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 with irritable bowel syndrome.

Cite as
College of Dental Hygienists of Ontario, CDHO Advisory Irritable Bowel Syndrome, 2012-02-01

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

Irritable bowel syndrome

Advanced practice nurses  Nurses
Dental assistants  Patients/clients
Dental hygienists  Pharmacists
Dentists  Physicians
Denturists  Public health departments
Dieticians  Regulatory bodies
Health professional students

To guide dental hygienists at the point of care relative to the use of the Procedures for persons who have irritable bowel syndrome, 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. Keeping records.

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 irritable bowel syndrome.

MAJOR OUTCOMES CONSIDERED

For persons who have irritable bowel syndrome: 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

- Gut Health: IBD or IBS?
- Inflammatory Bowel Disease: Medscape
- Irritable Bowel Syndrome: Medscape

Irritable bowel syndrome
1. is a common, uncomfortable, distressing and sometimes disabling condition
2. is not the same as inflammatory bowel disease
3. leads to abdominal pain and cramping, changes in bowel movements, and other symptoms
4. does not
   a. permanently harm the intestines
   b. lead to serious disease, such as cancer
5. is a diagnosis of exclusion because no specific laboratory or other tests are available for differential diagnosis.
Other terminology includes the following.

1. Colitis, alternative or obsolete term for irritable bowel syndrome.
2. Idiopathic, term used for any disease that is of uncertain or unknown origin.
3. Inflammatory bowel disease (IBD)
   a. is an idiopathic disease, probably involving an immune reaction of the body to its own intestinal tract
   b. is often confused with irritable bowel syndrome (IBS)
      i. but the two are different conditions with different causes
      ii. although they have some symptoms in common, such as
         1. abdominal discomfort
         2. bowel irregularity
   c. occurs as two major types, which have inflammation as the principal pathology and comprises
      i. ulcerative colitis (CDHO Advisory)
      ii. Crohn’s disease (CDHO Advisory)
4. Irritable colon, alternative or obsolete term for irritable bowel syndrome.
5. Mucous colitis, alternative or obsolete term for irritable bowel syndrome.
6. Nervous colon, alternative or obsolete term for irritable bowel syndrome.
7. Somatoform disorder, a condition in which the physical pain and symptoms
   a. are related to psychological factors
   b. cannot be traced to a specific physical cause
   c. are real to the person.
8. Serotonin, a neurotransmitter that helps relay signals from one area of the brain to another and that
   a. is manufactured in the brain, where it performs its primary functions
   b. is found in the largest amounts in the digestive tract and in blood platelets.
9. Spastic bowel, alternative or obsolete term for irritable bowel syndrome.
10. Spastic colon, alternative or obsolete term for irritable bowel syndrome.

Overview of irritable bowel syndrome

Resources consulted
- Gut Health: IBD or IBS?
- Inflammatory Bowel Disease: Medscape
- Irritable Bowel Syndrome: Gastrointestinal Society, Canada
- Irritable Bowel Syndrome: Medscape
- Irritable Bowel Syndrome: National Digestive Diseases Information Clearinghouse
- Irritable bowel syndrome: PubMed Health
- Irritable Bowel Syndrome: You are not alone | Irritable Bowel Syndrome Self Help and Support Group

Occurrence
Irritable bowel syndrome
1. is the most common gastrointestinal diagnosis worldwide and the most common disorder presented to gastrointestinal specialists
2. can occur at any age, but
   a. often begins in adolescence or early adulthood
   b. begins before age 35 in about 50 percent of persons affected by it
3. occurs in 13–20 percent of adult Canadians
4. occurs more often in women than in men
5. occurs in the colon
   a. where it is associated with abnormal motility of the colon, which may vary from
      sudden strong contractions to cessation of motility, resulting in
      i. constipation caused by decreased motility, which increases absorption
         of fluids from the colon
      ii. diarrhea caused by increased motility, which decreases absorption of
         fluids from the colon
   b. but is not limited to the colon.

Cause

Irritable bowel syndrome
has a cause or causes that are not understood; theories include
1. abnormalities in gastrointestinal secretions and/or peristalsis.
2. abnormally high levels of serotonin in the intestinal tract that heighten the sensitivity of
   its pain receptors
3. amount of physical exercise
4. antibiotic use
5. bile acid malabsorption
6. chronic alcohol abuse (CDHO Advisory)
7. involvement of the immune system
8. neurological links by which stress signals from the brain
   a. increase the sensitivity of the intestines
   b. cause the intestines to contract excessively
9. physical, emotional and psychological stress
10. post-infection origins, such as
    a. bacterial infection of the intestine
    b. acute enteritis, such as traveller’s diarrhea, as precursor to persistent altered
       bowel function despite elimination of the affecting organism
11. some association with celiac disease (CDHO Advisory), but not with inflammatory bowel
    diseases
12. special sensitivity and reactivity to food.

