Adolescent Medicine for the Royal College

Overview

- Royal College basics and some practical tips
- Review:
  - Adolescent Medicine Royal College Objectives
  - Adolescent Medicine CPS Statements
  - Example questions (within last couple decades…)
  - Will not be covering Mental Health, Endocrinology

Normal development: physical, cognitive, psychological, sexual; emotional, behavioural, psychosocial development; peer relationships, parent-adolescent relations: MCQ

MCQ 2009: Which of the following is true of adolescence:

a. preoccupation with body image occurs in mid adolescence

b. parental conflict peaks in mid adolescence

c. development of idealistic career goals in late adolescence

d. abstract thinking develops in early adolescence

MCQ 2004: What is true about adolescents?

a. Preoccupation with physical changes in mid adolescence

b. Conflicts with parents peak in mid adolescence

c. Vocational aspirations are realistic in late adolescence

Normal development: physical, cognitive, psychological, sexual; emotional, behavioural, psychosocial development; peer relationships, parent-adolescent relations

Table 104-1 CENTRAL ISSUES IN EARLY, MIDDLE, AND LATE ADOLESCENCE

VARIABLE	EARLY ADOLESCENCE	MIDDLE ADOLESCENCE	LATE ADOLESCENCE
Sexual maturity rating*	1-2	3-5	5
Somatic	Secondary sex characteristics Beginning of rapid growth Awkward appearance	Height growth peaks Body shape and composition change Acne and odor Menarche/spermarche	Physically mature Slower growth
Cognitive and moral	Concrete operations Unable to perceive long-term outcome of current decision-making Conventional morality	Emergence of abstract thought (formal operations) May perceive future implications, but may not apply in decision-making Questioning mores	Future-oriented with sense of perspective Idealism; absolutism Able to think things through independently
Self-concept/identity formation	Preoccupied with changing body Self-consciousness about appearance and attractiveness Fantasy and present-oriented	Concern with attractiveness Increasing introspection "Stereotypical adolescent"	More stable body image Attractiveness may still be of concern Emancipation complete Firmer identity
Family	Increased need for privacy Increased bid for independence	Conflicts over control and independence Struggle for acceptance of greater autonomy	Emotional and physical separation from family Increased autonomy
Peers	Seeks same-sex peer affiliation to counter instability	Intense peer group involvement Preoccupation with peer culture Peers provide behavioral example	Peer group and values recede in importance Intimacy/possible commitment takes precedence
Sexual	Increased interest in sexual anatomy Anxieties and questions about genital changes, size Limited dating and intimacy	Testing ability to attract partner Initiation of relationships and sexual activity Questions of sexual orientation	Consolidation of sexual identity Focus on intimacy and formation of stable relationships Planning for future and commitment
Relationship to society	Middle school adjustment	Gauging skills and opportunities	Career decisions (e.g., college, work)

*See text and Figures 104-1 and 104-2

MCQ

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a. preoccupation with body image occurs in mid adolescence
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Normal development: physical, cognitive, psychological, sexual; emotional, behavioural, psychosocial development; peer relationships, parent-adolescent relations

- Puberty and physical growth in Endocrinology section…

Adolescents and society: influencing factors, heterogeneity, sub-cultures

Relevant CPS Statements:

Sexting: Keeping teens safe and responsible in a technologically savvy world

Posted: Jan 1 2010, Reaffirmed: Feb 28 2018

Banning children and youth under the age of 18 years from commercial tanning facilities

Posted: Feb 1 2012, Reaffirmed: Feb 28 2018

E-cigarettes: Are we renormalizing public smoking? Reversing five decades of tobacco control and revitalizing nicotine dependency in children and youth in Canada

Posted: Mar 6 2015, Reaffirmed: Feb 28 2018

Health needs and health problems

MCQ 2017: Teen female with type 1 diabetes presents with decreasing weight, falling off the growth curve. Weight was previously at the 50th percentile and now is below the 10th. Doing well in school and gets all A's in her classes. HbA1C 7.5%. What is the most likely cause?

a. Eating disorder

b. Diabetic ketoacidosis

c. Celiac disease

MCQ 2014: You are following a 16 year old diabetic girl and notice that she has lost a significant amount of weight since her last visit to clinic. You suspect:

a) an eating disorder

b) non compliance with insulin

MCQ 2008: An adolescent girl with diabetes for the last ten years is seen in diabetes follow up clinic. Her HbA1c is 7.6%. She is a straight A student. She has no complaints. Her weight has dropped from the 25th to the 5th percent. What is the most likely cause of her symptoms?

a. Eating disorder

b. Celiac disease

c. Hypothyroidism

Health needs and health problems

Table 2

Risk Factors and Complications for Disordered Eating in People with Diabetes

Risk Factors	Explanation
Adolescences	Increased risk taking behavior, peer influence
Gender	Females are more likely to engage in disordered eating behavior
BMI	Higher BMI may lead to dieting, negative affect
Body Dissatisfaction	Drive for Thinness
Meal Structure	Infrequent family meals
Type 1 Diabetes Complications	
	Poor Glycemic Control
	Frequent Diabetic Ketoacidosis (DKA)
	Retinopathy
	Nephropathy
	Neuropathy
	Cerebral Edema
	Kidney Failure
	Heart Problems (e.g., arrhythmia, bradycardia)
	Death

- Rate of Eating Disorders: 10% of adolescent females aged 12-19 with type 1 diabetes

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4002640/

Health needs and health problems

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b. Celiac disease

c. Hypothyroidism

Normal adolescent behaviour

Adolescent Intervention Principles

POSITION STATEMENT

Harm reduction: An approach to reducing risky health behaviours in adolescents

Posted: Jan 1 2008 | **Reaffirmed:** Feb 1 2016

Principal author(s)

KM Leslie; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2008;13(1):53-6

Introduction

Adolescent Intervention Principles

TABLE 1
Examples of motivational interviewing techniques

Technique	Example
Open-ended questions	How does drinking on the weekends affect getting your homework done?
Reflective listening	It sounds like you are very upset about the recent break-up with your girlfriend. I wonder whether you are more likely to drink when you are upset?
Affirmations	Deciding not to go that party sounds like a good choice. It may be difficult to avoid drinking if you went.
Summary statements	It is important to be able to hang out with your friends. Are there other activities you do with that group?
Eliciting change talk	What are some of the things you would like to change?

Adapted from reference [21]

Recommendations

The Canadian Paediatric Society recommends that HCPs working with adolescents:

- Screen all preadolescent and adolescent patients for potentially risky behaviours at regular health care visits.
- Provide messages that encourage delay in initiation of potentially risky behaviours, and at the same time, promote risk-reduction strategies if adolescents choose to engage or are already engaging in the behaviour.
- Use principles of motivational interviewing in the assessment and discussion of risky health behaviours with adolescent patients [19]-[22].
- Become familiar with the resources in their communities that provide harm reduction programs for substance abuse, pregnancy prevention and injury prevention.
- Advocate for the introduction, further development and evaluation of evidence-based prevention and treatment programs that use a harm reduction philosophy in schools and communities.

Laws and resources in adolescence

SAQ 2017: According to Canadian law:

a. What is the maximum age of a partner that a 14 year old girl can consent to having sex with?

b. In what situation can a 16 year old girl NOT consent to have sex with someone who is older? (2 points)

Laws and resources in adolescence

- Age of consent laws apply to all forms of sexual activity, ranging from kissing and fondling to sexual intercourse
- All sexual activity without consent is a criminal offence, regardless of age
- Age of consent to sexual activity is 16 years
  - Exceptions:
    - their sexual partner is in position of trust or authority towards them, for example their teacher or coach
    - the young person is dependent on their sexual partner, for example for care or support
    - the relationship between the young person and their sexual partner is exploitative
      - Pornography, prostitution
- Close in age exceptions
  - 12/13 year olds can consent to partner less than two years older
  - 14/15 year old can consent to partner less than five years older
  - Cannot be in position of trust/authority, etc.

http://www.justice.gc.ca/eng/rp-pr/other-autre/clp/faq.html

Laws and resources in adolescence

SAQ 2017: According to Canadian law:

a. What is the maximum age of a partner that a 14 year old girl can consent to having sex with?

19

b. In what situation can a 16 year old girl NOT consent to have sex with someone who is older?

- **their sexual partner is in position of trust or authority towards them, for example their teacher or coach**
- **the young person is dependent on their sexual partner, for example for care or support**
- **the relationship between the young person and their sexual partner is exploitative**
  - **Pornography, prostitution**

Laws and resources in adolescence

See also Ethics Objective: **Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law**

- Limits are defined provincially… which means details are not testable
  - AB vs ON
- OSCE station: write and star the word confidentiality at the top of your sheet… it's so obvious, you might forget it.

- The duty of confidentiality is not only an ethical obligation, but also a legal one. However, it is not absolute and is subject to exceptions in limited circumstances.
- The exceptions to a physician's obligations to protect confidential patient information can arise in two distinct contexts:
  - when doctors are required by law to disclose the information, or
  - when the doctors are permitted by law to disclose the information
- Duty to report
  - Provincial legislation
    - Examples: Child protection, communicable diseases, transportation concerns, Order issued by a court, firearms...
- Duty to warn
  - Not mandatory, Canadian courts permit physician to warn police when aware of the serious, imminent danger posed by a patient to an identifiable group against whom the patient had made specific threats.

Normal adolescent gynaecology

MCQ 2018: Girl with periods from April 2-7 and 23-30. Menstrual cycle length?

a. 7

b. 4

c. 21

d. 28

Normal adolescent gynaecology

- Regular cycles (21–45 days) are established by the third year after menarche in approximately 95% of girls
  - Can remain abnormal up to 5 years
  - A menstrual interval greater than 90 days is unusual even in the first year after menarche
- Count from first day of period to first day of next period

Normal adolescent gynaecology

MCQ 2018: Girl with periods from April 2-7 and 23-30. Menstrual cycle length?

a. 7

b. 4

c. 21

d. 28

Transition of youth with chronic conditions to adult care

POSITION STATEMENT

Care of adolescents with chronic conditions

Posted: Jan 1 2006 | **Updated:** Jan 30 2013 | **Reaffirmed:** Feb 28 2018

Principal author(s)

J Pinzon, J Harvey; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2006;11(1):43-8

It is estimated that between 14.8% and 18% of all youths in North America have a chronic health condition or a special health care condition (eg, impairments, such as musculoskeletal impairments, speech defects, deafness and hearing loss, blindness and visual impairments; and diseases, such as asthma and heart disease) that affects them and their families [1][2]. They may have survived life-threatening illnesses that, until recently, had a high mortality rate, or survive longer with improved medical care and technology. It is estimated that up to 98% of children diagnosed with a chronic health condition may now reach the age of 20 years [3][4], depending on the condition. Some may also have physical and mental disabilities resulting from their primary illness. Many have to deal with the psychological consequences of their condition and the continuing involvement of numerous medical and paramedical personnel in their lives.

The care and follow-up of many of these adolescents are often fragmented, and relies heavily on subspecialists and therapists who may practice far from their home. Adolescents with chronic health conditions that are less obvious or less serious may not get the support they need from physicians or other adults. This position statement is intended to assist specialists, subspecialists and primary care physicians who provide care to youth with chronic conditions.

Transition of youth with chronic conditions to adult care

POSITION STATEMENT

Transition to adult care for youth with special health care needs

Posted: Nov 1 2007 | **Reaffirmed:** Feb 28 2018

Principal author(s)

M Kaufman, J Pinzon; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2007;12(9):785-8

Transition of youth with chronic conditions to adult care

Recommendations

General principles

- Paediatricians should be aware that transition is an ongoing process that may begin as early as the time of diagnosis and ends sometime after transfer.
- Appropriate resources and educational materials should be provided for youth throughout the process of transition.

Individual and family issues

- Transition planning must be youth-focused within the context of the family (evidence level II-3).
- Appropriate attention and supports should be provided for family members (evidence level I).
- Transition should occur at the youth's pace (evidence level II-3).

Multidisciplinary teams and community resources

- Transition planning and preparation should be integrated into existing specialty clinical settings.
- Teams must provide developmentally appropriate care, including a stepwise plan of increasing responsibility for self-care. The family physician should be an integral part of the treatment team. If the adolescent does not have a family physician, the team should facilitate a referral as soon as possible.
- Teens should be given information about their condition and available resources, including clinics providing sexual health screening for young adults.
- Skills training in communication and negotiation should be provided to enhance navigation in the adult care system.
- The provision of transition services may include individual counseling; psychoeducational groups; posters and checklists for staff, patients and parents; joint transition clinics and Web-based tools (evidence level I-1 to III).

Transition of youth with chronic conditions to adult care

Paediatrics & Child Health, 2017, 23–25
doi: 10.1093/pch/pxw007
Commentary

Commentary

Expand your HEADS, follow the THRxEADS!

Nicholas Chadi MD FRCP[1], Khush Amaria PhD C.Psych[1], Miriam Kaufman BSN MD FRCP[1]

[1]**Hospital for Sick Children, Toronto, Ontario**

Correspondence: Nicholas Chadi, Division of Adolescent Medicine, Hospital for Sick Children, 555 University Avenue, Toronto, Ontario M5G 1X8. Telephone 416-813-1500, fax 416-813-5392, e-mail nicholas.chadi@umontreal.ca

Table 1. THRxEADS—chronic illness and disability-specific questions

Parameters	Sample questions
T – Transition	What is your condition?
	Can you explain the important things about your condition in three or four sentences?
	How much of your health care is your responsibility?
	What do you need to do to get ready for adult health care?
	What kind of services will you need to find in the adult system?
H – Home	Are there any issues with housing and your health? (accessibility/allergens/others)
	Do you have concerns about how your condition affects your family's function?
	Who knows about your condition? (family members/friends)
	If you live in more than one home, are there differences in the way you take care of your condition in the two homes?
Rx – Medication and Treatment	What medications do you take? What are the dosages?
	Who is in charge of your medication? What is your role?
	How do your medications/treatments fit in your routine during the week/weekend?
	What happens when you miss a dose?
	What do you like and dislike about your medication?
E – Education and Eating	Does your condition make things different or difficult for you at school?
	Is there someone you can talk to or go see for help/support at school?
	How often do you have to miss school because of your condition?
	How does your condition or medications affect your diet and appetite?
	Does your condition affect how your body looks? In what way?
A – Activities and Affect	Does your condition get in the way of participating in activities that your friends do?
	Do you have friends or talk to people who have similar health/disability issues?
	Do you use the internet to connect with other teens with health conditions or learn about your condition?
	Does your condition affect your sleep?
	Does your condition make you sad, angry or anxious?
	Have you ever had suicidal thoughts or tried to hurt yourself because of your condition?
D – Drugs	What do you know about the effect of alcohol/cigarettes/street drugs on your condition or treatments?
	Do you ever use alcohol/cigarettes/street drugs to treat your condition, symptoms or medication side effects?
S – Sexuality	What do you know about the effect of your condition on your sexual health?
	Are there any limits on contraception you can use because of your condition?
	Have you talked about the genetics of your condition? (i.e., can it be passed on to your children?)

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

SAQ 2017:

A 13 year old girl presents with a history of significant weight loss crossing percentiles, with normal height and otherwise normal exam. She has always been a picky eater, but now her repertoire of foods that she will eat has decreased even further. She has no history of purging.

a) What are the TWO elements of history that would help to determine what kind of eating disorder this girl has? (2 points)

b) What is the differential diagnosis (2 points)

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

Diagnosis and Differential Diagnosis

The diagnosis of AN should be suspected in any AYAs with unexplained weight loss and food avoidance.

1. Medical conditions:
    a. Inflammatory bowel disease
    b. Malabsorption—cystic fibrosis, celiac disease
    c. Endocrine conditions—hyperthyroidism, Addison's disease, diabetes mellitus
    d. Collagen vascular disease
    e. Central nervous system (CNS) lesions—hypothalamic or pituitary tumors
    f. Malignancies
    g. Chronic infections—tuberculosis, human immunodeficiency virus
    h. Immunodeficiency
2. Psychiatric conditions:
    a. Mood disorders
    b. Anxiety disorders
    c. Somatization disorder
    d. Substance abuse disorder
    e. Psychosis

Table 26-4 EATING AND WEIGHT CONTROL HABITS COMMONLY FOUND IN CHILDREN AND ADOLESCENTS WITH AN EATING DISORDER

HABIT	PROMINENT FEATURE		CLINICAL COMMENTS REGARDING EATING DISORDER HABITS	
	Anorexia Nervosa	Bulimia Nervosa	Anorexia Nervosa	Bulimia Nervosa
Overall intake	Inadequate energy (calories), although volume of food and beverages may be high due to very low caloric density of intake due to "diet" and nonfat choices	Variable, but calories normal to high; intake in binges often "forbidden" food or drink that differs from intake at meals.	Consistent inadequate caloric intake leading to wasting of the body is an essential feature of diagnosis	Inconsistent balance of intake, exercise and vomiting, but severe caloric restriction is short-lived
Food	Counts and limits calories, especially from fat; Emphasis on "healthy food choices" with reduced caloric density Monotonous, limited "good" food choices, often leading to vegetarian or vegan diet Strong feelings of guilt after eating more than planned leads to exercise and renewed dieting	Aware of calories and fat, but less regimented in avoidance than AN Frequent dieting interspersed with overeating, often triggered by depression, isolation, or anger	Obsessive-compulsive attention to nutritional data on food labels and may have "logical" reasons for food choices in highly regimented pattern, such as sports participation or family history of lipid disorder	Choices less structured, with more frequent diets
Beverages	Water or other low- or no-calorie drinks; nonfat milk	Variable, diet soda common; may drink alcohol to excess	Fluids often restricted to avoid weight gain	Fluids ingested to aid vomiting or replace losses
Meals	Consistent schedule and structure to meal plan Reduced or eliminated caloric content, often starting with breakfast, then lunch, then dinner Volume can increase with fresh fruits, vegetables, and salads as primary food sources	Meals less regimented and planned than in AN; more likely impulsive and unregulated, often eliminated following a binge-purge episode	Rigid adherence to "rules" governing eating leads to sense of control, confidence and mastery	Elimination of a meal following a binge-purge only reinforces the drive for binge later in the day
Snacks	Reduced or eliminated from meal plan	Often avoided in meal plans, but then impulsively eaten	Snack foods removed early because "unhealthy"	Snack "comfort foods" can trigger a binge
Dieting	Initial habit that becomes progressively restrictive, although often appearing superficially "healthy" Beliefs and "rules" about the patient's idiosyncratic nutritional requirements and response to foods are strongly held	Initial dieting gives way to chaotic eating, often interpreted by the patient as evidence of being "weak" or "lazy"	Distinguishing between healthy meal planning with reduced calories and dieting in ED may be difficult	Dieting tends to be impulsive and short-lived, with "diets" often resulting in unintended weight gain
Binge eating	None in restrictive subtype, but an essential feature in binge-purge subtype	Essential feature, often secretive Shame and guilt prominent afterward	Often "subjective" (more than planned but not large)	Relieves emotional distress, may be planned
Exercise	Characteristically obsessive-compulsive, ritualistic, and progressive May excel in dance, long-distance running	Less predictable May be athletic, or may avoid exercise entirely	May be difficult to distinguish active thin vs. ED	Males often use exercise as means of "purging"
Vomiting	Characteristic of binge-purge subtype May chew, then spit out, rather than swallow, food as a variant	Most common habit intended to reduce effects of overeating Can occur after meal as well as a binge	Physiologic and emotional instability prominent	Strongly "addictive" and self-punishing, but does not eliminate calories ingested—many still absorbed
Laxatives	If used, generally to relieve constipation in restrictive subtype, but as a cathartic in binge-purge subtype	Second most common habit used to reduce or avoid weight gain, often used in increasing doses for cathartic effect	Physiologic and emotional instability prominent	Strongly "addictive," self-punishing, but ineffective means to reduce weight (calories are absorbed in the small intestine, but laxatives work in the colon)
Diet pills	Very rare, if used; more common in binge-purge subtype	Used to either reduce appetite or increase metabolism	Use of diet pills implies inability to control eating	Control over eating may be sought by any means

AN, anorexia nervosa; BN, bulimia nervosa; ED, eating disorder.

Table 26-5 SYMPTOMS COMMONLY REPORTED BY PATIENTS WITH AN EATING DISORDER

SYMPTOMS	DIAGNOSIS		CLINICAL COMMENTS REGARDING ED SYMPTOMS
	Anorexia Nervosa	Bulimia Nervosa	
Body image	Feels fat, even with extreme emaciation, often with specific body distortions (e.g., stomach, thighs); Strong drive for thinness, with self-efficacy closely tied to appraisal of body shape, size, and/or weight	Variable body image distortion and dissatisfaction, but drive for thinness is less than the desire to avoid gaining weight	Challenging a patient's body image is both ineffective and counter-therapeutic clinically Accepting the patient's expressed body image but noting its discrepancy with symptoms and signs reinforces concept that patient can "feel" fat but be also "be" too thin and unhealthy
Metabolism	Hypometabolic symptoms include feeling cold, tired, and weak and lacking energy May be both bothersome and reinforcing	Variable, depending on balance of intake and output and hydration	Symptoms are evidence of body's "shutting down" in an attempt to conserve calories with an inadequate diet Emphasizing reversibility of symptoms with healthy eating and weight gain can motivate patients to cooperate with treatment
Skin	Dry skin, delayed healing, easy bruising, goose flesh Orange-yellow skin on hands	No characteristic symptom, self-injurious behavior may be seen	Skin lacks good blood flow and the ability to heal in low weight Carotenemia with large intake of β-carotene foods; reversible
Hair	Lanugo-type hair growth on face and upper body Slow growth and increased loss of scalp hair	No characteristic symptom	Body hair growth conserves energy Scalp hair loss can worsen during refeeding "telogen effluvium" (resting hair is replaced by growing hair) Reversible with continued healthy eating
Eyes	No characteristic symptom	Subconjunctival hemorrhage	Caused by increased intrathoracic pressure during vomiting
Teeth	No characteristic symptom	Erosion of dental enamel erosion Decay, fracture, and loss of teeth	Intraoral stomach acid resulting from vomiting etches dental enamel, exposing softer dental elements
Salivary glands	No characteristic symptom	Enlargement (no to mild tenderness)	Caused by chronic binge eating and induced vomiting, with parotid enlargement more prominent than submandibular; reversible
Heart	Dizziness, fainting in restrictive subtype Palpitations more common in binge-purge subtype	Dizziness, fainting, palpitations	Dizziness and fainting due to postural orthostatic tachycardia and dysregulation at hypothalamic and cardiac level with weight loss, due to hypovolemia with binge-purge Palpitations and arrhythmias often caused by electrolyte disturbance Symptoms reverse with weight gain and/or cessation of binge-purge
Abdomen	Early fullness and discomfort with eating Constipation Perceives contour as "fat," often preferring well-defined abdominal musculature	Discomfort after a binge Cramps and diarrhea with laxative abuse	Weight loss is associated with reduced volume and tone of GI tract musculature, especially the stomach Laxatives may be used to relieve constipation or as a cathartic Symptom reduction with healthy eating can take weeks to occur
Extremities and musculoskeletal	Cold, blue hands and feet	No characteristic symptoms Self-cutting or burning on wrists or arms	Energy-conserving low body temperature with slow blood flow most notable peripherally Quickly reversed with healthy eating
Nervous system	No characteristic symptom	No characteristic symptom	Neurologic symptoms suggest a diagnosis other than an ED
Mental status	Depression, anxiety, obsessive-compulsive symptoms, alone or in combination	Depression; PTSD; borderline personality disorder traits	Underlying mood disturbances can worsen with dysfunctional weight control practices and can improve with healthy eating AN patients might report emotional "numbness" with starvation, preferable to emotionality associated with healthy eating

AN, anorexia nervosa; BN, bulimia nervosa; ED, eating disorder; GI, gastrointestinal; PTSD, post-traumatic stress disorder.

