Use of the dental hygiene interventions of scaling of teeth and root planing including curetting surrounding tissue, orthodontic and restorative practices, and other invasive interventions for persons\(^1\) with eating disorders.

Cite as

*College of Dental Hygienists of Ontario, CDHO Advisory Eating Disorders, 2014-02-18*

Scaling of teeth and root planing including curetting surrounding tissue, orthodontic and restorative practices, and other invasive interventions (“the Procedures”).

**Eating disorders**

**ADVISORY OBJECTIVE(S)**

To guide dental hygienists at the point of care relative to the use of the Procedures for persons who have eating disorders, chiefly as follows.

1. Understanding the medical condition.
2. Sourcing medications information.
3. Taking the medical and medications history.
4. Identifying and contacting the most appropriate healthcare provider(s) for medical advice.

\(^1\) Persons includes young persons and children
5. Understanding and taking appropriate precautions prior to and during the Procedures proposed.
6. Deciding when and when not to proceed with the Procedures proposed.
7. Dealing with adverse events arising during the Procedures.
8. Record keeping.

TARGET POPULATION

Child (2 to 12 years)
Adolescent (13 to 18 years)
Adult (19 to 44 years)
Middle Age (45 to 64 years)
Aged (65 to 79 years)
Aged, 80 and over
Male
Female

Parents, guardians, and family caregivers of children, young persons and adults with eating disorders.

MAJOR OUTCOMES CONSIDERED

For persons who have eating disorders: to maximize health benefits and minimize adverse effects by promoting the performance of the Procedures at the right time with the appropriate precautions, and by discouraging the performance of the Procedures at the wrong time or in the absence of appropriate precautions.

RECOMMENDATIONS

UNDERSTANDING THE MEDICAL CONDITION

Terminology used in this Advisory

Resources consulted
- Canadian Women’s Health Network
- Eating Disorders Part I: Psychiatric Diagnosis and Dental Implications
- MedlinePlus Anorexia
- MedlinePlus Bulimia
- National Eating Disorder Information Centre

Notes
1. Terminology varies among clinical centres. The following reflects common though not necessarily universal usages.
2. For anorexia nervosa, two subtypes are sometimes defined: restrictive, in which dietary limitation is the dominant feature, and binge-eating/purging type, with or without binge-eating, which resembles bulimia. These subtypes are omitted from the classification used for this Advisory because, for present purposes, they may blur the distinction, an important one, between anorexia nervosa and bulimia.
3. Eating disorders include types that do not satisfy clinical diagnostic criteria but nevertheless risk seriously adverse health effects.
4. Factors of importance in eating disorders include social, cultural and commercial influences, and not only psychological or physiological changes and conditions.
5. Epidemiological data may be inconclusive as evidence of some links between eating disorders and oral health conditions owing, in part, to the complexities of the factors of influence.
6. Anorexia nervosa was first described as an illness in the 1870s, though historical references of bulimic behaviours date to the times of the Ancient Greeks.

General terminology

1. Agoraphobia, abnormal fear of open or public places.
2. Angular cheilitis, a chronic inflammatory condition of the corners of the mouth often caused by fungal or bacterial infections.
3. Bingeing, binge eating, uncontrolled episodes of abnormal overeating that occur at least twice per day over a period of three months.
4. Cathartic, substance for cleansing the bowels, promoting evacuation, a purgative.
5. Hypotension, blood pressure below the normal expected for an individual of a particular age in a particular type of environment.
6. Leukopenia, lower than the normal count of white blood cells.
7. Permylolysis
   a. erosion of enamel on the lingual, occlusal, and incisal surfaces of the teeth caused by chemical and mechanical effects associated with regurgitation of gastric contents and activated by the movements of the tongue
   b. typically occurs on the palatal surfaces of the maxillary anterior teeth and has a smooth, glossy appearance.
8. Phobia, a type of anxiety disorder (CDHO Advisory), manifested as a strong, irrational fear of something that poses little or no actual danger.
9. Purging, excretion or evacuation of refuse matter from the bowels, generally by means of a purgative.
10. Regurgitation, bringing back into the mouth undigested food from the stomach.
11. Sicca syndrome, a term reserved for the combination of dryness of the mouth and eyes, regardless of cause; when accompanied by lymphocyte infiltration of the salivary glands is named Sjögren syndrome (CDHO Advisory).
12. Underweight, body weight less than 85 percent of that considered normal for the age and height.
13. Vomiting, forcible ejection of contents of stomach through the mouth.
14. Xerostomia, abnormal dryness of the mouth resulting from decreased secretion of saliva; has various causes including
   a. sicca syndrome
   b. Sjögren syndrome (CDHO Advisory)
   c. some medications.

