NGN NCLEX 2026 · GROWTH & DEVELOPMENT

Male Puberty: *Primary & Secondary* Sex Characteristics

Recognize the normal HPG axis-driven progression of male puberty, distinguish physiologic findings from red-flag deviations, and provide developmentally appropriate teaching across Tanner stages.

PEDIATRICS | ENDOCRINE | HEALTH ASSESSMENT | TANNER 1-5 | AGE 9-17

SOURCE NOTE · EXTERNAL REFERENCES USED

This topic is not present in Diane's uploaded notes. Content compiled from standard NCLEX references: *Saunders Comprehensive Review for the NCLEX-RN (2026)*, *ATI Nursing Care of Children*, *Lippincott Illustrated Reviews: Pediatrics*, AAP Bright Futures guidelines, and the original Marshall & Tanner staging criteria.

1 Definition & Overview

WHAT IS PUBERTY · WHY IT MATTERS

- **Puberty** = biologic transition from childhood to reproductive maturity, driven by the **HPG axis** (hypothalamic–pituitary–gonadal).
- **Onset in males:** typically **ages 9–14**; completion around ages 13–17 (Tanner stage 5).
- **Primary sex characteristics** = reproductive organs themselves (testes, penis, prostate). **Secondary sex characteristics** = body changes from sex hormones (hair, voice, muscle, growth spurt).
- **NCLEX relevance:** nurses identify normal vs. abnormal progression, screen for precocious/delayed puberty, deliver adolescent education, and protect privacy/dignity.

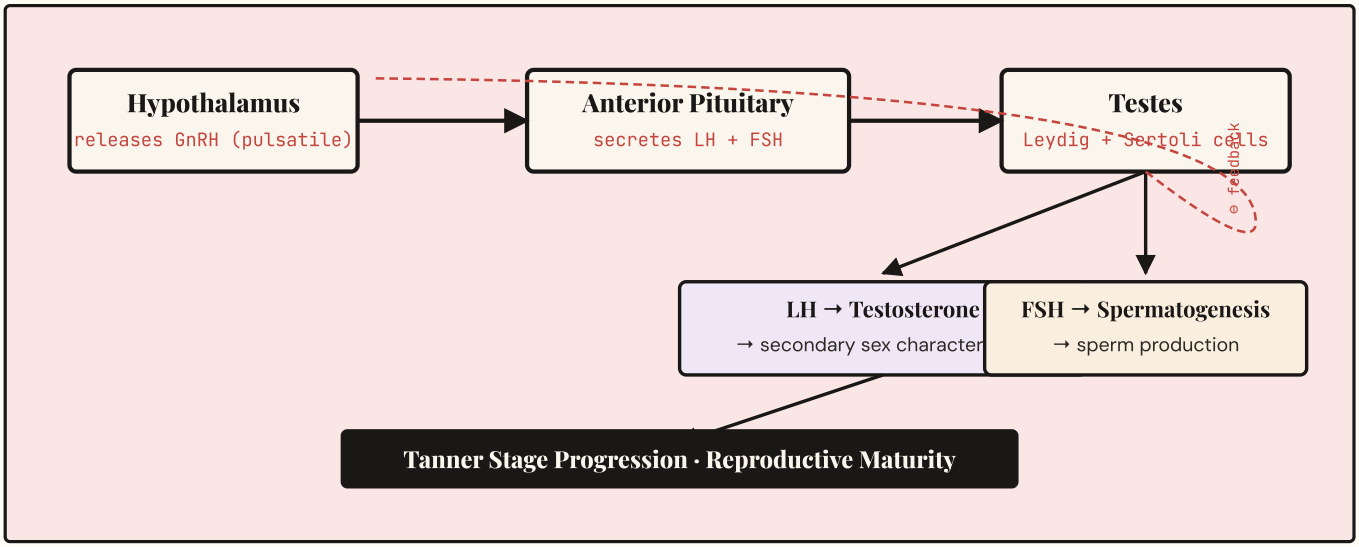
FIRST SIGN OF MALE PUBERTY

Testicular enlargement — testicular volume > 4 mL *or* length > 2.5 cm. This precedes pubic hair, penile growth, and voice change.

