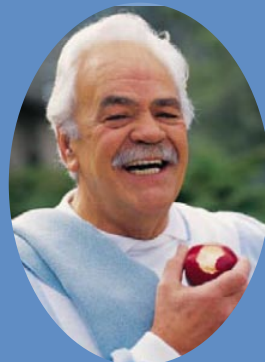


**Primary Care  
Oral Health  
of  
Older Adults  
Resource Kit**

September  
2008



This educational Resource Kit has been prepared for the Ontario primary care sector (Family Health Teams and Community Health Centres) to use as a learning tool for promoting the oral health of older adults with frailty and chronic disease. The authors have made every effort to produce accurate, evidence-based, practical, and useful information at the time of release. However, all primary care organizations and their health care providers remain responsible for using their own discretion in adapting the Resource Kit information to their clinical care and practice situations. None of the parties involved in the development of this Resource Kit can be held liable for any errors, omissions, losses, damages, injuries or consequences arising from the use of information contained within this Resource Kit. Any identification of specific products that may appear in this Resource Kit does not imply endorsements.

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## Website Downloads

[www.rgpc.ca](http://www.rgpc.ca)

[www.halton.ca](http://www.halton.ca)

[www.sjhc.london.on.ca](http://www.sjhc.london.on.ca)



# Primary Care

## Oral Health of Older Adults Resource Kit

### Background

#### Older Adult Population and Dental Care

In Canada, a 126% increase in the number of people over 65 years is expected between 2000 and 2030, with a concomitant increase of 42% of people over 85 years (MacEntee, 2005). As a result, there will be an increasing number of older people requiring and seeking dental services over the next 30 years. The pattern of preventive oral health care established in youth usually prevails into older age, at least until there is a catastrophic change or decline in health. Of particular concern is the fact that 60 to 90% of homebound older adults report a need for dental services but only 26% visited a dentist at least once every 2 years and 12 to 16% had not visited a dentist in over 5 years (CDHA, 2004). Retirement often means losing private dental insurance. In Canada, 75% of senior men and 83% of senior women do not have dental insurance.

#### Oral Health versus Dental Health

##### Oral Health

Pertains to the health of the whole mouth including the teeth, gums, tongue, palate, floor of mouth, cheeks, lips and throat, which can be affected by disease, developmental abnormalities or injury

##### Dental Health

Pertains to the health of the teeth and gums,

Particularly **among older adults**, the World Health Organization (2003) comments that **several oral health care challenges often exist**, particularly **among older adults** including:

- Changing dentition status;
- Prevalence of tooth decay;
- Periodontal pocketing and poor oral hygiene;
- Oral cancer;
- Edentulism (loss of all natural teeth) and limited oral functioning;
- Ill-fitting removable dentures;
- Xerostomia (dry mouth); and
- Craniofacial pain and discomfort.

A significant percentage of the Canadian population has limited or no access to oral health care services (Canadian Oral Health Strategy, 2005). Compared with other age groups, older adults have less access to oral health care services and poorer oral health status. 1994-99 statistics revealed that 31-34% of Canadians aged 65 and older, reported having visited a dentist in the last year. In contrast, 87.5% of them had visited a primary care physician. Many standard treatment options of modern dentistry are invasive, technologically complex, expensive and not available to non-ambulatory older adults who live independently (Bryant and Zarb, 2002; Leake, 2000; MacEntee, 2005; McNally, 2002).



Could oral health attitudes be changing among older adults? Matear and Gudofsky (1999) anticipate that older adults will generally be better educated than previous generations of older adults, possibly have higher expectations about maintaining and preserving their natural dentition; and more will have the financial resources to fulfil their expectations. However, the main barrier is the perceived need for oral health care, thus those 65 years or more are the least likely to use dental services. A majority believe they have no need for dental care until there is a problem such as pain, eating difficulties or social embarrassment.

Those aged 85 and older are most likely to be burdened with many of the chronic conditions associated with aging, accompanying frailty and functional dependence.

### **Older frail adults are also more prone to certain oral health risk factors**

- Reduced salivary flow as a common side effect of many medications
- Arthritis, stroke, dementia and other physical and functional limitations that can diminish their ability to perform effective oral hygiene practices
- Chronic medical conditions such as diabetes, dementia, depression
- Chewing and swallowing difficulties that impact their nutritional and weight status
- Xerostomia / dry mouth
- Loss of natural teeth (malnutrition, unintentional weight loss) and missing teeth
- Social isolation
- Cancers of the lip, tongue, mouth, gum, pharynx, and salivary glands increase with age
- Retaining teeth into older age (dentate)
- Smoking

(Canadian Oral Health Strategy, 2006; CDHA, 2004, Lockerr, Clarke and Payne, 2000; Lockerr, 1995; MacEntee, 2005, McNally, 2005; Sbaraglia, Turnbull and Lockerr, 2002; SOHC, 2006)

In addition to oral health risk factors, **there are several barriers for older adults to receiving oral health care including:**

- Living in a rural area;
- Cost of care / limited finances;
- Lack of private dental insurance;
- Lack of public dental programs;
- Lack of providers from underserved racial and ethnic groups, sometimes leading to a lack of cultural competence in service providers;
- Fear of dentist visits and lack of dental visits;
- Disease or disability that makes brushing and flossing extremely challenging;
- Limited oral health literacy making it difficult to easily locate services or understand information provided;
- No perceived need for oral health care / lack of dental visits
- Cognitive changes with seniors that may reduce their desire to acquire care; and
- Not seeking assistance because pain is accepted as a normal part of aging.

(Canadian Oral Health Strategy, 2006; CDHA, 2004, Lockerr, Clarke and Payne, 2000; Lockerr, 1995; MacEntee, 2005, McNally, 2005; Sbaraglia, Turnbull and Lockerr, 2002; SOHC, 2006)



## How can the Primary Care IPC Team promote oral health and reduce barriers?

- Collaborate and network with oral health professionals
  - Create a larger team of networked geriatric professionals who can meet the oral health of an aging population
  - Add oral health services/deliver dental services with the FHT/CHC
  - Implement collaborative /alternative methods of preventive and treatment options to ensure access
- Improve the team's older adult oral health knowledge
- Maintain information on dental health professionals
  - Specializing in geriatric dentistry
  - Providing mobile services
- include oral health promotion as an integral component of general health promotion strategies
  - Focus on reducing common health risk factors

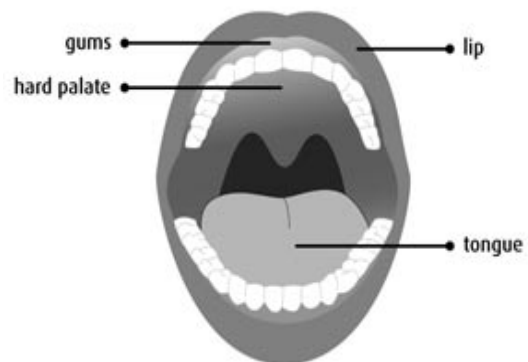
## Oral Health and General Health

### (The Mouth – Body Link)

There is a low awareness amongst citizens and governments of the linkages between oral health and general health (COHS, 2005). The CHDA (2005) argues that oral health services are the missing link in the health system. They have traditionally been neglected since they are almost exclusively privately funded and the mouth has customarily been considered as separate from the body. According to the Canadian Oral Health Strategy (2005) **“nearly 7% of all health expenditures are for oral health care, ranking second in diagnostic categories behind only cardiovascular care expenditures.** These costs are borne mostly by individuals and private insurance companies (55% of privately funded expenditures), and less by provincial or territorial governments (5.8%). **Expenditures on oral health exceed those for mental health, cancer, diabetes and pulmonary diseases.** “When the expenditures on dental care, as well as the links between oral conditions and other diseases are taken into consideration, the impacts of oral diseases on the health care system are enormous”. Oral diseases and disorders are progressive and cumulative if untreated and thus become more complex over time.

### The oral cavity is made up of:

- lips
- tongue
- inside of the lips and cheeks
- hard palate (roof of the mouth)
- floor of the mouth (under the tongue)
- gums and teeth



2008 [www.cancer.ca](http://www.cancer.ca)



The Canadian Oral Health Strategy (2005) reported recent research showing the link between periodontal disease and systemic disease and insists it's the impetus for reconnecting the mouth with the body. Periodontal disease is a serious gum infection that destroys attachment fibres and supporting bone that hold teeth in the mouth. Periodontal disease is linked with heart disease, diabetes mellitus, and respiratory disease. Chronic diseases such as diabetes, anticancer therapies, medication for common conditions such as depression and drugs with large amount of sucrose affect dental health (Ghezzi and Ship, 2000; Scully and Ettinger, 2007). Studies have shown the link between periodontal disease and diabetes mellitus (COHS, 2006).

