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\(^1\) with anemia.

ADVISORY STATUS

Cite as
College of Dental Hygienists of Ontario, CDHO Advisory Anemia, 2012-02-01

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)

Anemia

INTENDED USERS

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

ADVISORY OBJECTIVE(S)

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

MAJOR OUTCOMES CONSIDERED

For persons who have anemia: 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

- About Fanconi Anemia: Fanconi Canada
- Anemia: eMedicineHealth
- Anemia: MayoClinic
- Anemia: MedlinePlus
- Anemia: PubMed Health
- Anemia: Women’s Health Data Directory
- Aplastic Anemia: MedBroadcast
- Overview of Anemia: Merck Manual
- What Are Aplastic Anemia and Myelodysplastic Syndrome and PNH?: Aplastic Anemia & Myelodysplasia Association of Canada

Anemia is a condition which
1. causes the body to lack sufficient healthy red blood cells to adequately supply oxygen to the tissues
2. varies in
3. exists in various forms, including
   a. anemia of chronic disease
   b. aplastic anemia
   c. Fanconi anemia
   d. folate deficiency anemia
   e. hemolytic anemia
   f. iron deficiency anemia
   g. megaloblastic anemia
   h. pernicious anemia
   i. sickle cell anemia
   j. thalassemia
   k. vitamin deficiency anemia.

Related terminology includes
1. Anemia of chronic disease, which
   a. arises when a chronic disorder slows the production of red blood cells
   b. is associated with cytokines that interfere with the production of red blood cells.
2. Angular cheilitis (perlèche), a chronic inflammatory condition of the corners of the mouth that
   a. is generally uncomfortable
   b. may last from days to months, depending on treatment
   c. is usually associated with infection by
      i. Candida albicans, the yeast
      ii. Staphylococcus bacteria
   d. may also be associated with oral candidiasis.
3. Antifibrinolytic medications, which
   a. inhibit breakdown of fibrin in blood clots
   b. are used to prevent excessive bleeding.
4. Aplastic anemia, a progressive condition or defect in or severe failure of the bone marrow’s ability to produce
   a. red blood cells
   b. white blood cells
   c. platelets.
5. Chronic disease anemia, alternative terminology for anemia of chronic disease.
6. Cytokine, a small protein released by cells that affects the behaviour of cells in various important ways.
7. Erythropoietin, a hormone produced by the kidney that promotes the production of red blood cells by the bone marrow.
8. Folate, also known as vitamin B-9, a nutrient found mainly in citrus juices and fruits, bananas, dark green leafy vegetables, legumes and fortified breads, and cereals and pasta.
9. Fanconi anemia, the most common of the inherited anemias that lead to aplastic anemia, with effects that are devastating, including
   a. weakness
   b. propensity to severe bleeding due to insufficient blood clotting
c. susceptibility to infection  
d. likelihood of
   i. physical defects of varying severity  
   ii. development of leukemia and other cancers  
   iii. death in affected children prior to adulthood.

10. Folic acid, the synthetic form of folate.

11. Glossitis, the tongue is swollen and has
   a. changed in color  
   b. lost the papillae, causing it to appear smooth.

12. Glossodynia, burning mouth syndrome, characterized by a burning or tingling sensation on the tongue, lips, or entire mouth.

13. Hematocrit, the percentage, by volume, of the blood that consists of red blood cells; hematocrit = 25 percent means 25 ml of red blood cells in 100 ml of blood.

14. Hemolytic anemia, insufficiency of red blood cells because of their premature destruction; comprises more than 200 types.

15. Immunosuppression (CDHO Advisory), suppression of immunity with medications, the uses of which include the treatment of certain autoimmune diseases; its main drawback is the increased risk of infection for the duration of treatment.

16. Iron, occurs in foods such as
   a. beef and other meats  
   b. beans, lentils, iron-fortified cereals, dark green leafy vegetables, dried fruit, peanut butter and nuts.

17. Iron-deficiency anemia (CDHO Advisory), anemia caused by iron insufficiency leading to inadequacy of hemoglobin.

18. 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.

19. Megaloblastic anemia, anemia with red blood cells larger than normal.

20. Menorrhagia, heavy loss of blood during menstruation.

21. Mucositis, inflammation of the mucous membranes in the digestive tract extending up to the throat and mouth.

22. Oral candidiasis, also called thrush, infection of the mouth caused by the candida fungus, which is also known as yeast infection.