Terminology of eating disorders

1. Anorexia nervosa
   a. an illness characterized by
      i. severe self-imposed weight loss
ii. underweight body mass

iii. intense fear of gaining weight and of being fat, resulting
   1. in relentless pursuit of
      a. thinness
      b. weight loss
   2. refusal to maintain body weight normal for age and height

iv. grossly distorted self-image manifested as extreme concern about body weight and shape

v. endocrine dysfunction manifested in changes in the menstrual cycle

b. is diagnosed according to all of the following criteria
   i. refusal to maintain body weight at or above the normal weight for age and height
   ii. intense fear of gaining weight or becoming fat
   iii. distorted perception of body weight or shape, arising in some instances because self-esteem is strongly linked with weight and body shape
   iv. absence of at least three consecutive, expected menstrual cycles.

2. Anorexia athletica (compulsive exercising), a condition
   a. characterized by over-exercising based on the belief that this
      i. enhances the individual’s control of the body
      ii. provides a sense of power, control and self-respect
   b. not recognized as a medical diagnosis although its health consequences may be serious.

3. Bulimia (bulimia nervosa, binge-purge behaviour)
   a. an illness characterized by
      i. normal weight, though sometimes affected by fluctuation, the clearest differentiation between anorexia nervosa and bulimia
      ii. bingeing on food
      iii. feelings of loss of control
      iv. self-imposed prevention of weight gain by
         1. purging with
            a. self-induced vomiting
            b. abuse of laxatives and cathartics
         2. excessive exercise
      v. absence of
         1. self-imposed thinness
         2. signs and symptoms of undernourishment
   b. is diagnosed according to all of the criteria
      i. bingeing and related behaviours that occurs at least twice a week for three months
      ii. eating of an amount of food that, in similar circumstances, would definitely be larger than that which would be considered normal for a similar period of time, usually two hours
      iii. sense of lack of control over eating during a bulimic episode
      iv. normal or nearly normal weight
      v. repeated use of inappropriate compensatory behaviours to prevent weight gain
         1. self-induced vomiting after an episode of bingeing
         2. misuse of laxatives and diuretics and excessive exercise to overcome the limitation of purging, which expels only about two thirds of a binge
vi. excessive and inappropriate emphasis on body shape and weight, in which self-esteem is directly associated with body shape and size.

4. Binge-eating disorder, compulsive eating  
   a. characterized by eating  
      i. to the point of discomfort  
      ii. for psychological comforting  
      iii. in secret  
      iv. almost continuously  
      v. to the point of shame or guilt  
   b. differs from bulimia because it does not involve purging.

5. Eating disorder not otherwise specified  
   a. characterized by some combination of the symptoms of  
      i. anorexia  
      ii. bulimia  
      iii. binge-eating disorder  
   b. does not completely satisfy the criteria for clinical diagnosis.

6. Disordered eating, a condition that resembles the clinical eating disorders but which is atypical in some respects  
   a. characterized by  
      i. thoughts, feelings and behaviours related to managing food and weight that interfere with everyday activities and well-being generally  
      ii. risk of severe physical and emotional problems  
   b. comprise  
      i. weight preoccupation, excessive concern about weight  
      ii. food preoccupation  
         1. excessive attention to food bordering on addiction  
         2. morbid avoidance of food.