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

Anorexia Nervosa DSM 5
A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. *Significantly low weight* is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
B. Intense fear of gaining weight or of becoming fat, **or persistent behavior that interferes with weight gain**, even though at a significantly low weight.
C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or **persistent lack of recognition of the seriousness of the current low body weight**.
Restricting type: During the last 3 months, the individual has not engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). This subtype describes presentations in which weight loss is accomplished primarily through dieting, fasting, and/or excessive exercise.
Binge-eating/purging type: During the last 3 months, the individual has engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Eating disorders: anorexia nervosa, bulimia, obesity - *ARFID*

MCQ 2017: 8 year old anxious kid. No issues with body image or fear of gaining weight. He has become more selective with his eating and now only eats chocolate pudding. His weight has decreased from 50th%ile to 10th%il.e. What is the diagnosis?

a. Picky eater

b. Avoidant/Restrictive food intake disorder

c. Anorexia nervosa

d. Bulimia

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

Avoidant Restrictive Food Intake Disorder DSM 5
A. An eating or feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following: 1. Significant weight loss (or failure to achieve expected weight gain or faltering growth in children). 2. Significant nutritional deficiency. 3. Dependence on enteral feeding or oral nutritional supplements. 4. Marked interference with psychosocial functioning.
B. The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.
C. The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one's body weight or shape is experienced.
D. The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.

Eating disorders: anorexia nervosa, bulimia, obesity - *ARFID*

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Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

SAQ 2017:

A 13 year old girl presents with a history of significant weight loss crossing percentiles, with normal height and otherwise normal exam. She has always been a picky eater, but now her repertoire of foods that she will eat has decreased even further. She has no history of purging.

a) What are the TWO elements of history that would help to determine what kind of eating disorder this girl has? (2 points)

- **Behaviors that interfere with weight gain or fear of gaining weight**
- **Body image concerns**
- **Avoidance of food due to sensory concern or aversive consequence of eating (choking, anaphylaxis, etc)**

b) What is the differential diagnosis (2 points)

- **Anorexia Nervosa**
- **Avoidant Restrictive Food Intake Disorder**

Eating disorders: anorexia nervosa, bulimia, obesity - *Approach to Eating Disorders*

MCQ 2016: 14 y.o. Girl with new onset weight loss and amenorrhea. On exam you find lanugo hair. What is the diagnosis

a. Addison's disease

b. Hypothyroidism

c. Turner's

d. Eating disorder

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2006: 15 year old female with anorexia, which feature would be LEAST suggestive of this diagnosis?

a. HR 70 bpm

b. Temperature 34.5C

c. RR 14 bpm

d. BP 95/65

MCQ 2006 version 2: Girl with anorexia. Which vital sign is least likely to be correct (or helpful?) with the diagnosis?

a. HR 70

b. RR 14

c. BP 95/65

d. T 34.5

Table 26-6 SIGNS COMMONLY FOUND IN PATIENTS WITH EATING DISORDERS RELATIVE TO PROMINENT FEATURE OF WEIGHT CONTROL

PHYSICAL SIGN	PROMINENT FEATURE		CLINICAL COMMENTS RELATED TO EATING DISORDER SIGNS
	Restrictive Intake	Binge Eating/Purging	
General appearance	Thin to cachetic, depending on balance of intake and output Might wear bulky clothing to hide thinness and ight resist being examined	Thin to overweight, depending on the balance of intake and output through various means	Examine in hospital gown Weight loss more rapid with reduced intake and excessive exercise Binge eating can result in large weight gain, regardless of purging behavior Appearance depends on balance of intake and output and overall weight control habits
Weight	Low and falling (if previously overweight may be normal or high); May be falsely elevated if patient drinks fluids or adds weights to body before being weighed	Highly variable, depending on balance of intake and output and state of hydration Falsification of weight is unusual	Weigh in hospital gown with no underwear, after voiding (measure urine SG) Remain in gown until physical exam completed to identify possible fluid loading (low urine SG, palpable bladder) or adding weights to body
Metabolism	Hypothermia: temp <35.5°C, pulse <60 Slowed psychomotor response with very low core temperature	Variable, but hypometabolic state is less common than in AN	Hypometabolism related to disruption of hypothalamic control mechanisms due to weight loss Signs of hypometabolism (cold skin, slow capillary refill, acryocyanosis) most evident in hands and feet, where energy conservation is most active.
Skin	Dry Increased prominence of hair follicles Orange or yellow hands	Calluses over proximal knuckle joints of hand (Russell's sign)	Carotenemia with large intake of β-carotene foods Russell's sign: maxillary incisors abrasion develops into callus with chronic digital pharyngeal stimulation, usually on dominant hand
Hair	Lanugo-type hair growth on face and upper body Scalp hair loss, especially prominent in parietal region	No characteristic sign	Body hair growth conserves energy Scalp hair loss "telogen effluvium" can worsen weeks after refeeding begins, as hair in resting phase is replaced by growing hair
Eyes	No characteristic sign	Subconjunctival hemorrhage	Increased intrathoracic pressure during vomiting.
Teeth	No characteristic sign	Eroded dental enamel and decayed, fractured, missing teeth	Perimolysis, worse on lingual surfaces of maxillary teeth, is intensified by brushing teeth without preceding water rinse
Salivary glands	No characteristic sign	Enlargement, relatively nontender	Parotid > submandibular involvement with frequent and chronic binge eating and induced vomiting
Throat	No characteristic sign	Absent gag reflex	Extinction of gag response with repeated pharyngeal stimulation
Heart	Bradycardia, hypotension, and orthostatic pulse differential >25 beats/min	Hypovolemia if dehydrated	Changes in AN due to central hypothalamic and intrinsic cardiac function Orthostatic changes less prominent if athletic, more prominent if associated with purging
Abdomen	Scaphoid, organs may be palpable but not enlarged, stool-filled left lower quadrant	Increased bowel sounds if recent laxative use	Presence of organomegaly requires investigation to determine cause Constipation prominent with weight loss
Extremities and musculoskeletal system	Cold, acrocyanosis, slow capillary refill Edema of feet Loss of muscle, subcutaneous, and fat tissue	No characteristic sign, but may have rebound edema after stopping chronic laxative use	Signs of hypometabolism (cold) and cardiovascular dysfunction (slow capillary refill and acryocyanosis) in hands and feet Edema, caused by capillary fragility more than hypoproteinemia in AN, can worsen in early phase of refeeding.
Nervous system	No characteristic sign	No characteristic sign	Water loading before weigh-ins can cause acute hyponatremia
Mental status	Anxiety about body image, irritability, depressed mood, oppositional to change	Depression, evidence of PTSD, more likely suicidal than AN	Mental status often improves with healthier eating and weight. SSRIs only shown to be effective for BN.

Eating disorders: anorexia nervosa, bulimia, obesity - *Approach to Eating Disorders*

MCQ 2016: 14 y.o. Girl with new onset weight loss and amenorrhea. On exam you find lanugo hair. What is the diagnosis

a. Addison's disease

b. Hypothyroidism

c. Turner's

d. Eating disorder

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2006: 15 year old female with anorexia, which feature would be LEAST suggestive of this diagnosis?

a. HR 70 bpm

b. Temperature 34.5C

c. RR 14 bpm

d. BP 95/65

MCQ 2006 version 2: Girl with anorexia. Which vital sign is least likely to be correct (or helpful?) with the diagnosis?

a. HR 70

b. RR 14

c. BP 95/65

d. T 34.5

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

MCQ 2011: A 15 yr old girl presents with a 6 month history of 8 kg weight loss. She does not have any other symptoms. She is not bothered by the weight loss and has no difficulties with eating. She is doing well in school, participates in gymnastics 5 times per week, is happy and has a good family life. On exam, her HR is 70 bpm and her BP is 100/60. Her BMI is 15 kg/m2. She has a normal physical exam. You request a CSF (colony stimulating factor), electrolytes, urea, creatinine, ferritin and albumin, and they are all normal. What should you do next:

a. Request anti-TTG and a small bowel xray

b. Consult a dietitian and a psychologist

c. Admit for observation

d. Ask her parents to monitor her diet and to reduce her physical activity

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

Recommended Laboratory Tests

1. Complete blood cell (CBC) and platelet count and ESR
2. Serum chemistry including BUN, creatinine, electrolytes (including calcium, magnesium, and phosphorus) and liver function tests
3. Serum albumin level
4. T_3, T_4, and TSH levels
5. LH, FSH, estradiol, and prolactin level if amenorrheic
6. ECG
7. BMD
    a. In females who have been amenorrheic for >6 months
    b. No definitive recommendations for males

Optional laboratory tests include:

1. Upper GI tract series and small bowel series
2. Barium enema
3. Celiac screen
4. Computed tomography or magnetic resonance imaging of the head.

Eating disorders: anorexia nervosa, bulimia, obesity – *Approach to Eating Disorders*

MCQ 2011: A 15 yr old girl presents with a 6 month history of 8 kg weight loss. She does not have any other symptoms. **She is not bothered by the weight loss** and has no difficulties with eating. She is doing well in school, **participates in gymnastics 5 times per week**, is happy and has a good family life. On exam, her HR is 70 bpm and her BP is 100/60. Her BMI is 15 kg/m2. She has a normal physical exam. You request a CSF (colony stimulating factor), electrolytes, urea, creatinine, ferritin and albumin, and they are all normal. What should you do next:

a. Request anti-TTG and a small bowel xray

b. Consult a dietitian and a psychologist

c. Admit for observation

d. Ask her parents to monitor her diet and to reduce her physical activity – but this too

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2012: Anorexic, which do you worry most about?
a. Hypokalemia
b. Metabolic alkalosis

MCQ 2010: Teen with anorexia. Most worrisome clinical feature?
a. Decrease temperature
b. HR 40
c. Hypokalemia
d. Alkalosis

TABLE 33.2

Medical Complications of Eating Disorders

System	Anorexia Nervosa	Bulimia Nervosa
Fluid and electrolytes	• Dehydration, elevated BUN/creatinine • Hypokalemia • Hyponatremia • Hypochloremic alkalosis • Hypophosphatemia • Hypomagnesemia • Hypoglycemia • Ketonuria • Edema	• Dehydration, elevated BUN/creatinine • Hypokalemia (from vomiting or from laxative or diuretic use) • Hypophosphatemia (especially when binging occurs after a prolonged period of dietary restriction) • Hypomagnesemia • Edema
Head, eyes, ears, nose and throat	• Dry, cracked lips and tongue	• Dry lips and tongue • Palatal scratches • Erosion of dental enamel • Dental caries
Cardiovascular	• Bradycardia • Orthostatic hypotension • Orthostatic blood pressure or heart rate changes • Cardiac arrhythmias • Electrocardiographic abnormalities (prolonged QT interval, low voltage, T-wave abnormalities) • Reduced myocardial contractility • Mitral valve prolapse • Pericardial effusion • Congestive heart failure	• Dizziness • Orthostatic blood pressure or heart rate changes • Cardiac arrhythmias • Ipecac cardiomyopathy
Gastrointestinal	• Delayed gastric emptying • Constipation • Elevated transaminases • Superior mesenteric artery syndrome • Rectal prolapse • Gallstones	• Parotid swelling • Esophagitis • Mallory–Weiss tears • Rupture of the esophagus or stomach • Acute pancreatitis • Paralytic ileus secondary to laxative abuse • Cathartic colon • Barrett esophagus
Pulmonary		• Aspiration pneumonia • Pneumomediastinum
Renal	• Elevated BUN/creatinine • Decreased glomerular filtration rate • Renal calculi • Edema • Renal concentrating defect • Enuresis (most commonly nocturnal)	• Elevated BUN/creatinine • Massive edema (after withdrawal of laxatives)
Endocrine	• Primary or secondary amenorrhea • Pubertal delay • Growth retardation and short stature • Low T3 syndrome • Hypercortisolism • Partial diabetes insipidus	• Irregular menses
Hematological	• Anemia • Leukopenia • Thrombocytopenia • Low ESR	
Musculoskeletal	• Muscle wasting and generalized muscle weakness • Reduced BMD • Increased fracture risk	• Fatigue, muscle weakness, and cramps • Reduced BMD (if previously at a low weight or amenorrheic)
Dermatologic	• Acrocyanosis • Dry, yellow skin (hypercarotenemia) • Lanugo • Brittle nails • Thin, dry hair • Hair loss	• Calluses on the dorsum of hand (Russell's sign)
Neurological	• Syncope • Seizures • Peripheral neuropathies • Structural brain changes (enlarged lateral ventricles and deficits in both gray and white matter volumes) • Decreased concentration, memory, and thinking ability	• Syncope • Seizures

- Hypokalemia with an increased serum bicarbonate level may indicate frequent vomiting or use of diuretics, whereas nonanion gap acidosis is common with laxative abuse. Caloric restriction alone does not usually cause hypokalemia.
- Be afraid of very low weight patients with purging...

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2012: Anorexic, which do you worry most about?

a. Hypokalemia

b. Metabolic alkalosis

MCQ 2010: Teen with anorexia. Most worrisome clinical feature?

a. Decrease temperature

b. HR 40

c. Hypokalemia

d. Alkalosis

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2010: What is the likely ECG abnormality found in Anorexia Nervosa?

a. prolonged QT

b. tachycardia

c. prolonged QRS

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

ECG findings of Anorexia Nervosa

- Typically bradycardia. Increased QT dispersion (difference between the maximum QT interval and the minimum QT interval and reflects heterogeneous ventricular depolarization). QTc prolongation not inherently associated with anorexia. Arrhythmias secondary to electrolyte disturbances.
- From Nelson's: ECG usually has low voltage, with nonspecific ST or T wave changes. Although prolonged QTc has been reported, prospective studies have not found an increased risk for this.
- Classic teaching is QTc prolongation.
- Hypokalemia - < 3 mEq/L, and include ST segment sagging, T wave depression, and U wave elevation.

Eating disorders: anorexia nervosa, bulimia, obesity – *Medical complications of eating disorders*

MCQ 2010: What is the likely ECG abnormality found in Anorexia Nervosa?

a. prolonged QT

b. tachycardia

c. prolonged QRS

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

MCQ 2007: Which of the following helps to decrease osteoporosis in adolescents with anorexia nervosa?

a. oral ca

b. oral vit d

c. oral estrogen

d. increase in body weight to within 10% of IBW

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

PRACTICE POINT

Determining treatment goal weights for children and adolescents with anorexia nervosa

Posted: Apr 19 2018

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Principal author(s)

Mark L. Norris, Jacqueline D. Hiebert, Debra K. Katzman; Canadian Paediatric Society, Adolescent Health Committee

Abstract

One of the challenges faced by paediatric health professionals treating children and adolescents with anorexia nervosa (AN) is determining the specific weight needed to achieve physical, emotional and cognitive recovery. Clinicians and researchers have struggled to standardize process, methods and terminology around what is now referred to as the "treatment goal weight" (TGW).This practice point summarizes recommendations drawn from common methods used to determine TGWs in children and adolescents with AN, which are based on both the evidence-based literature and expert consensus. An individualized approach to the determination of the TGW is offered, with some specifics for special clinical situations. Multiple factors inform the process of establishing a TGW for a child or adolescent with AN but individualized attention, especially to premorbid weights, heights, BMI percentiles and paediatric growth charts, is essential. The need for ongoing follow-up and regular reassessment in this population is also highlighted.

Keywords: *AN; EDs; Paediatrics; TGW*

- NEW CPS Statement
- Target Goal Weight (TGW) is the weight necessary to support puberty, growth and development, physical activity and psychological and social functioning
- Target Goal Weight = Ideal Body Weight = Progress Weight
- Why do we care?
  - <75% of TGW is indication for hospitalization – HIGH risk of refeeding syndrome
  - <80% likely SSRIs won't work
  - Rate of gain 1-2 kg per week inpatient, 1-2 kg per MONTH outpatient
  - Bone health consequences won't improve unless near target goal weight.

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

MCQ 2007: Which of the following helps to decrease osteoporosis in adolescents with anorexia nervosa?

a. oral ca

b. oral vit d

c. oral estrogen

d. increase in body weight to within 10% of IBW

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

	TGW based on prior growth (weight, height and BMI percentiles)	TGW based on weight at same percentile as height percentile	TGW based on median BMI (mBMI) for age	TGW based on menstrual threshold + 2 kg
How-to	Look at previous growth chart -> track to where they SHOULD be	Match up weight to height %ile	Find 50%ile BMI on growth chart BMI x Height (in m) x Height (in m)	Add 2 kg to weight they last had a REGULAR period at
Pros	Most accurate if history of normal height/weight	Takes body type into account	Easy to do	Takes physiologic function into account
Cons	Need access to growth charts! Not useful if overweight previously	Height can be impacted by low weight state chronically	Crude estimate only	Premenstrual girls, boys excluded Many people forget

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

SAQ (I made up): You are in ED seeing a 16 year old patient with likely Anorexia Nervosa. Her current weight: 39.6 kg. Height: 163 cm. Her physical exam is normal and her orthostatic vitals are also within normal limits.

You do not have access to any growth records. She is with her Dad and he doesn't remember what weight she was when she lost her period.

Calculate a target goal weight (1):

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

SAQ (I made up): You are in ED seeing a 16 year old patient with likely Anorexia Nervosa. Her current weight: 39.6 kg. Height: 163 cm. Her physical exam is normal and her orthostatic vitals are also within normal limits.

You do not have access to any growth records. She is with her Dad and he doesn't remember what weight she was when she lost her period.

Calculate a target goal weight (1):

- 50%ile BMI for 16 year old female = 20.5 kg/m^2
- 20.5 kg/m^2 x 1.63 m x 1.63 m = 54.5 kg
- 39.6kg/54.5 kg = 73%

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

Current weight: 39.6 kg. Height: 163 cm

Mom showed up! She remembers she lost her period around 95 lbs but can’t be sure. Calculate a target goal weight based on this information (1).

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

Current weight: 39.6 kg. Height: 163 cm

Mom showed up! She remembers she lost her period around 95 lbs but can't be sure. Calculate a target goal weight based on this information (1).

95 lbs / 2.2 = 43.2kg

43.2 kg + 2 kg = 45.2 kg

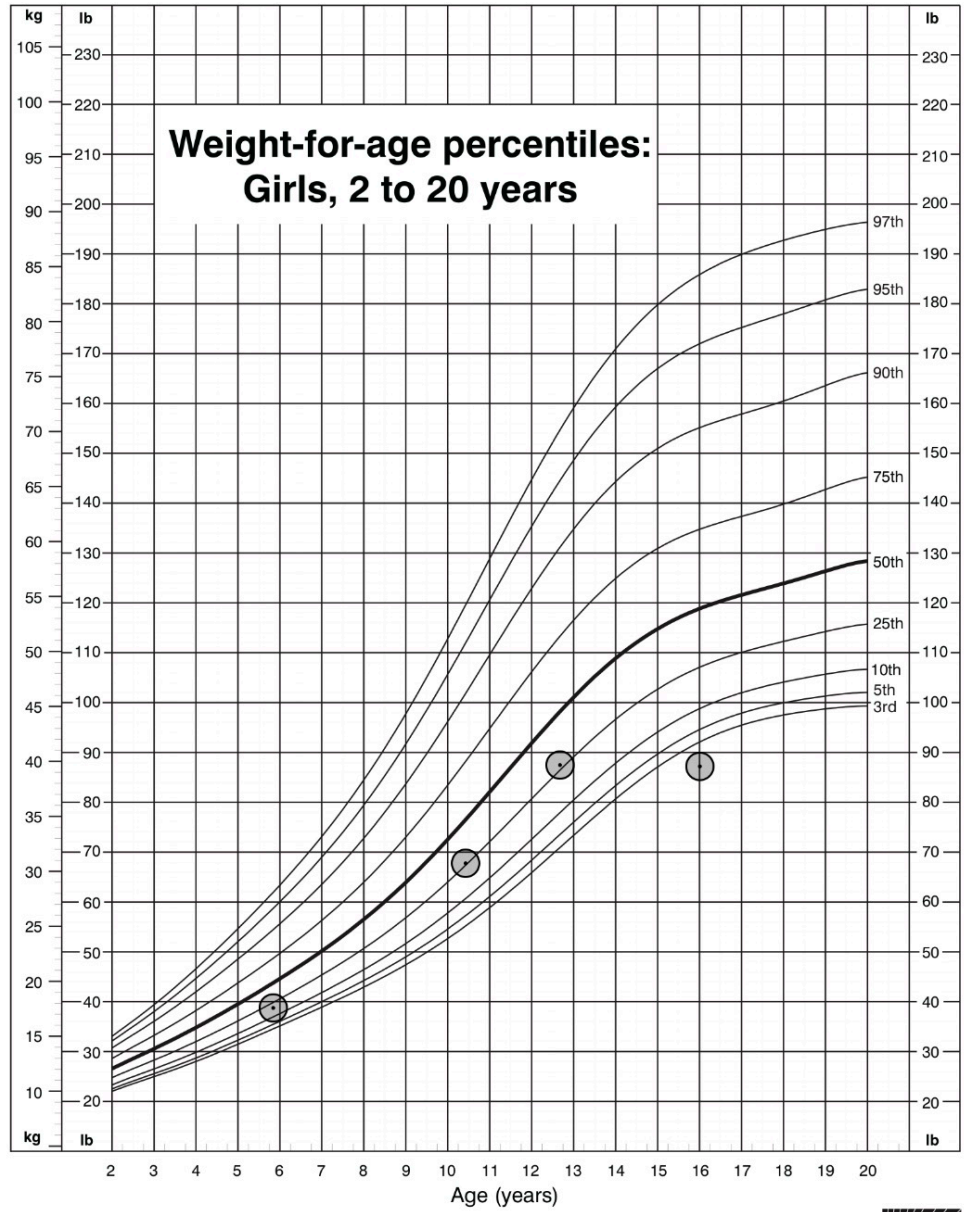
39.6 kg / 45.2kg = 87.6%

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

Current weight: 39.6 kg. Height: 163 cm

Her pediatrician happens to be working in emerg, and pulls up her growth chart remotely. What would her target goal weight be based on this new information?

CDC Growth Charts: United States

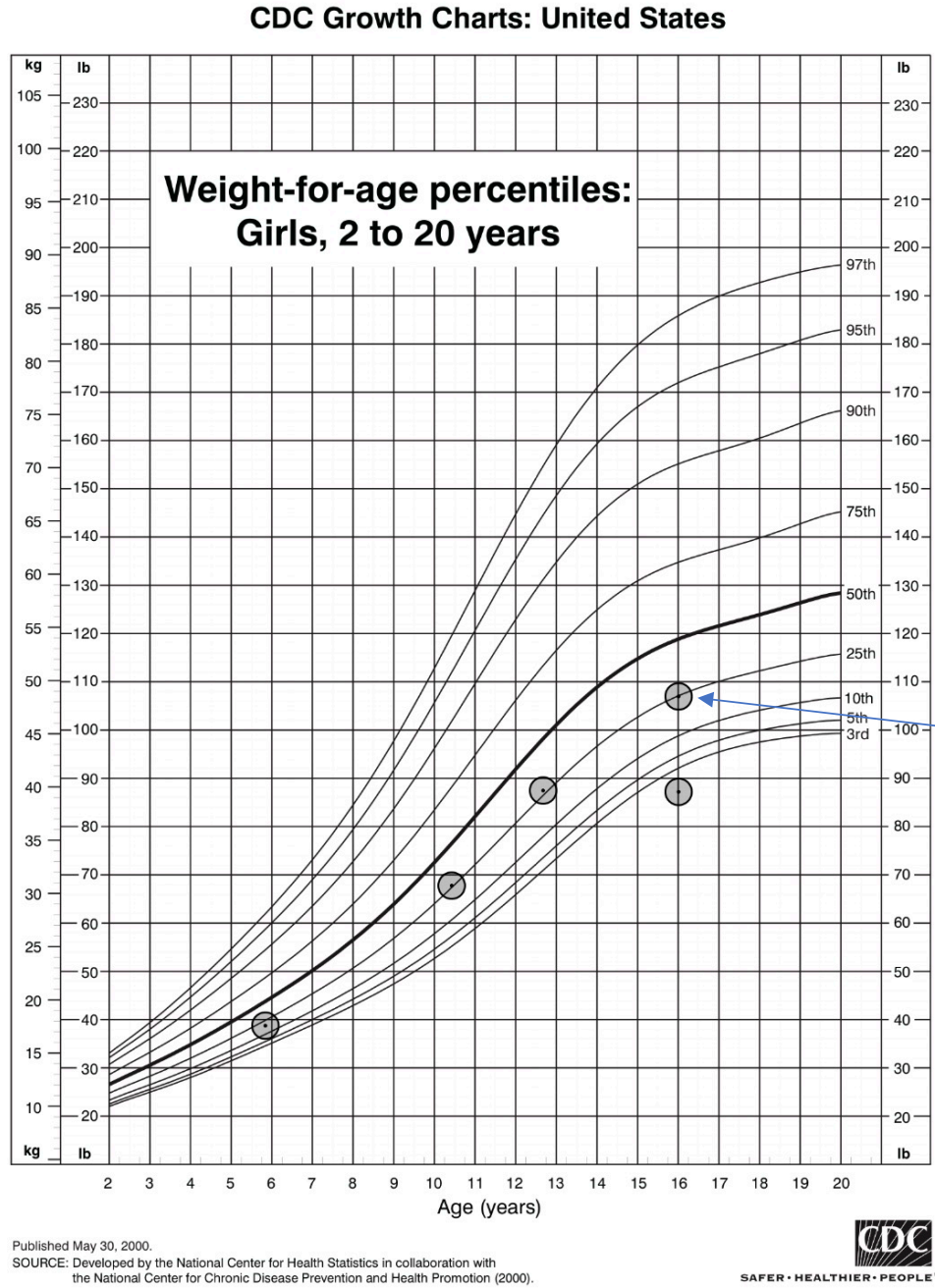


Published May 30, 2000.

