Pediatrics - Topic 6 - Adolescent Health & common problems related to Adolescent Health

Adolescence and Puberty

- **Adolescence** is the period from 10 to 19 years during which a young person moves toward physical, psychological and social maturity.
- Early, middle and late adolescence are useful descriptive stages, but their boundaries overlap and vary between individuals.

Stages of Adolescence



1. Early Adolescence

- Early adolescence, roughly 10–13 years, often involves rapid bodily change, increasing self-consciousness and a strong need for reassurance.
- Thinking may remain relatively concrete, so explanations should use clear examples and immediate consequences.

2. Middle Adolescence

- Middle adolescence, roughly 14–16 years, commonly brings stronger peer influence, identity exploration and a wish for greater independence.
- Risk taking may increase when emotional arousal and peer pressure outweigh an understanding of future consequences.

3. Late Adolescence

- Late adolescence, roughly 17–19 years, usually brings more stable identity, future planning and increasing responsibility for health decisions.
- Chronological age alone does not determine maturity, capacity or the support a young person needs.

Physical and Physiological Changes

Hormonal Activation

- Activation of the hypothalamic–pituitary–gonadal axis increases gonadotropin secretion and stimulates sex-steroid production.
- Adrenarche contributes to pubic and axillary hair, body odour and acne but is not identical to gonadal puberty.

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- Growth hormone and sex steroids produce the pubertal growth spurt and changes in bone and body composition.

Usual Sequence

A. Puberty in Girls

- Breast development is usually the first visible sign of puberty in girls and commonly begins between 8 and 13 years.
- Menarche usually follows breast development by about 2–3 years, although the interval varies.

B. Puberty in Boys

- Testicular enlargement is usually the first sign in boys and commonly begins between 9 and 14 years.

Growth Spurt and Separate Maturity Domains

- The pubertal height spurt generally occurs earlier in girls and later in boys.
- Pubic-hair development and genital or breast development must be assessed separately because they reflect partly different hormonal processes.

Psychological and Social Changes

- Adolescents develop more abstract thinking, stronger personal values and a growing need for privacy.
- Body image, friendships, family expectations, education and online experiences can influence wellbeing.
- Normal variation in mood should be distinguished from persistent symptoms that impair functioning or create risk.