Overview of eating disorders

Resources consulted

- Antidepressants for anorexia nervosa
- Canadian Women’s Health Network
- FamilyDoctor.org Anorexia Nervosa
- Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa
- MedlinePlus Anorexia
- MedlinePlus Bulimia
- National Eating Disorder Information Centre

Eating disorders

1. Of all types, affect persons of all  
   a. ages  
   b. social classes  
   c. racial and ethnic backgrounds  
   d. sexual orientations  
   e. abilities and occupations.

2. As measured by data on diagnoses  
   a. occur with girls and women comprising 85–95 percent of diagnoses  
   b. are diagnosed
i. most commonly between 14 and 25 years
ii. up to 70 years or beyond
  c. for persons aged over 45 years account for 79 percent of deaths related to anorexia nervosa.

3. Are complex conditions associated with multiple factors, including
   a. social, cultural and commercial influences
   b. family influences
   c. the psychological and physiological status of the individual
   d. the individual’s
      i. self-perception in his/her world
      ii. response to experience in his/her world.

4. By type are chiefly
   a. Anorexia nervosa, a form of self-starvation, which
      i. exhibits physical signs and symptoms of starvation and malnourishment, such as some combination of
         1. abdominal pain
         2. bizarre eating habits
         3. constipation
         4. dehydration
         5. dizziness
         6. dry skin that, when pinched and released, stays pinched
         7. emaciation
         8. fatigue
         9. fine, downy body hair
         10. initial phase of mild dieting behaviour with gradual progression to extreme, unhealthy weight loss
         11. intolerance of cold
         12. lethargy
         13. yellowing of the skin
      ii. is some ten times as common in women as in men; is most common in young women
      iii. is found in
          1. 0.5 to 1 percent females of 15 years and over
          2. teenagers, of whom 5 to 10 percent of those diagnosed are male
      iv. occurs at the rate of about 8 cases per 100,000 of the general population
      v. may be increasing in incidence among adolescents
      vi. is of unknown cause, though is believed to involve
          1. social attitudes to body appearance
          2. family influences
             a. such as history of
                i. weight problems
                ii. depression (CDHO Advisory)
                iii. substance abuse (CDHO Advisory)
             b. overly-critical, intrusive, and overprotective environments
             c. genetics
             d. neurochemical and developmental factors
      vii. in teenage years, may be associated with
          1. immature emotional development
2. dependency
3. social withdrawal
4. irritability
5. moodiness
6. depression (CDHO Advisory)
7. anxiety disorders (CDHO Advisory)
8. affective disorders (CDHO Advisory)

viii. affects every body system including the mouth and teeth
ix. may be treated and managed with some combination of
   1. individual therapy
      a. cognitive
      b. behavioural
   2. family therapy
   3. nutritional rehabilitation
   4. medications, including antidepressants

x. is medically and nutritionally monitored because of the risk of
   1. death
   2. complications, such as
      a. cardiovascular
         i. life-threatening heart problems
         ii. hypotension
      b. hematological
         i. anemia (CDHO Advisory)
         ii. leukopenia
      c. gastrointestinal: loss of intestinal motility
      d. renal
         i. dehydration, with highly concentrated urine
         ii. polyuria, resulting from decrease in kidney ability to concentrate urine
      e. endocrinal
         i. persistent amenorrhea
         ii. growth retardation
      f. skeletal
         i. risk of bone fractures
         ii. loss or decrease of bone tissue
         iii. osteoporosis and low bone density (CDHO Advisory)

xi. is reduced in severity of symptoms and impact by early detection, accurate diagnosis and appropriate treatment.

