COLLEGE OF DENTAL HYGIENISTS OF ONTARIO ADVISORY

ADVISORY TITLE

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 subject to immunosuppression.

ADVISORY STATUS

Cite as
College of Dental Hygienists of Ontario, CDHO Advisory Immunosuppression, 2012-01-01

INTERVENTIONS AND PRACTICES CONSIDERED

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

SCOPE

DISEASE/CONDITION(S)/PROCEDURE(S)

Immunosuppression

INTENDED USERS

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

ADVISORY OBJECTIVE(S)

To guide dental hygienists at the point of care relative to the use of the Procedures for persons who have immunosuppression, 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 subject to immunosuppression.

MAJOR OUTCOMES CONSIDERED

For persons who are subject to immunosuppression: 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
- Allergic reactions: MedlinePlus
- Autoimmune disorders: MedlinePlus
- Dictionary of Cancer Terms: National Cancer Institute
- Drug allergies: MedlinePlus
- Immune response: MedlinePlus
- Immune System: National Institute of Allergy and Infectious Diseases
- Immunodeficiency disorders – Overview: University of Maryland Medical Center
- Immunodeficiency disorders (hypogammaglobulinemia): Dr. Saul Greenberg
- Toxins: MedlinePlus

Terminology related to immunosuppression

Immunosuppression, immunodeficiency disorders
1. involve suppression of the body's immune system and its ability to fight infections and other diseases
2. occur when the immune response is inappropriate, excessive, or lacking
3. include **allergies**, an immune response to a substance that most persons’ immune systems perceive as harmless.

Definitions vary among centres and synonyms are common. Definitions used in this Advisory are as follows.

1. **Allergens**, substances, that
   a. in some persons, the immune system perceives as foreign or harmful, though in other persons there is no reaction
   b. at the first exposure may produce only a mild reaction but with repeated exposures even to small amounts may lead to more serious reactions.

2. **Allergies**, allergic reactions, that
   a. are sensitivities to **allergens** that
      i. contact the skin, nose, eyes, respiratory tract, and gastrointestinal tract
      ii. may be inhaled into the lungs, swallowed, or injected
      iii. are commonly mild yet as a result of reactions called **anaphylaxis** or anaphylactic shock may be severe and even life-threatening
   b. may variously affect
      i. only a small area of the body
      ii. the entire body
   c. may occur
      i. seconds or minutes post-exposure when severe
      ii. several hours post-exposure, especially if the allergen causes a reaction after it has been ingested
      iii. 24 hours post-exposure, but rarely.

3. **Anaphylaxis**, an abrupt and severe allergic reaction that
   a. occurs within seconds or minutes of exposure
   b. is a medical emergency because, without treatment, it may
      i. worsen rapidly
      ii. cause death within some 15 minutes.

4. **Antibody**, a type of protein that is
   a. produced when the body’s **immune system** detects **antigens**
   b. produced when the **immune system** erroneously identifies healthy tissue as harmful
   c. unique in that it detects one specific type of antigen.

5. **Antigen**, a molecule that
   a. causes the **immune system** to produce **antibodies** against it
   b. that occurs on the surface of cells, viruses, fungi, or bacteria
   c. may be a protein
   d. may be a type named **human leukocyte antigens**, which
      i. are found on the surface of nearly every cell in the human body
      ii. play a vital role in helping the body recognize its own cells
   e. may exist within the body, as with bacterial **toxins**
   f. may also be a non-living substance such as a chemical, medication or foreign particle, such as pollen.

6. **Autoimmune disorder**, when the **immune system** erroneously attacks and destroys healthy body tissue, which occurs as one of more than 80 different types of disorders, including
a. autoimmune and autoimmun-related disorders, such as

Addison’s disease
Celiac disease – sprue (CDHO Advisory)
Dermatomyositis
Graves’ disease (CDHO Advisory)
Hashimoto’s thyroiditis (CDHO Advisory)
Lupus erythematosus (CDHO Advisory)
Multiple sclerosis (CDHO Advisory)

b. congenital or genetic autoimmun disorders; these rare diseases include

Agammaglobulinemia
Ataxia-telangiectasia
Chediak-Higashi syndrome
Combined immunodeficiency disease
Complement deficiencies
DiGeorge syndrome