2 Pathophysiology · The HPG Axis

HOW THE HORMONAL CASCADE WORKS

Pulsatile **GnRH** release from the hypothalamus reactivates the dormant axis around age 9–10, triggering the pituitary cascade that produces all male pubertal changes.

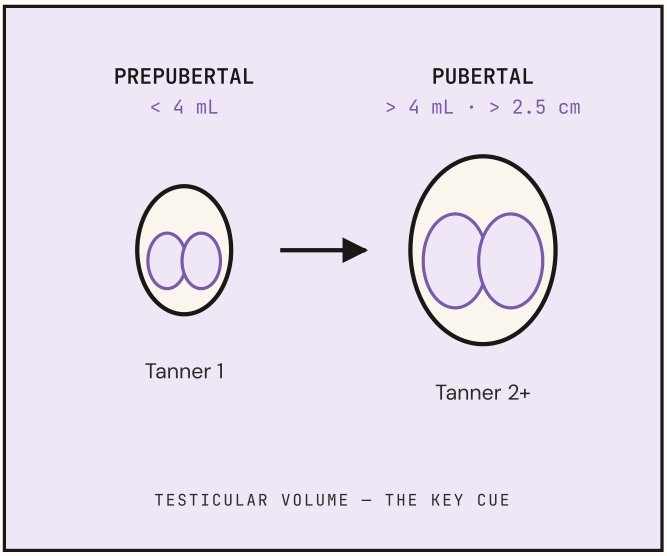


KEY POINT: Testosterone exerts negative feedback on the hypothalamus and pituitary, which is why anabolic steroid abuse in adolescents *suppresses* natural puberty and can cause testicular atrophy.

3 Primary Sex Characteristics

THE REPRODUCTIVE ORGANS THEMSELVES

- **Testicular enlargement** — the *first* physical sign of puberty (age 9–14). Volume > 4 mL.
- **Scrotum** — enlarges, skin reddens, thins, becomes more pendulous and rugated.
- **Penis** — lengthens first, then widens; glans develops. Begins ~1 year after testicular growth.
- **Spermarche** — first ejaculation, typically around age 13 (Tanner stage 3–4).
- **Nocturnal emissions** ("wet dreams") — involuntary, normal, not under conscious control.
- **Prostate, seminal vesicles, epididymis, vas deferens** — all enlarge and become functional.



4 Secondary Sex Characteristics

BODY CHANGES FROM CIRCULATING TESTOSTERONE

- **Pubic hair (pubarche)** — coarse, dark, curly; starts at base of penis, spreads upward and to inner thighs by Tanner 5.
- **Axillary hair** — appears **~2 years** after pubic hair (Tanner 4).
- **Facial hair** — upper lip first, then cheeks, chin, full beard (late puberty).
- **Body hair** — chest, abdomen, arms, legs (continues into early adulthood).
- **Voice deepens** — laryngeal cartilage grows, vocal cords lengthen; voice cracking is the transitional phase.
- **Growth spurt** — peak height velocity ~age 13–14 (occurs **mid-puberty**, after testicular enlargement — later than in girls). Average gain 7–12 cm/year at peak.
- **Muscle mass** increases; shoulders broaden; bone density rises.
- **Acne** — sebaceous gland activation by androgens.
- **Body odor** — apocrine sweat glands activate.
- **Gynecomastia** — transient breast tissue enlargement in **50–65%** of pubertal boys; usually resolves in 6 months–2 years.

CLINICAL ORDER (high-yield): Testes → Pubic Hair → Penis Growth → Peak Height Velocity → Axillary/Facial Hair → Voice Change. Boys' growth spurt occurs *later in puberty* than girls' — opposite of the female pattern.