Risk factors

Irritable bowel syndrome
is associated with stress, conflict, or emotional upsets, which may
1. especially take the form of feelings of mental or emotional tension, or of being troubled,
   angry, or overwhelmed
2. provoke the colon through connections with the autonomic nervous system that, in
   many persons without irritable bowel syndrome, responds to stressful times with
   abdominal discomfort
3. affect the immune system.

Signs and symptoms

Irritable bowel syndrome
is a debilitating condition the symptoms of which
1. vary from person to person
   a. range from mild to severe
c. are most commonly mild
d. may be episodic
e. may be persistent
f. may worsen over time
g. are most commonly
   i. abdominal pain
   ii. bloating
   iii. constipation
   iv. cramping
   v. diarrhea
h. may also
   i. be accompanied by loss of appetite
   ii. be triggered by stress
   iii. be triggered by eating
   iv. alternate as episodes of constipation and diarrhea
   v. be associated with changes the pattern or frequency of bowel movements
   vi. be accompanied by mucus in the stool
   vii. include urgency for bowel movements
   viii. occur rarely during the night
   ix. include
      1. fatigue
      2. headache
      3. nausea
x. be relieved after a bowel movement

2. is exacerbated in its symptoms by
   a. large meals
   b. bloating from gas in the colon
   c. medications
   d. food such as
      i. barley
      ii. chocolate
      iii. milk products
      iv. rye
      v. wheat
   e. drinks with
      i. alcohol
      ii. caffeine, such as coffee, tea, or colas
   f. menstruation in some women
   g. depression ([CDHO Advisory](#)) and anxiety ([CDHO Advisory](#)), which it may also exacerbate

3. presents symptoms that for most persons can be controlled with diet, stress management, and medications
4. may be disabling for some persons to the extent that they cannot work, travel or attend social events
5. is not associated with symptoms and signs
   a. such as
      i. bleeding
ii. fever
iii. weight loss
iv. or persistent severe pain
b. that may indicate conditions such as inflammatory bowel disease.

**Medical investigation**
Of irritable bowel syndrome
1. lacks a definitive diagnostic test, so diagnosis is one of exclusion of other causes of the symptomatology, such as
   a. abdominal pain or discomfort that
      i. was present for at least 12 weeks, consecutive or otherwise, out of the previous 12 months
   ii. exhibits two of the following three
      1. is relieved by a bowel movement
      2. on starting, is accompanied by a change in frequency of bowel movements
      3. on starting, is accompanied by a change in the form or appearance of the stool
b. the presence of certain symptoms, such as
   i. bloating
   ii. change in appearance of bowel movement
   iii. change in frequency of bowel movements
   iv. difficulty or inability to pass stool
   v. feelings of uncontrollable urgency to have a bowel movement
   vi. mucus in the stool
2. may involve
   a. tests for
      i. anemia
      ii. bowel infection
      iii. celiac disease
      iv. lactase deficiency
b. colonoscopy
3. may lead to confusion in diagnosis with gynecological and other pelvic conditions.

**Treatment**
Of irritable bowel syndrome
1. aims to relieve symptoms
2. includes lifestyle changes to reduce anxiety and help relieve bowel symptoms, such as
   a. regular exercise
   b. improved sleep habits
   c. individualized dietary changes, including
      i. avoiding foods and drinks that stimulate the intestines, such as caffeine, tea, or colas
      ii. avoiding large meals
      iii. increasing fibre in the diet, which may relieve constipation but exacerbate bloating
3. psychotherapy for severe anxiety or depression.
Prevention
Irritable bowel syndrome has no demonstrated means of prevention, though its symptoms can often be managed.

Prognosis
Irritable bowel syndrome
1. may be
   a. a lifelong condition accompanied by disabling symptoms
   b. or it may be managed, improved or relieved with treatment
2. does not
   a. cause permanent damage to the intestines
   b. lead to serious disease, such as cancer.

Social considerations
Of irritable bowel syndrome arise for persons who
1. because of it, cannot work, travel or attend social events
2. are especially affected by its psychosocial accompaniments.

Multimedia and images
Digestive system

Comorbidity, complications and associated conditions

Comorbid conditions are those which co-exist with irritable bowel syndrome 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.