The National Institute of Nutrition notes that poor oral health among the frail elderly is an important contributing factor to the involuntary weight loss that is linked with increased morbidity and mortality (News and Analysis, 1997). One of the most important functional consequences of oral disease and disorders is a reduction in the ability to chew. This affects the types of foods chosen to eat and can result in a poor diet, such as reduction of fiber intake, protein, calcium, iron and vitamin C. Locker (2002) found that over a 7 year study period, there was a significant decline in oral functioning and that older edentulous adults showed the greatest changes in chewing ability from 22-33%. Pain and disability associated with poor oral health can affect older adults' ability to eat properly, which in turn can affect nutrition status, body weight and overall resistance to systemic diseases. Oral infections can contribute to worsened chronic or systemic diseases, malnutrition and weight loss.

Over the last several years, increased attention is being given to the possible link between dental and oral health and acute respiratory disease, as the oral cavity has long been considered a potential reservoir for respiratory pathogens. Evidence of the association between pulmonary infection and oral diseases in dentate and edentulous patients seems to occur only in patients with severely compromised health, in frail elderly people and in patients with chronic pulmonary diseases. The mechanism of pulmonary infection is most likely due to the accumulation of plaque on the teeth or dentures and some periodontal pathogens. Oral hygiene and periodontal disease are considered risk factors for pulmonary infection (Mojon and Bourbeau, 2003).

Poor oral health knowledge in caregivers also raises the risk that signs of serious oral diseases (such as malignancies) will go unrecognized. If care providers within the main stream health care system are not informed about the oral health/general health (mouth and body connection) situation, oral health will continue to remain peripheral to general health concerns; and if the public begins to understand that "you cannot be healthy without oral health", a measure of publicly funded oral care may gain legitimacy within our health care system. McCann, Seeney, Gibson and Bagg (2005) investigated the abilities of physicians to diagnose oral disease such as oral cancer and found that physicians were seriously deficient in diagnostic awareness. Frenkel, Harvey and Newcombe (2002) found that it was important to raise awareness of the importance of oral health among health care givers. For those care givers who had good knowledge, there was poor translation to practice. McNally (1999) asserts that if seniors and their families do not learn to recognize the importance of oral health, they will continue to avoid seeking proper care. Yoon and Steele (2007) concluded that there is a need to create opportunities for health care providers to visually inspect the oral cavities of older persons in their care and promote proper oral care delivery to older persons and persons with disability. To promote and incorporate oral health as part of



general health, the Canadian Oral Health Strategy (2005) recommends that oral health issues be included and integrated with initiatives to address chronic disease. Health experts confirm that health promotion and disease prevention programs are successful in reducing general health care costs.

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Earlier detection of significant oral disease
  - Align oral health with disease prevention and health promotion
  - Promote proper oral hygiene to reduce the risk of pneumonia, chronic conditions such as diabetes, heart disease, malnutrition especially among frail older adults
- Promote the important link between oral health and general health
- Oral health screening is part of general geriatric assessments
  - Use validated and reliable oral health measures
  - Use best practices/evidence-based approaches
- Share knowledge and resources
  - Participate in the development of resources
  - Provide education to older adults at risk

#### Definition of Oral Health

Desired state of the mouth that results from the interaction of an individual with his/her systemic health, self-care behaviour, and environment; oral health and overall health status are interrelated because each affects the other.

(Darby & Walsh 2003)

## Oral Health Issues

### ⇒ Periodontal Disease (Gum) and Caries (Tooth Decay)

From the early 1900s through to the 1960s, there was a widespread epidemic of caries and tooth extractions, which largely explains why so many older Canadians today have no natural teeth (MacEntee, 2005).

Even today, McNally (2002) predicts that dental caries will remain a significant public health problem for the foreseeable future, especially for older age groups. This is largely due to: the abundant use of medications that disturb saliva; the increased consumption of cariogenic foods and drinks, leading to endodontic (pulp) infections and fractured teeth. Demographic and epidemiological studies show that senior's oral health concerns have changed over time. Trends show lifespans increasing with fewer/or less severe carious teeth but a much greater potential for gingivitis and mild forms of periodontitis (CDHA, 2004). Yet in 2003, expenditures on oral health amounted to approximately \$7 billion (7 % of all health care) and the great bulk of these expenditures are for the prevention of decay and the treatment of the effects of decay (Canadian Oral Health Strategy, 2005). The elderly and poor still experience more tooth decay because of poorer health status, diet, medical conditions, and oral hygiene.



It is important to observe that dental caries and periodontal diseases are infectious diseases with multiple risk factors. Long considered a localized infection, chronic periodontal disease has been linked by current research to a variety of conditions with systemic implications including diabetes mellitus, respiratory diseases, and heart diseases (Boehm and Scannapieco, 2007; Canadian Oral Health Strategy, 2005; BC, 2006, Shay, 2002). **Oral diseases for the most part are preventable**, however older adults are a “caries-active” group experiencing new caries disease (Canadian Oral Health Strategy, 2006; CDHA, 2004; Thomson, 2004). In Canada:

- 60-80% of dental caries is found in disadvantaged and remote populations including the elderly, Aboriginal peoples, and people who are cognitively and/or physically disabled.
- The caries experience of older people over time exceeded that reported from cohort studies of adolescents.
- The dental root caries rate was more than 3 times greater for older adults over 65 years than for those under 45 years.
- For older adults (ages 65-74) 31% had tooth surfaces decayed or filled, compared with 10% of people aged 18-24.
- A caries risk factor was the wearing of a partial denture.
- More than half of older adults over 55 have periodontitis.

Locker (1995) found that over 90% of edentulous older adults and all dentate older adults required some dental treatment mainly due to high levels of periodontal disease, and surprisingly 88% of the older adults didn't perceive a need for dental care. Other studies have reported a range between 67-81% of older adults requiring dental treatments. Locker (1995) also found that one or more extractions were required by 21% community older adults due to periodontal disease and caries. Among high risk older adults, caries continues to be a major reason for tooth extraction (Galan, Brex and Heath, 1995; Hawkins, Main and Locker; 1997).

Glycemic control is a key issue in the care of people with diabetes, and intensive treatment of hyperglycaemia can reduce long-term complications. Recent evidence suggests a bi-directional relationship between glycemic levels and periodontal disease; the chronic inflammation and

### What is Periodontal Disease?

“The ‘periodontium’ is the soft tissue and bone that surrounds and supports the teeth. Periodontal disease (or more specifically, periodontitis) is diagnosed when the soft tissue (gingiva or gums) become inflamed and the periodontal ligaments (which attach the root of the tooth to bone) break down, reducing the level of support for the teeth. In advanced periodontal disease, the teeth become loose, since there is no longer adequate bone support for them. ....

**The inflamed, bleeding tissues are in many ways a chronic wound and should be treated as such. ....As a chronic wound, periodontal disease sites permit access from the oral environment to the blood stream.**

Thus it is understandable that there are links between periodontal health and diseases, and general health.”

(Canadian Oral Health Strategy, 2005)



infection that results from periodontal disease could have an adverse effect on glycemic control in people with diabetes (Simpson 2005). Research has shown that people with severe periodontitis were up to six times more likely to have poor glycemic control at a two to four year follow-up.

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Promote proper oral hygiene to reduce periodontitis and caries in frail older adults
  - Promote smoking cessation
  - Make early referral to dental health professionals so that treatments can be initiated

## ⇒ Dentate and Edentulous Older Adults

With the increase in the aging population, it's being noted that more people are retaining a greater percentage of natural teeth than previous generations and will continue to do so. This poses increasing challenges to the dental and health care sectors (MacEntee, 2005). Retention of natural teeth is a clear indication that we should expect to see new patterns of treatment needs for seniors (McNally, 1999). Despite this trend, there is still a widely held perception that losing teeth is a natural, expected consequence of getting older. The loss of teeth, known as edentulism, is usually due to dental caries and periodontal disease. Sadly, seniors who have lost their natural teeth often do not seek dental care, even though it's known that they are also at risk for oral diseases. For example, they can develop lesions in the mouth due to poorly fitting prosthetic appliances/dentures, exposure to tobacco or medications. In 2000, it was reported that 58% of Canadians 65 and older had lost all of their natural teeth (SOHC, 2006) . Teeth loss can lead to psychological, physical and social impairments and impact older adults' quality of life. Tooth loss whether from periodontal disease or caries, is associated strongly with the amount of tobacco smoked.

#### **Dentate**

having teeth

#### **Edentulous**

Lacking teeth, having no or few teeth

#### **Edentulism**

Complete loss of all natural teeth

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Provide education to frail older adults on oral hygiene
- Teach older adults proper oral hygiene
- Encourage regular dental visits



## ⇒ Dentures and Oral Implants

### Overdenture

Fabricated removable prosthetic appliance supported by soft tissue and few remaining teeth and attached to the abutment cylinders by a clip-bar or ball.

(Darby & Walsh 2003)

In the near future, older adults are expected to account for an increasingly disproportionate number of individuals needing oral implant prostheses (Stanford, 2007). Bryant and Zarb (2002) found that older adults respond to oral implants in the same manner as younger adults despite their tendency for systemic illness, including osteoporosis and age-related jawbone atrophy. According to Heydecke et al. (2003) mandibular (lower) overdentures retained by 2 implants provide elderly patients with better Oral Health Quality of Life (OHQoL) than conventional dentures and general health-related quality of life improved. However, the effects of poor oral hygiene have not been documented specifically among elderly patients with oral implants.