7. Drug allergy
a. results from a series of reactions within the body that produce the allergic reaction to a medication
b. creates

i. anaphylaxis, a severe allergic reaction which can be life-threatening, variously manifested by
   1. abdominal pain or cramping
   2. confusion
   3. diarrhea
   4. difficulty breathing with wheeze or hoarse voice
   5. dizziness
   6. fainting, lightheadedness
   7. hives over various parts of the body
   8. nausea, vomiting
   9. palpitations
   10. rapid pulse
ii. creates less severe reactions, variously manifested by
   1. hives
   2. itching of the skin or eyes
   3. skin rash
   4. swelling of the lips, tongue, or face
   5. wheezing.

8. Hypogammaglobulinemia, a disorder caused by a lack of B-lymphocytes, in which immunoglobulins, more commonly called antibodies, are reduced to a low level in the blood.

9. Immune response is
   a. the activity of the immune system against antigens
   b. the processes by which the body recognizes and defends itself against bacteria, viruses, and substances that it recognizes as foreign and potentially harmful

10. Immune system, which
   a. comprises
      i. lymphoid tissue, including
         1. bone marrow
2. lymph nodes
3. thymus
4. tonsils
5. parts of the spleen and gastrointestinal tract

ii. certain proteins and **cells in the blood**

b. provides protection of the body against **antigens** on the surface of
   i. living things such as
   1. bacteria
   2. blood or tissues from another person or species
   3. cancer cells
   4. fungi
   5. parasites
   6. viruses
   ii. of nonliving substances such as
   1. **toxins**
   2. chemicals
   3. medications
   4. foreign particles
   
c. on detecting an antigen
   i. produces **antibodies** that destroy the harmful substances identified by **antigens**
   ii. invokes **phagocytosis**, a process in which certain white blood cells ingest and destroy bacteria and other foreign substances
   iii. normally recognizes the body's own cells' **antigens** and, with the help of **human leukocyte antigens**, does not react against them.

11. Immunity types include
   a. **innate immunity**, which
      i. is the inborn defence system
      ii. protects against all **antigens**
      iii. includes the first line of defence, barriers that prevent harmful substances from entering the body which include
         1. cough reflex
         2. enzymes in tears and skin oils
         3. mucus that traps bacteria and small particles
         4. skin
         5. stomach acid
      6. includes humoral immunity, such as
         a. interferon
         b. interleukin-1
   b. **acquired immunity**, which
      i. develops with exposure to various antigens
      ii. results in a defence that is antigen-specific
   c. **passive immunity**, includes
      i. antibodies produced in another body, such as antibodies that cross the placenta from mother to baby
      ii. injection or infusion of
         1. antibodies that are formed by another person or animal
         2. immune serum globulin, for hepatitis exposure
         3. tetanus antitoxin.
12. Immunization, vaccination
   a. triggers the immune response
   b. involves small doses of an antigen, such as dead or weakened live viruses, given
to activate B cells and to sensitize T cells, which
      i. comprise the immune system’s memory
      ii. enable rapid and effective immune response to subsequent exposure to
the particular virus.
13. Immunocompromised, unable to develop a normal immune response usually because of
   a. malnutrition
   b. immunodeficiency
   c. immunosuppressive therapy.
14. Immunodeficiency disorders, immune system disorders, which
   a. occur when the immune system fails to combat tumours or harmful substances
   b. occur when the immune system is overactive or underactive
   c. are associated with allergies when the immune system
      i. responds to a substance that immune systems generally sense as
harmless
      ii. response is inappropriate, excessive, or lacking.
15. Immunoglobulins, a type of antibody, that
   a. are produced by plasma cells and lymphocytes
   b. are an essential part of the immune system
   c. attach to bacteria and harmful substances, and assist in destroying these
   d. are identified as
      i. immunoglobulin A (IgA)
      ii. immunoglobulin D (IgD)
      iii. immunoglobulin E (IgE)
      iv. immunoglobulin G (IgG)
      v. immunoglobulin M (IgM).
16. Phagocytosis, a process
   a. associated with inflammation
   b. in which a macrophage, a particular type of white blood cell, engulfs a particle
such as bacterium or virus
   c. of which the end product is pus.
17. Toxins, substances that
   a. are released by microorganisms such as bacteria
   b. are created by plants and animals that are poisonous to humans
   c. include medications that are helpful in therapeutic doses but harmful when
used in an excess amount.