For irritable bowel syndrome
1. excess comorbidities are found for infections and some well-defined disorders
2. relations of comorbidities, complications and associated conditions are incompletely understood in for the following reasons
   a. comorbidity, complications and associated conditions
      i. occur with other functional gastrointestinal disorders and may be caused by shared factors such as intestinal hypersensitivity
      ii. may be influenced by but are not explained by psychiatric illnesses, which co-occur frequently, especially
         1. major depression (CDHO Advisory)
         2. anxiety (CDHO Advisory)
         3. somatoform disorders
   b. the non-gastrointestinal, non-psychiatric disorders with the best-documented associations with irritable bowel syndrome comprise
      i. chronic fatigue syndrome
      ii. chronic pelvic pain
      iii. fibromyalgia
      iv. temporomandibular joint disorder
   c. general amplification of symptom reporting is observed
   d. excess comorbidity is observed to be due to hyper-vigilance
i. for noticing somatic sensations
ii. expressed as a lower threshold for consulting a physician

e. one explanation, among others, holds that the irritable bowel diagnosis is
   applied to a heterogeneous group of persons
   i. of whom some experience a predominantly psychological etiology
   ii. of whom some experience a predominantly biological etiology
   iii. for some for whom multiple comorbid disorders may be a marker for
        psychological influences.

Oral health considerations

1. The gastrointestinal system is sensitive to adrenaline, also called epinephrine, the ‘fight or flight’ hormone, released from the adrenal glands in a threatening situation, which dental procedures are to some patients/clients.
2. Increasing the comfort level of dental hygiene patients/clients with irritable bowel syndrome is an important preventive measure.
3. Because the causal factors of irritable bowel syndrome are not adequately understood, professional caution is required in the interpretation of information on the Internet such as
   a. unapproved, untested and unofficial treatments
   b. sources linking it with the controversies of oral healthcare, such as mercury-based fillings, fluoride and fluoridation.

MEDICATIONS SUMMARY

Sourcing medications information

1. Adverse effect databases
   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

5. Complementary and alternative medicine
   National Center for Complementary and Alternative Medicine
Types of medications

Symptoms are successfully controlled in most people by medications sometimes in conjunction with
1. stress management
   a. relaxation training and relaxation therapies such as meditation
   b. counseling and support
   c. regular exercise such as walking or yoga
   d. changes to stressful situations
   e. adequate sleep
2. dietary change.

Table: Examples of medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetaminophen (Tylenol®) without codeine</td>
<td>Abdominal pain.</td>
</tr>
<tr>
<td>aluminum hydroxide and magnesium hydroxide</td>
<td>Antacids used together to relieve heartburn, acid indigestion, and stomach upset.</td>
</tr>
<tr>
<td>(Maalox®, among others)</td>
<td></td>
</tr>
<tr>
<td>amitriptyline (Limbitrol®)</td>
<td>Depression. In low doses to relieve abdominal pain.</td>
</tr>
<tr>
<td>belladonna alkaloids and phenobarbital</td>
<td>Antispasmodic, to treat symptoms such as pain and spasm.</td>
</tr>
<tr>
<td>(Barbidonna®, among others)</td>
<td></td>
</tr>
<tr>
<td>bisacodyl</td>
<td>Constipation</td>
</tr>
<tr>
<td>cholestyramine resin (Questran®)</td>
<td>Used with restriction of fat intake to reduce the amount of certain fatty substances in the blood</td>
</tr>
<tr>
<td>codeine</td>
<td>To relieve mild to moderate pain and to treat diarrhea.</td>
</tr>
<tr>
<td>dicyclomine (Bentylol®, Bentyl®)</td>
<td>Anticholinergic, to relieve muscle spasms in the gastrointestinal tract by blocking the activity of acetylcholine.</td>
</tr>
<tr>
<td>diphenoxylate and atropine (Lomotil®)</td>
<td>Diarrhea.</td>
</tr>
<tr>
<td>domperidone (Apo-Domperidone®)</td>
<td>Helps the stomach to empty faster, to reduce reflux and to relieve the sensation of fullness.</td>
</tr>
<tr>
<td>hyoscyamine (Levin®, and others)</td>
<td>Antispasmodic, to treat symptoms such as pain and spasm.</td>
</tr>
<tr>
<td>lactase enzyme (Lactaid®, among others)</td>
<td>Lactose intolerance.</td>
</tr>
<tr>
<td>lactulose (Cholac®, among others)</td>
<td>Synthetic sugar, to treat constipation by softening stools.</td>
</tr>
<tr>
<td>loperamide (Imodium®)</td>
<td>Diarrhea.</td>
</tr>
<tr>
<td>lubiprostone</td>
<td>Constipation, bloating.</td>
</tr>
<tr>
<td>magnesium hydroxide (Milk of Magnesia®)</td>
<td>Short-term treatment of constipation.</td>
</tr>
<tr>
<td>misoprostol (Cytotec®)</td>
<td>To protect the stomach lining and decrease stomach acid secretion.</td>
</tr>
<tr>
<td>paregoric (Camphorated Tincture of Opium®)</td>
<td>To relieve diarrhea by decreasing stomach and intestinal movement in the digestive system.</td>
</tr>
<tr>
<td>propantheline (Pro-Banthine®)</td>
<td>Reduces release of acid in the stomach.</td>
</tr>
<tr>
<td>psyllium (Metamucil®, Prodiem®)</td>
<td>Bulk-forming laxative, used to treat constipation to form a bulky stool that is easy to pass.</td>
</tr>
<tr>
<td>rifaximin</td>
<td>Antibiotic.</td>
</tr>
<tr>
<td>Saccharomyces boulardii (Florastor™)</td>
<td>Probiotic, to treat acute diarrhea.</td>
</tr>
<tr>
<td>simethicone (Gas-X®, among others)</td>
<td>To treat the symptoms of gas, such as uncomfortable or painful pressure, fullness, and bloating.</td>
</tr>
</tbody>
</table>
**Side effects of medications**