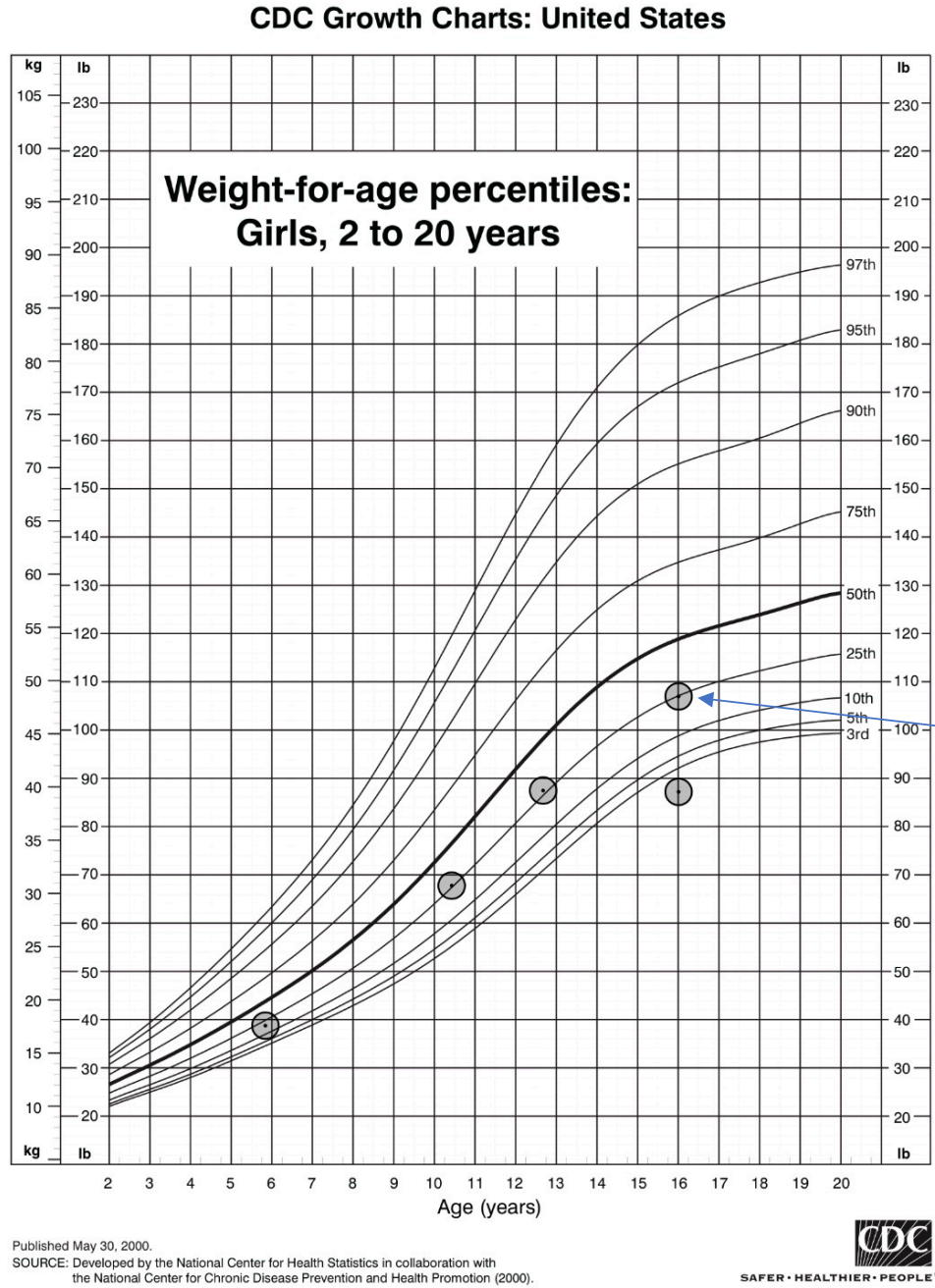
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

CDC

SAFER · HEALTHIER · PEOPLE™



Based on previous growth ~25%ile = 48.6 kg



Based on previous growth ~25%ile = 48.6 kg

% Target Weight = Current Weight / Target Goal Weight

= 39.6kg/48.6kg = 81.5%

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

What is the ideal method of measuring target goal weight in this case? (1)

What setting should her initial management take place in? (1)

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

What is the ideal method of measuring target goal weight in this case? (1)

Using previous growth charts.

What setting should her initial management take place in? (1)

Outpatient setting (normal vitals, best %target goal weight >75%)

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

MCQ 2003: An adolescent is in the ED who is 65% of her ideal body weight. HR 40, T35.8, BP 90/P. You should:

a. Bolus

b. Quickly increase feeds

c. Slow refeeding

d. Feed 1500-2000 kJ/d

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

Table 4
Indications supporting hospitalization in an adolescent with an eating disorder

One or more of the following justify hospitalization
1. ≤75% Median body mass index for age and sex
2. Dehydration
3. Electrolyte disturbance (hypokalemia, hyponatremia, hypophosphatemia)
4. EKG abnormalities (e.g., prolonged QTc or severe bradycardia)
5. Physiological instability
   Severe bradycardia (heart rate <50 beats/min daytime; <45 beats/min at night)
   Hypotension (<90/45 mm Hg)
   Hypothermia (body temperature <96°F, 35.6°C)
   Orthostatic increase in pulse (>20 beats/min) or decrease in blood pressure (>20 mm Hg systolic or >10 mm Hg diastolic)
6. Arrested growth and development
7. Failure of outpatient treatment
8. Acute food refusal
9. Uncontrollable bingeing and purging
10. Acute medical complications of malnutrition (e.g., syncope, seizures, cardiac failure, pancreatitis, and so forth)
11. Comorbid psychiatric or medical condition that prohibits or limits appropriate outpatient treatment (e.g., severe depression, suicidal ideation, obsessive compulsive disorder, type 1 diabetes mellitus)

EKG = Electrocardiogram; QTc = Corrected QT interval.

- Refeeding hypophosphatemia (and refeeding syndrome) is correlated with the degree of malnutrition on admission rather than the initial calories prescribed in hospitalized adolescents with AN
- Research supports initiating higher caloric prescription with close medical monitoring
- Weight gain of 1-2 kg/week normalizes cardio- vascular instability
- Most patients can be managed on an outpatient basis

Position Paper of the Society for Adolescent Health and Medicine: Medical Management of Restrictive Eating Disorders in Adolescents and Young Adults
The Society for Adolescent Health and Medicine

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

MCQ 2003: An adolescent is in the ED who is 65% of her ideal body weight. HR 40, T35.8, BP 90/P. You should:

a. Bolus

b. Quickly increase feeds

c. Slow refeeding – *Answer in the past*

d. Feed 1500-2000 kJ/d – Current most correct answer. Would start with lower end for someone <70% PW (~30kcal/day).

Eating disorders: anorexia nervosa, bulimia, obesity: *Anorexia Nervosa Treatment*

POSITION STATEMENT

Family-based treatment of children and adolescents with anorexia nervosa: Guidelines for the community physician

Posted: Jan 1 2010 | **Updated:** Nov 7 2012 |
Reaffirmed: Feb 28 2018

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Principal author(s)

S Findlay, J Pinzon, D Taddeo, DK Katzman; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2010;15(1):31-35

Abstract

Anorexia nervosa (AN) is a serious life-threatening illness that typically has its onset during the adolescent years. Evidence regarding the optimal treatment of AN in children and teenagers is growing; however, much remains unknown. Although current treatment approaches vary in Canada and elsewhere, the evidence to date indicates that family-based treatment (FBT) is the most effective treatment for children and teenagers with AN. A key component of the FBT model is that the parents are given the responsibility to return their child to physical health and ensure full weight restoration. An understanding of the basic principles and philosophy underlying FBT allows the physician to initiate elements of this evidence-based intervention to young patients with AN and their families.

Key Words: *Anorexia nervosa; Child and adolescent; Eating disorder; Family therapy; Outpatient*

TABLE 1
Practical elements of family-based treatment that the physician can initiate when treating children and adolescents with anorexia nervosa

Parents:

- Do not cause eating disorders and should not be blamed
- Can be angry at the eating disorder, not at their child who is suffering with an eating disorder. A child or teenager with an eating disorder is not doing it on purpose or for attention
- Need to understand that anorexia nervosa is a serious condition that probably would not improve without treatment
- Need to be responsible for their child's weight gain. Weight restoration is the first step in treatment
- Must be in charge of eating and exercise until the child has returned to health
- Should support and supervise their child's meals and snacks
- Must appreciate that eating disorders affect a child's ability to make reasonable decisions about food and exercise; parents must temporarily manage these areas of the child's life

Medical visits:

- Should be frequent at first, such as weekly or biweekly
- Should include checking the patient's weight and vital signs at each visit
- Should include meeting with the patient alone to review his or her eating attitudes, behaviours and challenges at each visit
- Should include feedback about weight and vitals to both the parents and patient at each visit
- Should include frequent reminders and encouragement to the parents about the need to insist on adequate nutrition and limit setting

Behavioural management:

- Encourages parents to use 'natural consequences' for food refusal. For example, do not allow the teenager to attend a sports practice until a proper dinner is eaten
- Involves a gradual return of the responsibility from the parents back to the child once the refeeding is going well
- Includes slowly integrating exercise back into the child's life once weight is steadily increasing

Eating disorders: anorexia nervosa, bulimia, obesity – *Bulimia Nervosa*

SAQ 2016: List 4 diagnostic criteria for Bulimia Nervosa.

Eating disorders: anorexia nervosa, bulimia, obesity – *Bulimia Nervosa*

Bulimia Nervosa DSM 5
A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: 1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances. 2. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).
B. Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise.
C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months.
D. Self-evaluation is unduly influenced by body shape and weight.
E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

Eating disorders: anorexia nervosa, bulimia, obesity: *Female Athlete Triad*

- low energy availability, menstrual dysfunction, and reduced BMD in female athletes
  - caloric intake is insufficient for energy expenditure -> hypothalamic amenorrhea (primary or secondary) -> low estrogen state
- Every female athlete with amenorrhea should have a complete history and physical examination to evaluate for an underlying eating disorder and to rule out other treatable causes of amenorrhea
- Treatment: increase caloric intake, calcium and vitamin D supplementation, restricting the intensity of training (if necessary), and monitoring for resumption of menses

Source: Neinstein's

Eating disorders: anorexia nervosa, bulimia, obesity - *Obesity*

MCQ 2015: BMI where a Pediatrician should intervene for the risk of obesity:

a. 75%

b. 85%

c. 97%

d. 99.9%

Eating disorders: anorexia nervosa, bulimia, obesity: *Binge Eating Disorder*

Binge Eating Disorder DSM 5
A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: 1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances. 2. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).
B. The binge-eating episodes are associated with three (or more) of the following: 1. Eating much more rapidly than normal. 2. Eating until feeling uncomfortably full. 3. Eating large amounts of food when not feeling physically hungry. 4. Eating alone because of feeling embarrassed by how much one is eating. 5. Feeling disgusted with oneself, depressed, or very guilty afterward.
C. Marked distress regarding binge eating is present.
D. The binge eating occurs, on average, at least once a week for 3 months.
E. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior as in bulimia nervosa and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

Eating disorders: anorexia nervosa, bulimia, obesity - *Obesity*

POSITION STATEMENT

Promoting optimal monitoring of child growth in Canada: Using the new World Health Organization growth charts

Posted: Jun 1 2010 | **Reaffirmed:** Feb 28 2018

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A collaborative statement from Dietitians of Canada, Canadian Paediatric Society, The College of Family Physicians of Canada, and Community Health Nurses of Canada

Principal author(s)

Valérie Marchand, Member of the Collaborative Statement Advisory Group, Nutrition and Gastroenterology Committee

Abridged version: Paediatr Child Health 2010;15(2):77-9

Abstract

The release of the WHO Growth Standards and Growth References has prompted a re-evaluation of which growth charts are appropriate for monitoring and assessing the growth of Canadian children. *Promoting Optimal Monitoring of Child Growth in Canada: Using the New WHO Growth Charts* was developed collaboratively by Dietitians of Canada, Canadian Paediatric Society, The College of Family Physicians of Canada and Community Health Nurses of Canada. The statement is intended for use as a practice guideline for health professionals. The desired outcome is the promotion ofconsistent practices in monitoring growth and assessing patterns of linear growth and weight gain in infants, children and adolescents to support healthy child growth and development.

Two to 19 years			
Underweight	Weight for age	<3rd	<3rd*
Severe underweight	Weight for age	<0.1st	<0.1st*
Stunting	Height for age	<3rd	<3rd
Severe stunting	Height for age	<0.1st	<0.1st
Wasting	BMI for age	<3rd	<3rd
Severe wasting	BMI for age	<0.1st	<0.1st
Risk of overweight	BMI for age	>85th	N/A
Overweight	BMI for age	>97th	>85th
Obesity	BMI for age	>99.9th	>97th
Severe obesity	BMI for age	N/A	>99.9th

**Weight for age not recommended after 10 years of age – use body mass index (BMI) for age instead; †More conservative cut-off criteria are used for young children because of growth and lack of data on functional significance of upper cut-offs, and to avoid the risks of putting young children on diets. N/A Not applicable*

Eating disorders: anorexia nervosa, bulimia, obesity - *Obesity*

MCQ 2015: BMI where a Pediatrician should intervene for the risk of obesity:

a. 75%

b. 85%

c. 97%

d. 99.9%

Behavioural problems: risk taking, delinquency

MCQ 2017: 16 year old boy with history of ADHD on Vyvanse. His mother notes him becoming more withdrawn and secretive over the past year, wanting to spend all his time in his room and away from friends and family, on his computer. She has also noted money missing from her purse and strange charges on her credit card from an unknown source. What should you do?

a. Increase his medication dosage

b. Assess him for gambling problems

c. Add a mood stabilizer

d. Reassure

Behavioural problems: risk taking, delinquency

POSITION STATEMENT

Gambling in children and adolescents

Posted: May 1 2012 | **Reaffirmed:** Feb 28 2018

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Principal author(s)

R Gupta, JL Pinzon; Canadian Paediatric Society, Adolescent Health Committee

Abridged version: Paediatr Child Health 2012;17(5):263-4

Abstract

Despite the fact that minors in Canada are prohibited from legalized gambling, adolescents commonly engage in both legalized (lottery products, casino, video lottery terminals) and self-organized (cards, sports betting, dice) gambling activities both at home and in school. Lifetime prevalence rates of pathological gambling for adults range from 1% to 2%, and existing data suggest that the prevalence among adolescents may be two to four times higher. Very little is known about risk factors in the development and perpetuation of problematic and pathological gambling. This statement is intended to educate paediatricians, family physicians and other health care providers about the emerging knowledge around gambling in childhood and adolescence and the potential serious consequences of this activity. It also urges federal, provincial and territorial governments to include this specific issue in their agendas and to address the socio-political factors associated with gambling.

Key Words: *Adolescent gambling; Pathologic gambling*

Screening for gambling problems

Health care providers should screen for gambling behaviours. These should be suspected especially when:

- parents express concern about their youth's emotional health;
- academic performance seems to be suffering;
- there are sleep problems;
- money or possessions in the home go missing or there is criminal activity such as theft;
- it is known or suspected that the adolescent is misusing substances, or in circumstances when one would screen for substance abuse;
- family relationships and friendships are impaired (adolescents who have lost control over their gambling will likely have stolen from others and/or deceived others in order to maintain their gambling behaviour); or
- any of the comorbidities described in the preceding section are present.

Health care providers could use the following guidelines to screen for a gambling problem. Inquire about:

- frequency (at least once per week is threshold);
- whether they tend to gamble more than planned (inability to respect personal limits);
- behaviours suggesting they are hiding their gambling behaviour from others, such as lying.

Behavioural problems: risk taking, delinquency

MCQ 2017: 16 year old boy with history of ADHD on Vyvanse. His mother notes him becoming more withdrawn and secretive over the past year, wanting to spend all his time in his room and away from friends and family, on his computer. She has also noted money missing from her purse and strange charges on her credit card from an unknown source. What should you do?

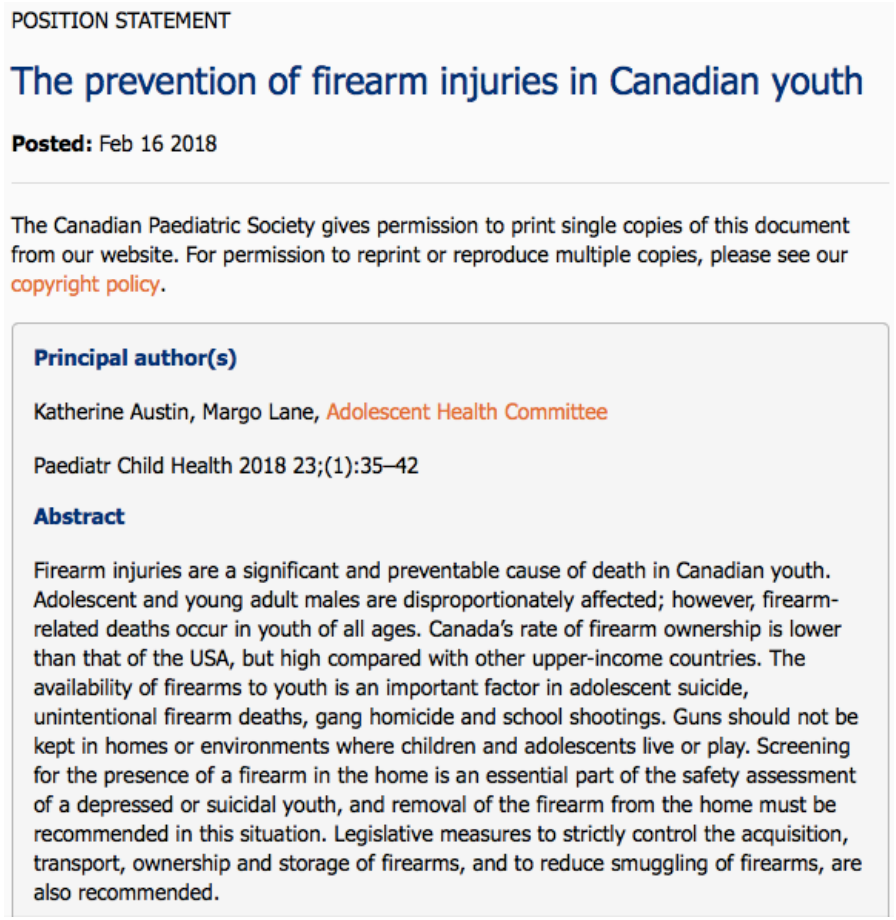
a. Increase his medication dosage

b. Assess him for gambling problems

c. Add a mood stabilizer

d. Reassure

Behavioural problems: risk taking, delinquency



POSITION STATEMENT

The prevention of firearm injuries in Canadian youth

Posted: Feb 16 2018

Principal author(s)

Katherine Austin, Margo Lane, Adolescent Health Committee

Paediatr Child Health 2018 23;(1):35–42

Abstract

Firearm injuries are a significant and preventable cause of death in Canadian youth. Adolescent and young adult males are disproportionately affected; however, firearm-related deaths occur in youth of all ages. Canada's rate of firearm ownership is lower than that of the USA, but high compared with other upper-income countries. The availability of firearms to youth is an important factor in adolescent suicide, unintentional firearm deaths, gang homicide and school shootings. Guns should not be kept in homes or environments where children and adolescents live or play. Screening for the presence of a firearm in the home is an essential part of the safety assessment of a depressed or suicidal youth, and removal of the firearm from the home must be recommended in this situation. Legislative measures to strictly control the acquisition, transport, ownership and storage of firearms, and to reduce smuggling of firearms, are also recommended.

- *Recommendations for the clinician*
- Counsel families - firearms should not be present, if they are should be locked, unloaded, stored separate from ammunition
- Ask routinely about presence of firearm in the home
- ***Screen as part of safety assessment for concern re: suicide**
- Inform parents that non-powder firearms are dangerous weapons
- When assessing children with injuries caused by non-powder firearms, be aware that pellets can cause significant internal injury
- If concern re: Intimate partner violence, screen for firearms

Behavioural problems: risk taking, delinquency

Table 105-1 IDENTIFIED RISK AND PROTECTIVE FACTORS FOR ADOLESCENT HEALTH BEHAVIORS

BEHAVIOR	RISK FACTORS	PROTECTIVE FACTORS
Smoking	Depression and other mental health problems, alcohol use, disconnectedness from school or family, difficulty talking with parents, minority ethnicity, low school achievement, peer smoking	Family connectedness, perceived healthiness, higher parental expectations, low prevalence of smoking in school
Alcohol and drug misuse	Depression and other mental health problems, low self-esteem, easy family access to alcohol, working outside school, difficulty talking with parents, risk factors for transition from occasional to regular substance misuse (smoking, availability of substances, peer use, other risk behaviors)	Connectedness with school and family, religious affiliation
Teenage pregnancy	Deprivation, city residence, low educational expectations, lack of access to sexual health services, drug and alcohol use	Connectedness with school and family, religious affiliation
Sexually transmitted infections	Mental health problems, substance misuse	Connectedness with school and family, religious affiliation

Adapted from McIntosh N, Helms P, Smyth R, editors: *Forfar and Arneils textbook of paediatrics*, ed 6, Edinburgh, 2003, Churchill Livingstone, pp 1757–1768; and Viner R, Macfarlane A: Health promotion, *Br Med J* 330:527–529, 2005.

Table 107-5 FISTS MNEMONIC TO ASSESS AN ADOLESCENT'S RISK OF VIOLENCE

F: Fighting (How many fights were you in last year? What was the last?)
I: Injuries (Have you ever been injured? Have you ever injured someone else?)
S: Sex (Has your partner hit you? Have you hit your partner? Have you ever been forced to have sex?)
T: Threats (Has someone with a weapon threatened you? What happened? Has anything changed to make you feel safer?)
S: Self-defense (What do you do if someone tries to pick a fight? Have you carried a weapon in self-defense?)

From Knox L: *Connecting the dots to prevent youth violence: a training and outreach guide for physicians and other health professionals*, Chicago, 2002, American Medical Association, p 24.