b. Bulimia
   i. chiefly affects
      1. adolescent females from a high socioeconomic group
      2. an estimated 1 to 4 percent of females in the US
   ii. is likely to be associated with
      1. family history of
         a. eating disorder
         b. mental health problems such as
            i. affective disorders (CDHO Advisory)
            ii. substance abuse (CDHO Advisory)
2. in the person
   a. anxiety disorders (CDHO Advisory)
   b. affective disorders (CDHO Advisory)

iii. is of unknown cause though
   1. is believed to involve
      a. cultural ideals and social attitudes toward body appearance
      b. self-valuation based on body weight and shape
      c. family problems
   2. 30 to 50 percent of teens starting bulimia have evidence of anorexia nervosa

iv. exhibits physical signs and symptoms of starvation and malnourishment, such as some combination of
   1. normal or fluctuating body weight though, in self-perception, the person believes self to be overweight
   2. recurrent episodes of bingeing coupled with fearful feelings of being unable to stop eating
   3. self-induced vomiting
   4. excessive exercise or fasting
   5. peculiar eating habits or rituals
   6. inappropriate use of laxatives, diuretics, or other cathartics
   7. irregular or absence of menstruation
   8. anxiety (CDHO Advisory)
   9. discouraged feelings related to self-dissatisfaction with bodily appearance
   10. depression (CDHO Advisory)
   11. preoccupation with food, weight, and body shape
   12. scarring on the back of the fingers from the process of self-induced vomiting
   13. overachieving behaviours
   14. unresponsiveness to dietary advice

v. in children is usually treated with some combination of
   1. individual therapy
   2. family therapy aimed at support for families and family caregivers
   3. behaviour modification
   4. nutritional rehabilitation

vi. in adults or adolescents may be treated with
   1. cognitive and behavioural therapy
   2. antidepressant medication
   3. antianxiety medication

vii. requires medical and nutritional monitoring for medical and dietary complications

viii. is reduced in severity of symptoms and impact by early detection, accurate diagnosis and appropriate treatment.
Comorbidity, complications and associated conditions

Comorbid conditions are those which co-exist with eating disorders but which are not believed to be caused by it. Complications and associated conditions are those that may have some link with it. Distinguishing among comorbid conditions, complications and associated conditions may be difficult in clinical practice.

Resources consulted
- Alcohol use disorder comorbidity in eating disorders: a multicenter study
- Comorbidity of Anxiety Disorders With Anorexia and Bulimia Nervosa
- The comorbidity between eating disorders and anxiety disorders

1. Many of the medical and oral health conditions that accompany anorexia nervosa are complications rather than comorbidities.
2. The clearest instances of comorbidities are those of a psychiatric nature; recent research suggests that
   a. in connection with the high co-occurrence of eating disorders and anxiety disorders (CDHO Advisory)
      i. some two thirds of women with eating disorders may meet the criteria for anxiety disorder
      ii. some two thirds of women with the anxiety disorder reported that it preceded the eating disorder
      iii. anxiety disorders included, in order of frequency
         1. social phobia
         2. post-traumatic stress disorder
         3. general anxiety disorder
         4. obsessive-convulsive disorder (CDHO Advisory)
         5. panic disorder and agoraphobia
         6. specific phobia
   b. anxiety disorders (CDHO Advisory) commonly have their onset in childhood before the start of an eating disorder, supporting the possibility that anxiety disorders may be a vulnerability factor for developing anorexia nervosa or bulimia
   c. individuals with eating disorders and alcohol-use disorders exhibit characteristics involving anxious, perfectionistic traits and impulsive, dramatic dispositions.

Oral health considerations

Resources consulted
- Ontario Dental Hygienists’ Association

1. Oral healthcare professionals are well placed to identify eating disorders from their observations of the oral manifestations, despite the epidemiological limitations of some clinical data.
2. The oral health consequences of eating disorders include
   a. permylolysis, the most common and obvious oral manifestation of vomiting and regurgitation typical of eating disorders, and also the consumption of large amounts of citrus fruits
b. caries, which may be increased
   i. in bulimia, because of the bingeing
   ii. by xerostomia arising from
      1. parotid malfunction (CDHO Advisory)
      2. antidepressant medications

c. periodontal disease, which is most likely to occur in anorexia nervosa though, generally, it is not strongly associated with any of the eating disorders
d. trauma to the mucosal membranes, pharynx, and soft palate is associated with
   bingeing and self-induced vomiting

e. angular cheilitis, which may be a consequence of
   i. the trauma of self-induced vomiting
   ii. nutritional deficiencies
   iii. salivary dysfunction related to eating disorders

f. effects on salivary system
   i. xerostomia, attributed chiefly to medications
   ii. enlargement of the parotid gland, believed to be related to the frequent vomiting.