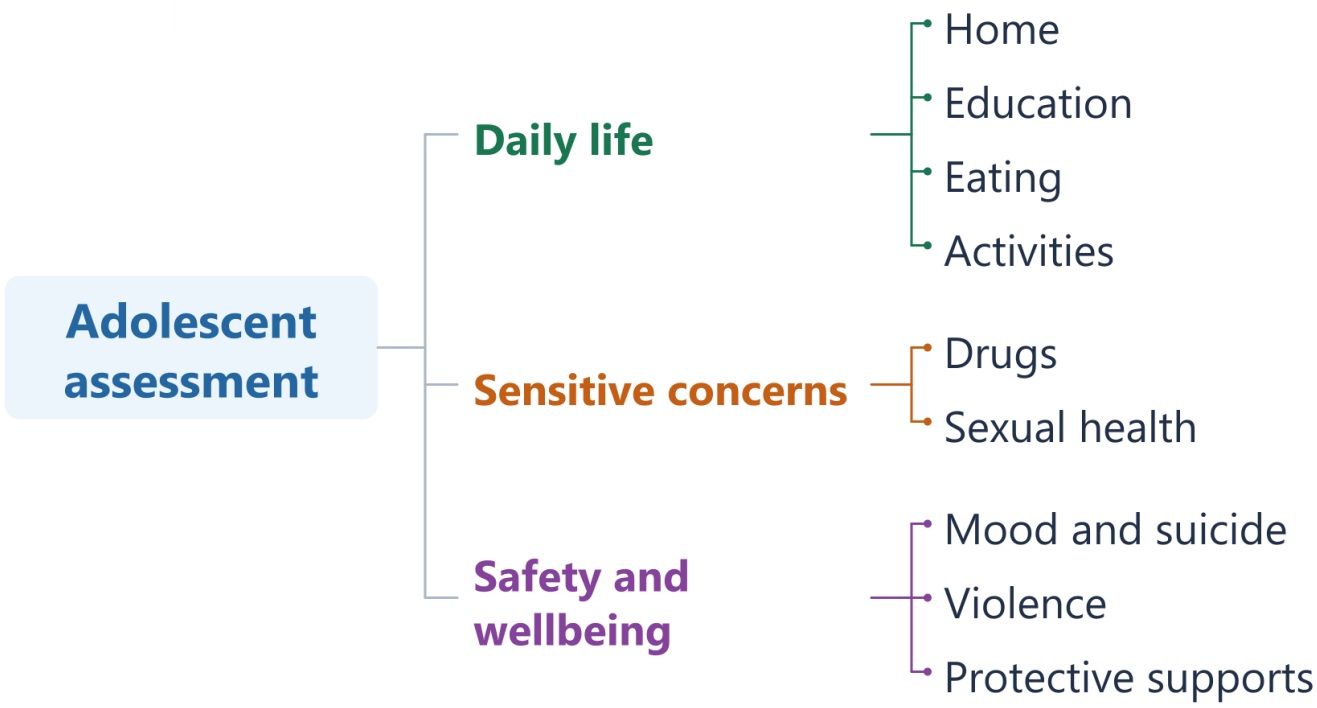
A Complete Adolescent Health Visit

Privacy and Communication

- Speak directly to the adolescent and use respectful, nonjudgemental language.
- Explain that part of the consultation is routinely offered in private, while maintaining an appropriate supportive role for caregivers.
- Explain confidentiality and its limits before sensitive questions, including serious safety concerns and statutory child-protection duties.
- Do not promise absolute secrecy that cannot legally or safely be maintained.
- Seek assent and the legally appropriate consent for examination and treatment, and explain each step before proceeding.
- A chaperone and appropriate draping are important for intimate examinations, which should have a clear clinical purpose.

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HEADSS Interview Domains



1. Home and Education

- Ask who lives at home, whether the adolescent feels safe and which trusted adult can provide support.
- Discuss school attendance, learning, bullying, examinations and future plans.

2. Eating and Activities

- Ask about meals, exercise, body image, sleep, hobbies, friendships and screen use.
- Explore restrictive eating, bingeing, purging, excessive exercise and pressure to alter weight or appearance.

3. Drugs and Sexual Health

- Ask about tobacco, vaping, alcohol, cannabis, inhalants, opioids and other substances in a matter-of-fact way.
- Ask about relationships, sexual activity, consent, contraception and sexually transmitted infection risks without assuming heterosexuality or a particular gender identity.