Gynecological problems and disorders of menstruation – *Gynecomastia (closest fit?)*

Gynecomastia

MCQ 2015: Male teen who is football player. Has gynecomastia, hepatitis, and jaundice. Most likely taking:

a. Anabolic steroids

b. Growth hormone

c. Creatine

…?

Gynecological problems and disorders of menstruation – *Gynecomastia (closest fit?)*

Table 109-1 DRUGS CAUSING GYNECOMASTIA	
Antiandrogens	Bicalutamide, flutamide, finasteride, spironolactone
Antibiotics	Isoniazid, ketoconazole, metronidazole
Antihypertensives	Amlodipine, captopril, diltiazem, enalapril, nifedipine, verapamil
GI agents	Cimetidine, ranitidine, omeprazole
Hormones	Androgens, anabolic steroids, chorionic gonadotropin, estrogens, growth hormone
Illicit drugs	Alcohol, amphetamines, heroin, marijuana, methadone
Psychiatric	Diazepam, haloperidol, phenothiazines, tricyclic antidepressants
Others	Antiretrovirals, digitalis, fibrates, methotrexate, statins, GnRH agonists

GI, gastrointestinal; GnRH, gonadotropin releasing hormone.
From Eckman A, Dobs A: Drug-induced gynecomastia, *Expert Opin Drug Saf* 2:691–702, 2008.

Gynecological problems and disorders of menstruation – *Gynecomastia (closest fit?)*

Gynecomastia

MCQ 2015: Male teen who is football player. Has gynecomastia, hepatitis, and jaundice. Most likely taking:

a. Anabolic steroids

b. Growth hormone

c. Creatine

…?

Gynecological problems and disorders of menstruation - *Amenorrhea*

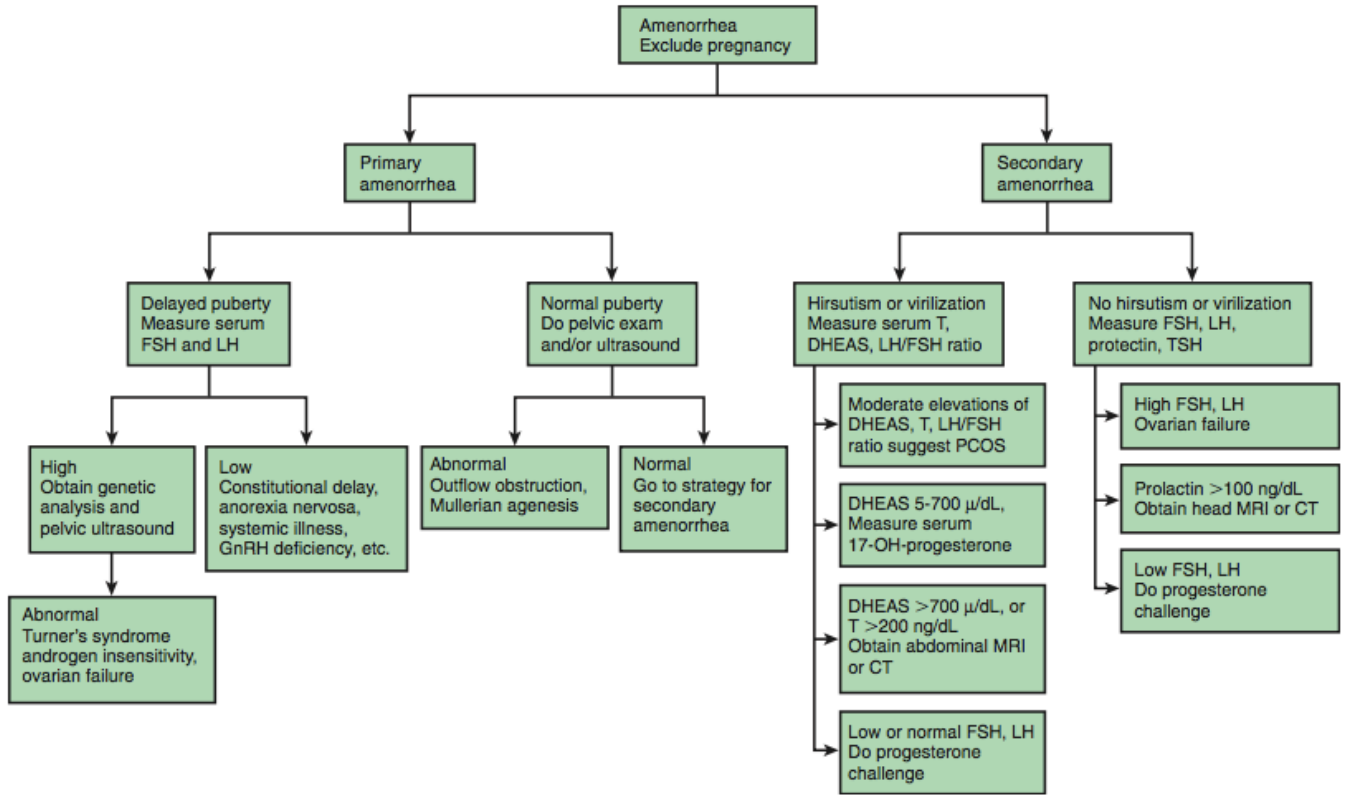


Figure 110-1 Approach to the adolescent with amenorrhea. DHEAS, dihydroepiandrotestosterone sulfate; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone; LH, luteinizing hormone; PCOS, polycystic ovary syndrome; T, testosterone. (From Slap GB: Menstrual disorders in adolescence, *Best Pract Res Clin Obstet Gynaecol* 17:75–92, 2003.)

Gynecological problems and disorders of menstruation – *Abnormal Bleeding*

MCQ 2016: 13 year old female who had menarche at 11. Presents with menomethorrhagia, Hgb 84. Most likely cause?

a. Von Willebrands

b. Increased Progesterone

c. Decreased Estrogen

d. Prolonged endometrial buildup

MCQ 2005: 13 y.o with menometrorrhagia for 6 months. Menarche at 11 y.o. Bleeding x 3 weeks. What is the most likely cause?

a. Decreased estrogen

b. Increased progesterone

c. VWF deficiency

Gynecological problems and disorders of menstruation – *Abnormal Bleeding*

MCQ 2016: 13 year old female who had menarche at 11. Presents with menomethorrhagia, Hgb 84. Most likely cause?

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MCQ 2005: 13 y.o with menometrorrhagia for 6 months. Menarche at 11 y.o. Bleeding x 3 weeks. What is the most likely cause?

a. Decreased estrogen

b. Increased progesterone

c. VWF deficiency

Disagreement about this one… Gyne and Adolescent Med thought Von Willebrands. Hematology disagrees as not typical presentation for VW. From UpToDate: "We consider the possibility of a bleeding disorder (coagulation factor deficiency or inherited or acquired platelet disorder) in adolescents who present with first menses with extremely heavy flow, bleeding requiring blood transfusion or hospitalization, and patients with refractory excessive menstrual bleeding and concomitant anemia."

Gynecological problems and disorders of menstruation - *Oligomenorrhea*

SAQ 2018: 16 yrs old obese and with oligomenorrhea (menses every 4-5 months). She has acne and hirsutism. You suspect PCO.

What are 3 investigations to CONFIRM your diagnosis?

What are 3 hormonal pharmacotherapy management for her menses?

What are 2 long term complications of her symptoms?

Gynecological problems and disorders of menstruation - *Oligomenorrhea*

MCQ 2018: Teenage girl with irregular periods, hirsuitism, severe acne. Height and weight both at 50th %ile. Screening test?

a) OGTT

b) Dexamethasone suppression test

MCQ 2018: teenage girl with hirsuitism, pustular acne, and irregular periods. Weight at the 97th percentile. What test would "help with diagnosis"??

a) Dexamethasone suppression test

b) OGTT

c) Lipid profile

d) Something else

Gynecological problems and disorders of menstruation - *PCOS*

- Many features of PCOS in adults are NORMAL features of adolescent development – i.e. ovarian follicles, anovulatory cycles early in menses
- Sometimes best to provide a provisional diagnosis, and revisit in a few years

- Clinical implications
  - Infertility
  - Dysfunctional bleeding
  - Endometrial carcinoma
  - Obesity
  - T2DM
  - Dyslipidemia
  - Hypertension
  - Cardiovascular disease

Witchel - The Diagnosis of Polycystic Ovary Syndrome during Adolescence
Rosenfiled - The Diagnosis of Polycystic Ovary Syndrome in Adolescents

PCOS Diagnostic Criteria		
Abnormal uterine bleeding pattern	a. Abnormal for age or gynecologic age b. Persistent symptoms for one to two years	Postmenarcheal year one: Average cycle length >90 days (fewer than four periods per year). Postmenarcheal year two: Average cycle length >60 days (fewer than six periods per year). Postmenarcheal years three to five: Average cycle length >45 days (fewer than eight periods per year). Postmenarcheal year six and after: Average cycle length >38 to 40 days (fewer than nine periods per year). Lack of menarche by 15 years of age or by three years after the onset of breast development.* Bleeding more frequently than every 21 days or is heavy or prolonged (lasts more than seven days or soaks more than one pad or tampon every one to two hours).
Evidence of hyperandrogenism	a. Persistent testosterone elevation above adult norms in a reliable reference laboratory is the best evidence b. Moderate-severe hirsutism is clinical evidence of hyperandrogenism c. Moderate-severe inflammatory acne vulgaris is an indication to test for hyperandrogenemia	Must be persistent (do not use single value) *Ferriman-Gallwey score
Exclusion of other causes	Nonclassic congenital adrenal hyperplasia (NCCAH), Cushing's syndrome, prolactin excess, thyroid dysfunction, and acromegaly	

Gynecological problems and disorders of menstruation - *PCOS*

- Investigations for diagnosis
  - Persistent elevation of serum total and/or free testosterone levels
  - LH: FSH (2:1-3:1)
    - Low LH suggests a hypogonadotropic disorder of neuroendocrine origin, whereas high FSH suggests primary ovarian failure
    - Not diagnostic but helpful
  - **Dexamethasone androgen-suppression test -** permits a positive diagnosis of the characteristic ovarian and adrenal dysfunction of polycystic ovary syndrome (PCOS) and will elucidate rare disorders that mimic PCOS
- Investigations for mimics
  - Beta HCG
  - U/S - ovarian imaging can be deferred during the diagnostic evaluation for PCOS (remember this is a transvaginal study), only reason would be to rule out a virilizing ovarian tumor if suspected
  - 17-OHP (r/o non classical CAH)
  - DHEAS - primarily to screen for an adrenal tumor
  - Prolactin
- Investigations for complications
  - Insulin resistance
    - Insulin resistance and hyperinsulinemia should not be utilized as diagnostic criteria
    - Insulin resistance and hyperinsulinemia can be considered as indications to investigate and treat potential comorbidities
    - Insulin resistance out of proportion to that conferred by obesity
  - Monitoring weight, height
  - Metabolic syndrome monitoring
    - glucose abnormalities, central (android) obesity, hypertension, and dyslipidemia

Witchel - The Diagnosis of Polycystic Ovary Syndrome during Adolescence
Rosenfiled - The Diagnosis of Polycystic Ovary Syndrome in Adolescents

Gynecological problems and disorders of menstruation - *PCOS*

- Management
  - Guided by what adolescent cares about!
  - Hirsutism
    - Shaving, waxing, bleaching laser therapy, electrolysis
    - Vaniqa
  - Acne – same as regular acne management
  - Periods
    - Risk of endometrial hyperplasia associated with endometrial cancer, anemia from dysfunctional bleeding
    - Combination OCP
      - Estrogen
        - Inhibit HPO axis, reduces ovarian androgen production, increase SHBG levels
      - Progestin
        - Inhibit proliferation
      - Normalize androgen levels
  - Cutaneous hyperandrogenism
    - Medical options
      - Combination OCPS
      - Anti androgens
        - Inhibit binding or androgen
  - Lifestyle changes for all patients
    - Nutrition, exercise
    - No pop, no juice, no caloric beverages
    - Exercise helps with hypertension and insulin resistance
    - Frequent follow up
  - Metformin for impaired glucose tolerance
    - Insulin sensitizer
      - Inhibits hepatic glucose output
      - Can suppress appetite and enhance weight loss

Gynecological problems and disorders of menstruation - *Oligomenorrhea*

SAQ 2018: 16 yrs old obese and with oligomenorrhea (menses every 4-5 months). She has acne and hirsutism. You suspect PCO.

What are 3 investigations to CONFIRM your diagnosis?

Free testosterone

Dexamethasone suppression test

17-OHP

What are 3 hormonal pharmacotherapy management for her menses?

Combined hormonal contraception

Progestin-only pill

Anti-androgens (?)

What are 2 long term complications of her symptoms?

Endometrial carcinoma

Infertility

Gynecological problems and disorders of menstruation - *Oligomenorrhea*

MCQ 2018: Teenage girl with irregular periods, hirsuitism, severe acne. Height and weight both at 50th %ile. Screening test?

a) OGTT

b) Dexamethasone suppression test

MCQ 2018: teenage girl with hirsuitism, pustular acne, and irregular periods. Weight at the 97th percentile. What test would "help with diagnosis"??

a) Dexamethasone suppression test

b) OGTT

c) Lipid profile

d) Something else

Gynecological problems and disorders of menstruation - *Dysmenorrhea*

MCQ 2006: Most common cause of missing school for a female teen?

a. Dysmenorrhea

b. Migraine

c. Asthma

Gynecological problems and disorders of menstruation - *Dysmenorrhea*

MCQ 2006: Most common cause of missing school for a female teen?

a. Dysmenorrhea

b. Migraine

c. Asthma

Gynecological problems and disorders of menstruation – *Special Populations*

MCQ 2010: Kid with Down syndrome. Menses are troublesome. Mgt?

a. OCP X 84 days

b. Progesterone Pill

c. IUD with Progesterone

d. Lupron

Gynecological problems and disorders of menstruation – *Special Populations*

MCQ 2010: Kid with Down syndrome. Menses are troublesome. Mgt?

a. OCP X 84 days - *reasonable option depending on compliance, however greater risk of breakthrough bleeding*

b. Progesterone Pill - *not very effective for cycle control, or anything*

c. IUD with Progesterone - *no cycle control but 50% have no menses, rest have a reduction. Possibly would require sedation.*

d. Lupron - *potential impact on bone density (so would be time limited ~2 years), price*

Do not initiate menstrual suppression in women with developmental disability until onset of menses

Gynecological problems and disorders of menstruation – *Breast Changes*

MCQ 2015: 17 year old female present with a small firm lump in her breast. What is the MOST likely cause

a. Fibrocystic changes

b. Fibroadenoma

MCQ 2012: Girl w breast lump?

MCQ 2011: Teenager (girl) with isolated breast lump. Most common cause?

a. Fibroadenoma

b. Fibrocystic change

Gynecological problems and disorders of menstruation – *Breast Changes*

Table 545-3 BREAST MASSES IN THE ADOLESCENT GIRL
BENIGN
Fibroadenoma
Fibrocystic changes or cysts
Unilateral thelarche
Hemangioma
Intramammary lymph node
Fat necrosis
Abscess
Mastitis
Lipoma
Hematoma
Hamartoma
Macromastia (juvenile hypertrophy)
Galactocele
Intraductal papilloma
Juvenile papillomatosis
Lymphangioma
MALIGNANT
Malignant cystosarcoma phylloides
Breast carcinoma
Metastatic disease
Lymphoma, neuroblastoma, sarcoma, rhabdomyosarcoma, acute leukemia

Data from Dehner LP, Hill DA, Deschryver K: Pathology of the breast in children, adolescents, and young adults, *Semin Diagn Pathol* 16:235–247, 1999; Simmons PS: Diagnostic considerations in breast disorders of children and adolescents, *Obstet Gynecol Clin North Am* 19:91–102, 1992; and Laufer MR, Goldstein DP: The breast: examination and lesions. In Emans SJ, Laufer MR, Goldstein DP, editors: *Pediatric and adolescent gynecology,* ed 5, Philadelphia, Lippincott Williams & Wilkins, 2005, pp 729–759.

- Fibroadenoma as per Nelson's most common mass in teen breast.
- Initial breast development at the onset of thelarche can asymmetric and mistaken for a mass
- Most common: fibroadenoma
  - Average size 2-3cm
  - 10-25% have multiple lesions
  - Physical exam usually diagnostic: well circumscribed, rubbery, mobile, and not tender.
  - Ultrasound if needed
  - Can develop because of the local response to estrogen stimulation and can enlarge in the menstrual cycle
    - Also may cause discomfort before menses
  - Can manage expectantly
- Cysts
  - Vary in size over menstrual cycle
  - Examine a few weeks after to see if still present - consider U/S, needle aspiration
  - May be painful before menses, and improve during menstruation
  - Fibrotic tissue, in the upper outer quadrants of the breast
- Malignant masses
  - Extremely rare primary breast cancer
  - Secondary cancer in previous radiation or first manifestation of ALL
  - Most common finding is a hard, irregular mass
  - Risk factors: Personal hx of cancer, exposure to radiation therapy

Gynecological problems and disorders of menstruation – *Breast Changes*

MCQ 2015: 17 year old female present with a small firm lump in her breast. What is the MOST likely cause

a. Fibrocystic changes

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MCQ 2012: Girl w breast lump?

MCQ 2011: Teenager (girl) with isolated breast lump. Most common cause?

a. Fibroadenoma

b. Fibrocystic change

Pregnancy issues, contraception, sexually transmitted infections

- Adolescent Pregnancy
- Contraception
- Emergency Contraception
- HPV
- Other STIs

Pregnancy issues, contraception, sexually transmitted infections – *Adolescent Pregnancy*

POSITION STATEMENT

Adolescent pregnancy

Posted: Apr 1 2006 | **Reaffirmed:** Feb 28 2018

Principal author(s)

KM Leslie; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2006;11(4):243-6

The objectives of this statement are to:

- provide health care practitioners with information about the diagnosis of pregnancy in adolescents;
- review the important aspects for options counselling with the pregnant adolescent; and
- present an approach to the care of adolescents who choose to continue with a pregnancy (with or without choosing to parent) and those who choose to terminate a pregnancy.

PRACTICE POINT

Meeting the needs of adolescent parents and their children

Posted: Jun 6 2016

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Principal author(s)

Gillian Thompson; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2016;21(5):273.

Abstract

Adolescent parents and their children present to health care practitioners as two paediatric patients, each with unique health care needs. Young parents and their children may be at risk for negative health outcomes, not directly as a consequence of maternal age but because of poverty and other inequities in the social determinants of health. The health needs of child and mother are best assessed using a nonjudgmental approach, appropriate screening tools and open questions that address both preventative and acute health issues. The dyad's co-existing needs may be anticipated as they relate to growth and development, infant and adolescent mental health, nutrition and food security, safety, relationships, parenting, education, sexual health and the facilitation of supports and resources. Care providers who understand adolescent development and integrate medical home elements of a patient-centred 'medical home' into their practices are ideally positioned to facilitate positive health outcomes for both mother and child.

Key Words: *Adolescent mothers; Adolescent parenting; Social determinants of health; Social inequities; Teen pregnancy*

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2018: 15 y.o. F approaches you to start contraception. Which of the following methods do you advise her is the most effective?

a) Transdermal patch

b) Progesterone containing IUD

c) Combined OCP

d) Progestin only pill

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

POSITION STATEMENT

Contraceptive care for Canadian youth

Posted: Jun 12 2018

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Principal author(s)

Giuseppina Di Meglio, Colleen Crowther, Joanne Simms; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2018, 23(4):271–277

Abstract

Sexual and reproductive health is an important component of comprehensive health care for youth. This statement provides guidance for selecting and prescribing contraceptives for youth, including commonly prescribed hormonal contraceptives—the pill, patch, ring and injectable progestin—and long-acting reversible contraceptives (LARCs). LARCs, including subdermal implants (which are not available in Canada) and intrauterine contraceptives (IUCs), are substantially more effective during typical use than hormonal contraceptives. This statement endorses LARCs as the first-line option for contraception for Canadian youth, while emphasizing that providers must collaborate with youth to select a contraceptive method that is acceptable, safe, effective and practical for them. Strategies that eliminate obstacles to initiating and continuing contraception are provided.

Keywords: *Bone mineral density; Contraception; Combined oral contraception; Emergency contraception; Intrauterine contraception; Long-acting reversible contraception (LARC); Sexual and reproductive health*

Table 1. Contraceptive failure rates

	% Unintended pregnancy in first year of use	
Method	**Typical use***	**Perfect use†**
No method	94§	94§
Withdrawal	22	4
Condom (no spermicide)		
• Female	21	5
• Male	18	2
Diaphragm (+ spermicide)	12	6
Combined oral contraceptive pill	9	0.3
Transdermal patch (i.e., Evra)	9	0.3
Intravaginal ring (i.e., NuvaRing)	9	0.3
Progestin-only pill	9	0.3
Injectable contraceptive (i.e., Depo-Provera)	6	0.2
Intrauterine contraceptive		
• Copper IUD	0.8	0.6
• Levonorgestrel IUS (i.e., Mirena/Jaydess)	0.2	0.2
Subdermal implant (i.e., Nexplanon)¶	0.05	0.05

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

1. While much less effective than the LARCs, third-tier methods are preferable to using no contraceptive at all.
2. Using a first- or second-tier method *with* a third-tier method, or using two third-tier methods together, decreases contraceptive failure substantially. For example, the failure rate of an oral contraceptive pill + a male condom = the failure rate of an oral contraceptive pill (0.09) × the failure rate of a male condom (0.18) = 0.02 or 2%.
3. For optimal effectiveness, technical guidance on the method of choice is essential (e.g., demonstrate technique for safe condom removal; be clear on how long after intercourse a diaphragm, cap or sponge must remain in place).
4. Regardless of the contraceptive method, condom use should always be encouraged to reduce risk for STIs.

1. Discuss sexual health, fertility, family planning and contraception with all youth, starting early in adolescence, preferably before they become sexually active. Continue this dialogue into adult care whenever possible.

2. Adopt a collaborative approach when discussing contraception options with youth to optimize adherence. Weigh the effectiveness, risks, side effects and personal acceptability of each method with each patient.

3. Recommend contraceptives in order of effectiveness:

    i. LARCs, specifically the IUD or IUS.

    ii. Hormonal methods: Oral contraceptives, the transdermal patch, the vaginal ring and injectable contraceptives (e.g., DMPA).

    iii. Methods used at the time of intercourse: Male and female condoms, diaphragms, cervical caps, sponges and spermicide.

For patients who are uncomfortable with LARCs, using a hormonal method and an in-the-moment method together is almost as effective.

4. Provide contraceptive prescriptions without a pelvic examination, unless required (e.g., in cases of IUC insertion). For most youth, taking a complete medical history, along with weight and blood pressure measurement, are sufficient. Screening for STIs should be offered to sexually active youth but should not be a prerequisite for obtaining contraception except when inserting an IUC.

5. Whenever possible, suggest a 'quick start' contraceptive approach, rather than waiting for next menses. This approach can be used for any method of contraception, provided there is reasonable certainty that a patient is not pregnant.

6. Provide long-term (i.e., 12-month) prescriptions for non-LARC contraception because they increase adherence, as does providing pill packs on site rather than issuing prescriptions.

7. Offer technical guidance to youth around preferred methods of contraception (e.g., safer technique for condom removal). Encourage adjunctive condom use for all other methods of contraception to prevent transmission of sexually transmitted infections.

8. Inform all youth about EC options. Importantly, they should understand that EC is a 'backup', not a primary, method of birth control.

9. Refer to the Society of Obstetricians and Gynaecologists of Canada's Canadian Contraception Consensus and to the WHO's Medical Eligibility Criteria for Contraceptive Use as resources for informing contraceptive choice. Ask about a diagnosis of—or symptoms compatible with—migraines with aura, which is an absolute contraindication to estrogen use (COC, patch, vaginal ring).