MEDICATIONS SUMMARY

Sourcing medications information

1. Adverse effect database
   - Health Canada’s Marketed Health Products Directorate
     toll-free 1-866-234-2345
   - Health Canada’s Drug Product Database

2. Specialized organizations
   - US National Library of Medicine and the National Institutes of Health Medline Plus Drug Information
   - WebMD

3. Medications considerations
   All medications have potential side effects whether taken alone or in combination with other prescription medications, or as over-the-counter (OTC) or herbal medications.

4. Information on herbals and supplements
   - US National Library of Medicine and the National Institutes of Health Medline Plus Drug Information All Herbs and Supplements

Types of medications

Warnings
   Individual medications may be subject to important warnings, which
   1. change from time to time
   2. may affect the appropriateness, efficacy or safety of the Procedures
   3. are accessible via the links to the particular medication listed below or through the specialized organizations listed above
4. Through the links, should be viewed by dental hygienists in the course of their familiarizing themselves about a medication or combination of medications identified in the patient/client’s medical and medications history.

The FDA has not approved any medication for the treatment of anorexia nervosa.

Various medications are used to treat symptoms of the eating disorders or their comorbidities, including antidepressant and antianxiety medications, even though to date substantial evidence of their efficacy is lacking, especially for outpatient treatment.

A possible role for antidepressants, fluoxetine in particular, is treatment for persons who have undergone successful re-feeding in hospital but nonetheless remain vulnerable to relapse.

**Side effects of medications**

See fluoxetine

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**THE MEDICAL AND MEDICATIONS HISTORY**

The medical and medications history-taking should

1. Focus on screening the patient/client prior to treatment decision relative to
   a. key symptoms
   b. medications considerations
   c. contraindications
   d. complications
   e. comorbidities.

2. Explore the need for advice from the appropriate primary or specialized care provider(s).

3. Inquire about
   a. pointers in the history of significance to eating disorders, such as
      i. social, cultural and commercial influences
      ii. family influences
      iii. the psychological and physiological status of the individual
   b. symptoms indicative of inadequate control of comorbidities and complications, such as those of a psychiatric nature
   c. the patient/client’s understanding and acceptance of the need for oral healthcare
   d. medications considerations, including over-the-counter medications, herbals and supplements
   e. problems with previous dental/dental hygiene care
   f. problems with infections generally and specifically associated with dental/dental hygiene care
   g. the patient/client’s current state of health
   h. how the patient/client’s current symptoms relate to
      i. oral health
      ii. health generally
      iii. recent changes in the patient/client’s condition.
**IDENTIFYING AND CONTACTING THE MOST APPROPRIATE HEALTHCARE PROVIDER(S) FOR ADVICE**

Identifying and contacting the most appropriate healthcare provider(s) from whom to obtain medical or other advice pertinent to a particular patient/client

1. Record the name of the physician/primary care provider most closely associated with the patient/client’s healthcare, and the telephone number.
2. Obtain from the patient/client or parent/guardian written, informed consent to contact the identified physician/primary healthcare provider.
3. Use a consent/medical consultation form, and be prepared to fax the form to the provider.
4. Include on the form a standardized statement of the Procedures proposed, with a request for advice on proceeding or not at the particular time, and any precautions to be observed.

**UNDERSTANDING AND TAKING APPROPRIATE PRECAUTIONS**

Infection Control

Dental hygienists are required to keep their practices current with infection control policies and procedures, especially in relation to

1. the CDHO’s Infection Prevention and Control Guidelines (2019)
2. relevant occupational health and safety legislative requirements
3. relevant public health legislative requirements
4. best practices or other protocols specific to the medical condition of the patient/client.