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

24. Palliative care, services of care for persons towards the end of life with terminal illnesses, when the focus of the care
   a. is relieving symptoms  
   b. attending to physical and spiritual needs.

25. Pernicious anemia, a chronic condition that is a type of megaloblastic anemia, caused by impaired absorption of vitamin B-12 arising from lack in gastric secretions of intrinsic factor.
a. which normally enables the absorption of B-12 from the intestine to the blood
b. which may be lacking as a result of autoimmune disease.

26. Physiology, red blood cells
   a. are chiefly produced in the bone marrow, which responds to erythropoietin by increasing their production
   b. have a life-time from 90 to 120 days
   c. carry hemoglobin, which is
      i. the oxygen-carrying protein inside red blood cells
      ii. lacking in anemia.

27. Plasmapheresis, a type of blood-filtering procedure in which plasma is separated from whole blood.

28. Proton pump inhibitors, reduce the production of acid by blocking the enzyme in the wall of the stomach that produces acid; used to prevent or treat ulcers of the esophagus, stomach, and duodenum.

29. Recurrent oral ulcer, of which recurrent aphthous ulcer, also known as a canker sore, is one type, which presents as a painful open sore inside the mouth or upper throat.

30. Sickle cell anemia (CDHO Advisory), an inherited anemia in which the red blood cells are rigid, sticky and shaped like sickles or crescent moons.

31. Supportive care, services of care to help persons meet the physical, emotional and spiritual challenges arising from the condition or its treatment.

32. Thalassemia (CDHO Advisory), also called Mediterranean anemia, a rare inherited hemolytic anemia characterized by less hemoglobin and fewer red blood cells than normal.

33. Vitamin B-12, occurs in meat and dairy products.

34. Vitamin C, occurs in citrus fruits, melons and berries.

35. Vitamin deficiency anemias, caused by deficiency of
   a. vitamin B-12; see also pernicious anemia
   b. vitamin C.

Overview of anemia

Resources consulted
- About Fanconi Anemia: Fanconi Canada
- Anemia: eMedicineHealth
- Anemia: MayoClinic
- Anemia: MedlinePlus
- Anemia: PubMed Health
- Anemia: Women’s Health Data Directory
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Occurrence and causes

Anemia occurs
1. when healthy red blood cells
   a. are not produced in sufficient numbers by the bone marrow
   b. or are lost or destroyed faster than they can be replaced
2. as 
   a. iron deficiency anemia, which is caused by 
      i. blood loss, the most common cause of iron deficiency anemia in North America and Western Europe, associated with 
         1. gynaecological conditions 
            a. menorrhagia 
            b. uterine fibroids 
         2. chronic blood loss, from such as 
            a. colon polyp 
            b. colorectal cancer 
            c. peptic ulcer 
            d. tumour of 
               i. bladder 
               ii. kidney 
      ii. gastrointestinal and other bleeding resulting from continuing use of certain medications 
      iii. deficiency of iron in the diet (CDHO Advisory) 
      iv. inability to absorb iron into the bloodstream from the small intestine because of 
         1. intestinal disorder, such as 
            a. Crohn’s disease (CDHO Advisory) 
            b. celiac disease (CDHO Advisory) 
         2. surgery of the small intestine for 
            a. removal of a part 
            b. bypass of a part 
         3. certain medications, such as 
            a. continuing use of stomach antacids 
            b. proton pump inhibitors 
      v. pregnancy (CDHO Advisory) without iron supplementation, because of 
         1. increased maternal blood volume 
         2. hemoglobin requirements for the growing fetus 
      vi. hookworm infection in persons from tropical climates 
   b. vitamin deficiency anemia 
      i. folate deficiency anemia, associated with 
         1. impairment of absorption of folate from food, associated with 
            a. diseases of the small intestine, such as 
               i. Crohn’s disease (CDHO Advisory) 
               ii. celiac disease (CDHO Advisory) 
            b. surgical removal of part or bypass of the small intestine 
            c. excessive consumption of alcohol 
         2. certain prescription medications 
         3. increased demand for folate in 
            a. pregnancy and breast-feeding 
            b. persons undergoing hemodialysis for kidney disease 
      ii. vitamin B-12 deficiency, associated with 
         1. pernicious anemia 
         2. dietary deficiency of vitamin B-12 results (rare) 
         3. inability of the small intestine to absorb vitamin B-12, caused by
a. gastric bypass surgery or other surgery to the stomach
b. surgery to the small intestine
c. abnormal bacterial growth in the small intestine
d. intestinal disease such as
   i. Crohn’s disease (CDHO Advisory)
   ii. celiac disease (CDHO Advisory)
e. tapeworm infestation of the intestine
iii. vitamin C deficiency anemia, associated with
   1. cancer
   2. dietary lack of vitamin C
   3. general malnutrition (CDHO Advisory)
   4. hyperthyroidism (CDHO Advisory)
   5. hypothyroidism (CDHO Advisory)
iv. vitamin deficiencies associated with certain anti-cancer medications
   i. anemia of chronic disease, associated with
      1. cancer
      2. chemotherapy for cancer (CDHO Advisory)
      3. chronic kidney failure in patients who are or will be receiving renal
dialysis (CDHO Advisory)
iv. HIV/AIDS infection (CDHO Advisory)
v. liver failure (CDHO Advisory)
vi. rheumatoid arthritis (CDHO Advisory)
vii. slow, chronic blood loss from an ulcer or other lesion that depletes the
     body’s store of iron, leading to iron deficiency anemia
viii. ulcerative colitis (CDHO Advisory)
d. in association with specific diseases
   i. of the bone marrow, including
      1. aplastic anemia
      2. cancers, such as
         a. leukemia (CDHO Advisory)
         b. lymphoma (CDHO Advisory)
         c. multiple myeloma
         d. myeloproliferative disorders
   ii. of the blood including hemolytic anemias, involving
      1. autoimmune disorders
      2. rare forms, such as thalassemia
      3. sickle cell anemia (CDHO Advisory).