10. Advocate for introducing the subdermal contraceptive implant in Canada.

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2018: 15 y.o. F approaches you to start contraception. Which of the following methods do you advise her is the most effective?

a) Transdermal patch

b) Progesterone containing IUD

c) Combined OCP

d) Progestin only pill

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2014: A 16 year old girl comes to you for contraception – which of the following would make you choose a progestin only option?

a) Smoking ½ pack per day cigarettes

b) Hypercoagulable state

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2003: Which is an absolute contraindication to birth control pill:

a. Family history of stroke

b. DM

c. Hypertension

d. Migraine

e. Liver disease

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2005: When can you give contraception after an abortion?

a. Immediately

b. 2 weeks later

c. 1 month later

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

- Medical eligibility for contraception
  - WHO
  - CDC
  - There's an app for that!
- **Must know absolute contraindications
- Realistically need to weigh risk/benefits

Condition	Sub-Condition	CHC		POP		Injection		Implant		LNG-IUD		Cu-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Age		Menarche to <40=1		Menarche to <18=1		Menarche to <18=2		Menarche to <18=1		Menarche to <20=2		Menarche to <20=2	
		≥40=2		18-45=1		18-45=1		18-45=1		≥20=1		≥20=1	
				>45=1		>45=2		>45=1					
Anatomic abnormalities	a) Distorted uterine cavity									4		4	
	b) Other abnormalities									2		2	
Anemias	a) Thalassemia	1		1		1		1		1		2	
	b) Sickle cell disease[†]	2		1		1		1		1		2	
	c) Iron-deficiency anemia	1		1		1		1		1		2	
Benign ovarian tumors	(*including cysts*)	1		1		1		1		1		1	
Breast disease	a) Undiagnosed mass	2*		2*		2*		2*		2		1	
	b) Benign breast disease	1		1		1		1		1		1	
	c) Family history of cancer	1		1		1		1		1		1	
	d) Breast cancer[†]												
	i) current	4		4		4		4		4		1	
	ii) past and no evidence of current disease for 5 years	3		3		3		3		3		1	
Breastfeeding (*see also Postpartum*)	a) <1 month postpartum	3*		2*		2*		2*					
	b) 1 month or more postpartum	2*		1*		1*		1*					
Cervical cancer	Awaiting treatment	2		1		2		2		4	2	4	2
Cervical ectropion		1		1		1		1		1		1	
Cervical intraepithelial neoplasia		2		1		2		2		2		1	
Cirrhosis	a) Mild (*compensated*)	1		1		1		1		1		1	
	b) Severe[‡] (*decompensated*)	4		3		3		3		3		1	
Deep venous thrombosis (DVT)/Pulmonary embolism (PE)	a) History of DVT/PE, not on anticoagulant therapy												
	i) higher risk for recurrent DVT/PE	4		2		2		2		2		1	
	ii) lower risk for recurrent DVT/PE	3		2		2		2		2		1	
	b) Acute DVT/PE	4		2		2		2		2		2	
	c) DVT/PE and established on anticoagulant therapy for at least 3 months												
	i) higher risk for recurrent DVT/PE	4*		2		2		2		2		2	
	ii) lower risk for recurrent DVT/PE	3*		2		2		2		2		2	
	d) Family history (*first-degree relatives*)	2		1		1		1		1		1	
	e) Major surgery												
	i) with prolonged immobilization	4		2		2		2		2		1	
	ii) without prolonged immobilization	2		1		1		1		1		1	
	f) Minor surgery without immobilization	1		1		1		1		1		1	
Depressive disorders		1*		1*		1*		1*		1*		1*	
Diabetes mellitus (DM)	a) History of gestational DM only	1		1		1		1		1		1	
	b) Non-vascular disease												
	i) non-insulin dependent	2		2		2		2		2		1	
	ii) insulin dependent[†]	2		2		2		2		2		1	
	c) Nephropathy/retinopathy/neuropathy[†]	3/4*		2		3		2		2		1	
	d) Other vascular disease or diabetes of >20 years' duration[†]	3/4*		2		3		2		2		1	

Condition	Sub-Condition	CHC		POP		Injection		Implant		LNG-IUD		Cu-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Endometrial cancer[†]		1		1		1		1		4	2	4	2
Endometrial hyperplasia		1		1		1		1		1		1	
Endometriosis		1		1		1		1		1		2	
Epilepsy[†]	(*see also Drug Interactions*)	1*		1*		1*		1*		1		1	
Gallbladder disease	a) Symptomatic												
	i) treated by cholecystectomy	2		2		2		2		2		1	
	ii) medically treated	3		2		2		2		2		1	
	iii) current	3		2		2		2		2		1	
	b) Asymptomatic	2		2		2		2		2		1	
Gestational trophoblastic disease	a) Decreasing or undetectable ß-hCG levels	1		1		1		1		3		3	
	b) Persistently elevated ß-hCG levels or malignant disease[‡]	1		1		1		1		4		4	
Headaches	a) Non-migrainous	1*	2*	1*	1*	1*	1*	1*	1*	1*	1*	1*	
	b) Migraine												
	i) without aura, age <35	2*	3*	1*	2*	2*	2*	2*	2*	2*	2*	1*	
	ii) without aura, age ≥35	3*	4*	1*	2*	2*	2*	2*	2*	2*	2*	1*	
	iii) with aura, any age	4*	4*	2*	3*	2*	3*	2*	3*	2*	3*	1*	
History of bariatric surgery[‡]	a) Restrictive procedures	1		1		1		1		1		1	
	b) Malabsorptive procedures	COCs: 3 P/R: 1		3		1		1		1		1	
History of cholestasis	a) Pregnancy-related	2		1		1		1		1		1	
	b) Past COC-related	3		2		2		2		2		1	
History of high blood pressure during pregnancy		2		1		1		1		1		1	
History of pelvic surgery		1		1		1		1		1		1	
Human immunodeficiency virus (HIV)	High risk	1		1		1*		1		2	2	2	2
	HIV infected (*see also Drug Interactions*)[‡]	1*		1*		1*		1*		2	2	2	2
	AIDS (*see also Drug Interactions*)[†]	1*		1*		1*		1*		3	2*	3	2*
	Clinically well on therapy	*If on treatment, see Drug Interactions*								2	2	2	2
Hyperlipidemias		2/3*		2*		2*		2*		2*		1*	
Hypertension	a) Adequately controlled hypertension	3*		1*		2*		1*		1		1	
	b) Elevated blood pressure levels (*properly taken measurements*)												
	i) systolic 140-159 or diastolic 90-99	3		1		2		1		1		1	
	ii) systolic ≥160 or diastolic ≥100[†]	4		2		3		2		2		1	
	c) Vascular disease	4		2		3		2		2		1	
Inflammatory bowel disease	(*Ulcerative colitis, Crohn's disease*)	2/3*		2		2		1		1		1	

Abbreviations: C=continuation of contraceptive method; CHC=combined hormonal contraceptive (pill, patch, and ring); COC=combined oral contraceptive; Cu-IUD=copper-containing intrauterine device; I=initiation of contraceptive method; LNG-IUD=levonorgestrel-releasing intrauterine device; NA=not applicable; POP=progestin-only pill; P/R=patch/ring.

Legend:

1	No restriction (*method can be used*)	3	Theoretical or proven risks usually outweigh the advantages
2	Advantages generally outweigh theoretical or proven risks	4	Unacceptable health risk (*method not to be used*)

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion

Condition	Sub-Condition	CHC		POP		Injection		Implant		LNG-IUD		Cu-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Ischemic heart disease*	Current and history of	4		2	3	3		2	3	2	3	1	
Liver tumors	a) Benign												
	i) Focal nodular hyperplasia	2		2		2		2		2		1	
	ii) Hepatocellular adenoma†	4		3		3		3		3		1	
	b) Malignant†	4		3		3		3		3		1	
Malaria		1		1		1		1		1		1	
Multiple risk factors for arterial cardiovascular disease	(*such as older age, smoking, diabetes and hypertension*)	3/4*		2*		3*		2*		2		1	
Obesity	a) ≥30 kg/m² body mass index (BMI)	2		1		1		1		1		1	
	b) Menarche to <18 years and ≥30 kg/m² BMI	2		1		2		1		1		1	
Ovarian cancer†		1		1		1		1		1		1	
Parity	a) Nulliparous	1		1		1		1		2		2	
	b) Parous	1		1		1		1		1		1	
Past ectopic pregnancy		1		2		1		1		1		1	
Pelvic inflammatory disease	a) Past, (*assuming no current risk factors of sexually transmitted infections [STIs]*)												
	i) with subsequent pregnancy	1		1		1		1		1	1	1	1
	ii) without subsequent pregnancy	1		1		1		1		2	2	2	2
	b) Current	1		1		1		1		4	2*	4	2*
Peripartum cardiomyopathy†	a) Normal or mildly impaired cardiac function												
	i) <6 months	4		1		1		1		2		2	
	ii) ≥6 months	3		1		1		1		2		2	
	b) Moderately or severely impaired cardiac function	4		2		2		2		2		2	
Postabortion	a) First trimester	1*		1*		1*		1*		1*		1*	
	b) Second trimester	1*		1*		1*		1*		2		2	
	c) Immediately post-septic abortion	1*		1*		1*		1*		4		4	
Postpartum (*see also Breastfeeding*)	a) <21 days	4		1		1		1					
	b) 21 days to 42 days												
	i) with other risk factors for venous thromboembolism (VTE)	3*		1		1		1					
	ii) without other risk factors for VTE	2		1		1		1					
	c) >42 days	1		1		1		1					
Postpartum (*in breastfeeding or non-breastfeeding women, including post-cesarean section*)	a) <10 minutes after delivery of the placenta									2		1	
	b) 10 minutes after delivery of the placenta to <4 weeks									2		2	
	c) ≥4 weeks									1		1	
	d) Puerperal sepsis									4		4	
Pregnancy		NA*		NA*		NA*		NA*		4*		4*	
Rheumatoid arthritis	a) On immunosuppressive therapy	2		1		2/3*		1		2	1	2	1
	b) Not on immunosuppressive therapy	2		1		2		1		1		1	
Schistosomiasis	a) Uncomplicated	1		1		1		1		1		1	
	b) Fibrosis of the liver‡	1		1		1		1		1		1	
Severe dysmenorrhea		1		1		1		1		1		2	

Condition	Sub-Condition	CHC		POP		Injection		Implant		LNG-IUD		Cu-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Sexually Transmitted Infections (STI)	a) Current purulent cervicitis or chlamydial infection or gonorrhea	1		1		1		1		4	2*	4	2*
	b) Other STIs (*excluding HIV and hepatitis*)	1		1		1		1		2	2	2	2
	c) Vaginitis (*including trichomonas vaginalis and bacterial vaginosis*)	1		1		1		1		2	2	2	2
	d) Increased risk of STIs	1		1		1		1		2/3*	2	2/3*	2
Smoking	a) Age <35	2		1		1		1		1		1	
	b) Age ≥35, <15 cigarettes/day	3		1		1		1		1		1	
	c) Age ≥35, ≥15 cigarettes/day	4		1		1		1		1		1	
Solid organ transplantation‡	a) Complicated	4		2		2		2		3	2	3	2
	b) Uncomplicated	2*		2		2		2		2		2	
Stroke‡	History of cerebrovascular accident	4		2	3	3		2	3	2		1	
Superficial venous thrombosis	a) Varicose veins	1		1		1		1		1		1	
	b) Superficial thrombophlebitis	2		1		1		1		1		1	
Systemic lupus erythematosus‡	a) Positive (*or unknown*) antiphospholipid antibodies	4		3		3	3	3		3		1	1
	b) Severe thrombocytopenia	2		2		3	2	2		2*		3*	2*
	c) Immunosuppressive treatment	2		2		2	2	2		2		2	1
	d) None of the above	2		2		2	2	2		2		1	1
Thrombogenic mutations‡		4*		2*		2*		2*		2*		1*	
Thyroid disorders	Simple goiter/hyperthyroid/hypothyroid	1		1		1		1		1		1	
Tuberculosis‡ (*see also Drug Interactions*)	a) Non-pelvic	1*		1*		1*		1*		1		1	
	b) Pelvic	1*		1*		1*		1*		4	3	4	3
Unexplained vaginal bleeding	(*suspicious for serious condition*) before evaluation	2*		2*		3*		3*		4*	2*	4*	2*
Uterine fibroids		1		1		1		1		2		2	
Valvular heart disease	a) Uncomplicated	2		1		1		1		1		1	
	b) Complicated‡	4		1		1		1		1		1	
Vaginal bleeding patterns	a) Irregular pattern without heavy bleeding	1		2		2		2		1	1	1	
	b) Heavy or prolonged bleeding	1*		2*		2*		2*		1*	2*	2*	
Viral hepatitis	a) Acute or flare	3/4*	2	1		1		1		1		1	
	b) Carrier/Chronic	1	1	1		1		1		1		1	
Drug Interactions													
Antiretroviral therapy	a) Nucleoside reverse transcriptase inhibitors	1*		1		1		1		2/3*	2*	2/3*	2*
	b) Non-nucleoside reverse transcriptase inhibitors	2*		2*		1		2*		2/3*	2*	2/3*	2*
	c) Ritonavir-boosted protease inhibitors	3*		3*		1		2*		2/3*	2*	2/3*	2*
Anticonvulsant therapy	a) Certain anticonvulsants (*phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine*)	3*		3*		1		2*		1		1	
	b) Lamotrigine	3*		1		1		1		1		1	
Antimicrobial therapy	a) Broad spectrum antibiotics	1		1		1		1		1		1	
	b) Antifungals	1		1		1		1		1		1	
	c) Antiparasitics	1		1		1		1		1		1	
	d) Rifampicin or rifabutin therapy	3*		3*		1		2*		1		1	

*Please see the complete guidance for a clarification to this classification. †Condition that exposes a woman to increased risk as a result of unintended pregnancy. Updated June 2012.

This summary sheet only contains a subset of the recommendations from the *U.S. Medical Eligibility Criteria for Contraceptive Use*, 2010. For complete guidance, see: http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm.

CS24812

Absolute Contraindications to Estrogen Containing Contraceptives (Category 4)
Current breast cancer
Breastfeeding women < 6 weeks postpartum or nonbreastfeeding <6 weeks **with** other risk factors for VTE
VTE (Past and not on anticoagulant, past and high risk for recurrent, acute DVT/PE, Major surgery with prolonged immobilization)
Active liver disease (Liver tumor, hepatitis, severe cirrhosis)
Migraine with neurologic symptoms (includes aura)
Ischemic heart disease
Complicated solid organ transplant
Stroke
Antiphospholipid antibodies positive or unknown (lupus)
HTN >160sBP >100dBP, or vascular disease
Complicated valvular heart disease
Thrombogenic mutations

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2014: A 16 year old girl comes to you for contraception – which of the following would make you choose a progestin only option?

a) Smoking ½ pack per day cigarettes – *smoking only a relative contraindication if age >35*

b) Hypercoagulable state

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2003: Which is an absolute contraindication to birth control pill:

a. Family history of stroke

b. DM

c. Hypertension – *only if >160/100*

d. Migraine – *only if neurologic symptoms*

e. Liver disease – best answer in this case

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2005: When can you give contraception after an abortion?

a. Immediately – only contraindication to any contraception is IUS immediately after SEPTIC abortion

b. 2 weeks later

c. 1 month later

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2013: Teen girl has Acne, sexually active. Want to choose birth control to help improve acne.

a) Depo

b) Combined OCP

c) Progestin only pill

d) Barrier

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2013: Teen girl has Acne, sexually active. Want to choose birth control to help improve acne.

a) Depo

b) Combined OCP

c) Progestin only pill

d) Barrier

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2009: Teenage girl with severe acne thinking about starting systemic isotretinoin. What is the most important topic to discuss.

a. Need to monitor CBC and liver enzymes

b. Need to monitor triglycerides

c. Need for strict birth control

Pregnancy issues, contraception, sexually transmitted infections - *Contraception*

MCQ 2009: Teenage girl with severe acne thinking about starting systemic isotretinoin. What is the most important topic to discuss.

a. Need to monitor CBC and liver enzymes

b. Need to monitor triglycerides

c. Need for strict birth control- double birth control!

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

- There used to be a CPS Statement for emergency contraception but it was ++ out of date
- Important concept, frequently tested

Table 111-5 POTENTIAL INDICATIONS FOR USE OF EMERGENCY CONTRACEPTION

- Lack of contraceptive use during coitus
- Mechanical failure of male condom (breakage, slippage, or leakage)
- Dislodgment, breakage, or incorrect use of diaphragm, cervical cap, or female condom
- Failure of spermicide tablet or film to melt before intercourse
- Error in practicing withdrawal (coitus interruptus)
- Missed combined oral contraceptives (any 2 consecutive pills)
- Missed progestin-only oral contraceptive (1 or more)
- Expulsion or partial expulsion of an IUD
- Exposure to potential teratogen (such as isotretinoin or thalidomide while not using effective contraception)
- Late injection of injectable contraceptive (>2 wk late of a progestin-only formulation such as depot medroxyprogesterone acetate)*
- 2 or more days late starting new vaginal ring or patch cycle
- Rape

*The usual interval for use of depot medroxyprogesterone acetate as contraception is every 12 wk.

Adapted from Allen RH, Goldberg AB: Emergency contraception: a clinical review, *Clin Obstet Gynecol* 50:927–936, 2007.

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

SAQ 2018: Teenager girl, 16 yr old had a consensual intercourse and see you in your office on day 3.

When is the time frame you can give her hormonal contraception that is very effective?

She's interested in copper IUD, when's the latest time you can insert it?

What are 2 management option for her?

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2012: 15y girl is requesting emergency contraception at 60h after having had unprotected intercourse with her boyfriend. What is the best course of action?

a. Refer for insertion of a copper IUD

b. Yuzpe method

c. Plan B

d. She is too late for EC

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

Method	Info	Efficacy	Pros	Cons
Yuzpe	Combined high dose OCP Ethinyl Estradiol 50mcg / Norgestrel 250mg	Least effective Failure rates 2.0-3.5%	Better than nothing - accessibility	2 doses: 1st dose (2 tablets PO) , then 2nd dose (another 2 tabs) 12 hrs later – timing is important Frequent N/V
Plan B	Progestin only – levonorgestrel 0.75mg Suppresses LH surge	95% effective within 24 hours, 85% at 48 hours, 58% within 72 hours… Can use up to 120 hours	No Rx needed Single dose**	Efficacy may be reduced in women of higher body weight Among women with a BMI of >30 (or 80kg), failure rate higher - offer copper T or Ella
Ella	Ulipristal acetate 30mg Can diminish LH surge after already starting**	Failure rate 1.3%	Equally effective throughout all 5 days The most effective form of **hormonal** emergency contraception Higher weight limit (less effective BMI >35)	Progesterone interferes with it, and it interferes with progesterone = no OCP/depo for duration of use Rx only
Copper IUS	Copper T IUD	Efficacy close to 99%	The most effective form of emergency contraception**	Requires insertion Need pregnancy test, endocervical collections for gonorrhea and chlamydia at time of insertion, +/- prophylactic abx for gonorrhea/chlamydia

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

SAQ 2018: Teenager girl, 16 yr old had a consensual intercourse and see you in your office on day 3.

When is the time frame you can give her **hormonal** contraception that is very effective?

5 days

She's interested in copper IUD, when's the latest time you can insert it?

7 days

What are 2 management option for her?

Provide Ella

Insert Copper IUS

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2012: 15y girl is requesting emergency contraception at 60h after having had unprotected intercourse with her boyfriend. What is the best course of action?

a. Refer for insertion of a copper IUD – most effective… BUT will she follow through?

b. Yuzpe method

c. Plan B

d. She is too late for EC

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2011: A 15 yr girl come 50 hours after having broken condom during sexual relation. What do you need to do before giving her the emergency contraception

a. Pap test

b. Physical examination

c. Gonorrhoea and Chlamydia screen

d. Nothing

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2006: Teen gets emergency contraception. You tell her she'll get nausea and:

a. If she gets bleeding in 2-3 days, there's no chance she could be pregnant

b. She'll get bleeding in 2 weeks and she needs to have a repeat preg test

c. She'll get bleeding in 3 weeks and I forget the details but only b) had "you must have another pregnancy test" in the answer

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2013: Girl vomited 90 mins after plan B, what do you do

a) Give Yuzpe

b) Give plan B again in 12 hours

c) Give another dose now

d) Reassure

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

- There are NO absolute contraindications to the use of emergency hormonal contraception except known pregnancy, and this is only because it is ineffective…
- Complete a pregnancy test if they do not experience normal menstrual bleeding by 21 days following EC treatment or by 28 days if an oral contraceptive was started after taking hormonal EC
- Repeat dose if vomit < 1 hour

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2011: A 15 yr girl come 50 hours after having broken condom during sexual relation. What do you **need to do** before giving her the emergency contraception

a. Pap test

b. Physical examination

c. Gonorrhoea and Chlamydia screen

d. Nothing

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2006: Teen gets emergency contraception. You tell her she'll get nausea and:

a. If she gets bleeding in 2-3 days, there's no chance she could be pregnant

b. She'll get bleeding in 2 weeks and she needs to have a repeat preg test… follow up is an important aspect of emergency contraception

c. She'll get bleeding in 3 weeks and I forget the details but only b) had "you must have another pregnancy test" in the answer

Pregnancy issues, contraception, sexually transmitted infections – *Emergency Contraception*

MCQ 2013: Girl vomited 90 mins after plan B, what do you do

a) Give Yuzpe

b) Give plan B again in 12 hours

c) Give another dose now

d) Reassure

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

SAQ 2016:

a. List 4 clinical entities that the HPV vaccine prevents.

b. Some children can get 2 injections instead of 3. What group of children does this apply to?

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

POSITION STATEMENT

Human papillomavirus vaccine for children and adolescents

Posted: Jun 12 2018

Principal author(s)

Marina I. Salvadori; Canadian Paediatric Society, Infectious Diseases and Immunization Committee

Paediatr Child Health 2018, 23(4):262–265

Abstract

Human papillomavirus (HPV) is known to cause genital warts, cervical cancer, penile cancer, anal cancer and oropharyngeal cancer. In North America, the lifetime cumulative incidence of HPV infection is estimated at more than 70% for all HPV types combined. A safe and effective vaccine against nine HPV types is available. HPV vaccine should be administered routinely to all girls and boys between the ages of 9 and 13 years of age. All youth who have not received the vaccine in a routine program should receive the vaccine in a 'catch-up' program. Physicians caring for children and youth should advocate for funding and implementation of universal HPV vaccine programs.

Keywords: *HPV; Vaccine*

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

- HPV lifetime incidence without vaccine >70%
- Newest: Gardasil 9, the nonavalent vaccine against HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58
- HPV-9 vaccine should be administered routinely to all children at 9 to 13 years of age
  - Two doses 6 months apart
- 15 years + - catch up program
  - 3 doses
  - If immunized with HPV-2 or -4 can repeat full course
- Immunocompromised children and children infected with HIV should get three doses of HPV vaccine

- Vertical transmission 'juvenile-onset recurrent respiratory papillomatosis'
- Asymptomatic
- Warts
  - HPV 6, 11 cause 90% genital warts
- Malignancies
  - HPV is necessary for the development of cervical cancer
  - vaginal cancers
  - penile and anal cancers
  - vulvar cancers

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

SAQ 2016:

a. List 4 clinical entities that the HPV vaccine prevents.

- **Warts**
  - **HPV 6, 11 cause 90% genital warts**
- **Malignancies**
  - **HPV is necessary for the development of cervical cancer**
  - **vaginal cancers**
  - **penile and anal cancers**
  - **vulvar cancers**

b. Some children can get 2 injections instead of 3. What group of children does this apply to?

Out of date now. Most children SHOULD only get 2 doses. Answer would be children 9-14 years old.

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

MCQ 2017: At what age should screening begin with PAP smear?

a. 21 years

b. 18 years

c. After sexual intercourse

MCQ 2016: A 15 year old healthy girl in your practice tells you that she plans to become sexually active soon. When does she need her first pelvic exam and pap smear?

a. Now

b. Before she starts OCPs, then every 1-2 years

c. 21 years of age

c. In 3 years then every 1-2 years

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

20 February 2013

POSITION STATEMENT

Recommendations on screening for cervical cancer

Joint response to the guidelines produced by the Canadian Task Force on Preventive Health Care (CTFPHC) and published in the January 2013 edition of the CMAJ.