See the links above to the specific medications.

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### THE MEDICAL AND MEDICATIONS HISTORY

The dental hygienist in taking 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
   f. associated conditions
2. explore the need for advice from the primary or specialized care provider(s)
3. inquire about
   a. current symptoms indicative of a troublesome or distressing episode of irritable bowel syndrome, such as diarrhea or stress and anxiety
   b. the patient/client’s understanding and acceptance of the need for oral healthcare
   c. medications considerations, including over-the-counter medications, herbals and supplements
   d. problems with previous dental/dental hygiene care
   e. problems with infections generally and specifically associated with dental/dental hygiene care
   f. the patient/client’s current state of health
   g. how the patient/client’s current symptoms relate to
      i. oral health
      ii. health generally
   h. recent changes in the patient/client’s condition.

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### 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

The dental hygienist should

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 Recommendations published by the Centers for Disease Control and Prevention (a frequently updated resource)
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. symptoms or signs of comorbidity, complication or an associated condition of irritable bowel syndrome
   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. deep concerns 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 irritable bowel syndrome, 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 dental hygienists should

1. urge the patient/client to alert any healthcare professional who proposes any intervention or test
   a. that he or she has a history of irritable bowel syndrome
   b. to the medications he or she is taking
2. should discuss, as appropriate
   a. the importance of the patient/client’s
      i. self-checking the mouth regularly for new signs or symptoms
      ii. reporting to the appropriate healthcare provider any changes in the mouth
   b. the need for regular oral health examinations and preventive oral healthcare
   c. oral self-care including information about
      i. choice of toothpaste
      ii. tooth-brushing techniques and related devices
      iii. dental flossing
      iv. mouth rinses
      v. management of a dry mouth
   d. the importance of an appropriate diet in the maintenance of oral health
   e. for persons at an advanced stage of a disease or debilitation
      i. regimens for oral hygiene as a component of supportive care and palliative care
      ii. the role of the family caregiver, with emphasis on maintaining an infection-free environment through hand-washing and, if appropriate, wearing gloves
      iii. scheduling and duration of appointments to minimize stress and fatigue
   f. comfort level while reclining, and stress and anxiety related to the Procedures
   g. medication side effects such as dry mouth, and recommend treatment
   h. mouth ulcers and other conditions of the mouth relating to irritable bowel syndrome, comorbidities, complications or associated conditions, medications or diet
   i. pain management.

BENEFITS/HARMS OF IMPLEMENTING THE RECOMMENDATIONS

POTENTIAL BENEFITS

1. Promoting health through oral hygiene for persons who have irritable bowel syndrome.
2. Reducing the adverse effects, such as stress and anxiety, by
   a. generally increasing the comfort level of persons in the course of dental hygiene interventions
   b. using appropriate techniques of communication
   c. providing advice on scheduling and duration of appointments.
3. Reducing the risk that oral health needs are unmet.

POTENTIAL HARMs

1. Causing or exacerbating stress
2. Performing the Procedures at an inappropriate time, such as
   a. during a period of severe debilitation, distressing symptoms or of troublesome stress or anxiety
   b. in the presence of complications for which prior medical advice is required
c. in the presence of acute oral infection without prior medical advice.
3. Disturbing the normal dietary and medications routine of a person with irritable bowel syndrome.
4. Inappropriate management of pain or medication.