**DECIDING WHEN AND WHEN NOT TO INITIATE THE PROCEDURES PROPOSED**

1. There is no contraindication to the Procedures.
2. With a patient/client whose symptoms are under control and whose treatment is proceeding normally, the dental hygienist should implement the Procedures, though these may be postponed pending medical advice, which is likely to be required if the patient/client has
   a. symptoms or signs of exacerbation of the medical condition
   b. comorbidity, complication or an associated condition of eating disorders
   c. not recently or ever sought and received medical advice relative to oral healthcare procedures
   d. recently changed significant medications, under medical advice or otherwise
   e. recently experienced changes in his/her medical condition such as medication or other side effects of treatment
   f. is deeply concerned about any aspect of his or her medical condition.

**DEALING WITH ANY ADVERSE EVENTS ARISING DURING THE PROCEDURES**

Dental hygienists are required to initiate emergency protocols as required by the College of Dental Hygienists of Ontario’s Standards of Practice, and as appropriate for the condition of the patient/client.

First-aid provisions and responses as required for current certification in first aid.
RECORD KEEPING

Subject to Ontario Regulation 9/08 Part III.1, Records, in particular S 12.1 (1) and (2)

For a patient/client with a history of eating disorder, the dental hygienist should specifically record
1. A summary of the medical and medications history.
2. Any advice received from the physician/primary care provider relative to the patient/client’s condition.
3. The decision made by the dental hygienist, with reasons.
4. Compliance with the precautions required.
5. All Procedure(s) used.
6. Any advice given to the patient/client.

ADVISING THE PATIENT/CLIENT

The patient/client is urged to alert any healthcare professional who proposes any intervention or test that he or she has a history of eating disorder.

As appropriate, discuss
1. The importance of the patient/client’s
   a. self-checking the mouth regularly for suspicious signs or symptoms
   b. reporting to the appropriate healthcare provider any changes in the mouth indicative of suspicious lesions.
2. The need for regular oral health examinations and preventive oral healthcare.
3. Oral self-care including information about
   a. choice of toothpaste
   b. tooth-brushing techniques and related devices
   c. dental flossing
   d. mouth rinses
   e. management of a dry mouth.
4. The importance of an appropriate diet in the maintenance of oral health.
5. For persons at an advanced stage of a disease or debilitation
   a. the role of the family caregiver, with emphasis on maintaining an infection-free environment through hand-washing and, if appropriate, wearing gloves
   b. scheduling and duration of appointments to minimize stress and fatigue.
6. Comfort level while reclining, and stress and anxiety related to the Procedures.
7. Medication side effects such as dry mouth, and recommend treatment.
8. Mouth ulcers and other conditions of the mouth relating to eating disorders, comorbidities, complications or associated conditions, medications or diet.

BENEFITS/HARMS OF IMPLEMENTING THE RECOMMENDATIONS

POTENTIAL BENEFITS

1. Promoting health through oral hygiene for persons who have eating disorders.
2. Reducing the adverse effects on persons who have eating disorder, such as stress that increases anxiety in a patient/client affected by anxiety disorder, by
a. generally increasing the comfort level in the course of dental hygiene interventions
b. using appropriate techniques of communication
c. providing advice on scheduling and duration of appointments for persons with eating disorder.

3. Reducing the risk that oral health needs are unmet.

POTENTIAL HARMs

1. Aggravating psychiatric comorbidities such as anxiety and depression.
2. Performing the Procedures at an inappropriate time, that is, without prior medical advice relative to
   a. indications of medical or psychological complications for which prior medical advice is required
   b. morbid avoidance of food
   c. bingeing
   d. acute oral infection.
3. Disturbing the normal dietary and medications routine of a person with eating disorders.
4. Inappropriate management of pain or medication.

CONTRAINDICATIONS

CONTRAINDICATIONS IN REGULATIONS

Identified in the Dental Hygiene Act, 1991 – O. Reg. 218/94 Part III

ORIGINALY DEVELOPED

2009-11-24

DATE OF LAST REVIEW

2014-02-18

ADVISORY DEVELOPER(S)

College of Dental Hygienists of Ontario, regulatory body
Greyhead Associates, medical information service specialists

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College of Dental Hygienists of Ontario

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