Elderly denture-wearers frequently report that nothing is wrong with their uncomfortable dentures because such discomfort has become an accepted part of aging. In a study conducted by Heydecke et al (2004) over ½ of the participants reported having pain, 1/3 reported functional limitations and psychologic discomfort due to their oral health condition. Today, total tooth loss has become almost synonymous with poverty and personal neglect, given the emphasis in our culture on personal appearance, grooming, fitness and youth. Wearing conventional complete dentures has a significant impact on OHQoL.

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Provide education to frail older adults on oral hygiene
- Teach older adults proper oral hygiene
  - Proper cleansing of dentures
  - Encourage regular dental visits

## ⇒ Xerostomia (Dry Mouth)

Saliva plays an essential role in the maintenance of oropharyngeal health. Saliva also serves many functions in the oral and gastrointestinal environment including oral cleansing, oral PH balance, swallowing, speech, taste and digestion. The medical terms often used to describe dry mouth are hyposalivation or xerostomia. In fact, hyposalivation refers to the functional finding of low salivary flow while xerostomia is the symptom that most patients complain about, the sensation of a dry mouth.

### Xerostomia

The medical terms often used to describe dry mouth are hyposalivation or xerostomia. In fact, hyposalivation refers to the functional finding of low salivary flow while xerostomia is the symptom that most patients complain about, the sensation of a dry mouth.



### Patients with low salivary flow experience many problems, including:

- xerostomia
- increased soft plaque deposits and dental decay
- difficulty clearing food and bacteria into the throat
- mucosal soreness
- gingivitis
- cheilitis (cracks) in the corners of the mouth
- fissuring on the tongue
- salivary duct infections
- yeast infections
- difficulty in chewing, speaking and swallowing
- burning mouth, and
- difficulty wearing dentures.

More than 400 medications commonly used by older adults especially those used for chronic conditions can result in a dry mouth, which can in turn lead to oral infections and tooth decay. Older adults with one or more chronic medical conditions, taking prescribed medications and those reporting their general health as poor were more likely to develop xerostomia (Locker, 1995). Locker (1995) reported a 22.5% incidence of xerostomia in community-dwelling adults over 50 years of age but noted in other studies it being reported as high as 61%. Penner and Timmons (2004) found

that men and women are equally concerned about xerostomia and felt it impacted their quality of life.

Systemic diseases such as Sjogren's syndrome, head and neck radiotherapy can also cause xerostomia but it is most commonly experienced as a side effect of medication. The onset of xerostomia is associated with the onset of other oral symptoms and problems with taste disturbance, bad breath and painful ulcers and affects oral functions such as chewing, eating, speech, communication, eating and social interaction and overall quality of life. Xerostomia combined with decreased physical health and poor access to dental care, increases the risk for contracting oral diseases such as yeast infections, caries, gingivitis, oral lesions and periodontal disease (Shinkai et al., 2006). Of significant concern is for seniors primarily living in the community, acute oral infections may be fatal for those who are frail (SOHC, 2006; Turner and Ship, 2007).

### Categories of medications:

- anticholinergics
- anticonvulsants
- antidepressants
- antiemetics
- antihistamines
- antihypertensives
- anti-inflammatory analgesics
- anti-nauseants
- anti-parkinsonians
- antipsychotics
- bronchodilators
- decongestants
- diuretics
- muscle relaxants

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Medical consultation for xerostomia
- Interprofessional consultations
  - Dental health professionals, speech language pathologists, pharmacists, public health, nurses, and others
- Promote regular visits to monitor for xerostomia to prevent oral health complications
- Promote relief interventions and twice daily brushing of teeth and gums



## ⇒ Dysphagia

Dysphagia is an uncomfortable, frightening and potentially life-threatening condition that affects older adults. Aging alone does not result in a swallowing disorder however, older adults (65+ years) swallow more slowly. It's not uncommon to find that in the older adult food sits in the throat longer near an open airway, thus placing them at higher risk for aspirating the food. Age-related changes in taste, smell, tactile sensitivity, and perception of viscosity can affect the speed and comfort of swallowing and altering food preferences. Dysphagia occurs as a result of direct and indirect damage by age-related disease to the swallowing muscles. Dysphagia in older persons is most likely caused by combinations of several underlying conditions. Conditions that contribute to swallowing problems include neurological or neuromuscular (e.g., cerebral vascular accident, Parkinson's disease, multiple sclerosis), structural (e.g., tumor, psychological, salivary changes caused by illness, medication or radiotherapy), environmental or social. The severity of dysphagia varies from mild to severe with any of these causes. Complications of dysphagia include aspiration pneumonia, choking, malnutrition, dehydration, decreased quality of life, and frustration for family (CASLPA, St. Peter's 2005).

In older adults with **dental decay** and oral pain could further compromise their chewing, thereby causing them to try to swallow larger amounts of food. Given more recent data on oral hygiene and respiratory infection, dysphagia is one area that can be targeted and could lower the incidence of aspiration pneumonia. **Poor oral hygiene** is associated with aspiration pneumonia. Not brushing teeth significantly increases oral bacteria in the saliva that dysphagic older adults swallow and may aspirate. Reduced salivary flow, a common side effect of many medications, increases the concentration of bacteria in the saliva, and if the saliva is aspirated, or more likely mixed with food or liquid, up to 100 million bacteria per ml or ¼ tsp could enter the lungs. An older person with dysphagia is more likely to aspirate in quantities that may far exceed 1 ml. These large-volume aspirations are of great concern, because any large chunks of food can obstruct the airways and if not cleared, can set up a secondary infection within the environment of increased saliva density. Clear liquids by themselves do not pose a problem, unless it significantly alters the pH balance or the volume is enough to cause asphyxia. The saliva drawn in with the liquid, may be problematic if it contains enough bacteria. Reduction in salivary flow allows for a higher concentration of bacteria to reside in the mouth and throat. Aspiration of food is more often associated with aspiration pneumonia than aspiration of liquids.

### Signs of dysphagia may include:

- Unexplained weight loss
- Recurrent chest infections
- Refusal to eat or reluctant to have food placed in mouth
- Takes small bites or amounts of food
- Resident or family reporting difficulty swallowing
- Unable to control food or liquid in the mouth
- Coughing before, during or after swallowing food or liquids
- Choking while eating or drinking
- Drooling
- Pocketing of food in the cheeks or retaining food in mouth
- Taking a long time to chew or swallow
- Change in voice quality - wet or gurgly voice after swallowing
- Slurred speech
- Weakened cough reflex (silent aspiration while eating/drinking)



## ⇒ Oral Cancer and Mucositis

The Canadian Cancer Society (2008) estimates that 3,400 new cases of oral cancer will be diagnosed in 2008. Most people diagnosed with oral cancer are over the age of 50 and men than women are affected. **Oral cancer (squamous cell carcinoma) has a higher mortality rate than either melanoma or cervical cancer. The 5-year survival rate for oral cancer is low, at just below 50 percent.** However, if the oral cancer is detected early, the 5-year survival increases dramatically to 80 percent. Almost all oral cancers start in the cells lining the mouth (oral cavity). These cells, known as squamous cells are flat and scale-like. Oral cancer is part of a group of cancers called head and neck cancers. Normally, the cells of the mouth are quite resistant to damage. However, repeated injury from smoking and alcohol or ill fitting dentures may sores or painful areas where cancer can start. If left untreated, oral cancer has the potential to spread to the lymph nodes and lungs. There is no single cause of oral cancer but some factors increase the risk of developing it (Canadian Cancer Society, 2008).

### Oral cancer

Cancer of the mouth and lips and is a type of head and neck cancer

### Mucositis

Direct cytotoxic action of chemotherapeutic agents on oral mucosa resulting in atrophy or thinning of the oral mucosa, erythema and ulceration.

(Darby & Walsh 2003)

### Risk Factors for Oral Cancer

- older adults
- tobacco cigars, cigarettes, pipes, chewing tobacco
- alcohol
- chewing betel nut, also known as paan
- sun and ultraviolet radiation (for lip cancer only)
- previous head and neck cancer
- human papillomavirus (HPV) infection
- precancerous conditions
- poor nutrition
- ill-fitting dentures
- oral trauma

### Risk factors

may increase an older person's chance of developing oral cancer. Smoking, particularly if combined with heavy alcohol consumption is a significant risk factor. About 90% of people with oral cancer use tobacco. However, quitting tobacco and alcohol significantly lowers the risk of developing oral cancer, even after many years of use (Canadian Cancer Society, 2008). Excessive sun exposure to the lips and especially if previous work was outdoors is a risk factor.

Early detection of the oral cancer in its preliminary stages is critical to improving the chances of benefiting from proper diagnosis and successful treatments. Unfortunately there is no definitive screening test for oral cancer. However, health professionals can complete oral health assessments to recognize symptoms and promote regular dental checkups so that oral cancers are detected earlier. A careful routine examination of the mouth can often detect early precancerous changes. Health professionals discuss the need for regular mouth monitoring with older adults who have a higher than average risk for oral cancer a regular mouth monitoring plan (Canadian Cancer Society, 2008).