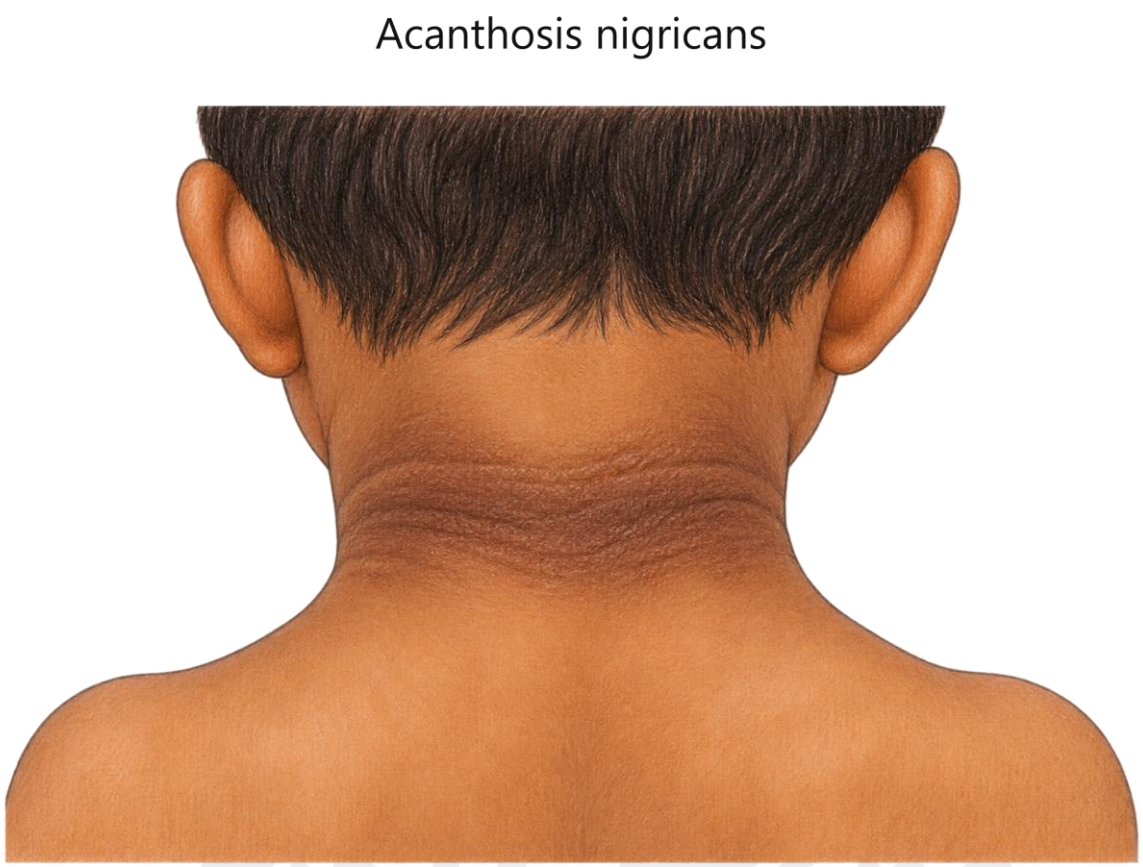
4. Suicide, Mood and Safety

- Ask directly about persistent sadness, anxiety, self-harm, suicidal thoughts and exposure to violence.
- Discuss road safety, helmet use, online safety and access to potentially dangerous medicines or substances.
- A positive response should lead to further assessment and an appropriate safety plan rather than a judgemental reaction.

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Physical Examination

General Assessment



Acanthosis nigricans causes thickened, velvety pigmentation and may accompany insulin resistance

- Measure height, weight and blood pressure with appropriate technique and interpret them using age-appropriate standards.
- Calculate BMI and plot BMI-for-age rather than applying adult cutoffs to younger adolescents.
- Look for pallor, acne, dental problems, acanthosis nigricans, scoliosis and signs of nutritional deficiency or chronic disease.
- Examine the thyroid and relevant systems according to the history and screening context.

Sexual Maturity Rating

- Assess breast development in girls and genital development in boys using the five-stage Tanner system when clinically indicated and consented.
- Assess pubic hair separately and document the finding accurately without relying only on chronological age.
- Distinguish glandular breast tissue from adipose tissue when assessing breast development or gynecomastia.
- Refer absent, very early, rapidly progressive or clearly discordant pubertal development for further assessment.

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Stage	Breast development	Male genital development	Pubic hair
1	Only the papilla is elevated.	The testes, scrotum and penis remain prepubertal.	Sexual pubic hair is absent.
2	A breast bud and wider areola appear.	The testes and scrotum enlarge, with scrotal skin change.	Sparse, lightly pigmented hair appears.
3	The breast and areola enlarge without separate contours.	The penis grows mainly in length, with further testicular enlargement.	Hair becomes darker, coarser and more curled.
4	The areola and papilla form a secondary mound.	Penile breadth and glans development increase, with darker scrotal skin.	Adult-type hair occupies a smaller area than in adulthood.
5	The mature contour remains, with the papilla projecting.	The genitalia have adult size and form.	Adult distribution extends onto the medial thighs.

- Breast or genital stage and pubic-hair stage need separate records; they do not always progress together.
- A genital or breast examination must never be performed merely for teaching without explanation, permission and privacy.

Common Health Problems

Nutrition and Noncommunicable Disease Risk

- Iron deficiency, undernutrition and vitamin deficiencies can coexist with overweight and obesity in the same community.
- Adolescence is a period of increased nutritional need because of rapid growth and, in many girls, menstrual blood loss.
- A diet rich in minimally processed foods, regular physical activity and adequate sleep helps reduce future cardiometabolic risk.
- Obesity increases the risk of hypertension, dyslipidemia, type 2 diabetes, fatty liver disease and psychosocial difficulties.
- Use family-centred goals and avoid shaming language or unsupervised restrictive dieting.

Menstrual and Sexual Health

Menstrual Concerns and Sexual-health Information

- Ask about menstrual timing, pain, heavy bleeding and symptoms of anemia when relevant.

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