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Tanner Stages · Sexual Maturity Rating (SMR)

STANDARDIZED STAGING USED AT EVERY WELL-CHILD VISIT

STAGE	GENITAL DEVELOPMENT	PUBIC HAIR
1	Prepubertal. Childhood size testes (< 4 mL), penis, scrotum.	No pubic hair; vellus hair only (same as abdominal hair).
2	Testicular enlargement (> 4 mL). Scrotal skin reddens, thins, rugates. Penis little/no change.	Sparse, slightly pigmented, straight, downy hair at base of penis.
3	Penis lengthens. Testes & scrotum continue to grow. Spermarche may occur.	Darker, coarser, curlier hair spreading over pubis.
4	Penis widens, glans develops. Scrotal skin darkens. Growth spurt peak.	Adult-type hair (coarse, curly) but limited area; not yet on thighs.
5	Adult genitalia in size and shape.	Adult quantity and distribution; spreads to medial thighs.

MEMORY HOOK: Tanner stages are numbered **1–5, NOT 0–4**. Stage 1 = prepubertal, Stage 5 = adult. The NCLEX often distractor-tests this numbering.

6 Normal vs. Abnormal Findings

WHAT TO REASSURE · WHAT TO ESCALATE

Normal · Reassure

- ✓ Puberty onset ages **9–14**
- ✓ Testicular enlargement = the first sign
- ✓ Orderly Tanner stage progression
- ✓ Transient bilateral gynecomastia (soft, mobile)
- ✓ Nocturnal emissions (wet dreams)
- ✓ Mild to moderate acne
- ✓ Voice cracking during transition
- ✓ Growth spurt peak around age 13–14
- ✓ Slight L vs. R testicular size difference (left often hangs lower)

Abnormal · Red Flags 🚨

- 🚨 **Precocious puberty** — signs **before age 9**
- 🚨 **Delayed puberty** — NO signs by **age 14**
- 🚨 **Hard, fixed, painless testicular mass** (testicular cancer)
- 🚨 Acute scrotal pain / swelling (torsion = emergency)
- 🚨 Cryptorchidism persisting beyond age 1
- 🚨 Marked asymmetric testicular size or varicocele
- 🚨 Persistent gynecomastia > 2 years or unilateral/hard
- 🚨 Micropenis (stretched length < 2.5 cm in newborn / disproportionate)
- 🚨 Failure to progress through Tanner stages
- 🚨 Tall stature with eunuchoid proportions (Klinefelter)

7 Priority Nursing Interventions

ABCS · SAFETY · ADOLESCENT-CENTERED CARE

- **Assess** Tanner stage at every well-child visit; plot height/weight/BMI on growth chart.
- **Privacy & dignity:** private exam room, drape appropriately, offer same-sex provider/chaperone, explain each step before touching.
- **Therapeutic communication:** ask open-ended questions privately (without parent in room when developmentally appropriate); normalize concerns.
- **Teach Testicular Self-Examination (TSE)** monthly starting age 15; best done in warm shower when scrotum is relaxed.
- **Screen** for precocious puberty (< 9) and delayed puberty (no signs by 14) → refer to endocrinology.
- **Assess psychosocial impact:** body image, bullying, mood changes, school performance, risk-taking behavior.
- **Educate** on hygiene, nutrition, sleep, safe sex (developmentally appropriate).
- **Document** Tanner stage, testicular volume, growth trajectory; compare to prior visits.
- **Refer** any red-flag finding (mass, asymmetry, delayed/precocious progression) to provider/endocrinologist promptly.

PRIORITY ACTION — ACUTE SCROTAL PAIN

Sudden, severe, unilateral scrotal pain in an adolescent male = **testicular torsion until proven otherwise**. Surgical emergency — viable salvage window is < 6 hours. Do NOT delay for imaging if classic presentation.