Other terminology

1. Aphthous stomatitis, canker sores, that
   a. are among the most common oral mucosal lesions
   b. are regarded when recurrent as a disorder of unknown etiology that can cause
clinically significant morbidity
   c. are manifested as one or several discrete, shallow, painful ulcers visible on the
      i. floor of the mouth
      ii. labial and buccal mucosa
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iii. maxillary and mandibular sulci
iv. soft palate
v. tonsillar fauces
vi. unattached gingiva
vii. ventral surface of the tongue
d. as individual smaller ulcers typically persist for 7–10 days
e. as larger ulcers may
  i. persist for weeks or months
  ii. scar when healing.

2. Candida, oral candidiasis, also termed thrush or oral moniliasis, is
   a. a yeast infection of the mouth or throat
   b. most commonly caused by Candida albicans.

3. Lesion, a term variously and loosely used in medicine to refer to such things as
   a. any abnormality of tissue in the body, including the mouth and skin
   b. any localized abnormal structural change in a bodily part
   c. a mass especially before a definite diagnosis is established
   d. cancer
   e. an injury to living tissue, such as a cut or break in the skin.

4. Opportunistic infections
   a. occur because of a weakened immune system
   b. are of particular concern for persons with acquired immunodeficiency syndrome (AIDS) (CDHO Advisory) because the human immunodeficiency virus (HIV) (CDHO Advisory) may cause death by impairing the immune system.

5. Oral ulcer, an open lesion, often painful, inside the mouth or upper throat, an alternative name for
   a. aphthous stomatitis
   b. aphthous ulcer
   c. cancerous ulcer
   d. canker sore
   e. mouth ulcer

6. Sicca syndrome
   a. is a term reserved for the combination of dryness of the mouth and eyes, regardless of cause
   b. when accompanied by lymphocyte infiltration of the salivary glands is named Sjögren syndrome (CDHO Advisory).

7. Sjögren’s syndrome, a serious, systemic, persistent autoimmune disorder that may be associated with rheumatoid arthritis and which
   a. is considered to be one of the most prevalent autoimmune diseases
   b. is often under-recognized and under-treated
   c. most commonly
      i. attacks and damages the salivary, tear and mucus-secreting glands
      ii. results in xerostomia
      iii. results in swollen salivary glands
   d. may cause or be associated with
      i. arthritis
      ii. debilitating fatigue
      iii. neuropathy
      iv. painful, weak muscles
e. may cause or be associated with inflammation of
   i. blood vessels
   ii. brain
   iii. gastrointestinal system
   iv. kidneys
   v. liver
   vi. lungs
   vii. thyroid gland.
8. 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.

Overview of immunosuppression

Resources consulted
- Chemotherapy: Canadian Cancer Society
- Drug allergies: MedlinePlus
- Immune response: MedlinePlus
- Immune System and Disorders: MedlinePlus
- Immunodeficiency disorders: PubMed Health
- Immunosuppression: eMedicine

Occurrence
Immunosuppression occurs by
1. design, as part of treatment
2. disease, of which there are many types, such as autoimmune disorders
3. drug allergies, as side effects of medications such as corticosteroids.

