

UNIT NO. 6

ORAL HEALTH

Dr Hilary P.Thean, A/Prof Robert Yee

ABSTRACT

Oral health problems such as edentulousness, dental caries, periodontal disease, oral cancer and xerostomia are some of the common oral conditions which can impact the everyday activities of the older adults. This can impact their quality of life, through social effects and nutritional status. Of pertinence to primary care doctors is the relationship between oral health and general health. Poor oral health and chronic diseases are interrelated due to common risk factors. Poor oral health can also be a risk factor for many common chronic diseases and poor periodontal health has been associated with cardiovascular disease, diabetes mellitus and aspiration pneumonia. Conversely, poor physical and mental health in the elderly has an effect on their oral health. The prevalence of poor mental health, dementia, depression, Alzheimer's disease, Parkinson's disease and physical function impairment increases with age and are associated with poor maintenance, greater risk of periodontal problems, edentulousness, poor oral function and pain.

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BACKGROUND

Missing teeth due to oral diseases (decayed teeth and periodontal conditions) are highly prevalent in Singapore amongst the elderly, affecting 100% of 60-64-year-olds (mean number of missing teeth = 13); 99.4% of 65-69-year-olds (mean number of missing teeth = 15) and 100% of 70-74-year-olds (mean number of missing teeth = 16). A large survey of Singapore adults aged 20 years and above (n=6,560) conducted by HPB in 2003 showed that 88.9% of adults brushed their teeth at least twice a day but only 32.8% flossed at least once a day and 45.5% visited a dentist once a year. No specific information was available on elderly Singaporeans. However with increasing age, males and low educational attainment were found to be significantly associated with less favourable tooth-brushing practices.

Oral health problems such as edentulousness, dental caries, periodontal disease, oral cancer and xerostomia are some of the common oral conditions which can impact the everyday activities of the older adults. This can impact their quality of

life, through social effects and nutritional status. For example, a patient with ill-fitting dentures or who experiences pain when he eats because of tooth decay, can avoid eating and experience weight loss.

Of pertinence to primary care doctors is the relationship between oral health and general health. Poor oral health and chronic diseases are interrelated due to common risk factors. Poor oral health can also be a risk factor for many common chronic diseases and poor periodontal health has been associated with cardiovascular disease, diabetes mellitus and aspiration pneumonia. For example, the presence of periodontitis has been found to increase the risk of the worsening glycaemic control over time, while diabetes is a strong risk factor for periodontitis.

Conversely, poor physical and mental health in the elderly has an effect on their oral health. The prevalence of poor mental health, dementia, depression, Alzheimer's disease, Parkinson's disease and physical function impairment increases with age and are associated with poor maintenance, greater risk of periodontal problems, edentulousness, poor oral function and pain.

Salivary hypofunction and xerostomia which is prevalent amongst older adults, affecting approximately 30%, is also often caused by systemic conditions, their treatment (e.g. radiotherapy and chemotherapy) and multiple use of medications such as antidepressants, antipsychotics, antihistamines and anticholinergics. Having a dry mouth not only affects the quality of life through difficulty in chewing and swallowing, but may also increase the risk of periodontal problems, dental caries and oral infections.

In addition, the risk of oral cancer, oral pharyngeal cancer and oral premalignant lesions is high in the age group above 60 years, due to the decline in the immune system, the common risk factors related to oral health and general health, and limited social and psychological support.

ASSESSMENT

The Oral Health Assessment Tool (OHAT) developed by The Iowa Geriatric Education Centre is the recommended best practice oral health assessment; it includes 8 charts with images that can be used to easily recognise the categories of poor oral health.

An Oral Health Screening Checklist (modified OHAT) for screening markers can also be used. Nurses aides can be trained to use the revised version in community functional screening.

For further details about the OHAT, refer to Annex OH1.

HILARY P. THEAN, Senior Lecturer, Department of Restorative Dentistry, National University of Singapore

ROBERT YEE, Associate Professor, Department of Preventive Dentistry, Faculty of Dentistry, National University of Singapore

INTERPRETING RESULTS

Abnormal Results

Individuals with oral pain, dry mouth, poor dentition status, poor periodontal health, in need of oral prosthesis or who have existing prosthesis in need of repair/relining are referred to a dentist.

Assess the oral health status of the patient, especially if the patient has:

- Decreased functional capability, or
- Poor mental health
- Diabetes
- Cardiovascular disease
- Poly-pharmacy
- Complaints of pain, dry mouth, swelling or persistent ulcers

Instruments to be used for the assessment include: gauze, tongue depressor and penlight.

1. Lips

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Fungal infections can cause redness and ulceration at the corners of the mouth (angular cheilitis). (Figure 1)

2. Tongue

Using the gauze to hold the tongue, check the lateral sides and floor of mouth for ulceration, swellings or white/red patches. There is a predilection for squamous cell carcinoma (the most common oral malignancy) to be found on the lateral tongue surfaces and anterior floor of mouth.