Risk factors
Risk factors of anemia include
1. family history of inherited anemia, such as
   a. sickle cell anemia (CDHO Advisory)
   b. thalassemia
2. adverse effects on red blood cell production of
   a. certain infections
   b. toxic chemicals
   c. medications
3. comorbidities complications and associated conditions.
Signs and symptoms

Signs and symptoms of anemia
1. may initially be unnoticed but increase as the anemia worsens
2. vary with the type of anemia
3. include
   a. oral symptoms
   b. chest pain
   c. cognitive problems
   d. cold hands and feet
   e. constipation
   f. dizziness
   g. fast or irregular heartbeat
   h. fatigue
   i. headache
   j. pale skin
   k. shortness of breath.

Medical investigation

Medical investigation of anemia includes
1. clinical signs, such as
   a. heart murmur
   b. pale skin
   c. rapid heart rate
2. blood tests, including
   a. complete blood count
   b. hematocrit values
   c. hemoglobin
   d. iron level
3. microscopy for size, shape and colour of the red blood cells
4. occasionally, bone marrow examination.

Treatment

Treatment of anemia varies according to the cause, as follows
1. iron deficiency anemia
   a. iron supplementation
   b. surgery or other treatment for blood loss
2. vitamin deficiency anemias
   a. pernicious anemia with vitamin B-12
   b. folate deficiency anemia with folic acid supplements
3. anemia of chronic disease, for which treatment
   a. does not generally include supplements and vitamins, which are unhelpful for this type of anemia
   b. targets the underlying disease
   c. may in severe instance require
      i. blood transfusion
      ii. synthetic erythropoietin, see also erythropoietin
4. aplastic anemia, may require
   a. blood transfusions
b. bone marrow transplant, which may require immunosuppressants *(CDHO Advisory)* to
   i. reduce the immune response
   ii. give the transplanted bone marrow a chance to resume normal functioning
5. anemias associated with bone marrow disease, which are treated with
   a. medication
   b. chemotherapy *(CDHO Advisory)*
   c. bone marrow transplantation
6. hemolytic anemias, for which care includes
   a. avoiding suspect medications
   b. treating related infections
   c. using immunosuppressants *(CDHO Advisory)*
7. sickle cell anemia *(CDHO Advisory)*
8. enlarged spleen
   a. removal of the spleen when it contributes to hemolytic anemia by removing too many red blood cells
   b. blood transfusion or plasmapheresis

**Prevention**

Prevention of anemia for the types of anemia that can be prevented (many cannot)
1. includes
   a. some types of iron deficiency anemia
   b. some types of vitamin deficiency anemia
   c. anemia in persons with high iron requirements, such as
      i. infants
      ii. children
      iii. pregnant or menstruating women *(CDHO Advisory)*
      iv. strict vegetarians
      v. long-distance runners
2. requires emphasis on a healthy, varied diet, including foods rich in
   a. iron
   b. folate
   c. vitamin B-12
   d. vitamin C.