How do the existing guidelines compare to the new 2013 CTFPHC guidelines?

	Existing provincial guidelines	CTFPHC 2013 guidelines
Initiation (When to begin obtaining Pap tests)	Age 21	Age 25
Interval (Frequency of Pap tests)	Every 2-3 years	Every 3 years
Cessation (When to stop obtaining Pap tests)	Age 65-70	Age 70

- SOGC: Age 21+
  - Unclear role of incorporating HPV testing
- NOT REQUIRED FOR CONTRACEPTION

Pregnancy issues, contraception, sexually transmitted infections - *HPV*

MCQ 2017: At what age should screening begin with PAP smear?

a. 21 years

b. 18 years

c. After sexual intercourse

MCQ 2016: A 15 year old healthy girl in your practice tells you that she plans to become sexually active soon. When does she need her first pelvic exam and pap smear?

a. Now

b. Before she starts OCPs, then every 1-2 years

c. 21 years of age

d. In 3 years then every 1-2 years

Pregnancy issues, contraception, sexually transmitted infections – *Genital lesions*

SAQ 2016: 14 year old adolescent female presents with genital pain. She also has occasional headaches, but does not have any other symptoms. On examination, she has two 0.5 cm lesions at her inner labia minora. Besides HSV, what are four other possible causes?

Pregnancy issues, contraception, sexually transmitted infections – *Genital lesions*

Condition	Clinical Clues	Test
HSV	Vesicle rupture to form shallow ulcer First-time infections may cause constitutional symptoms and lymphadenopathy	Swab lesion/vesicle fluid - PCR
Treponema pallidum (syphilis)	Ulcer with well-demarcated indurated borders and a clean base (chancre) Painless* Usually single	RPR VRDL
Haemophilus ducreyi (chancroid)	Unindurated and undermined borders and a purulent base Painful Multiple Unilateral or bilateral painful adenopathy in >50% Inguinal bubo formation and rupture may occur History of contact with high risk individual (sex-traffic)	Culture
Behcet disease	Similar in appearance to the oral aphthae and are usually painful Scar formation is frequent Urethritis unusual Recurrent aphthous ulcerations along with characteristic systemic manifestations (ocular disease, especially hypopyon, panuveitis, or retinal vasculitis; neurologic disease including characteristic central nervous system parenchymal findings; vascular disease, particularly pulmonary artery aneurysms, Budd-Chiari syndrome, and cerebral venous thrombosis; and patients with pathergy manifestations)	**No** pathognomonic laboratory tests in Behçet syndrome
Crohn disease	Extraintestinal manifestation Swelling, pain, edema, erythema, and ulceration	Scope!
Acute genital ulcers due to EBV	Unrelated to sexual activity Viral illness preceding, fever and malaise 0.5-2.5 cm lesions, bilateral, symmetric, painful, necrotic Inguinal lymphadenopathy	EBV titres
Aphthous ulcers	*Mycoplasma pneumoniae*, viral upper respiratory infection (parvovirus, influenza, paramyxovirus) or gastroenteritis (salmonella), toxoplasmosis, *Streptococcus*, mumps, cytomegalovirus, and Lyme disease	

Pregnancy issues, contraception, sexually transmitted infections – *Genital lesions*

SAQ 2016: 14 year old adolescent female presents with genital pain. She also has occasional headaches, but does not have any other symptoms. On examination, she has two 0.5 cm lesions at her inner labia minora. Besides HSV, what are four other possible causes?

Mycoplasma

Crohn's

Behcet's

Syphilis

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2017: A 15 year old otherwise healthy female is sexually active and comes in for a annual health check. According to the Greig health record, which of the following should she get:

a. Chlamydia, gonorrhea testing

b. Chlamydia, gonorrhea and HIV testing

c. Chlamydia, gonorrhea, HIV testing and Pap smear

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

Sexual health and relationships

The 'sexual health' heading on the Greig Health Record has been updated to 'sexual health and relationships'. Sexual health in the adolescent includes many factors that influence sexual development (both physical and psychosocial), sexual function and reproductive health. These topics must be addressed with sensitivity. Discussions can range from contraception to sexual orientation, from dating safety and abusive relationships to STIs.

The U.S. Preventive Services Task Force recommends intensive behavioural counselling in sexually active adolescents to prevent STIs.[27] Safer sex counselling for risk reduction is recommended because there is good evidence that counselling for condom use in adolescents decreases the incidence of STIs.[28] A table of prevention counselling topics is included in the supplementary resource pages of the Greig Health Record.

The Greig Health Record recommends considering issues of consent, sexting, dating violence and contraception, including emergency contraception. The following evidence-based recommendations are made:

- Chlamydia and gonorrhea screening for **all** sexually active females and for males at risk.
- HIV screening for **all** sexually active adolescents ≥15 years of age.
- Youth <15 years of age should be screened for STIs when they have risk factors.

Cervical cancer screening is not recommended for young women <21 years of age. Routine clinical or self-examination of breasts or testicles is not recommended.

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2017: A 15 year old otherwise healthy female is sexually active and comes in for a annual health check. According to the Greig health record, which of the following should she get:

a. Chlamydia, gonorrhea testing

b. Chlamydia, gonorrhea and HIV testing (in Alberta I would also suggest syphilis…)

c. Chlamydia, gonorrhea, HIV testing and Pap smear

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2016: A 15 year-old female presents to you after her 17 year-old male partner was treated for gonorrhea. What do you need to do before you provide her with antibiotic treatment:

a. Provide right away

b. Call CAS

c. Call parents for consent

d. Call CAS and call the parents for consent

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2016: A 15 year-old female presents to you after her 17 year-old male partner was treated for gonorrhea. What do you need to do before you provide her with antibiotic treatment:

a. Provide right away – close in age exception.

b. Call CAS

c. Call parents for consent

d. Call CAS and call the parents for consent

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2005: What is the most common presentation of Chlamydia in a postpubertal adolescent?

a. Cervicitis

b. asymptomatic

c. PID

d. vaginitis

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

PRACTICE POINT

Sexually transmitted infections in adolescents: Maximizing opportunities for optimal care

Posted: Oct 16 2014 | **Updated:** Dec 18 2018

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Principal author(s)

Upton D Allen, Noni E MacDonald; Canadian Paediatric Society. Updated by Nicole Le Saux, Infectious Diseases and Immunization Committee

Abstract

Sexually transmitted infections are a growing public health concern in Canada, with rates of *Chlamydia trachomatis* infection, gonorrhea and syphilis increasing among adolescents and young adults. The present practice point outlines epidemiology, risk factors, laboratory testing and management for *C trachomatis, Neisseria gonorrhoeae* and *Treponema pallidum*, with a lesser focus on HIV. The need for test-of-cure and indications for further investigations are also discussed. The importance of maximizing opportunities to screen for and treat sexually transmitted infections in this age group is highlighted.

Key Words: Chlamydia trachomatis; *HIV* ; Neisseria gonorrhoeae; *Test-of-cure* ; Treponema pallidum

Sexually transmitted infections (STIs) are a growing public health concern in Canada, where detection rates for *Chlamydia trachomatis*infection, syphilis and gonorrhea in adolescents and young adults have increased over the past decade.[1][2]

BOX 1

Who should be screened for sexually transmitted infections?

Anyone who is sexually active or who is a victim of sexual assault or abuse. Also, anyone whose history includes one or more of the following features is considered at increased risk of acquiring a sexually transmitted infection (STI):

- Suggestion of sexual contact with person(s) with a known STI
- A previous STI
- Being a patient of an STI clinic previously
- A new sexual partner or >2 sexual partners within the past year
- Injection drug use and/or other substance use, such as alcohol or chemicals (eg, pot, cocaine, ecstasy, crystal meth), especially if associated with sexual activity
- Unsafe sexual practices (ie, unprotected sex (oral, genital or anal); sexual activities with risk of blood exchange (ie, sadomasochism, sharing sex toys))
- Anonymous sexual partnering (ie, meeting on the Internet, in a bathhouse, or at a rave)
- Sex workers and their clients
- 'Survival sex' (ie, exchanging sex for money, drugs, shelter or food)
- Street involvement or homelessness
- Time in a detention facility
- Experience of sexual assault or abuse

Adapted from reference 1

Pregnancy issues, contraception, sexually transmitted infections – *G + C*

MCQ 2005: What is the most common presentation of Chlamydia in a postpubertal adolescent?

a. Cervicitis

b. asymptomatic

c. PID

d. vaginitis

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2009: Teen with chlamydial urethritis. You are writing his prescription when he asks you when should he become sexually active again? You tell him:

a. in 7 days

b. after treatment

c. after his partner receives treatment

d. until retested and found to be negative

	Chlamydia	Gonorrhea
Asymptomatic	NAAT first catch urine	NAAT first catch urine Pharyngeal/rectal samples (institution specific whether culture or NAAT)
Test of Cure	NAAT 3-4 weeks after Tx Prepubertal Uncertain compliance Alternative treatment Likely re-exposure Pregnancy	**Culture** 3-4 days Prepubertal Second-line or alternative treatment is used **Antimicrobial resistance is suspected** High re-exposure risks Pregnancy Previous treatment has failed Pharyngeal infection signs or symptoms persist following treatment
Counselling	Abstain from sexual intercourse for 7 days after single-dose therapy or until completion of a 7-day regimen and resolution of symptoms if present. To minimize risk for reinfection, patients also should be instructed to abstain from sexual intercourse until all of their sex partners are treated	

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2009: Teen with chlamydial urethritis. You are writing his prescription when he asks you when should he become sexually active again? You tell him:

a. in 7 days – *Missing partner component*

b. after treatment – *Plus 7 days, plus partner treatment*

c. after his partner receives treatment – *Also need to wait 7 days*

d. until retested and found to be negative - *Chlamydia no test of cure needed*

None of the above

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2007: A female adolescent is diagnosed with gonorrhea on cervical culture. What is the best treatment?

a. Clarithromycin and Cefixime

b. Cipro and azithro

c. Ceftriaxone

d. Cipro

Pregnancy issues, contraception, sexually transmitted infections

TABLE 3

Recommended treatment of uncomplicated gonococcal and chlamydial co-infection in children and youth*

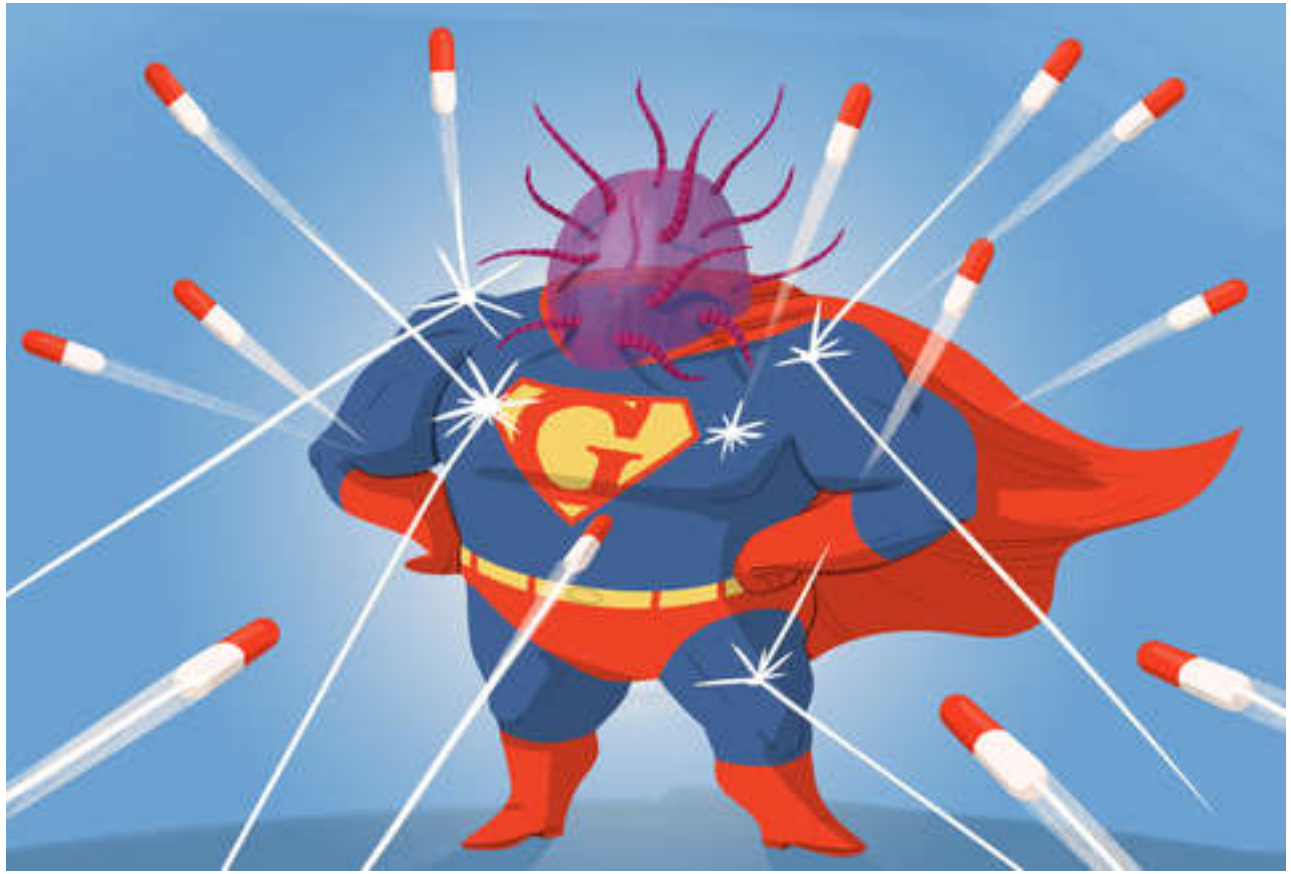
	Children/youth ≥9 years of age	Children <9 years of age
Anogenital infections (urethral, endocervical, vaginal, rectal)		
Preferred treatment	**Ceftriaxone** 250 mg IM in a single dose **PLUS azithromycin** 1 g PO in a single dose† **OR Cefixime** 800 mg PO in a single dose **PLUS azithromycin** 1 g PO in a single dose†	**Ceftriaxone** 50 mg/kg IM up to 250 mg in a single dose **PLUS azithromycin** 20 mg/kg (maximum dose of 1 g) PO in a single dose **OR Cefixime** 8 mg/kg PO BID x 2 doses (maximum 400 mg per dose) **PLUS azithromycin**
Pharyngeal infection		
Preferred treatment	**Ceftriaxone** 250 mg IM in a single dose **PLUS azithromycin** 1 g PO in a single dose†	**Ceftriaxone** 50 mg/kg IM up to 250 mg in a single dose **PLUS azithromycin** 20 mg/kg (maximum dose of 1 g) PO in a single dose
Alternative treatment	**Cefixime** 800 mg PO in a single dose **PLUS azithromycin** 1 g PO in a single dose† **OR azithromycin** 2 g PO in a single dose§	**Cefixime** 8 mg/kg PO BID x 2 doses† (maximum 400 mg per dose) **PLUS azithromycin** 20 mg/kg (maximum dose of 1 g) PO in a single dose

STI Treatment Reference Guide*

Preferred Treatment – Treatment Conditions

STI	Recommended Regimens	During Pregnancy	Cephalosporin Allergy or Severe Penicillin Allergy
Chlamydia (uncomplicated)	• Azithromycin 1 g orally in a single dose **OR** • Doxycycline 100 mg orally bid x 7 days	• Azithromycin 1 g orally in a single dose **OR** • Amoxicillin 500 mg orally tid x 7 days **OR** • Erythromycin 2 g/day orally in divided doses x 7 days	Same as recommended treatment regimen.
Gonorrhea** (uncomplicated)	• Ceftriaxone 250 mg IM in a single dose PLUS Azithromycin 1 g orally in a single dose. **First line treatment** for all patients	• Ceftriaxone 250 mg IM in a single dose PLUS Azithromycin 1 g orally in a single dose. **First line treatment** for all patients	• Gentamicin is available from your local public health unit. Please visit the link below for recommended treatment options. https://www.canada.ca/en/public-health/services/publications/diseases-conditions/gonorrhea-alternate-treatment.html
Pelvic Inflammatory Disease (recommended outpatient treatment regimen)	• Ceftriaxone 250 mg IM in a single dose PLUS doxycycline 100 mg orally bid for 14 days ± metronidazole 500 mg orally bid for 14 days	Refer to Canadian Guidelines on STIs - or call local Health Department.	• Spectinomycin is no longer available. Please contact your local public health unit to discuss alternative options or consult an infectious diseases specialist.

Need double coverage for super gonorrhea



Pregnancy issues, contraception, sexually transmitted infections

MCQ 2007: A female adolescent is diagnosed with gonorrhea on cervical culture. What is the best treatment?

a. Clarithromycin and Cefixime

b. Cipro and azithro

c. Ceftriaxone

d. Cipro

*None of the above. Need to treat with two agents for gonorrhea for concerns of **resistance**. Other regimes listed don't make sense.*

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2018: 15yo M with fever x 24 hours, one sided scrotal pain and swelling, with dysuria and pyuria. Urinalysis shows WBC- best management?

a) Refer to urology

b) Treat him with antibiotics

c) Treat him and sexual partners with antibiotics

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2004: You are seeing a teenage girl whom you suspect has PID. What would exclude PID?

a. Negative pregnancy test

b. Negative screen for GC

c. Negative screen for Chlamydia

d. Absence of white cells in cervical discharge (cervical wet mount negative for WBC's)

e. Positive pregnancy test

Pregnancy issues, contraception, sexually transmitted infections – *Complications of STIs*

Epidydimitis

- acute onset of unilateral testicular pain and swelling often with tenderness of the epididymis and vas deferens and occasionally with erythema and edema of the overlying skin
- In sexually transmitted epididymitis, symptoms of urethritis or a urethral discharge may be present
- Testicular torsion should be considered in all cases, as it is a surgical emergency
- Evaluation for epididymitis should include the following:
  - Urethral swab for Gram stain.
  - Collection of specimens for identification of N. gonorrhoeae and C. trachomatis (intraurethral exudate or urine according to available laboratory techniques.)
  - Microscopy and culture of mid-stream urine.

PID

- PID is a polymicrobial infection with multiple microbial etiologies.
- Negative laboratory results do not rule out a diagnosis of PID.
- A normal ultrasound study does not rule out a diagnosis of PID.
- Complications: Tubal factor infertility, ectopic pregnancy, chronic pelvic pain, perihepatitis, tubo-ovarian abscess

Table 2. Criteria for diagnosis

Minimum diagnostic criteria	Additional diagnostic criteria	Definitive diagnostic criteria
• Lower abdominal tenderness • Adnexal tenderness • Cervical motion tenderness	• Oral temperature >38.3°C. • Presence of white blood cells on saline microscopy of vaginal secretions/wet mount • Elevated erythrocyte sedimentation rate • Elevated C-reactive protein • Laboratory documentation of cervical infection with Neisseria gonorrhoeae or Chlamydia trachomatis	• Endometrial biopsy with histopathologic evidence of endometritis (at least 1 plasma cell per x120 field and at least 5 neutrophils per x400 field) • Transvaginal sonography or other imaging techniques showing thickened fluid-filled tubes, with or without free pelvic fluid or tubo-ovarian complex • Gold standard: Laparoscopy demonstrating abnormalities consistent with PID, such as fallopian tube erythema and/or mucopurulent exudates

PID: pelvic inflammatory disease

Canadian Guidelines on Sexually Transmitted Infections

Pregnancy issues, contraception, sexually transmitted infections

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e. Positive pregnancy test

Pregnancy issues, contraception, sexually transmitted infections

MCQ 2006: 13 year old girl presents with 2 year history of white vaginal discharge, sometimes itchy and uncomfortable. Onset of menarche at age 12.5 yo. Not sexually active. What is likely diagnosis?

a. Physiological leucorrhea

b. Candida vaginitis

c. Chlamydia cervicitis

d. Gardneralla vaginitis

MCQ 2004: A 13 year old girl complains of 18 months of intermittent milky white vaginal discharge. It occasionally causes irritation and itch. Menarche began at age 12.5 years. This is most consistent with:

a. Physiologic leukorrhea

b. Candida vaginitis

c. chlamydia

d. gardnerella

Pregnancy issues, contraception, sexually transmitted infections

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a. Physiologic leukorrhea

b. Candida vaginitis

c. chlamydia

d. gardnerella

Alcohol, drug, tobacco and other substance use and abuse

- Nicotine
- Cannabis
- Caffeine
- Alcohol

Alcohol, drug, tobacco and other substance use and abuse

MCQ 2007: Parents of a 15y boy suspect he is using drugs. They ask you to obtain a urine sample and “add this test on” after the sample is collected. What to do you do?

a. Refer the boy to psychology

b. Ask social work consult

c. Do as the parents ask

d. Ask to speak with the boy

Alcohol, drug, tobacco and other substance use and abuse

MCQ 2007: Parents of a 15y boy suspect he is using drugs. They ask you to obtain a urine sample and “add this test on” after the sample is collected. What to do you do?

a. Refer the boy to psychology

b. Ask social work consult

c. Do as the parents ask

d. Ask to speak with the boy

Alcohol, drug, tobacco and other substance use and abuse

MCQ 2015: Kid with Hx substance abuse. Needs medication for ADHD. Whis is BEST option?

a. Vyvanse

b. Methylphenidate IR

c. Guanfacine

d. Ritalin SR

MCQ 2015: Boy with new diagnose of ADHD and use drugs. What ADHD meds to describe?

a. Vyvanse

b. Amphetamine slow release (Ritalin)

c. Dextroamphetamine

Alcohol, drug, tobacco and other substance use and abuse

MCQ 2005: What is associated most with adolescents and illicit drug use?

a. treated ADHD

b. decreased school performance

Alcohol, drug, tobacco and other substance use and abuse

POSITION STATEMENT

Extended-release medications for children and adolescents with attention-deficit hyperactivity disorder

Posted: Nov 2 2009 | **Reaffirmed:** Feb 28 2018

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Misuse and diversion of XR versus IR medications for ADHD

'Diversion' of medication may be defined as the transfer of medication from one patient for whom it is prescribed to another patient for whom it is not prescribed. 'Misuse' refers to the use of nonprescribed medications or the use of prescribed medications at doses, times or in combinations other than for which they were prescribed.

Compared to those without ADHD, children with ADHD have a higher risk of substance abuse. However, children with ADHD who are treated with medication have a lower risk of substance abuse than children with ADHD who are not treated [22][23].

A minority of treated adolescents with ADHD, however, will misuse or divert their medication. Eleven per cent of middle-class adolescents and young adults surveyed from a large United States health maintenance organization reported that they sold their stimulant medication and that 22% misused it. The subgroup with comorbid conduct disorder was at greatest risk [37]. In Canada, a survey [38] of high school children from the Atlantic provinces revealed that 26% of adolescents report having diverted their ADHD medications at one time or more. These surveys studied children who were, for the most part, prescribed IR MPH.

POSITION STATEMENT

ADHD in children and youth: Part 1—Etiology, diagnosis, and comorbidity

Posted: Oct 24 2018

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Substance use disorders (SUDs)

There is an increase in SUDs as children with ADHD reach adolescence and adulthood [59]. It is possible that substance use occurs as an attempt to self-medicate. The treatment of ADHD comorbid with a SUD is complicated by risks for misuse and diversion of prescription stimulants [59]. A recent meta-analysis [60] found that stimulant treatment neither contributed to nor prevented future SUDs in youth with ADHD.

Recommendation 9: Nonstimulant medications are second-line interventions for ADHD treatment. They are typically used when stimulants are contraindicated, ineffective or not tolerated.

