

CHILDHOOD AND ADOLESCENCE

EXAMINATION OF MALE GENITALS AND SECONDARY SEXUAL CHARACTERISTICS

CLINICAL SUMMARY GUIDE



When should I perform an examination?

A physical examination including male children and adolescents is vital for the detection of conditions such as testicular cancer, Klinefelter's syndrome, penile and hormonal abnormalities.

When is it best to perform an examination?

1. Part of a standard health check-up with new or existing patients
2. On presentation of relevant disorders or symptoms, including:

Disorders

- Undescended testes Risk factor for: Testicular cancer as an infant
- Delayed puberty Androgen deficiency
- Gynaecomastia Androgen deficiency or Klinefelter's syndrome
- Past history of testicular cancer Testicular cancer
- Acute testicular-groin pain Testicular torsion
- Testicular pain or lumps Testicular cancer

How do I approach an examination with young patients?

Good communication can assist the process of physical examinations with children and adolescents:

- Communicate with both the patient and his parents, using simple language and visual aids if available
- Explain why you need to perform the examination and ask for permission to proceed
- Allow the patient to ask questions and express any discomfort before/during the examination
- When it seems appropriate, humour can be used (particularly with children) to reduce anxiety, foster rapport and improve cooperation before or during the examination
- If you refer the patient to another specialist, take the time to explain why, and what may be involved

Childhood history and examination

Presentation with acute testicular pain

- Testicular torsion
- Refer immediately for surgery
- This is a medical emergency
- Later follow up review (e.g. epididymo-orchitis)

History

- Undescended testes (increased risk of testicular cancer, and associated with inguinal hernia)
- Inguinal-scrotal surgery or hypospadias

Testicular examination

- Undescended testes
- Testicular volume:
 - Normal childhood range of testicular volume is <3mls

Penile examination

- Hypospadias
- Micropenis

Adolescent history and examination

History

- Undescended testes
- Pubertal development
- Testicular trauma, lump, cancer
- Gynaecomastia
- Prior inguinal-scrotal surgery or hypospadias

Testicular examination

- Testicular volume
 - Normal pubertal range is 4-14mls
 - <4mls by 14 years indicates delayed or incomplete puberty
 - Small firm testes (<4ml) may suggest Klinefelter's syndrome
 - Adult testis size is established after completion of puberty
- Scrotal and testicular contents
 - Abnormalities in texture or hard lumps (tumour or cyst)

Penile examination

- Hypospadias
- Micropenis
- Infections (STI) or inflammation
- Foreskin: balanitis, phimosis

Examination of secondary sexual characteristics

- Gynaecomastia: excessive and/or persistent breast development
- Delayed puberty (average onset is 12-13 years). Indicators:
 - Short stature compared to family, with reduced growth velocity
 - Absent, slow or delayed genital and body hair development compared to peers
 - Anxiety, depression, school refusal, or behaviour change in school years 8-10 (age 14-16 years)

Puberty: delayed onset or poor progression

Presentation

- ❑ Short stature compared to family
- ❑ Absent, slow or delayed genital development
- ❑ Anxiety, depression, school refusal, behaviour change

(±) Other features:

- ❑ Headache/visual change (CNS lesions)
- ❑ Inability to smell (Kallmann's syndrome)
- ❑ Behavioural or learning difficulty (47XXY)
- ❑ Unusual features (rare syndromes)

Primary Investigations

- Growth chart in context of mid parental expectation (velocity, absolute height)
- Penile size (standard growth chart)
- Testicular volume (>4ml: puberty imminent)
- Bone age

Specific Investigations

- LH/FSH (may be undetectable in early puberty, but if raised can be useful)
- Total testosterone level (rises with onset of puberty)
- Karyotype (if suspicion of 47XXY)

General Investigations

- U&E, FBE & ESR, Coeliac screen, TFT

Treatment and specialist referral

- If all normal for prepubertal age, observe for 6 months
- Refer to paediatric endocrinologist if patient is >14.5 years without pubertal onset and/or a specific abnormality

▶ Clinical notes:

Precocious puberty (very rare) is indicated by premature/early onset of pubic hair and testes >4ml before 10 years. Refer to paediatric endocrinologist.

Klinefelter's Syndrome (47XXY)

Presentation

- ❑ Small firm testes <4ml characteristic from mid puberty
- ❑ Presentation varies with age, and is often subtle
- ❑ Behavioural and learning difficulties
- ❑ Gynaecomastia (adolescence)
- ❑ Poor pubertal progression (adolescence)

Investigations

- Total testosterone level (androgen deficiency)
- LH/FSH level (both elevated)
- Karyotype

Treatment and specialist referral

- Refer to paediatric endocrinologist
- Refer for educational and allied health assistance if needed

↕ Refer to Clinical Summary Guide 10

Testicular mass

Presentation

- ❑ Painless lump
- ❑ Self report, incidental
- ❑ Past history undescended testes (cancer risk)
- ❑ Consider possibility of epididymal cyst

Primary investigations

- Testicular ultrasound

Treatment and specialist referral

- Refer to uro-oncologist
- Offer pre-treatment sperm cryostorage

↕ Refer to Clinical Summary Guide 6

Penile abnormality

Presentation

- ❑ Hypospadias
- ❑ Micropenis
- ❑ Phimosis

Treatment and specialist referral

- Refer to urologist for investigation and treatment plan
- Refer to paediatric endocrinologist for investigation of micropenis

Gynaecomastia

Presentation in adolescence

- ❑ Excessive and/or persistent breast development
- ❑ More prominent in obesity
- ❑ Often normal, resolves over months

Rare secondary causes:

- Hypothalamic pituitary lesions
- Adrenal/testis lesions (estrogen excess)

Treatment and specialist referral

- If persistent or acute onset, refer to paediatric endocrinologist