**Prognosis**

The prognosis of anemia depends on the cause.

**Social considerations**

The social considerations of anemia depends on the nature of the anemia and its effects, especially for
1. sickle cell disease *(CDHO Advisory)*
2. anemia in
   a. children
   b. adults
   c. teens
   d. women.
Multimedia and images

- Hemoglobin
- Red blood cells, sickle cell

Comorbidity, complications and associated conditions

Comorbid conditions are those which co-exist with anemia 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.

Comorbid conditions, complications and associated conditions for anemia include:

1. alcohol dependence (*CDHO Advisory*)
2. anemia of chronic disease
3. cardiac complications associated with lack of oxygen in the blood
   a. heart attack caused by low oxygen levels in the blood
   b. rapid, irregular heartbeat
   c. congestive heart failure
4. diabetes (*CDHO Advisory*)
5. impairment of mental function caused by vitamin B-12 deficiency
6. life-threatening complications of
   a. major, rapid blood loss affecting persons who are already anemic
   b. conditions such as sickle cell anemia (*CDHO Advisory*)
7. neurological complications of vitamin B-12 deficiency
8. vitamin B-12 and iron deficiency associated with strict vegetarianism
9. severe, debilitating fatigue.

Oral health considerations

Resources consulted

- Oral Manifestations of Vitamin B12 Deficiency: A Case Report | Journal of the Canadian Dental Association
- Oral and Dental Basics, Blood Disorders, Anemia: Colgate World of Care

Anemia

1. is associated with a wide range of comorbidities, complications and associated conditions which, collectively, signify that dental hygienists
   a. are likely to encounter patients/clients with anemia especially among older and at-risk populations
   b. should be able to recognize the common oral signs and symptoms of anemia
   c. should possess awareness of anemia and its implications
2. may be accompanied by common oral symptoms and signs
   a. which can present early in the development of the condition, giving particular importance to the observations by dental hygienists in contributing to early diagnosis
   b. commonly include one or more of
      i. pallor of the oral mucosa
      ii. glossitis
iii. glossodynia
iv. taste disturbance

3. signals a requirement for medical consultation

4. varies in its oral picture according to the type of anemia, including
   a. aplastic anemia, which may increase susceptibility to
      i. oral infection, which may require
         1. antibiotic prophylaxis
         2. antibiotic mouthwash
      ii. spontaneous or uncontrolled gingival bleeding, which may require
         1. antifibrinolytic medications to reduce bleeding risk
         2. avoidance of intramuscular injections and nerve-block anesthesia
   b. iron deficiency anemia, which exhibits the common oral symptoms and signs
   c. pernicious anemia, which may be signalled by the common oral symptoms and signs plus
      i. angular cheilitis
      ii. mucositis
      iii. thrush
      iv. recurrent oral ulcer
   d. sickle cell anemia (CDHO Advisory) which requires a specialized regimen of oral healthcare.

5. requires attention to medications used for
   a. pain management, which should avoid medications that inhibit clotting or promote bleeding
   b. immunosuppression (CDHO Advisory), which may induce gingival inflammation and bleeding.

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

Medications

1. for principal type of anemia
   a. anemia of chronic disease, such as
      - epoetin alfa injection (Epogen®, Procrit®)
      - filgrastim injection (Neupogen®)
      - sargramostim injection (Leukine®)
   b. aplastic anemia
      i. antibiotic prophylaxis, if required would be prescribed by the treating physician
      ii. marrow stimulating drug therapies, in conjunction with immunosuppressants, such as
         - epoetin alfa injection (Epogen®, Procrit®)
         - sargramostim injection (Leukine®)
   c. folate deficiency anemia
      - folic acid (Folvite®)
   d. iron deficiency anemia
      - ferrous sulfate
   e. pernicious anemia
      - cyanocobalamin injection (Vitamin B₁₂)
   f. hemolytic anemias
      - folic acid
      - ferrous sulfate
   g. vitamin deficiency anemia
      - folic acid
      - cyanocobalamin injection (Vitamin B₁₂)