Other health conditions can have the same signs and symptoms as oral cancer, so having any of the following symptoms does not necessarily mean a person has cancer. White patches (leukoplakia) or red patches (erythroplakia) on the lips or in the mouth are precancerous conditions that may become cancerous. Oral cancer usually spreads to lymph nodes in the neck. However, some of the most common sites where oral cancer could spread include the lung, liver and/or bone (Canadian Cancer Society, 2008).

There are multiple tests available to confirm the diagnosis of oral cancer. Oral cancers can be treated in a variety of ways including surgery, radiation therapy and/or chemotherapy. A treatment plan is designed to meet the needs of the older adults including supportive care, rehabilitative care. It's important for older adults to have a dental check up prior to starting treatment as well as regular follow-up visits with primary care and oral health professionals (i.e., cavities are common with treatments) after their treatments and therapies are completed.

Chemotherapy and radiation therapy can cause oral mucosal damage and cellular death. Damage to the oral mucosa and reduced immune system makes the mouth prone to infections. Mucositis is a common condition that results from older persons receiving chemotherapy for oral cancer and other types of cancers, and other conditions such as xerostomia, poor fitting dentures and poor oral hygiene. Those suffering from mucositis can experience painful sores and inflammation in the mouth, including the tongue, gums, back of the throat and lips. Promoting good oral hygiene, using analgesics, non-spicy foods, and maintaining a moist oral environment are important to reducing the severity of the mucositis and promoting healing to reduce the risk of infection. Other conditions that older adults may experience as a result of their oral cancer and therapies include dysphagia, pain, taste changes, chewing, trismus (difficulty opening the mouth), and hypothyroidism. Pain, nausea and vomiting, poor nutrition, poor oral care habits and xerostomia further complicate the situation and can lead to delays in healing and discomfort for the patient (Barasch and Peterson, 2003; Canadian Cancer Society, 2008; Scully, Epstein and Sonis, 2003; Rubinstein et al. 2004; Silverman, 2007; Sonis et al., 2004).

### Signs and Symptoms of Oral Cancer

- An ulcer or sore in the mouth that doesn't heal
- A lump in the lip, mouth, gums, tongue, roof of the mouth or tonsil
- Thickening in the cheek
- Unexplained bleeding in the mouth
- Pain in the mouth that doesn't go away
- Loose teeth
- Dentures that no longer fit\* **not a symptom but potential cause of a problem**
- Slurred speech
- Swollen saliva glands
- Swollen lymph nodes in the neck

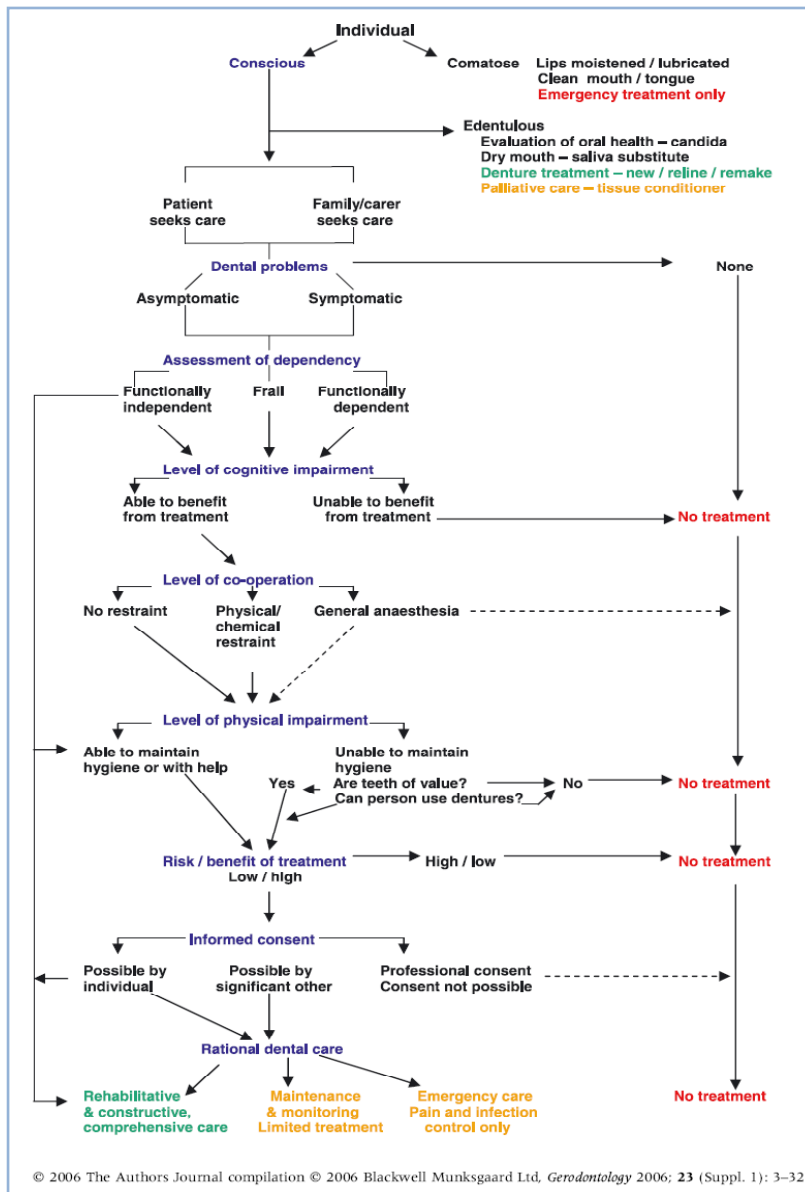
### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Monitor oral health of older adults at high risk for oral cancer
  - Early detection and referral for earlier diagnosis and treatments
- Promote preventive health measures
  - Smoking cessation, alcohol reduction/cessation, proper oral hygiene, proper fitting dentures
  - Encourage regular dental visits
- Monitor older adults post oral cancer treatments/therapies



## ⇒ Dementia

### Framework for Principles of Oral Treatment for Patients with Dementia



It is well recognized that oral health is likely to decline as dementias progress (Blackwell, 2006; Chalmers, Carter and Spencer, 2003). The impact of dementia in the later stages leads to poor oral hygiene and oral health. The evidence shows that older adults with dementia have poorer oral hygiene and more associated problems including:

- Increased reliance on others to carry out oral hygiene
- Increased care giver burden
- Increased plaque levels, gingivitis, bleeding gums, dental caries
- Decreased use of dental services
- Medications used for Alzheimer's dementia cause xerostomia
- Reduced saliva production
- Increase drooling causes angular cheilitis
- Increased risk of candidiasis
- Difficulty wearing dentures
- Dysphagia
- Inability to communicate oral problems
- Increased responsive behaviours (Blackwell, 2006; Chalmers, 2002; Chalmers and Pearson, 2005; Frenkel, 2004; Ghezzi and Ship, 2000; Little, 2005; Warren et al., 1997).

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Collaborate with oral health professionals
  - Implement preventive measures in earlier stages of dementia
  - Provide dental treatments in earlier stages of dementia
  - Ensure dentures are professionally cleaned regularly
- Support the family and recognize care giver burden
  - Provide education on oral hygiene techniques for twice daily oral care



## ⇒ End of Life

Many older adults who are palliating/ at end-of-life will experience mouth problems at some time during the course of their illness and therapies. Stomatitis is characterized by an inflamed oral mucosa that can range from mild inflammation to ulceration and the mucosa can bleed or become infected. There are many possible risk factors for developing stomatitis. While often due to chemotherapy or radiotherapy, stomatitis can occur with end stage chronic diseases (Alberta Palliative Care Resource, 2001; Waterloo Region Palliative Care Pain & Symptom Management Program, February 2005; Windsor-Essex County, January 2007). End-of-Life oral care therapies need to focus on providing treatments and therapies that improve oral comfort and consistent with the older adult's end-of-life care wishes.

### Additional oral care issues for palliating patients

- Xerostomia/dry mouth
- Mucositis
- Candida infection
- Herpes infection
- Bacterial infection
- Dysphagia
- Changes in taste
- Pain

### Risk factors for stomatitis

- Chemotherapy or radiation therapy
- Poor general health
- Poor nutritional status
- Dehydration
- Poor oral hygiene
- Poor fitting dentures
- History of smoking, alcohol
- Medications (especially Decadron, antibiotics, analgesics, antiemetics, antihistamines, antianxiety)

### How can the Primary Care IPC Team promote oral health and reduce barriers?

- Collaborate with palliative care health professionals
  - Implement oral comfort measures
  - Achieve adequate pain control
- Support the patient and family
  - Recognize care giver burden
  - Respect the older adult's and family's end-of-life care wishes, requests



# Primary Care

## Oral Health of Older Adults Resource Kit

### Measures

#### Oral Health Framework - - A Model of Oral Health (MacEntee, 2007)

MacEntee (2007) has recently developed a conceptual model of oral health for older adults that is consistent with current concepts of aging and disability. It fits well in any health care setting.