Cause
Immunosuppression
1. is caused by design
   a. as a desired effect that
      i. is required in the treatment of autoimmune diseases
      ii. is required in preparation for and maintenance of organ transplants
      iii. must include a therapeutic strategy to balance between
          1. intentionally suppressing of parts of the immune system
          2. maintaining the body’s ability to fight disease and infection
   b. achieved with
      i. medications that suppress the body’s normal immune responses and used
         1. in chemotherapy (CDHO Advisory) for cancer
         2. for inhibiting rejection of organ transplantation or tissue graft
         3. in treatment of autoimmune disorders, which
            a. may be considered for persons
               i. with severe autoimmune disorder
               ii. for whom other therapies have failed
b. is avoided for most persons because of toxic side effects
   ii. medications and/or radiation (CDHO Advisory), in preparation for bone
       marrow or other organ transplantation, to prevent rejection of the
data donor tissue
   iii. total body irradiation, a form of radiation therapy (CDHO Advisory),
       used for some patients undergoing bone-marrow transplant

2. is caused by disease-causing disorders that
   a. result in harm to or absence of the body’s immune response
   b. impair the immune system’s ability to defend the body against antigens
   c. lead to infections that recur more frequently, are more severe, and last longer
      than would be expected
   d. require as a goal of treatment
      i. protecting against infection
      ii. curing infection
      iii. protecting against and treatment of diseases resulting from
           immunodeficiency disorders
   e. usually are acquired, develop later in life, and arise from use of
      i. medications
      ii. long-lasting serious disease
   f. sometimes occur as inherited, congenital or genetic disorders

3. is caused by drug allergies.

Risk factors
of immunosuppression and immunodeficiency disorders
1. may affect any part of the immune system
2. arise
   a. when the body is not producing sufficient antibodies
   b. when specialized lymphocytes, types T or B, are insufficient
   c. with inherited immunodeficiency disorders that
      i. affect B cells, which include
         1. hypogammaglobulinemia, which usually causes respiratory and
            gastrointestinal infections
         2. agammaglobulinemia, which causes frequent severe infections
            early in life, and is often fatal
      ii. affect T cells and may thereby cause increased susceptibility to fungi,
          resulting in recurring Candida infection.
   d. with medications that, as a side effect, affect the immune system, such as
      i. corticosteroids
      ii. chemotherapy used in cancer treatment
   e. with conditions such as
      i. HIV/AIDS (CDHO Advisory)
      ii. malnutrition, especially associated with protein lack
      iii. various cancers
      iv. diabetes
   f. following splenectomy, because the spleen contains some of the immune
      system
   g. with aging, because of age-related reduction in the effectiveness of the immune
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Signs and symptoms of immunosuppression and immunodeficiency disorders vary according to the type of infection, disorder, cancer, or medication which the immunosuppression or immunodeficiency disorder involves.

Medical investigation of suspected immunosuppression and immunodeficiency disorders involves:

1. investigation of
   a. infections that
      i. are persistent or recurrent, such as
         1. pneumonia
         2. yeast infections
      ii. respond poorly to normal treatment
      iii. are severe and are caused by microorganisms not usually associated with severe infection
   b. certain types of cancers, such as non-Hodgkin’s lymphoma (CDHO Advisory)
   c. delayed or incomplete recovery from illness which would be expected to recover normally and completely

2. tests such as
   a. immunoglobulin levels in the blood
   b. measurement of substances released by the immune system
   c. protein electrophoresis for blood or urine
   d. thymus-derived lymphocyte count
   e. white blood cell count.

Treatment of immunosuppression and immunodeficiency disorders aims to:

1. a. prevent infections by advising avoidance of contact with persons
   i. with infections or contagious conditions
   ii. vaccinated with live-virus vaccines within the prior two weeks
   b. treat any associated diseases and infections with
   i. long-term, prophylactic use of antibiotic or antifungal medications
   ii. interferon, used to treat viral infections and some types of cancer
   iii. combinations of drugs for HIV/AIDS (CDHO Advisory) to
      1. reduce the virus burden on the immune system
      2. improve their immunity
   c. anticipate splenectomy effects with pre-surgery vaccination against bacteria such as
      i. Streptococcus pneumonia
      ii. Hemophilus influenzae

2. may require bone marrow transplants

3. may involve passive immunity as prophylaxis following exposure to certain microorganisms

4. for hypogammaglobulinemia requires periodic immunoglobulin infusions.
Prevention of immunosuppression and immunodeficiency disorders

1. lacks known means of prevention
2. is limited to advice on matters such as
   a. genetic counseling for persons who want to have children and who have a family history of immunodeficiency disorder
   b. practising safe sex and avoiding the sharing of body fluids to help prevent HIV infection and AIDS
   c. adequate nutrition to prevent acquired immunodeficiency caused by malnutrition
   d. early recognition and response to warning symptoms and signs for persons receiving chemotherapy or corticosteroids, such as
      i. cough with shortness of breath
      ii. fever greater than 38 degrees C
      iii. repeated yeast infections or oral thrush
      iv. stiff neck and headache with the fever.