2. for complications and associated conditions, and to support other treatment
   a. Pain medication for persons with anemia should
      i. be limited to
         - acetaminophen
      ii. exclude pain medications that inhibit clotting or promote bleeding, such as
         - aspirin
         - ibuprofen
   b. Prevention of excessive bleeding
      - antifibrinolytic medications for preventing breakdown of fibrin in blood clots; used to prevent excessive bleeding
   c. Immunosuppressant medications used in connection with organ transplant, such as
      - azathioprine (Azasan®, Imuran®)
      - cyclosporine injection (Sandimmune®)

Side effects of medications

1. See the links above to the specific medications.
2. Iron supplements
   a. are appropriate only when the need is for more iron than a balanced diet can provide
   b. in excess may be harmful.

**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
   f. associated conditions.
2. Explore the need for advice from the appropriate primary or specialized care provider(s).
3. Inquire about
   a. symptoms indicative of inadequate control of anemia, such as oral symptoms and shortness of breath
   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, with particular reference to medications that inhibit clotting or promote bleeding
   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

The dental hygienist
1. should not implement the Procedures without prior consultation with the appropriate primary or specialist care provider(s) relative to matters such as
   a. the implications of the patient/client’s anemia for the Procedures
   b. complications or severity of the patient/client’s anemia
   c. requirements for antibiotic prophylaxis
2. may postpone the Procedures pending medical advice if the patient/client
   a. appears debilitated
   b. is experiencing symptoms suggestive of complications of anemia or its treatment
   c. has not complied with pre-medication, including antibiotic prophylaxis, as directed by the prescribing physician
   d. has 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 unable to provide the dental hygienist with sufficient information about
      i. his or her medical history
      ii. medications
      iii. treatment
   g. has symptoms or signs of
      i. exacerbation of the medical condition
      ii. comorbidity, complication or an associated condition of liver disease
   h. not recently or ever sought and received medical advice relative to oral healthcare procedures
   i. 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 anemia, 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 hygienist 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 anemia
   b. to the medications he or she is taking
2. as appropriate, discuss
   a. the importance of the patient/client’s
      i. self-checking the mouth regularly for suspicious signs or symptoms
      ii. reporting to the appropriate healthcare provider any changes in the mouth indicative of suspicious lesions
   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. the role of the family caregiver for persons at an advanced stage of the more severe types of anemia or who are debilitated
      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 prolongation of gingival and related bleeding
   h. mouth ulcers and other conditions of the mouth relating to anemia, comorbidities, complications or associated conditions, medications or diet
   i. pain management with particular reference to the importance of avoiding medications that inhibit clotting or promote bleeding
### BENEFITS/HARMS OF IMPLEMENTING THE RECOMMENDATIONS

#### POTENTIAL BENEFITS

1. Promoting health through oral hygiene for persons who have anemia.
2. Reducing adverse effects by
   a. understanding the significance of the early oral health signs and symptoms
   b. generally increasing the comfort level of persons in the course of dental hygiene interventions
   c. using appropriate techniques of communication
   d. providing advice on scheduling and duration of appointments.
3. Reducing the risk that oral healthcare needs are unmet.

#### POTENTIAL HARMS

1. Causing harm to a patient/client by failing to
   a. recognize the importance of spontaneous or uncontrolled gingival bleeding
   b. and to act accordingly.
2. Performing the Procedures at an inappropriate time, such as
   a. when the patient/client’s anemia is not under appropriate medical care
   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 anemia.
4. Inappropriate management of pain or medication.

### CONTRAINDICATIONS

#### CONTRAINDICATIONS IN REGULATIONS

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

### ORIGINALLY DEVELOPED

2010-07-15

### DATE OF LAST REVIEW

2012-02-01

### ADVISORY DEVELOPER(S)

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

### SOURCE(S) OF FUNDING

- College of Dental Hygienists of Ontario

### ADVISORY COMMITTEE

- College of Dental Hygienists of Ontario, Practice Advisors
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Denise Lalande  
Final layout and proofreading

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