**Model of Oral Health** (MacEntee, 2007) Permission granted MacEntee, 2008

His conceptual model of oral health is composed of 4 major themes: comfort, general health, hygiene and diet. These themes affect people's lives both socially and personally. The model draws attention to the interaction between the major themes, as well as the overarching influence of personal and social environment on oral health. It illustrates the potential for a person to adapt to, and cope with, impairment and disability, and the influence that the different constituents (such as diet, hygiene) have on a person's activities. It includes the current theories of aging and disability, with an emphasis on

physical, psychological and social adaptation to maintain a sense of coherence and a positive response to disability and ill health despite their tendency to detract from quality of life in old age. The promotion of oral health should include knowing why older adults choose to participate or neglect their oral hygiene rather than focusing solely on the biomedical issues alone. Clinically, the model offers a conceptual framework for organizing collaborative care, questionnaires and studies using language that has the scope of sensitivity needed to reveal the positive strategies that older people use to manage their oral health and quality of life. Oral changes do not necessarily have a negative impact on older adults' quality of life since they cope and maintain a positive perspective on life (MacEntee, 2007).



## Quality of Life: The significance of oral health

### Oral Health

is essential for  
overall wellness

(CDHA, 2008)

Good oral health contributes to Quality of Life. Oral health, as defined by the Canadian Dental Association, includes the concept of well-being, not just the concept of absence of infirmity: "Oral health is a state of the oral and related tissues and structures that contributes positively to physical, mental and social well-being and the enjoyment of life's possibilities, by allowing the individual to speak, eat and socialize unhindered by pain, discomfort or embarrassment." ([www.cda-adc.ca](http://www.cda-adc.ca)). The Canadian Dental Hygienists Association emphasizes the integral link between oral health and general health in its statement "Oral health is essential for overall wellness." ([www.cdha.ca](http://www.cdha.ca)). SOHC (2006) reaffirms that overall health and well-being cannot be achieved when an individual experiences oral disease. Achieving oral health requires an absence of disease and disorders in the oral, dental and craniofacial tissues.

Oral disease and dysfunction can be extremely painful and can have an acute impact on quality of life of older adults, affecting their chewing, difficulties in eating, speaking effectively, self-esteem, and social interactions and relationships (SOHC, 2006). Pyle (2002) states that in no segment of society are these domains of health more critical than in the older adult, for it is in this population that deficits in quality of life are the most devastating. Locker, Clarke and Payne (2000) found significant associations between measures of oral health-related dysfunction, pain and disability with psychological well-being and life satisfaction. Subjects who rated their oral health as poor had lower morale, more life stress, and were less satisfied with their lives. They

### Oral Health-Related Quality of Life model

Model that postulates that the continuum of health and disease is influenced by environmental, Sociocultural, and economic influences that are either modifiable or nonmodifiable risk factors.

(Darby & Walsh 2003)

concluded that oral health is an important contributor to the well-being of older adults. Those older adults who were financially disadvantaged had great impact on their well-being. Locker (1995) similarly found that older persons who perceive to have poor oral health also described diminished quality of life (Locker 1995).

However, Locker and Gibson (2005) also found that there is a degree of discordance between self-ratings of and satisfaction with both oral and general health status in the older adult population. The unexpected paradox was that some people who reported poor oral health or general health had high reported satisfaction. This may be because of the expectations concerning health

in later life. People assess their health related quality of life based on their expectations and experiences.

According to Heydecke et al. (2003) mandibular (lower) overdentures retained by 2 implants provide elderly patients with better Oral Health Quality of Life (OHQoL) than conventional dentures and general health-related quality of life improved. In a study conducted by Heydecke et al (2004) over ½ of the participants reported having pain, 1/3 reported functional limitations and psychologic discomfort due to their oral health condition.

In order to achieve the potential benefit from community coalitions of allied groups and agencies for the overall improvement in health and quality of life needs, Canadian Oral Health Strategy (2005) recommends that in a multidisciplinary, collaborative approach of health delivery, organizations can learn from each other and can advance similar concepts together. Dentistry and the population at large can benefit from the strengths that many different health, social services and health promotion professionals can offer.



# Quality of Life

## Oral-Health-Related Quality-of-Life: The concept

Oral-health-related quality-of-life is a term commonly used to describe the outcomes of oral health conditions and therapies for those conditions (Locker and Allen, 2007). Quality of life is dynamic, fluctuating and resilient; it has both positive and negative attributes and is influenced by personal and social expectations. Slade (1997) believes that quality of life is influenced by a complicated array of phenomena that affect quality of life which defies simple explanations, assessments or measurements. He believes that the phenomena are much more than experiences of ill health, despite the orientation toward dysfunction and disease that dominates many of the current questionnaires that assess oral health-related quality of life. However, it is often difficult to measure the older adults' experience in a way that is clinically relevant and useful (Slade, 1997; Slade et al., 2005). Penner and Timmons (2005) found certain oral health quality of life measures were influenced by gender. Men were more likely concerned about issues that affected them personally such as eating foods, speaking clearly, bad breath, and activities of daily living. Women were more concerned about pain or discomfort such as mouth ulcers and bleeding gums.

## Oral-Health-Related Quality-of-Life: The tools

Despite the challenges in creating an oral-health-related quality of life questionnaire, about 17 dental questionnaires or structured interviews (sometimes referred to as "sociodental indicators") have been developed over the last 20 years, directly or indirectly, to measure the impact of oral health on quality-of-life experiences (Brondani and MacEntee, 2007). Brondani and MacEntee (2007) concluded on their review of oral health-related quality of life tools that most of the psychometric instruments used to measure quality of life associated with oral impairment and disability from the perspectives of older adults focus on negative experiences, and pay little attention to the possibility of positive reactions to disablement, thus challenging the validity of many instruments in current use. They concluded that the psychometric properties and predictive validity of many existing dental instruments are weak. One of the frequently used validated oral health-related quality of life measures used in older adult oral health research studies is the **OHIP or Oral Health Impact Profile** developed by Slade (1997). It looks at both negative and positive aspects of quality of life. Other tools that also balance positive and negative impacts that are related to older adults include the GOHAI (Geriatric/General Oral Health Assessment Index), OIDP (Oral Impacts on Daily Performances), OH-QoL (Oral Health Quality of Life Inventory) and Subjective Oral Health Status Indicators.

The **Oral Health Impact Profile (OHIP-14)** contains 14 questions that ask about the frequency of adverse impacts caused by oral conditions during the previous 12 months. Questions in the OHIP-14 encompass seven conceptual dimensions, two questions per dimension based on a conceptual model of oral health. The dimensions are: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap. These represent a hierarchy of impacts that increasingly impinge on broader aspects everyday life (Slade, 1997; Slade et al., 2005). The OHIP is a non-proprietary instrument and permission not needed to use (email correspondence, Slade August 2008).



# Primary Care

## Oral Health of Older Adults Resource Kit

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### Assessment

#### **Oral Health Assessment Tool for Non-Dental Professionals** (Chalmers, 2005)

There are no validated reliable assessment tools available for the primary care sector to use to complete an oral health assessment on older adults at risk. For the long-term care sector, Chalmers has worked extensively to create a simple, reliable and valid oral screening assessment tool for non-dental care staff to assess residents' oral health status.

The Oral Health Assessment Tool (OHAT) was developed for the *Best Practice Oral Health Model for Australian Residential Care*. Chalmers et al. (2005) designed the OHAT to be a simple, eight category reliable and valid screening tool for non-dental care providers to assess long term care residents' oral health, including those with dementias. Care providers found the OHAT to be user-friendly and caused them to complete a more thorough oral exam as part of their overall health assessment processes. It's a clearly defined and easy to use table-formatted assessment tool that directs non-dental care professionals to what key components of oral health need to be assessed and what would be normal and abnormal assessment findings. It also directs the assessor when referral to an oral health professional is necessary. The areas for assessment include:

- lips,
- tongue,
- gums and tissues,
- saliva,
- natural teeth,
- dentures,
- oral cleanliness, and
- dental pain

Chalmer's (2005) Oral Health Assessment Tool was adapted for the Ontario long-term care sector in 2007. In a July 2008 email communication, Chalmers stated that the OHAT is now being used within the primary care sector in Australia. Permission was granted to adapt and use the OHAT to the Ontario Primary Care Sector.