Because nonstimulants lack both a mechanism of action linked to abuse potential (such as increased norepinephrine and dopamine release) and immediacy of effect (such as speed of action and feeling stimulated), their potential for abuse or diversion is low compared with stimulant medications [84]. Atomoxetine may also have a lower risk for weight loss and for exacerbating tics and has been reported to improve anxiety [85]. Studies supporting these benefits are limited, however.

Recommendation 10: For individuals with ADHD and a history of substance use disorders (SUDs), treatment with a nonstimulant or ER stimulant medication with lower risk for abuse and diversion should be considered as part of a multimodal intervention plan. More research is needed to provide evidence-based recommendations for atomoxetine's effectiveness in alleviating anxiety in children and youth.

Alcohol, drug, tobacco and other substance use and abuse

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a. Vyvanse

b. Methylphenidate IR

c. Guanfacine

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Alcohol, drug, tobacco and other substance use and abuse

MCQ 2005: What is associated most with adolescents and illicit drug use?

a. treated ADHD

b. decreased school performance

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

POSITION STATEMENT

Preventing smoking in children and adolescents: Recommendations for practice and policy

Posted: May 10 2016

Principal author(s)

Johanne Harvey, Nicholas Chadi; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2016;21(4):209-14

Abstract

Canada has witnessed a general decrease in smoking prevalence among all age groups in recent years. However, despite large numbers of campaigns and interventions, thousands of young Canadians continue to initiate cigarette smoking every year. The increasing popularity of alternative tobacco products and e-cigarettes is also creating new health challenges. Research has shown that the deleterious effects of nicotine and cigarette smoke are significant and long-lasting. Health care professionals have key responsibilities in preventing tobacco use among youth and their families, and need to know more about effective smoking prevention and cessation strategies. Clinicians need to integrate tobacco counselling into health assessments of teenagers and be aware of the roles that families, communities and governments can play in promoting tobacco-free environments. Information, effective strategies and opportunities for health care professionals to intervene and advocate for Canadian adolescents are discussed.

Key Words: *Adolescents; Children; Counselling; Nicotine; Prevention; Smoking*

TABLE 2

Factors that increase risk of smoking initiation
Older age at time of parental smoking cessation (if parents are ex-smokers)[16]
Low socio-economic status[15]
Peer and family influence, including lack of parental support[14][17]
Misinformation about the health consequences of smoking[18]
Easy access to tobacco products[14]
Influence of marketing, exposure to tobacco promotions[14][19]
Previous experimentation[20]
Depression and mental health conditions[21]
Poor school performance[15]
Adverse experiences such as: • emotional, and physical or sexual abuse, • parental separation or divorce, • a household member who is substance abusing, mentally ill or incarcerated[22]
Substance abuse (smoking often precedes the use of illicit drugs)[15]

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

TABLE 3

Disease-specific consequences of smoking in adolescents with chronic illnesses

Chronic illness	Potential disease-specific health consequences
Asthma	Increased frequency and severity of exacerbations, medication use, hospitalization and risk of respiratory arrest
Cystic fibrosis	Increased frequency and severity of bacterial lung infections and hospitalization; accelerated decline in lung function and lower nutritional status
Juvenile idiopathic arthritis	Greater disease severity, higher risks for cardiovascular disease and premature death, and exacerbation of osteopenia
Cancer	Greater risks from several cancer treatments, for respiratory infections when immunosuppressed, and exacerbated mucositis
Sickle cell disease	Increased risk of acute chest syndrome and possible increased risk of stroke
Diabetes mellitus	Accelerated cardiovascular and peripheral vascular disease, including atherosclerosis, retinopathy and nephropathy. Smoking increases the morbidity and mortality of type 1 diabetes by 50% to 75%.

Adapted from: Tyc VL, Throckmorton-Belzer L. Smoking rates and the state of smoking interventions for children and adolescents with chronic illness. Pediatrics 2006;118(2):e471-87 and additional sources cited in Sockrider M, Rosen JB. Prevention of smoking initiation in children and adolescents (updated February 2016): www.uptodate.com/contents/prevention-of-smoking-initiation-in-children-and-adolescents

To help prevent smoking initiation in young people, health care providers should:

- Ask children, youth and families about tobacco use and exposure and provide age-appropriate information and counselling to prevent initiation as part of routine health care.
- Use the '5A's' method to counsel smoking cessation. For details, see the practice point "Strategies to promote smoking cessation among adolescents", published in this issue.
- Stay aware of research on pharmaceutical cessation interventions for teens and adults and prescribe effective medications as indicated, in combination with counselling.
- Advocate for medical schools and residency programs to address smoking prevention and cessation as a part of their core curriculums.

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2017: Adolescent girl with bulimia who smokes 1.5 packs/day wants to quit, and is interested in nicotine replacement. Which of the following is a contraindication?

a. There is no contraindication

b. That she still smokes a few cigarettes once in a while

c. That she is <18 years old

d. Her eating disorder

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2017: 17 year old male with history of enthesis related JIA comes to your office. Just had a new baby girl with his girlfriend and would like to quit smoking for her sake. What puts him MOST at risk of not being able to quit

a. Chronic illness

b. Male gender

c. Older adolescent

d. Parenthood

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

PRACTICE POINT

Strategies to promote smoking cessation among adolescents

Posted: May 10 2016

Principal author(s)

Johanne Harvey, Nicholas Chadi; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2016;21(4):201-04.

Abstract

In recent years, youth have been exposed to a broader spectrum of tobacco products including smokeless tobacco, hookah (water pipe) and e-cigarettes. Despite active local, provincial/territorial and national prevention strategies and legislated controls, thousands of teenagers develop an addiction to tobacco products each year. Current and available smoking cessation interventions for youth have the potential to help teens stop smoking and, as a result, greatly reduce Canada's health burden in the future. Paediatricians and health care professionals can play a key role in helping teens make informed decisions related to tobacco consumption and cessation. This practice point presents the evidence and rationales for smoking cessation interventions which have been studied in youth specifically, such as individual counselling, psychological support, nicotine replacement therapy, bupropion and varenicline. Interventions for which limited or conflicting data exist are also discussed.

Key Words: *Adolescents; CBT; Counselling; NRT; Smoking cessation; Tobacco*

The '5 A's' method for counselling smoking cessation

5 A's	Description	Suggested questions
Ask	Ask about tobacco use: For all teens, at every visit and without parents present	• Have you ever smoked cigarettes or e-cigarettes? • How often do you smoke? • How many cigarettes did you smoke yesterday/last week/last month? • Why do you think it would be a good/bad idea to quit? • Do you use other forms of tobacco?
Advise	Strongly urge all tobacco users to quit	• Did you know that quitting is (one of) the single most important thing(s) you can do to protect your health and the health of those around you?
Assess	Determine readiness to quit by assessing willingness to attempt to quit: • within the next 30 days (preparation) • within the next six months (contemplation) or • beyond six months (pre-contemplation)[10]	• Would you be ready to quit smoking in the next 30 days? In the next six months? • Have you ever tried to quit? What do you think made you start smoking again?
Assist	Provide help for teens attempting to quit (including pharmacotherapy, when indicated) by setting a date and directing the teen toward supportive materials or groups Counsel on the risks associated with taking up replacement substances, such as marijuana or alternate forms of tobacco	• When do you think would be a good time/day for you to quit? • Do you have friends or family who can support you when things get difficult?
Arrange	Arrange follow-up to review progress and re-evaluate pharmacotherapy use and problems, as appropriate	• When can we meet again to talk about your progress?

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

TABLE 1

Factors impacting the success of teens attempting to quit smoking

More likely to quit	Less likely to quit
Older teenager	Nicotine addiction
Male sex	Mental health conditions, including attention deficit disorder/attention deficit hyperactivity disorder
Teen pregnancy and parenthood	Drug and/or alcohol use
Scholastic success	Chronic illness
Team sport participation	Family stress
Peer and family support for cessation	Peer and family tobacco use
CYP2A6 slow nicotine metabolizer	Overweight or weight preoccupation
	Developmental drive to experiment
	Fear of peer rejection
	Perceived lack of privacy and autonomy

TABLE 3

Summary of smoking cessation interventions in youth

Intervention	Recommended/not recommended	Level of evidence
Brief counselling (in person: individual or group)	Recommended	1b
Cognitive behavioural therapy	Recommended	1b
Phone or distance counselling	Recommended	2b
Mobile phone interventions (text message reminders from a health care provider)	Recommended in combination with other interventions	2b
Self-help, noninteractive audio-visual materials	Recommended in combination with other interventions	3b
Nicotine-replacement products (gums, patches, lozenges, sprays)	Recommended only for regular smokers 12 to18 years of age	3b
Bupropion	Recommended in some cases, use with caution	5
Varenicline	Recommended in some cases, use with caution	5
E-cigarettes	Not recommended	4
Other pharmaceuticals: Clonidine, nortriptyline, and cytisine	Insufficient evidence	–
Internet and social media-based interactive interventions	Insufficient evidence	–
School-based cessation programs	Insufficient evidence	–
Mind-body therapies and hypnosis	Insufficient evidence	–

Oxford Centre for Evidence-based Medicine – Levels of Evidence. See Levels of evidence for smoking cessation recommendations, compiled by Phillips B, Ball C, Sackett D, et al since November 1998. Updated by Jeremy Howick, March 2009: www.cebm.net/oxford-centre-evidence-based-medicine-levels-evidence-march-2009/ (Accessed June 27, 2015)

Notes About Smoking Cessation Medication Options

- Nicotine replacement therapy
  - 1 cigarette = 1 mg nicotine
    - Use patch q24h as a base dose (7mg, 14mg, 21mg), add PRN gum (chew and park technique), lozenge or spray
  - Contraindications
    - Serious arrhythmias
    - Unstable angina
    - Hemodynamically unstable
    - Serious ortho #
- Varenicline (Champix)
  - Contraindications: Known history of hypersensitivity or severe skin reactions to varenicline.
    - Reports of increased rates of depressed mood, agitation, changes in behaviour, suicidal thoughts and behaviour exist with use of varenicline
- Bupropion (Zyban)
  - Contraindications
    - History of seizure disorder
    - Bulimia nervosa (increased risk of seizure)… FDA extended that data to AN too
    - Reports of increased rates of depressed mood, agitation, changes in behaviour, suicidal thoughts and behaviour while using Bupropion SR exist

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2017: Adolescent girl with bulimia who smokes 1.5 packs/day wants to quit, and is interested in nicotine replacement. Which of the following is a contraindication?

a. **There is no contraindication**

b. b. That she still smokes a few cigarettes once in a while

c. That she is <18 years old

d. Her eating disorder - *Bulimia is a red herring, it is a contraindication for bupropion*

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2017: 17 year old male with history of enthesis related JIA comes to your office. Just had a new baby girl with his girlfriend and would like to quit smoking for her sake. What puts him MOST at risk of not being able to quit

a. Chronic illness

b. Male gender

c. Older adolescent

d. Parenthood

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2016: You are seeing an adolescent male with a history of asthma. He is complaining of worsening asthma symptoms despite compliance with his inhalers. He admits that his group of friends has recently starting vaping and dripping. You advise:

a) Advise him not to be around his friends when they are dripping

b) advise him there is no harm in the use of e-cigarette products

c) Advise him to not be around his friends when they are using e-cigarette products

d) Advise him not be around his friends when they use e-cigarette products with nicotine

e) He should tell his friends to stop vaping

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

POSITION STATEMENT

E-cigarettes: Are we renormalizing public smoking? Reversing five decades of tobacco control and revitalizing nicotine dependency in children and youth in Canada

Posted: Mar 6 2015 | **Reaffirmed:** Feb 28 2018

Principal author(s)

Richard Stanwick, Past president of the Canadian Paediatric Society

Paediatr Child Health 2015;20(2):101-105

Abstract

An electronic cigarette (e-cigarette) is a battery attached to a chamber containing liquid that may (or may not) contain nicotine. The battery heats the liquid and converts it into a vapour, which is inhaled, mimicking tobacco smoking. The e-cigarette does not rely on tobacco as a source of nicotine but, rather, vaporizes a liquid for inhalation. E-liquids are often flavoured and may contain nicotine in various concentrations, although actual amounts are seldom accurately reflected in container labelling. The deleterious effects of nicotine on paediatric health are well established. The use of e-cigarettes in the paediatric age group is on the rise in Canada, as are associated nicotine poisonings. E-devices generate substantial amounts of fine particulate matter, toxins and heavy metals at levels that can exceed those observed for conventional cigarettes. Children and youth are particularly susceptible to these atomized products. Action must be taken before these devices become a more established public health hazard. Policies to denormalize tobacco smoking in society and historic reductions in tobacco consumption may be undermined by this new 'gateway' product to nicotine dependency.

- A practice known as 'dripping', in which users trickle drops of a nicotine-containing fluid directly onto the heating element, is associated with tank systems. While generating a more potent vapour, the intense heat alters the chemical composition of e-liquids, creating new compounds. Changes in chemical structure affect the liquid nicotine, filler ingredients and any flavouring(s) that are present. The stronger the battery, the higher the temperature, making chemical reactions more complete
- One significant potential danger of large boluses of nicotine, as generated by tank technology, is their potential for acute cardiac events. A hypercoagulable state may be produced, which can, in turn, promote thrombosis
- Aside from nicotine, e-cigarette aerosols may also contain propylene glycol and glycerol/glycerin as filler materials, flavourings and other chemical compounds. Aerosolized propylene glycol and glycerol are known to produce mouth and throat irritation, and dry cough; chronic exposure in any form is discouraged by the chemical industry
- Exposure to fine particulates in the aerosol generated by e-smoking may impair respiratory function in users and bystanders. E-cigarettes produce copious amounts of fine particles, at times in excess of conventional cigarette levels. Young people could be particularly vulnerable to particulate affects, which may cause or worsen pre-existing breathing problems such as asthma and bronchitis
- e-liquids used in these devices are not required by law to meet Canadian standards for labelling or nicotine content
- significant potential danger of large boluses of nicotine, as generated by tank technology, is their potential for acute cardiac events. A hypercoagulable state may be produced, which can, in turn, promote thrombosis
- Exposure to fine particulates in the aerosol generated by e-smoking may impair respiratory function in users and bystanders.
- Educate young patients and their families on the risks and hazards of e-cigarette use and exposure.
- Make counselling on e-devices a segue into broader discussion of tobacco use and smoking cessation.

Alcohol, drug, tobacco and other substance use and abuse - *Nicotine*

MCQ 2016: You are seeing an adolescent male with a history of asthma. He is complaining of worsening asthma symptoms despite compliance with his inhalers. He admits that his group of friends has recently starting vaping and dripping. You advise:

a) Advise him not to be around his friends when they are dripping

b) advise him there is no harm in the use of e-cigarette products

c) Advise him to not be around his friends when they are using e-cigarette products

"Exposure to fine particulates in the aerosol generated by e-smoking may impair respiratory function in users and bystanders. E-cigarettes produce copious amounts of fine particles, at times in excess of conventional cigarette levels. Young people could be particularly vulnerable to particulate affects, which may cause or worsen pre-existing breathing problems such as asthma and bronchitis"

d) Advise him not be around his friends when they use e-cigarette products with nicotine

e) He should tell his friends to stop vaping

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

- CPS is super obsessed with cannabis
- Good candidate for MCQ/SAQ/OSCE station

POSITION STATEMENT

Cannabis and Canada's children and youth

Posted: May 3 2017

Principal author(s)

Christina N Grant, Richard E Bélanger; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2017;22(2):98-102

Abstract

Cannabis is the most common illicit drug used worldwide and it is used frequently by Canadian teenagers. Cannabis use during adolescence can cause functional and structural changes to the developing brain, leading to damage. Marijuana use in this age group is strongly linked to: cannabis dependence and other substance use disorders; the initiation and maintenance of tobacco smoking; an increased presence of mental illness, including depression, anxiety and psychosis; impaired neurological development and cognitive decline; and diminished school performance and lifetime achievement. Rates of acute medical care and hospitalization for younger children who have ingested cannabis unintentionally are increasing. Ongoing debate concerning cannabis regulation in Canada makes paying close attention to the evidence for its health effects and ensuring that appropriate safeguards are in place, vital public health priorities.

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2017: What is the most common side effect of marijuana?

a. Increased insulin secretion

b. Gynecomastia

MCQ 2016: What to tell an adolescent about marijuana side effects:

a. gynecomastia

b. testicular atrophy

c. Insulin stimulation

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

SAQ 2018: Adolescent female comes and asks you about the use of medical marijuana. What are 3 long-term negative consequences of recreational or medical marijuana?

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

- Consequences as per CPS
- Short term
  - Impairment of short term memory, complex mental tasks, attention, judgment, reaction times, motor skills.
  - Doubled the risk of being in a motor vehicle accident
  - Psychosis (transient)
- Studies from 1970's say gynecomastia (especially if using >4x per week)
- Long term
  - Structural brain changes: lower brain volumes, different folding patterns and thinning of the cortex, less neural connectivity and lower white matter integrity
  - Use of other substances
  - Relationship with mood disorders
  - Psychotic disorder
  - Association with lower educational attainment
  - Cognitive changes (?)

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2017: What is the most common side effect of marijuana?

a. Increased insulin secretion

b. Gynecomastia (not actually, but ok)

MCQ 2016: What to tell an adolescent about marijuana side effects:

a. gynecomastia

b. testicular atrophy

c. Insulin stimulation

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

SAQ 2018: Adolescent female comes and asks you about the use of medical marijuana. What are 3 long-term negative consequences of recreational or medical marijuana?

- **Structural brain changes: lower brain volumes, different folding patterns and thinning of the cortex, less neural connectivity and lower white matter integrity**
- **Use of other substances**
- **Relationship with mood disorders**
- **Psychotic disorder**
- **Association with lower educational attainment**
- **Cognitive changes (?)**

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

Cannabis Intoxication
A. Recent use of cannabis.
B. Clinically significant problematic behavioral or psychological changes (e.g., impaired motor coordination, euphoria, anxiety, sensation of slowed time, impaired judgment, social withdrawal) that developed during, or shortly after, cannabis use.
C. Two (or more) of the following signs or symptoms developing within 2 hours of cannabis use: a. Conjunctival injection. b. Increased appetite. c. Dry mouth. d. Tachycardia.
D. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication with another substance.

- DDx:
  - cannabis-induced anxiety disorder
  - substance/medication-induced psychotic disorder
    - hallucinations in the absence of intact reality testing
  - Hallucinogens in low doses
  - Phencyclidine
    - more likely to cause ataxia and aggressive behavior

Cannabis Use Disorder
A. A problematic pattern of cannabis use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
Cannabis is often taken in larger amounts or over a longer period than was intended.
There is a persistent desire or unsuccessful efforts to cut down or control cannabis use.
A great deal of time is spent in activities necessary to obtain cannabis, use cannabis, or recover from its effects.
Craving, or a strong desire or urge to use cannabis.
Recurrent cannabis use resulting in a failure to fulfill major role obligations at work, school, or home.
Continued cannabis use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of cannabis.
Important social, occupational, or recreational activities are given up or reduced because of cannabis use.
Recurrent cannabis use in situations in which it is physically hazardous.
Cannabis use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by cannabis.
Tolerance, as defined by either of the following: a) A need for markedly increased amounts of cannabis to achieve intoxication or desired effect. b) Markedly diminished effect with continued use of the same amount of cannabis.
Withdrawal, as manifested by either of the following: a) The characteristic withdrawal syndrome for cannabis (refer to Criteria A and B of the criteria set for cannabis withdrawal, pp. 517–518). b) Cannabis (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2018: Heavy pot user is incarcerated. Withdrawal symptoms?

a) none

b) distorted thinking/perceptions

c) palpitations

d) abdominal pain

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

Cannabis Withdrawal
A. Cessation of cannabis use that has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months).
B. Three (or more) of the following signs and symptoms develop within approximately 1 week after Criterion A: • Irritability, anger, or aggression. • Nervousness or anxiety. • Sleep difficulty (e.g., insomnia, disturbing dreams). • Decreased appetite or weight loss. • Restlessness. • Depressed mood. • At least one of the following physical symptoms causing significant discomfort: ***abdominal pain,*** shakiness/tremors, sweating, fever, chills, or headache.
C. The signs or symptoms in Criterion B cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication or withdrawal from another substance.

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2018: Heavy pot user is incarcerated. Withdrawal symptoms?

a) none

b) distorted thinking/perceptions

c) palpitations

d) abdominal pain – our substance use group felt this was the best answer, VERY common in the group admitted to the concurrent youth disorder unit

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2013: Teen who is having cyclic vomiting and relief only by hot shower. Cause?

a) Chronic marijuana use

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2013: Teen who is having cyclic vomiting and relief only by hot shower. Cause?

a) Chronic marijuana use

- Cannabis hyperemesis syndrome: abdominal pain, vomiting, or nausea that is typically relieved by hot showers
- Treatment: cessation of cannabis products (may take x 2 weeks +), IV fluids, ondansetron, benzos, topical capsaicin

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2009: Teenage boy admits to smoking marijuana with friends. What to recommend?

a. warn about effects of drug use and discuss ways to reduce risk

b. don’t hang out with those friends

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

POSITION STATEMENT

Cannabis and Canada's children and youth

Posted: May 3 2017

Principal author(s)

Christina N Grant, Richard E Bélanger; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2017;22(2):98-102

Abstract

Cannabis is the most common illicit drug used worldwide and it is used frequently by Canadian teenagers. Cannabis use during adolescence can cause functional and structural changes to the developing brain, leading to damage. Marijuana use in this age group is strongly linked to: cannabis dependence and other substance use disorders; the initiation and maintenance of tobacco smoking; an increased presence of mental illness, including depression, anxiety and psychosis; impaired neurological development and cognitive decline; and diminished school performance and lifetime achievement. Rates of acute medical care and hospitalization for younger children who have ingested cannabis unintentionally are increasing. Ongoing debate concerning cannabis regulation in Canada makes paying close attention to the evidence for its health effects and ensuring that appropriate safeguards are in place, vital public health priorities.

Health care providers should:

- Be aware of and communicate the health risks related to cannabis use.
- Screen all children and youth for cannabis exposure and/or use and educate adolescents and families on the health risks and harms associated with cannabis.
- Provide anticipatory guidance to parents and older children on the potential health risks of cannabis use.

Alcohol, drug, tobacco and other substance use and abuse - *Cannabis*

MCQ 2009: Teenage boy admits to smoking marijuana with friends. What to recommend?

a. warn about effects of drug use and discuss ways to reduce risk

b. don't hang out with those friends

Alcohol, drug, tobacco and other substance use and abuse - *Caffeine*

MCQ 2013: A teenager tells you he enjoys drinking energy drinks. You advise him against this because of the dangerous levels of:

a) Ginseng

b) Sodium Chloride

c) Guarana

d) Vitamin B Complex

Alcohol, drug, tobacco and other substance use and abuse - *Caffeine*

- *My answer:*
- CPSP (Canadian paediatric surveillance program) highlights
- http://www.cpsp.cps.ca/uploads/publications/Highlights-energy-drinks.pdf
- Energy drinks
  - Main ingredients:
    - Caffeine
    - Guarana ("herbal caffeine")
      - Each gram of guarana can contain 40-80mg of caffeine (link)
      - It is natural product – thus, the amount of caffeine in guarana is NOT identified on can/bottle
  - In 2006, >30% of teens reported using energy drinks
  - GH surge during puberty à slower metabolism of caffeine à potentially increased effect and complications
  - Adverse effects of caffeine: headache, restlessness, nervousness, insomnia, nausea, vomiting, seizures, cardiac arrhythmia, hypertension, hallucinations, delirium and even death.
  - Withdrawal symptoms

Alcohol, drug, tobacco and other substance use and abuse - *Caffeine*

- MCQ 2013: A teenager tells you he enjoys drinking energy drinks. You advise him against this because of the dangerous levels of:
- a) Ginseng
- b) Sodium Chloride
- **c) Guarana**
- d) Vitamin B Complex

Alcohol, drug, tobacco and other substance use and abuse - *Alcohol*

MCQ 2013: 14 year old girl hanging at party with friends then becomes dizzy then not responsive. Pupils equal and reactive, normal reflexes, normal vital signs, temp 35.6? glucose 2.1. Metabolic acidosis. Likely cause?

a) ethanol

Alcohol, drug, tobacco and other substance use and abuse - *Alcohol*

MCQ 2006: What would you be most concerned about in an adolescent and alcohol abuse?

a. Poor school performance

b. High risk behaviour while drinking

c. Depression

d. Liver disease

Alcohol, drug, tobacco and other substance use and abuse - *Alcohol*

MCQ 2006: What would you be most concerned about in an adolescent and alcohol abuse?

a. Poor school performance

b. High risk behaviour while drinking

c. Depression

d. Liver disease

Chronic diseases and compliance to therapeutic regimen

- THRxEADS history
- Strategies to foster adherence:
  - Education (update knowledge, check understanding)
  - Relationship (see teen alone, model problem solving, involve teen in decision making, avoid fear based tactics)
  - Medication (individualize regimen, simplify, cueable time, consider formulation, discuss side effects)
  - Memory (anticipatory guidance to walk teen through problem areas, cue medication to daily activity, watch/phone alarm, self monitoring with chart/phone)
  - Family (encourage involvement without nagging, discuss $ concerns, promote non-medical time together, advocate for teen with overprotective parents)
  - Psychiatric (high index of suspicion for eating disorder, early diagnosis/tx mood/anxiety disorders, be aware of possible psychiatric complications of medications)
  - Peer/mentor (mentorship training, involvement of friends)

Sexuality: male / female issues, sexual orientation

- Sexual orientation
- Gender care (not technically sexual orientation…)

Sexuality: male / female issues, sexual orientation

SAQ 2018: 15y male discloses that he is gay. What are 5 medical, social or psychological conditions that homosexual teens are at increased risk for (5)?