Prognosis of immunosuppression and immunodeficiency disorders varies according to their severity, variously

1. mild and occasional
2. severe and even fatal

2. to their reversibility, as occurs with the cessation of medications that are causing allergies.

Social considerations, support groups

Autoimmune Disease Support Group: BabyCenter
Autoimmune Diseases Support Group: Inspire
Immunosuppression Support Group: Drugs.com

Multimedia and images

Antibodies
Immune response
Phagocytosis
Vaccines

Comorbidity, complications and associated conditions

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

Information on some comorbid conditions, complications and associated conditions of immunosuppression is available from the following resources.
Blood
- Aplastic anemia (*CDHO Advisory*)
- Blood transfusion reaction
- Leukemia (*CDHO Advisory*)
- Myelofibrosis
- Serum sickness
- Sickle cell disease (*CDHO Advisory*)

Cancer
- Brain cancer (*CDHO Advisory*)
- Increased risk for certain cancers
- Lung cancer

Chromosomal
- Down syndrome (*CDHO Advisory*)

Immune system
- Allergy
- Anaphylaxis
- Autoimmune disorders
- Immunodeficiency disorders

Infections
- Chickenpox
- Cytomegalovirus infections – [www.cdc.gov/cmv/congenital-infection.html](http://www.cdc.gov/cmv/congenital-infection.html)
- Epstein-Barr virus infections – [www.cdc.gov/ncidod/diseases/ebv.htm](http://www.cdc.gov/ncidod/diseases/ebv.htm)
- Human immunodeficiency virus (HIV) infection (*CDHO Advisory*)
- Measles
- Opportunistic infections

Hormonal
- Diabetes (*CDHO Advisory*)

Kidney
- Nephrotic syndrome (*CDHO Advisory*)
- Uremia (*CDHO Advisory*)

Liver
- Hepatitis (*CDHO Advisory*)

Medications
- Medication allergies

Transplant problems
- Graft versus host disease
- Transplant rejection

Other
- Alcoholism (*CDHO Advisory*)
- Burns
- Malnutrition (*CDHO Advisory*)
- Removal of spleen
Rheumatoid arthritis *(CDHO Advisory)*

Systemic lupus erythematosus *(lupus)* *(CDHO Advisory)*

**Oral health considerations**

**Resources consulted**

- *Point of Care Question 2: Journal of the Canadian Dental Association*
- *Dental Management of the Organ Transplant Patient: National Institute of Dental and Craniofacial Research*

1. **Immunosuppressed, immunocompromised** persons are at greatly increased risk of infection, which is marked by fever, the important warning sign.

2. If **immunosuppression, immunocompromise or immunodeficiency** is believed by expert medical opinion to increase the risk to individual patients/clients of serious or particular infections, **antibiotic prophylaxis** is likely to be required.

3. **Antibiotic prophylaxis**
   a. is pursued aggressively for an illness or infection in persons with **immunosuppression**
   b. may involve prolonged use of antibiotics and antifungal medications not only for prophylaxis, but also for treatment of infection
   c. **is started**
      i. immediately after fever or other sign of infection develops
      ii. before surgical and dental procedures which may introduce bacteria into the bloodstream.

4. **Prevention of infection requires rigorous practices by and for immunocompromised persons, such as**
   a. conscientious attention to oral hygiene and oral healthcare
   b. careful control of blood sugar levels to help with the functioning of white blood cells and thus to prevent infection arising with the comorbidity of diabetes *(CDHO Advisory)*
   c. adequate personal hygiene
   d. avoidance of undercooked food
   e. drinking only bottled water
   f. avoidance of contact with persons who have
      i. infections or contagious disorders
      ii. been immunized with live virus vaccines within the previous two weeks.