8 Patient & Family Education

ADOLESCENT-CENTERED TEACHING POINTS

- **Normalize variability:** "Everyone develops at their own pace within a normal range. You are not 'behind' if you start later than friends."
- **Testicular Self-Exam (TSE):** monthly after age 15. Roll each testicle between thumb and fingers — should feel smooth, oval, rubbery. Report any *lump, swelling, heaviness, or change in size*.
- **Hygiene:** daily shower, deodorant once apocrine glands activate, gentle face wash for acne (avoid scrubbing).
- **Nocturnal emissions are normal & involuntary** — not a sign of inappropriate behavior or illness.
- **Gynecomastia reassurance:** usually temporary (resolves in 6 months–2 years); not a sign of being "less male." Wearing layered shirts can ease self-consciousness.
- **Sleep, nutrition, exercise** support optimal growth — adolescents need 8–10 hrs sleep, adequate protein, calcium, and calories.
- **Avoid anabolic steroids/supplements** — they suppress natural HPG axis, cause testicular atrophy, mood changes, acne, premature growth-plate closure.
- **Safe sex education:** contraception, STI prevention, consent — developmentally appropriate.
- **Mental health check-in:** mood swings are common; persistent sadness, isolation, or risk-taking warrant professional support.
- **For parents:** respect privacy, keep doors open to conversation without forcing it, model healthy attitudes about bodies and sexuality.

9 NCLEX Test Traps ⚠

WHERE STUDENTS LOSE POINTS

✗ WRONG ANSWER	✓ RIGHT ANSWER
"Pubic hair is the first sign of puberty in boys."	**Testicular enlargement** is the first sign of puberty in boys — precedes pubic hair, penis growth, and voice change.
"Gynecomastia in a 13-year-old boy requires immediate imaging and hormone testing."	Transient, bilateral, soft, mobile gynecomastia is **normal in 50–65%** of pubertal boys. Reassure and monitor; escalate only if persistent > 2 years, unilateral, hard, or painful.
"Boys experience their growth spurt at the beginning of puberty (same as girls)."	Boys' growth spurt occurs **mid-to-late puberty** (Tanner 3–4, around age 13–14) — *later* than girls. This is why boys often appear shorter than female peers in early adolescence.
"Delayed puberty is defined as no pubertal signs by age 12."	Delayed puberty in boys = **no signs by age 14**. Precocious puberty = signs before age 9. Memorize: **9 and 14**.
"Nocturnal emissions indicate sexual misconduct or a problem requiring counseling."	Nocturnal emissions are **involuntary, normal, physiologic**. Teach the adolescent and parents to normalize, never shame.
"Tanner stages range from 0 to 4."	Tanner stages are **1–5**. Stage 1 = prepubertal; Stage 5 = adult.

10 Memory Boosters & Mnemonics

PATTERN RECOGNITION FOR EXAM DAY

"T-P-P-H-A-V" — Order of Male Puberty Events

T	**Testicular enlargement** — the FIRST sign (age 9–14)
P	**Pubic hair** appears at base of penis
P	**Penis growth** — lengthens first, then widens
H	**Height spurt** — peak velocity ~age 13–14 (mid-puberty)
A	**Axillary & facial hair** + Acne + body Odor
V	**Voice deepens** — laryngeal growth, cracking phase

"9 & 14" — The Age Bookends

Before **9** = **P**recocious puberty 🚨 · After **14** with no signs = **D**elayed puberty 🚨. Both warrant endocrinology referral.

"SOFT-MOBILE" Gynecomastia Rule

Soft · b**O**th sides · **F**leeting (transient) · **T**ender slightly · **MOBILE** = PHYSIOLOGIC, REASSURE. Hard, fixed, unilateral, or persistent > 2 years = PATHOLOGIC, ESCALATE.