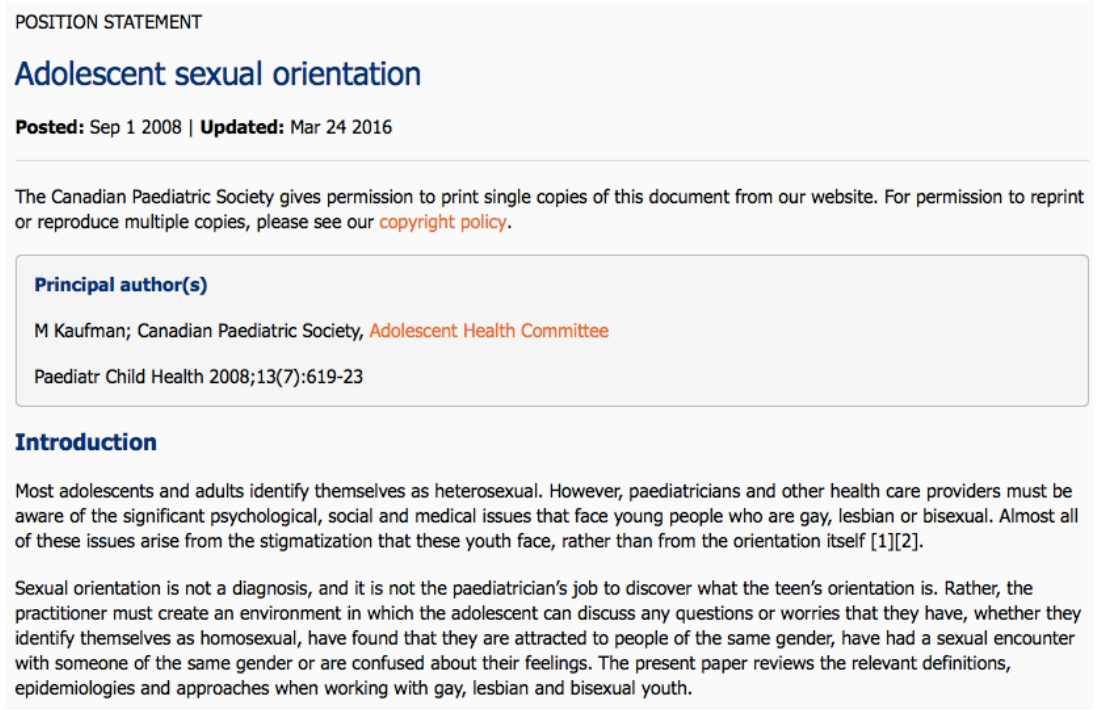
Sexuality: male / female issues, sexual orientation

MCQ 2010: Teenager presents to ED with suicide attempt. greatest risk for attempting suicide again in a week

a. recent relationship breakup

b. homosexuality

Sexuality: male / female issues, sexual orientation



POSITION STATEMENT

Adolescent sexual orientation

Posted: Sep 1 2008 | **Updated:** Mar 24 2016

Principal author(s)

M Kaufman; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2008;13(7):619-23

Introduction

Most adolescents and adults identify themselves as heterosexual. However, paediatricians and other health care providers must be aware of the significant psychological, social and medical issues that face young people who are gay, lesbian or bisexual. Almost all of these issues arise from the stigmatization that these youth face, rather than from the orientation itself [1][2].

Sexual orientation is not a diagnosis, and it is not the paediatrician's job to discover what the teen's orientation is. Rather, the practitioner must create an environment in which the adolescent can discuss any questions or worries that they have, whether they identify themselves as homosexual, have found that they are attracted to people of the same gender, have had a sexual encounter with someone of the same gender or are confused about their feelings. The present paper reviews the relevant definitions, epidemiologies and approaches when working with gay, lesbian and bisexual youth.

- Risks:
  - 1⁄2 are verbally/physically assaulted in school
  - 2-4x more likely to be threatened with a weapon at school
  - 2-7x more risk of suicide
  - Higher risk of school drop out
  - Kicked out from home, street involved
  - More likely to start using cigarettes/alcohol/drugs at earlier age
  - Higher risk of 'club drugs' use
  - Increased risk of STI
    - Swab for gonorrhea (urethra/urine, pharynx, anus), swab for chlamydia urethra/urine), VDRL, HIV, Stool culture and O+P
  - More likely to have nonconsensual intercourse

Sexuality: male / female issues, sexual orientation

SAQ 2018: 15y male discloses that he is gay. What are 5 medical, social or psychological conditions that homosexual teens are at increased risk for (5)?

- **1⁄2 are verbally/physically assaulted in school**
- **2-4x more likely to be threatened with a weapon at school**
- **2-7x more risk of suicide**
- **Higher risk of school drop out**
- **Kicked out from home, street involved**
- **More likely to start using cigarettes/alcohol/drugs at earlier age**
- **Higher risk of 'club drugs' use**
- **Increased risk of STI**
  - **Swab for gonorrhea (urethra/urine, pharynx, anus), swab for chlamydia urethra/urine), VDRL, HIV, Stool culture and O+P**
- **More likely to have nonconsensual intercourse**

Sexuality: male / female issues, sexual orientation

MCQ 2010: Teenager presents to ED with suicide attempt. greatest risk for attempting suicide again in a week

a. recent relationship breakup

b. Homosexuality

But this question is terrible… There is a more recent CPS statement about suicide

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

MCQ 2017: 15 year old girl who has undergone puberty, with a normal exam, who is in your office and shares that she feels that she has always identified more as a boy. She is is very distressed by her breast growth and menstruation. Most appropriate plan:

a. Listen attentively and referral for gender dysphoria

b. LH, FSH, estrogen levels

c. Listen attentively and reassure that this is part of normal development

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

MCQ 2018: You're seeing an adolescent transgender female patient. What anticipatory guidance should be discussed?

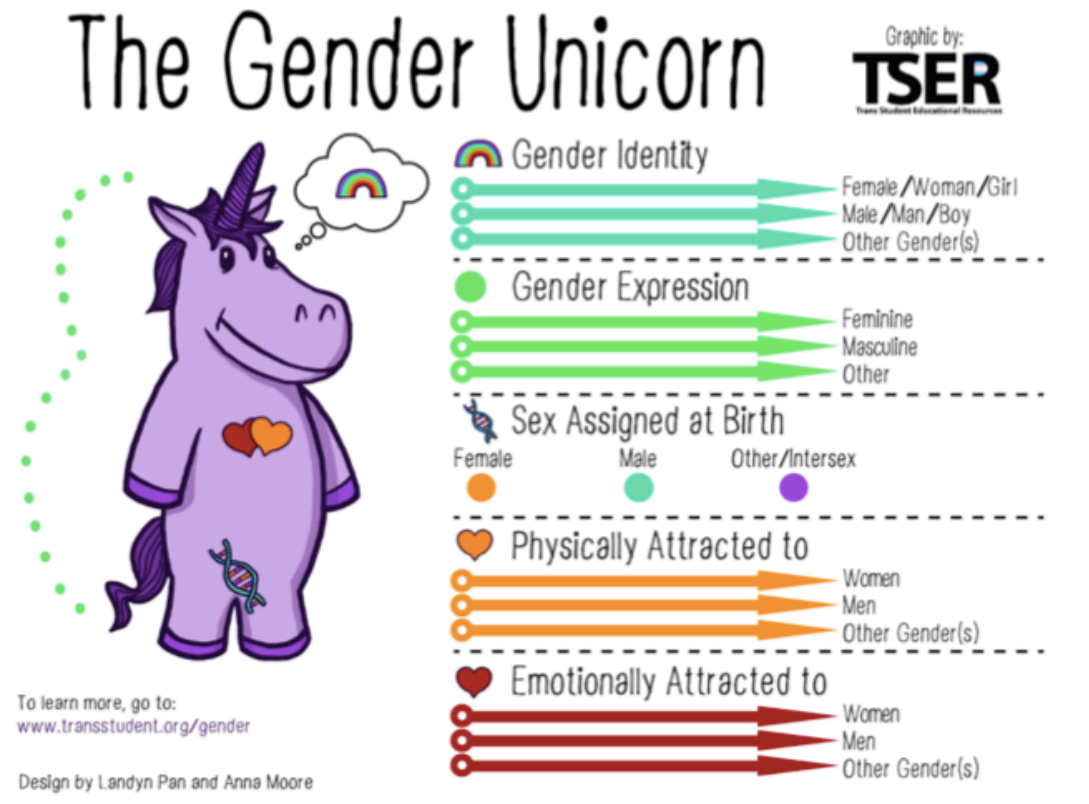
a. Sperm banking

b. Eventual pap testing

c. Breast self-exam

d. Oocyte preservation

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*



- 1.2% to 4.1% of adolescents reporting a gender identity different from that assigned at birth
- In 2010, 47% of trans youth in Ontario had thought about suicide and 19% had attempted suicide in the preceding year (Scanlon, Travers, Coleman, Bauer, & Boyce, 2010)
- Gender Dysphoria is a diagnosis, gender variance is not
  - We do not use the term Gender Identity Disorder anymore

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

REVIEW VULNERABLE POPULATIONS CPD

Management of gender dysphoria in adolescents in primary care

Joseph H. Bonifacio MD MPH, Catherine Maser MN, NP-Paediatric, Katie Stadelman MSW RSW, Mark Palmert MD PhD

Cite as: *CMAJ* 2019 January 21;191:E69-75. doi: 10.1503/cmaj.180672

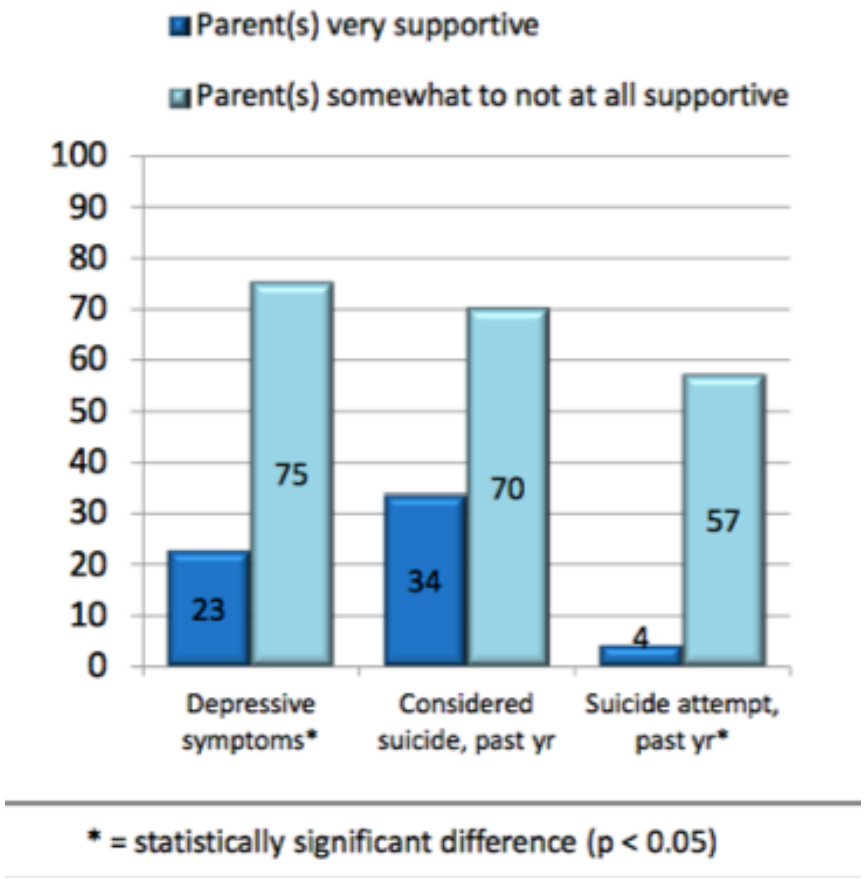
See related article at www.cmaj.ca/lookup/doi/10.1503/cmaj.190011

Box 2: Definitions of commonly used terms

- Gender assigned at birth: a person's initial assignment as male or female at birth. It is based on the child's genitalia and other visible physical sex characteristics.
- Biological or anatomic sex: the physical attributes that characterize one as male or female; usually based on genitalia at birth.
- Cisgender: individuals whose affirmed gender matches their gender assigned at birth and their physical sex characteristics.
- Gender dysphoria: distress that is caused by a discrepancy between a person's gender identity and that person's gender assigned at birth. Not all gender-variant individuals experience gender dysphoria. It is more specifically defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5; American Psychiatric Association) as a diagnosis.
- Gender expression: the way a person communicates about gender to others through external means such as clothing, appearance or mannerisms. This communication may be conscious or subconscious and may or may not reflect gender identity or sexual orientation.
- Gender identity (or affirmed gender): a person's intrinsic sense of self as male, female or an alternate gender, reflecting a complex interplay of biological, genetic, environmental and cultural factors. It does not always correspond to biological or anatomic sex.
- Gender identity disorder: previous terminology used in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* to describe what is now termed gender dysphoria. We use the term "gender identity disorder" when citing older literature that used that term and its definition in research studies.
- Gender nonconforming: used to describe individuals whose gender identity, role or expression differs from what is normative for their gender assigned at birth in a given culture and historical period.
- Gender role: the characteristics in personality, appearance and behaviour that, in a given culture and historical period, are designated as masculine or feminine.
- Gender variance: the behaviours, appearance or identity of people who do not conform to culturally defined norms for their gender assigned at birth.
- Female-to-male (FTM): persons assigned female gender at birth who identify as male.
- Male-to-female (MTF): persons assigned male gender at birth who identify as female.
- Transgender: used to describe individuals with an affirmed gender identity different from their gender assigned at birth and physical sex characteristics. Transgender persons are not necessarily female to male or male to female, as "transgender" can also be used to describe people whose gender identity, expression or behaviours cross or transcend culturally defined categories of gender.
- Transitioning: a process whereby individuals change their social or physical characteristics or both for the purpose of living according to their affirmed gender. Transitioning may or may not include hormonal or surgical procedures.
- Sexual orientation: the personal quality inclining persons to be romantically or physically attracted to persons of the same sex, opposite sex, both sexes or neither sex. Sexual orientation is distinct from gender identity and gender expression.
- Social transitioning: change in social role to one's affirmed gender and may include a change of name, pronoun, clothing, appearance, mannerisms, and use of gender–affirming devices such as chest binders or packers.
- Top surgery: mastectomy or chest contouring in FTM or breast implants in MTF.
- Bottom surgery: usually metoidioplasty or phalloplasty in FTM, or vaginoplasty in MTF. Bottom surgery does not necessarily involve gonadectomy.

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

- Affirming approach - name, pronouns of choice, de-stigmatize gender variance, privacy
- Support family to support youth – improved rates of depression, suicidal ideation, suicide attempts



Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

- Display trans-friendly and queer-friendly markers in your clinic/office
- Provide access to non-gendered bathrooms
- Have non-gendered intake forms, ask about parent 1/2 instead of mother/father
- Have staff ask about preferred name/pronoun for everyone
- Introductions “Hi, my name is Dr. X, my pronouns are she/her. What can I call you?"
- Reinforce confidentiality – who knows (i.e. should the referring doctor know? Which pronouns should you use around parents?)
- Use non-gendered language in history taking (i.e. pregnant person, partner)
- Take a patient’s lead when discussing anatomy (some people prefer front-hole, chest tissue, etc)
- Include question about gender identity in HEADS history
- Don’t ask medically unnecessary questions, try to explain reason for a sensitive question
- Do your best! Apologize and move on if you make a mistake

Mental Health	Screen for depression, anxiety, suicidal ideation, eating disorders, substance use disorders
Fertility Preservation	Oocyte preservation for transmen Sperm banking for transwomen • Cost may be a barrier • Biggest “regret” of many trans adults • Oocyte preservation is a invasive process (daily intravaginal U/S...)
Bone health	Calcium (dietary +supplements if needed) and vitamin D Weight bearing activity Consider BMD if on lupron without hormone replacement for prolonged period (usually up to 2 years ok)
Sexual health	STIs - swab appropriate parts… Cervical cancer screening for patients with a cervix as per guideline for cis women Contraception based on sexual practices- technically lupron/testosterone are NOT contraceptive
Health maintenance	BP, height, weight, physical exam (+/- SMR staging… if done puberty based on history, who cares? But for younger patients it helps with triage) Annual preventive care visits Immunizations Yearly bloodwork for maintenance based on hormone replacement (CBC, liver enzymes, lipids reasonable)
Social Transition	Name change Gender marker change (may require letter from physician) Binding, tucking - discuss safety Hair removal Voice training

Medical Transition	Puberty suppression
	• Male or female bodied
	  • GnRH agonists (lupron)
	• Male bodied
	  • Anti-androgens (spironolactone, cyproterone)
	• Female bodied
	  • Menstrual suppression
	Cross sex hormones
	Gender affirming surgeries

WPATH, Sherbourne and clinical experience

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

MCQ 2017: 15 year old girl who has undergone puberty, with a normal exam, who is in your office and shares that she feels that she has always identified more as a boy. She is is very distressed by her breast growth and menstruation. Most appropriate plan:

a. Listen attentively and referral for gender dysphoria

b. LH, FSH, estrogen levels

c. Listen attentively and reassure that this is part of normal development

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

MCQ 2018: You're seeing an adolescent **transgender female** patient. What anticipatory guidance should be discussed?

Affirmative approach means we will take person's lead with gender, pronouns. Transgender female assumes male-assigned.

a. Sperm banking

b. Eventual pap testing

c. Breast self-exam

d. Oocyte preservation

Sexuality: male / female issues, sexual orientation – *Gender Diversity Care*

- Suggested resources (not for Royal College but for life):
  - World Professional Association for Transgender Care Standards of Care
  - Sherbourne Health Guidelines and Protocols for Trans Care

Fatigue

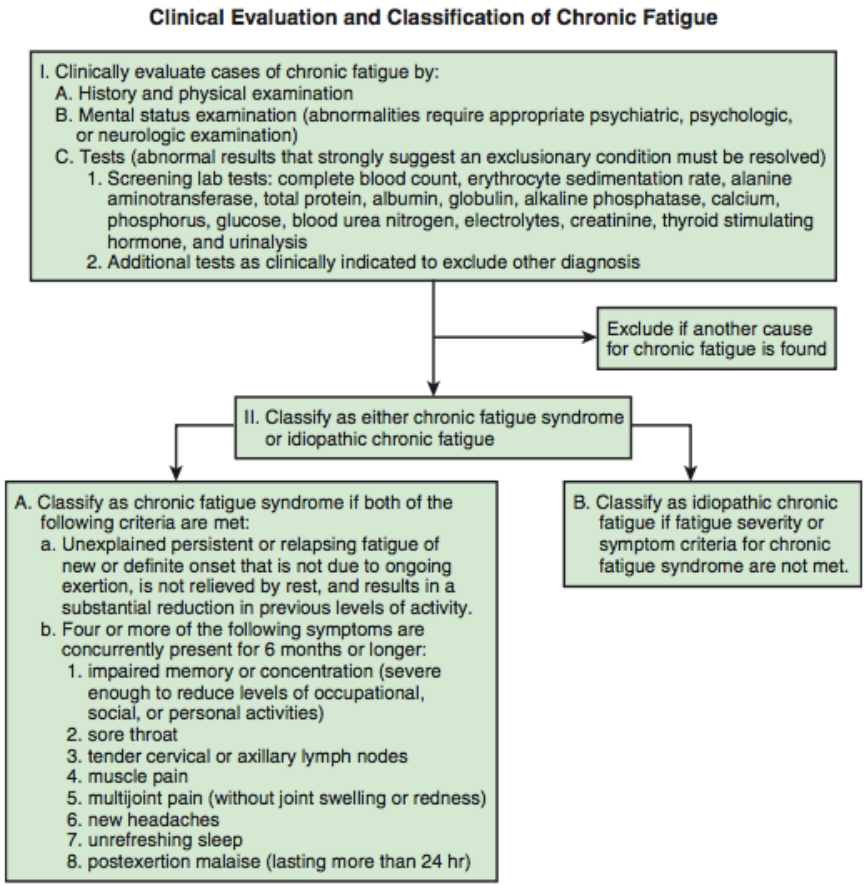


Figure 115-1 The clinical evaluation and classification of unexplained chronic fatigue. The case definition for chronic fatigue syndrome was proposed by the Centers for Disease Control and Prevention in 1988 (Holmes GP, Kaplan JE, Gantz NM, et al: Chronic fatigue syndrome: a working case definition, *Ann Intern Med* 108:387-389, 1988) and refined and simplified by an international working group in 1994 (Fukuda K, Straus SE, Hickie I, et al: The chronic fatigue syndrome: a comprehensive approach to its definition and study, *Ann Intern Med* 121:953-959, 1994).

Nutrition: Health implications of restricted diets, fad diets, diets determined by custom or socioeconomic situation

MCQ 2017: 12 year old embarking upon a vegan diet. Which of the following is the BEST advice to give?

a. Take VB12 supplements

b. Take Zinc supplements

c. Take VitD supplements

d. See a dietician

MCQ 2016: . 12 year-old teen presents to your office and tells you she would like to begin a vegan diet. What is the best advice you can give her today:

a. Vitamin B12

b. Iron

c. Consult a dietitician or nutritionist

d. Calcium supplements

Nutrition: Health implications of restricted diets, fad diets, diets determined by custom or socioeconomic situation

POSITION STATEMENT

Dieting in adolescence

Posted: Sep 1 2004 | **Reaffirmed:** Feb 28 2018

Principal author(s)

SM Findlay; Canadian Paediatric Society, Adolescent Health Committee

Paediatr Child Health 2004;9(7):487-91

TABLE 1
Correlates of dieting and unhealthy weight control behaviours in teenagers

Individual factors

- Female
- Overweight and obesity
- Body image dissatisfaction and distortion
- Low self-esteem
- Low sense of control over life
- Psychiatric symptoms: depression and anxiety
- Vegetarianism
- Early puberty

Family factors

- Low family connectedness
- Absence of positive adult role models
- Parental dieting
- Parental endorsement or encouragement to diet
- Parental criticism of child's weight

Environmental factors

- Weight-related teasing
- Poor involvement in school
- Peer group endorsement of dieting
- Involvement in weight-related sports

Other factors

- Certain chronic illnesses, especially diabetes
- Presence of other risk behaviors: smoking, substance use, unprotected sex