# Primary Care

## Oral Health of Older Adults Resource Kit

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**Check out the Journal of the American Dental Association 2007, 138 special issue supplement on the oral health in older adults** (references is listed above)

Articles by: Scully & Ettinger;; Turner & Ship; Bartlett ; Boehm & Scannapieco; Stanford; Silverman; **and** MacEntee



# Primary Care

## Oral Health of Older Adults Resource Kit

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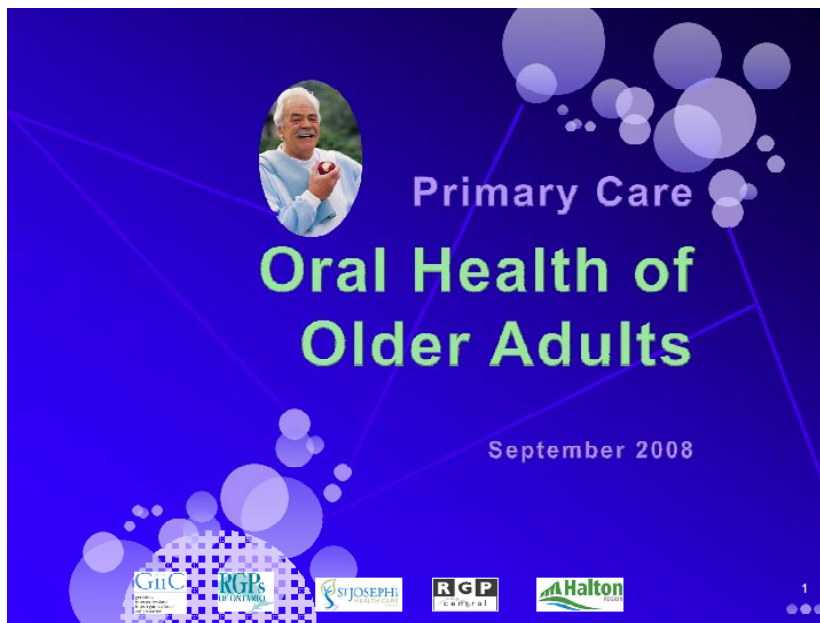
### Resources and Tools

*The resources and tools are available for download at*

*[www.rgpc.ca](http://www.rgpc.ca) and [www.halton.ca](http://www.halton.ca)*

#### *Education Slide Deck on Oral Health of Older Adults for Non-dental Health Professionals*

*Used as an education presentation – knowledge booster on oral health of older adults, 30 slides (includes learning objectives, content 25 slides, resources/references)*



# Quick Facts Sheet on Oral Health of Older Adults for Non-dental Health Professionals

Summarizes key points from the Resource Kit - Background section

## Oral Health of Older Adults Primary Care: Quick Facts

- Compared with other age groups, older adults have less access to oral care services and poorer oral health status.
  - 30% visited a dentist compared to 88% visited a physician annually;
  - 75% of senior men and 83% of senior women have no dental insurance;
  - Many standard dental treatment options are invasive, complex, expensive and often, not available to non-ambulatory older adults living independently; and
  - Up to 90% of older adults don't perceive the need for dental care.
- Nearly 7% of all health expenditures are for oral health care, ranking 2nd in diagnostic categories behind cardiovascular care and exceeding mental health, cancer, diabetes and pulmonary diseases.
- Research has shown the important link between oral disease and systemic diseases such as heart disease, diabetes and respiratory diseases.
  - Oral diseases are progressive and cumulative if untreated and become more complex over time, and
  - Poor oral health is an important contributing factor to involuntary weight loss.
- Oral disease, pain and dysfunction can have an acute impact on the quality of life of older adults, affecting their chewing, eating, speaking, self-esteem, health, social interactions and relationships.
- More older adults are retaining a greater percentage of their natural teeth than those of previous generations.
  - Tooth decay is more than 3 times greater for older adults than for those under 45 years and exceeded tooth decay rates of adolescents.
  - Older adults with tooth decay and oral pain have compromised chewing, possibly causing them to try to swallow larger amounts of food and inadvertently aspirate; and
  - Denture-wearers frequently report that nothing is wrong with their uncomfortable dentures because such discomfort has become an accepted part of aging.
- More than 400 medications commonly used by older adults especially those used for chronic conditions can result in a dry mouth, which can lead to oral infections and tooth decay.
- Oral cancer has a high mortality rate with the 5-year survival rate is below 50%. If detected early, the 5-year survival increases dramatically to 80%.
- Oral health of older adults with dementia declines as their dementia progresses, due to poor oral hygiene and reliance on others.
- End-of-life oral care treatments need to focus on improving oral comfort and be consistent with the older adult's end-of-life care wishes.

References and resources: [www.rgpc.ca](http://www.rgpc.ca)  
Primary Care Oral Health of Older Adults Resource Kit



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# Knowledge Test on Oral Health of Older Adults for Non-dental Health Professionals

Use to test basic oral health knowledge

## Oral Health of Older Adults Primary Care: Oral Health Knowledge Test

- In general, research confirms that poor oral health conditions can have an effect on an individual's general health and quality of life.
  - True
  - False
- The pain & disability associated with poor oral health in older adults can affect:
  - Their ability to eat properly
  - Weight loss
  - Ability to resist systemic diseases
  - Ability to communicate & socialize effectively
  - (a), (b), & (d)
  - (a), (b), & (c)
  - All of the above
- Of the following, which factor(s) contribute to an older adult's risk for oral disease?
  - Cognitive impairment
  - Dependency on others for their care
  - Xerostomia (dry mouth)
  - High carbohydrate diet
  - (c) and (d)
  - (b) and (c)
  - All of the above
- Bacterial plaque and tartar do not form on dentures since they are made of acrylic.
  - True
  - False
- Of the following, which is NOT a way to manage xerostomia (dry mouth)?
  - Chewing a sugar-free gum
  - Prescription for pilocarpine drops
  - Use of lemon and glycerine swabs
  - Topical spray of water on tongue and oral tissue
- It has been found that older adults with dementia have:
  - Decline in saliva flow
  - Greater accumulation of plaque on teeth and dentures
  - Increased responsive behaviours during oral care
  - Higher levels of tooth decay, missing teeth and gum disease
  - (a) and (c)
  - (b) and (d)
  - All of the above


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## Oral Health of Older Adults Primary Care: Oral Health Knowledge Test

- Soaking dentures overnight in water with a denture tablet added is an ideal way to ensure dentures are clean.
  - True
  - False
- How often should denture cups be scrubbed to prevent bacterial or fungal growth?
  - Daily
  - Weekly
  - Monthly
  - Every 3 months
- Oral pain can lead to behaviour problems in cognitively impaired older adults.
  - True
  - False
- Research has shown that poorly perceived oral health is associated with:
  - lower levels of life satisfaction
  - reduced psychological well-being
  - both (a) and (b)
  - Neither (a) or (b)
- The majority of toothpastes have a strong taste that does not appeal to older adults with Alzheimer's Disease.
  - True
  - False
- Toothbrushes used for oral care for older adults should have:
  - a narrow handle and a small head
  - a narrow handle and a large head
  - a thick handle and a small head
  - a thick handle and a large head

References and resources: [www.rgpc.ca](http://www.rgpc.ca) Reprint Permission Granted for Educational Non-profit Use Only



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# Case Study on Oral Health of Older Adults for Non-dental Health Professionals

Use as an education tool with an Interprofessional Team to discuss oral health care for older adults and learn about your community oral health services (non-academic)

## G2C Case Studies - Primary Care

Regional Geriatric Programs of Ontario  
G2C Initiative for FHTs and CHCs

## Geriatrics Interprofessional Interorganizational Collaborative Care

### ORAL HEALTH

Mrs. Orlando, a 79 year old patient was seen at home by a geriatric nurse practitioner because of concerns of persistent weight loss. She is frail with mild cognitive impairment but is still able to make her own decisions. She lives with her 83 year old husband and both are determined to remain in their home. She is more home bound since starting home oxygen for her cardiopulmonary disease. She has diabetes, severe osteoarthritis, unstable bladder, poor sleep and recurrent episodes of pneumonia.

Her chief complaint is that her teeth were hurting, her mouth was extremely dry like she had cotton balls in it from chronic mouth breathing and medications. She has difficulty chewing and eating. Throughout her life she had attended a dentist regularly but as she aged, her cardiopulmonary disease worsened, became less independent, and her oral health care diminished.

On examination, her partial dentures were ill-fitting; she had various carious lesions on some of her remaining teeth and severe gingivitis. Her oral hygiene was poor. She is suffering considerable oral pain. She weighs 52 kg and has lost 20kg over the last 4 months.

Medications	Metformin 500mg BID Detrol LA 4mg OD Easyl 25mg QHS	Atace 5mg OD Hydrochlorothiazide 12.5mg OD Tylenol 431 QID PRN
-------------	---	--

**Collaborating for better patient outcomes . . .**

- Is ideal oral health achievable?
- What are the challenges?

Mrs. Orlando demonstrates the complexities of oral care for frail older people with chronic illnesses. Her tooth decay was compounded when oral care was deemed unimportant and only noticed when she had lost significant weight. Oral diseases are progressive and cumulative if untreated and become more complex over time. There is an important link between oral disease and systemic diseases such as heart disease, diabetes and respiratory diseases. Poor oral health is an important contributing factor to involuntary weight loss. Oral disease, pain and dysfunction can have an acute impact on their eating, speaking, self-esteem, health, social interactions.

**How and why?**  
How does oral care relate to general health? Is it marginalized?  
Who should be involved in her care? Why?  
Are dental health professionals part of the geriatric team?  
How can health and dental care professionals work collaboratively?  
What is the goal of care? Maintaining dentition? Is it age-appropriate?  
What about discrimination of older adults re oral health care?  
What about her medical conditions, medications, functional decline, husband, community supports, other issues?  
How will her choices and values be respected? Who will advocate?  
What about her quality of life?

**Who and Where?**  
Who will be assessing, monitoring and treating her oral health?  
How will preventive and maintenance oral care be provided?  
Who are the dental health professionals?  
Are there geriatric dental health professionals?  
Are there mobile dental care services?  
Are there financial and physical barriers to receiving care?  
Should we consider new practice patterns that include oral health assessments as part of home visits/primary care?  
Should health care professionals be educated re oral health?

