMM Clinical Judgment Scenario

NCSBN Clinical Judgment Measurement Model — 6 Steps

Apply the six-step model to this prostate cancer scenario to demonstrate exam-aligned clinical reasoning.

Scenario: *A 68-year-old male with stage IV prostate cancer (PSA 142, known bone mets) presents to the ED reporting* **severe lower back pain (9/10) for 2 days, new bilateral leg weakness, and an episode of urinary incontinence this morning**. *VS: BP 148/86, HR 102, RR 22, T 99.1°F, SpO_2 96%. He cannot lift his right leg against gravity. Bowel sounds present. He last took oxycodone 6 hours ago with no relief.*

1 Recognize Cues

Critical cues: severe new back pain, bilateral leg weakness, new urinary incontinence, ↓ motor strength, known bone mets, tachycardia, mild HTN, ineffective pain control. **Most concerning cluster:** back pain + neuro deficit + incontinence.

2 Analyze Cues

The triad of **back pain + leg weakness + incontinence** in a patient with metastatic prostate cancer points to **spinal cord compression**—an oncologic emergency. Tachycardia and HTN reflect uncontrolled pain and stress response.

3 Prioritize Hypotheses

#1 Priority: Spinal cord compression from vertebral metastasis (time-critical—delay = permanent paralysis). Other considerations: pathologic vertebral fracture, cauda equina syndrome, hypercalcemia of malignancy. All require urgent imaging.

4 Generate Solutions

Notify HCP STAT. Maintain patient on **flat bed rest with logroll precautions**. Anticipate emergency MRI of spine, IV **dexamethasone** (reduce cord edema), neurosurgery & radiation oncology consults, IV opioid analgesia, Foley catheter, lab work (CMP, calcium, CBC).

5 Take Action

Place patient flat; logroll only. Start IV access (2 large-bore). Administer ordered IV dexamethasone immediately. Give IV opioid for pain. Send labs. Transport to MRI. Insert Foley for retention/incontinence. Document neuro exam with timestamps. Provide emotional support to patient & family.

6 Evaluate Outcomes

Expected: Pain reduces to ≤4/10 within 30 min. Motor strength stabilizes or improves. No further progression of incontinence. MRI confirms diagnosis & guides treatment (radiation vs. surgical decompression). Patient/family verbalize understanding of plan. **Reassess neuro status q1h** until intervention complete.

11 Memory Boosters & Mnemonics

B-A-C-K

Bone Mets in Prostate CA

- **B** one pain (worse at night)
- **A** nemia (marrow involvement)
- **C** alcium ↑ (hypercalcemia)
- **K** iller fractures (pathologic)

P-S-A

What Raises PSA?

- **P** rostatitis / BPH
- **S** ex (recent ejaculation)
- **A** fter DRE/cycling/UTI

Not just cancer!

3 P's

Prostate Cancer Risk Factors

- **P** op (older age > 65)
- **P** igment (Black ethnicity)
- **P** edigree (family history)

D-R-E

What You Feel on Exam

- **D** ense / hard nodule
- **R** ough / asymmetric
- **E** nlarged irregularly

BPH = smooth & rubbery; CA = hard & nodular

F-L-A-R-E

Spinal Cord Compression Triad

- **F** lat bed rest
- **L** egs weak / numb
- **A** ching back (severe)
- **R** etention / incontinence
- **E** mergent MRI + steroids

SEEDS

Brachytherapy Teaching

- **S** train urine for seeds
- **E** vade pregnant women / kids
- **E** nclose seed in container
- **D** istance > 6 ft × first weeks
- **S** ex with condom

🌟 Quick Pattern Recognition

📌 **"Yellow halos"** = Digoxin toxicity (NOT prostate)

📌 **"Hard, nodular prostate"** = Cancer (think DRE)

📌 **"Lupron lowers libido"** = LHRH agonist effect

📌 **"Smooth, rubbery"** = BPH (not cancer)

📌 **Bone pain + back pain** = Mets/cord compression

📌 **Higher Gleason = harsher disease**

Diane's NGN NCLEX 2026 Study Series

Prostate Cancer • Genitourinary Oncology • Clinical Judgment Integration