"TSE" — Testicular Self-Exam Teaching

Time: monthly, in a warm shower (scrotum relaxed) · **S**tart: age 15 · **E**xamine: roll each testis between thumb & fingers — feels smooth, oval, rubbery. Report any *lump, heaviness, swelling, or change*.

11 NCJMM Clinical Judgment Scenario

SIX-STEP NEXT GENERATION NCLEX FRAMEWORK

SCENARIO: *A 12-year-old male presents to the pediatric clinic for a routine well-child visit. His mother privately tells the nurse she has noticed "swelling under his nipples" for about 3 months and he has become embarrassed to change in the locker room. On exam: height at 60th percentile (up from 45th six months ago), weight 75th percentile. Genital exam: testicular volume ~8 mL bilaterally, scrotum rugated and slightly darker, penis lengthening, coarse dark pubic hair at base of penis. Bilateral breast exam: ~1.5 cm of soft, mobile, slightly tender subareolar tissue, no skin changes. Voice intermittently cracking. He reluctantly admits to feeling "weird" about his body and avoiding gym class.*

STEP 1

Recognize Cues

- Testicular volume 8 mL bilaterally → consistent with Tanner stage 3
- Pubic hair coarse/dark at base of penis → Tanner 3
- Penis lengthening, scrotum rugated → consistent progression
- Voice cracking, increasing height percentile → growth spurt initiating
- Bilateral, soft, mobile, slightly tender breast tissue → gynecomastia
- Psychosocial: embarrassment, social avoidance

STEP 2

Analyze Cues

- All physical findings align with **normal Tanner stage 3 male puberty** at age 12 (within 9–14 window).
- Gynecomastia is **bilateral, soft, mobile, mildly tender** — classic features of **physiologic pubertal gynecomastia**.
- 50–65% of pubertal boys experience this; resolves spontaneously in 6 months–2 years.
- Concerning features *absent*: no hard fixed mass, no unilateral enlargement, no skin changes, no nipple discharge.
- Psychosocial concern is developmentally significant and addressable.

STEP 3

Prioritize Hypotheses

- **Most likely:** Physiologic pubertal gynecomastia + normal Tanner 3 progression
- **Less likely:** Klinefelter syndrome (would expect small testes, tall stature)
- **Unlikely:** Hormone-secreting tumor, anabolic steroid use, medication-induced (no exposure reported)
- **Priority psychosocial issue:** body image disturbance with social withdrawal

STEP 4

Generate Solutions

- Reassurance and education about normalcy of physiologic gynecomastia
- Privately explain Tanner staging and normal progression to the patient
- Address psychosocial concerns with non-judgmental conversation

- Schedule follow-up in 6 months to confirm resolution
- Teach TSE technique (will begin at age 15)
- Refer to mental health if avoidance/distress escalates
- NO routine labs, imaging, or medication indicated for classic physiologic gynecomastia

STEP 5

Take Action

- With mother briefly out of room (developmentally appropriate), explain in plain language: "What you're noticing is your body adjusting to the new hormones — over half of boys your age get this, and it goes away on its own."
- Provide written handout on pubertal gynecomastia and Tanner progression
- Coping strategies: loose-fit shirts, layered clothing, talking to a trusted adult/school counselor; reinforce that this is temporary
- Encourage continued physical activity; reassure that gym class avoidance is understandable but not necessary medically
- Document Tanner stage 3, gynecomastia (bilateral, soft, mobile), growth trajectory
- Schedule 6-month follow-up; provide clinic contact for new concerns

STEP 6

Evaluate Outcomes

- **Expected at 6-month follow-up:** gynecomastia stable or decreasing; progression to Tanner 4; continued growth on chart
- **Patient verbalizes** understanding of normal puberty and feels less anxious
- **Returns to participation** in gym/social activities
- **Escalate if:** gynecomastia enlarges, becomes hard/unilateral, persists > 2 years; progression stalls; significant mood/behavioral changes; new concerning findings on testicular exam