2008. Developed by MS van der Horst, RNP-Clinical /D Scott RNP -Geriatric/Waterloo Region Health Region's Health Equity /based on case study by Dr. M. McMealy, Dalhousie University, permission granted  
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For Oral Care & IPC resources, go to  
[www.g2c.ca](http://www.g2c.ca) & [www.ggp.toronto.ca](http://www.ggp.toronto.ca)

# Audit Tool on Oral Health Care for Non-dental Health Professionals

Use to Audit your oral health services from a best practices approach

Primary Care Oral Health of Older Adults Gap Analysis Using RNAO Oral Health: Nursing Assessment and Interventions BPG				
RNAO Oral Health BPG Practice & Education Recommendations	Resources / Tools	Yes - No - N/A	Current Practice	
1. CMC & FHT health professionals include an assessment of their personal oral hygiene beliefs and practices, as these may influence the care they provide to older patients.	Personal reflection, team reflection			
2. As part of their overall health assessment of older adults patients, CMC & FHT health professionals should obtain an oral health history that includes oral hygiene beliefs, practices and current state of oral health.	• Primary Care Oral Health for Older Adults Resource Kit • Oral Health History (OHH-14) quality of life measure • Oral Health Assessment Tool for Non-Dental Professionals • RNAO BPG Appendix C: Oral Hygiene History - Sample Questionnaire			
3. CMC & FHT health professionals use a standardized valid and reliable oral assessment tool to perform their initial and ongoing oral assessment.	• RNAO BPG Appendix E: Oral Health Assessment Tools • Oral Health Assessment Tool for Non-Dental Professionals • Oral Health Impact Scale (OHHIS) quality of life measure			
4. Oral health status information is regularly reviewed with all members of the health care team to monitor older adult patients' progress and facilitate the development of an individualized plan of care.	Primary Care Oral Health Resource Kit for Older Adults			
5. Nurses provide, supervise, remind or cue oral care for patients at assisted living or in a long-term care facility. This includes older adult residents who: • have decreased oral care skills • have a decreased level of consciousness, and • who have teeth (partial or do not have teeth extracted).	Collaborate with primary caregiver Brochures			
6. Nurses provide or supervise the provision of oral care for older adults at risk for aspiration.	Collaborate with primary care giver Brochures			
7. CMC & FHT health professionals provide ongoing education to older adult patients and/or family members regarding oral care.	Oral Health Department - Dental Health Education resources for non-dental professions, oral care brochures			
8. CMC & FHT health professionals are knowledgeable of oral hygiene products and their indications as they pertain to their specific client populations.	• RNAO Oral Health for Older Adults Resource Kit • Review Suppliers list for oral care supplies			
9. CMC & FHT health professionals are aware of assessments and medications that impact on the oral health of residents.	• Primary Care Oral Health for Older Adults Resource Kit • Medications that Impact Oral Care Reference Tool • RNAO oral hygiene assessment - assessment OHHAT			
10. Nurse uses appropriate techniques when providing oral care to older adult patients.	Collaborate with primary care giver Brochures			
11. CMC & FHT health professionals are capable of referrals for those older adult patients who require consultation with an oral health professional (eg. dental hygiene, dental care).	Referral notes			
12. CMC & FHT health professionals ensure that all oral health related history, assessment and care is documented.	• Oral Health Assessment Tool • Health care record			

RNAO Oral Health BPG Practice & Education Recommendations	Resources / Tools	Yes - No - N/A	Current Practice
13. CMC & FHT health professionals require appropriate oral health knowledge and skills acquired through on-line education programs, workplace orientation programs, and ongoing continuing development opportunities.	• Hiring process • Ongoing staff education		
14. Nurses who provide oral hygiene care to their older adult patients, either directly or indirectly, must participate in or complete appropriate oral hygiene education and training.	• Use education resources such as Primary Care Oral Health for Older Adults Questionnaire • Education from a Oral Health Professional		

RNAO Oral Health BPG Organization & Policy Recommendations	Tools/Resources	Yes - No - N/A	Current Practice
15. Health care organizations develop oral health care policies and programs which recognize that the contents of oral health assessment, oral hygiene and oral treatment are integral to quality older adult care.	RNAO OHHAT Appendix C: Algorithm to Guide Oral Health Assessment and Intervention		
16. Health care organizations develop, implement and increase capacity among providers to deliver collaborative practice models for improving oral health care they provide to patients.	Confirm Older Adults dental professionals, community visiting, referral process, onsite OHHAT, online oral care options		
17. Health care organizations implement continuing education opportunities for nurses and support to complete oral hygiene education and training that is applicable to their health setting.	Refer to #11		
18. Oral hygiene care standards that are based on the best available evidence are developed, implemented and monitored as part of the organization's commitment to providing quality oral health care and services.	Implementation of evidence-based oral care practices, policies and tools within the organizations		
19. Oral health care standards and policies are based on the best available evidence and are regularly updated to reflect the most current research and best practices in oral hygiene care that result in a better understanding of the issues related to oral hygiene care provision in various health care settings.	Oral Health for Older Adults Resource Kit (available in Primary Care Oral Health Resource Kit)		
20. Oral hygiene care is monitored and evaluated as part of the organization's quality management program, utilizing a variety of quantitative and qualitative approaches.	• Oral hygiene education needs self-reporting system • Oral hygiene audit reports • Oral health care of long-term care residents		
21. Nursing best practice guidelines can be successfully implemented only when there are adequate planning resources, organizational and administrative support, as well as appropriate facilitation (see RNAO (2007) for full description of this process)	RNAO OHHAT Appendix C: Algorithm to Guide Oral Health Assessment and Intervention Oral Health for Older Adults Resource Kit (available in Primary Care Oral Health Resource Kit)		

Primary Care

Oral Health of Older Adults Resource Kit

September 2008

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# Medication Reference Tool for Non-dental Health Professionals

Use as a reference tool – reminder of the most common medications that cause a dry mouth in older adults

## Oral Health of Older Adults

### Primary Care






### Medications That Impact Oral Health



**Xerostomia (Dry Mouth)**  
Managing the oral side effects from medications is important to maintaining good oral health of frail older adults. Medication-induced xerostomia is a common side effect of many medications:

Classification	Generic Name	Brand Name	Classification	Generic Name	Brand Name
Anorexiant	phentermine	Adipex-P	Antiinflammatory Analgesic	ibuprofen	Motrin
	phendimetrazine	Ionamin Zantryl Anorex SR Bontril PDM		naproxen	Naprosyn
Antianxiety	mazindol	Mazanor	Antinauseant	piroxicam	Feldene
	hydroxyzine	Atarax		diphenhydramine	Dramamine
	lorazepam	Ativan	meclizine	Antivert	
	prazepam	Centrax	biperiden	Akineton	
	halazepam	Paxipam	trihexphenidyl	Artane	
Anticholinergic / Antispasmodic	oxazepam	Serax	Anti-Psychotic	benztropine mesylate	Cogentin
	diazepam	Valium		clozapine	Clozaril
Anticonvulsant	atropine	Atropisol	Bronchodilator	lithium	Eskalith
	hyoscyamine	Anaspaz		haloperidol	Haldol
Antidepressant	oxybutynin	Diopropan	Decongestant Diuretic	chlorpromazine	Thorazine
	felbamate	Felbatol		ipratropium	Atrovent
Antidiarrheal	lamotrigine	Lamictal	Muscle Relaxant	albuterol	Ventolin
	carbamazepine	Teqrol		pseudoephedrine	Sudafed
Antihistamine	clomipramine	Anafranil	Narcotic Analgesic	chlorothiazide	Duril
	amitriptyline	Elavil		furosemide	Lasix
Antihypertensive	fluoxetine	Prozac	Sedative	cyclobenzaprine	Flexeril
	doxepin	Sinequan		orphenadrine	Norflex
Other common oral adverse side effects of medications	loperamide	Immodium AD	Burning mouth / tongue	merperidine	Demerol
	diphenoxylate with atropine	Lomotil		morphine	MS Contin
Dental caries	diphenhydramine	Benadryl	Difficulty with speech	flurazepam	Dalmane
	loratadine	Claritin		triazolam	Halcion
Alterations in taste	terfenadine	Sebidane	Difficulty with swallowing	temazepam	Restoril
	aprotinin	Caplisen			
Difficulty with chewing	prazosin	Minipress			
	reserpine	Serpasil			
		Oral ulcerations		Opportunistic infection	Bleeding
		Atrophic mucosa		Gingival enlargement	Stomatitis
		Hair tongue		Mucositis /	

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Source: Registered Nurses Association of Ontario (2007).  
Oral Health Nursing Assessment and Interventions. Toronto, ON. Author: [www.rnao.org](http://www.rnao.org)

## Quality of Life Too – Oral Health Impact Profile

Use to determine the impact of oral health on an older adult's quality of life

### ORAL HEALTH IMPACT PROFILE

	Name	Date
--	------	------

HOW OFTEN have you had the problem during the last year?  
(circle your answer)

	VERY OFTEN	FAIRLY OFTEN	OCCASIONALLY	HARDLY EVER	NEVER	DONT KNOW
--	------------	--------------	--------------	-------------	-------	-----------

1. Have you had trouble pronouncing any words because of problems with your teeth, mouth or dentures?
2. Have you felt that your sense of taste has worsened because of problems with your teeth, mouth or dentures?
3. Have you had painful aching in your mouth?
4. Have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures?
5. Have you been self-conscious because of your teeth, mouth or dentures?
6. Have you felt tense because of problems with your teeth, mouth or dentures?
7. Has your diet been unsatisfactory because of problems with your teeth, mouth or dentures?
8. Have you had to interrupt meals because of problems with your teeth, mouth or dentures?
9. Have you found it difficult to relax because of problems with your teeth, mouth or dentures?
10. Have you been a bit embarrassed because of problems with your teeth, mouth or dentures?