5. **Transplantation** creates risk of serious mouth problems and complicates oral healthcare
   a. because of side effects from transplant anti-rejection, immunosuppression medications, which include
      i. **xerostomia**
      ii. **mouth ulcers**
      iii. infections, such as
         1. **gingivitis**
         2. **thrush**
      iv. **gingival overgrowth**
      v. tumours in the mouth, cancers that occur in some transplant patients, especially those who have smoked *(CDHO Advisory)*
   b. which, along with all mouth problems, should be treated promptly and effectively.
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
   - Cancer Care Ontario
   - 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

Medications
1. Immunosuppressants
   - azathioprine (Azasan®, Imuran®)
   - cyclosporine (Neoral®, Sandimmune®, Gengraf®)
   - mycophenolate (CellCept®, Myfortic®)
   - sirolimus (Rapamune®)
   - tacrolimus (Prograf®)

2. Chemotherapy medications
   - busulfan
   - melphalan (Alkeran®)

3. Monoclonal antibodies (target and suppress specific parts of the immune system)
   - alemtuzumab (Campath®)
   - muromonab-Cd3 (Orthoclone OKT 3®)

Side effects of medications

Corticosteroids
   - methylprednisolone oral (Medrol®, Meprolone®)
   - dexamethasone oral (Decadron®, Dexamethasone Intensol®, Dexpak®, Taperpak®)
   - prednisone (Prednisone Intensol®, Sterapred®)

See the links above to the specific medications.
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. advice received by the patient/client from specialists involved in the immunosuppression treatment
   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
      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

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

When the patient/client has a history, current or past, of immunosuppression or immunodeficiency disorders, the dental hygienist
1. should not implement the Procedures without prior consultation with the appropriate primary or specialist care provider(s) especially
   a. if the patient/client is receiving treatment relating to immunosuppression or immunodeficiency disorders
   b. if the patient/client has undergone or is about to undergo transplantation
   c. if the patient/client’s condition or treatment calls for
      i. antibiotic prophylaxis
      ii. pre-medication
2. may postpone the Procedures pending medical advice if the patient/client has
   a. symptoms or signs
      i. of fever
      ii. suggestive of complications of immunosuppression or its treatment
      iii. of debilitation
   b. not complied with pre-medication, including antibiotic prophylaxis, as directed by the prescribing physician
   c. recently changed significant medications, under medical advice or otherwise
   d. comorbidities, associated conditions or complications of immunosuppression about which the dental hygienist is unclear
   e. symptoms or signs of exacerbation of the medical condition with which the immunosuppression is associated
   f. recently experienced changes in his/her medical condition such as medication or other side effects of treatment
   g. not recently or ever sought and received medical advice relative to oral healthcare procedures
   h. 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 immunosuppression, 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 immunosuppression
   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
      iii. maintaining oral hygiene to avoid infection
   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 immunosuppression, 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 are the subject of immunosuppression.
2. Reducing the adverse effects, such as infection and stress in immunocompromised persons.
a. detecting fever  
b. paying particular attention to infection risk  
c. generally increasing the comfort level of persons in the course of dental hygiene interventions  
d. using appropriate techniques of communication  
e. providing advice on scheduling and duration of appointments.

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

**POTENTIAL HARMS**

1. Causing infection in immunocompromised persons by failing to take necessary prevention action such as seeking appropriate medical advice.
2. Performing the Procedures at an inappropriate time, such as
   a. when the patient/client is at the earliest or any stage of infection  
   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 immunosuppression.
4. Inappropriate management of pain or medication.

**CONTRAINDICATIONS**

**CONTRAINDICATIONS IN REGULATIONS**

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

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**ADVISORY COMMITTEE**

College of Dental Hygienists of Ontario, Practice Advisors

**COMPOSITION OF GROUP THAT AUTHORED THE ADVISORY**

**Dr Gordon Atherley**  
O StJ, MB ChB, DIH, MD, MFCM (Royal College of Physicians, UK), FFOM (Royal College of Physicians, UK), FACOM (American College of Occupational Medicine), LLD (hc), FRSA
Lisa Taylor
RDH, BA, MEd

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Denise Lalande
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