Oral Health Impact Profile (OHIP-14) (Slade 1997) Oral Health-Related Quality of Life Measure 1

HOW OFTEN have you had the problem during the last year?  
(circle your answer)

	VERY OFTEN	FAIRLY OFTEN	OCCASIONALLY	HARDLY EVER	NEVER	DONT KNOW
--	------------	--------------	--------------	-------------	-------	-----------

11. Have you been a bit irritable with other people because of problems with your teeth, mouth or dentures?
12. Have you had difficulty doing your usual jobs because of problems with your teeth, mouth or dentures?
13. Have you felt that life in general was less satisfying because of problems with your teeth, mouth or dentures?
14. Have you been totally unable to function because of problems with your teeth, mouth or dentures?

CARE PLANNING: if the person answered very often, fairly often or occasionally on any question, determine the Oral Health-Related Quality of Life (most appropriate oral and general health intervention(s)).

Completed by: \_\_\_\_\_  
(name & professional designation)

INSTRUCTIONS

THE QUESTIONNAIRE  
This questionnaire asks how troubles with your teeth, mouth or dentures may have caused problems in your daily life. We would like you to complete the questionnaire even if you have good dental health. We would like to know how often you have had each of the 14 listed problems during the LAST YEAR.

HOW TO ANSWER THE QUESTIONS  
Each question on the left hand side of the page asks you about a particular dental problem. You should think about each question in turn, and circle the answer to the right of the question, to indicate how often you have had the problem during the last year.






EXAMPLES: if you occasionally had painful aching in your mouth, you would circle the answer as shown in this example.

	VERY OFTEN	FAIRLY OFTEN	OCCASIONALLY	HARDLY EVER	NEVER	DONT KNOW
--	------------	--------------	--------------	-------------	-------	-----------

3. Have you had painful aching in your mouth?

OHIP Development: Slade GD. Development and validation of a short-form oral health impact profile. Community Dentistry & Oral Epidemiology 1997; 25:284-90.  
OHIP Revisions: Slade GD, Nutall N, Sanders AE, Beebe JG, Allen PF, Lind S. Impacts of oral disorders in the United Kingdom and Australia. Br Dent J. 2005 Apr 23;198(8):480-91.  
*Non-proprietary. Review articles before using as recommended by author Slade 2008*

For additional information and resources: [www.rnao.org](http://www.rnao.org)  
Primary Care Oral Health of Older Adults Resource Kit  
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Oral Health Impact Profile (OHIP-14) (Slade 1997) Oral Health-Related Quality of Life Measure 2



## Oral Health Assessment Tool for Non-dental Health Professionals

**OHAT is a valid and reliable tool that health professionals can use to screen the oral health status of older adults, determine the need for referral and interventions**

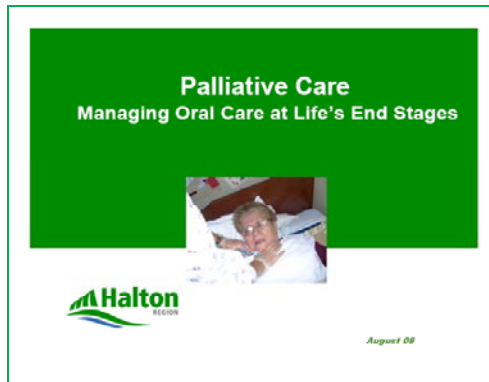
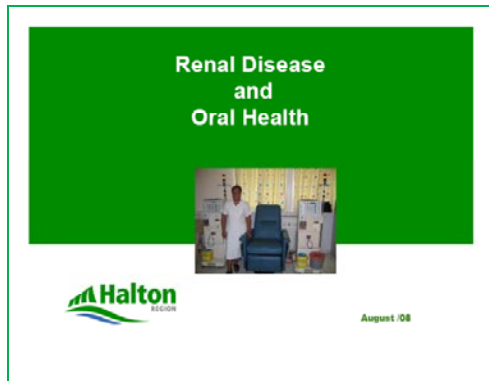
ORAL HEALTH ASSESSMENT TOOL (OHAT) for NON-DENTAL PROFESSIONALS				Patient/Client:		
Primary Care				Date:		
Initial assessment <input type="checkbox"/>		Repeat assessment <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>		NOTE: A Star* and underline indicates referral to an oral health professional (i.e. dentist, dental hygienist, dentist) is required.		
Category	0 = healthy	1 = changes	2 = unhealthy	Score	Action Required	Action Completed
Lips	Smooth, pink, moist	Dry, chapped, or red at corners	<u>Swelling or lump, white/red/ulcerated patch, bleeding/ulcerated at corners*</u>		1=intervention 2=refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Tongue	Normal, moist, pink	Patchy, fissured, red, coated	<u>Patch that is red and/or white, ulcerated, swollen*</u>		1=intervention 2=refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Gums and Tissues	Pink, moist, smooth, no bleeding	<u>Dry, shiny, rough, red, swollen around 1 to 6 teeth, one ulcer or sore spot under denture*</u>	<u>Swollen, bleeding around 7 teeth or more, loose teeth, ulcers and/or white patches, generalized redness and/or tenderness*</u>		1 or 2 = refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Saliva	Moist tissue, watery and free flowing saliva	Dry, sticky fleeces, little saliva present, resident thinks they have dry mouth	<u>Tissues parched and red, very little or no saliva present, saliva is thick, ropey, resident complains of dry mouth*</u>		1=intervention 2=refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Natural Teeth <input type="checkbox"/> Y <input type="checkbox"/> N	No decayed or broken teeth/roots	1 to 3 decayed or broken teeth/roots*	4 or more decayed or broken teeth/roots, or vary worn down teeth, or less than 4 teeth with no denture*		1 or 2 = refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Denture(s) <input type="checkbox"/> Y <input type="checkbox"/> N	No broken areas/teeth, dentures worn regularly, name is on	1 broken area/tooth, or dentures only worn for 1-2h daily, or no name on denture(s)	<u>More than 1 broken area/tooth, denture missing or not worn due to poor fit, or worn only with denture adhesive*</u>		1 = ID denture 2 = refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Oral Cleanliness	Clean and no food particles or tartar on teeth or dentures	Food particles/ tartar/ debris in 1 or 2 areas of the mouth or on small area of dentures; occasional bad breath	<u>Food particles, tartar, debris in most areas of the mouth or on most areas of dentures, or severe halitosis (bad breath)*</u>		1=intervention 2=refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Dental Pain	No behavioural, verbal or physical signs of pain	Verbal and/or behavioural signs of pain such as pulling of face, chewing less, not eating, aggression*	Physical signs such as swelling of cheek or gum, broken teeth, ulcers, "wum hole" as well as verbal and/or behavioural signs*		1 or 2 = refer	<input type="checkbox"/> YES <input type="checkbox"/> NO
REFERRAL <input type="checkbox"/> Referral to oral health professional				Date		
INTERVENTIONS <input type="checkbox"/> Chronic disease management				Name		
<input type="checkbox"/> Referral to health professional <input type="checkbox"/> MD <input type="checkbox"/> Nurse/NP <input type="checkbox"/> Dietician <input type="checkbox"/> OT <input type="checkbox"/> SW <input type="checkbox"/> Community worker <input type="checkbox"/> Other						
NOTES:						
2008 September modified with permission from Dr. Chelver						
Download: <a href="http://www.rgp.ca">www.rgp.ca</a> or <a href="http://www.halton.ca">www.halton.ca</a>						
ML van der Horst, D SCIE, D Bowler						

## Oral Health Assessment Tool Education Slide Deck

Use as an educational slide deck to learn how to use the OHAT



**Oral Health Education Slide Decks (Halton) on Various Oral Health Topics**  
Use as an educational slide deck to learn more about various oral health issues.



**Educational Slide Decks are available on the following Oral Health Topics:**

- Diabetes
- Dementia
- Denture
- Dry Mouth
- Dysphagia
- Mucositis – Cancer Care
- Oral Pathology Basics
- Renal Disease
- Oral Health Care Tips, Facts and Myths for Older Adults
- Palliative Care
- Tooth Abscess






# Reference List on Oral Health of Older Adults

## 6 pages of references and resources on oral health issues

**Primary Care**  
**Oral Health of Older Adults**



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