3. Gums & Tissues

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Candida infections can be common in denture wearers or the immunocompromised older adult. Periodontal health is a risk factor for some chronic illnesses. (Figure 3)

4. Saliva

Many medications can cause salivary hypofunction which can lead to xerostomia.

Figure 1: Assessing changes to the lips

Stable	Refer to Dentist	
0 = Healthy Smooth, pink, moist	1 = Changes Dry, chapped, or red at corners	2 = Unhealthy Swelling or lump, white/red ulcerated patch, bleeding/ulcerated at corners
		
	Mild angular cheilitis (mixed candidal and bacterial infection)	Severe angular cheilitis
		
	Mild angular cheilitis	Lump (possibly SCC or BCC)
		
		Ulcerated

Source: OHAT (from The Iowa Geriatric Education Centre)

5. Natural Teeth

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Decayed teeth can lead to pain and the lack of teeth can affect chewing function.

6. Dentures

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Ill-fitting dentures can cause pain and irritation to the tissue causing hyperplastic growth. Poor denture hygiene may lead to Candida infection. (Figure 4)










7. Oral Cleanliness

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Poor oral hygiene can lead to problems with bleeding gums, loss of bone support for the teeth, loss of teeth and is a risk factor for cardiovascular disease, diabetes, aspiration pneumonia.

8. Dental Pain

Source: OHAT (from The Iowa Geriatric Education Centre)
 Note: Oral facial pain can lead to impaired function and affect the older adult's quality of life.

Figure 2: Assessing changes to the gums & tissues

Stable	Refer to Dentist	
0 = Healthy Pink, moist smooth, no bleeding	1 = Changes Dry, shiny, rough, red, swollen, one ulcer/sore spot under dentures	2 = Unhealthy Swollen, bleeding, ulcers, white/red patches, generalized redness under dentures
		
Normal gums	Red and swollen gums	White and red patches (acute candidal infection)
		
Normal gums	Red and swollen gums	Swollen, bleeding gums
		
Normal gums	Ulcer on ridge under denture	Generalized redness under denture from denture stomatitis (fungal infection)







Source: OHAT (from The Iowa Geriatric Education Centre)

Figure 3: Assessing changes to the teeth

Stable	Refer to Dentist	
0 = Healthy No decayed or broken teeth/roots	1 = Changes 1-3 decayed or broken teeth/roots or very worn-down teeth	2 = Unhealthy 4 + decayed or broken teeth/roots, or very worn-down teeth, or less than 4 teeth
		
Normal teeth	2 decayed teeth	5 decayed teeth
		
Normal teeth	1 tooth root	11 decayed teeth
		
Normal teeth	1 molar tooth root	6 tooth roots









Source: OHAT (from The Iowa Geriatric Education Centre)

Figure 4: Assessing changes to the dentures

Stable	Refer to Dentist	
0 = Healthy No broken areas or teeth dentures regularly worn, and named	1 = Changes 1 broken area/tooth or dentures only worn for 1-2 hrs daily, or dentures not named, or loose	2 = Unhealthy More than 1 broken area/tooth, denture missing or not worn, loose and needs denture adhesive, or not named
		
Intact, named denture	1 broken area on partial denture	2 broken teeth in unnamed upper denture
		
Intact, named denture	Unnamed lower denture	Denture loose and needs adhesive

Source: OHAT (from The Iowa Geriatric Education Centre)

Figure 5: Assessing changes in oral hygiene

Stable	Refer to Dentist	
<p>0 = Healthy Clean and no food particles or tartar in mouth or dentures</p>	<p>1 = Changes Food particles/tartar/plaque in 1-2 areas of the mouth or on small area, of dentures, or halitosis (bad breath)</p>	<p>2 = Unhealthy Food particles/tartar/plaque in most areas of the mouth or on most of dentures, or severe halitosis (bad breath)</p>
		
Clean mouth	Tartar in 1 area of lower denture	Food particles, tartar and plaque all over
		
Clean mouth	Plaque and tartar in 1 area of mouth	Food particles and plaque all over
		
Clean mouth		Food particles, tartar and plaque all over

Source: OHAT (from The Iowa Geriatric Education Centre)

Figure 6: Assessing changes in oral facial pain

Stable	Refer to Dentist	
<p>0 = Healthy No behavioral, verbal, or physical signs of dental pain</p>	<p>1 = Changes Are verbal &/or behavioral signs of pain such as pulling at face, chewing lips, not eating, aggression</p>	<p>2 = Unhealthy Are physical pain signs (swelling of cheek or gum, broken teeth, ulcers), as well as verbal &/or behavioral signs (pulling at face, not eating, aggression)</p>

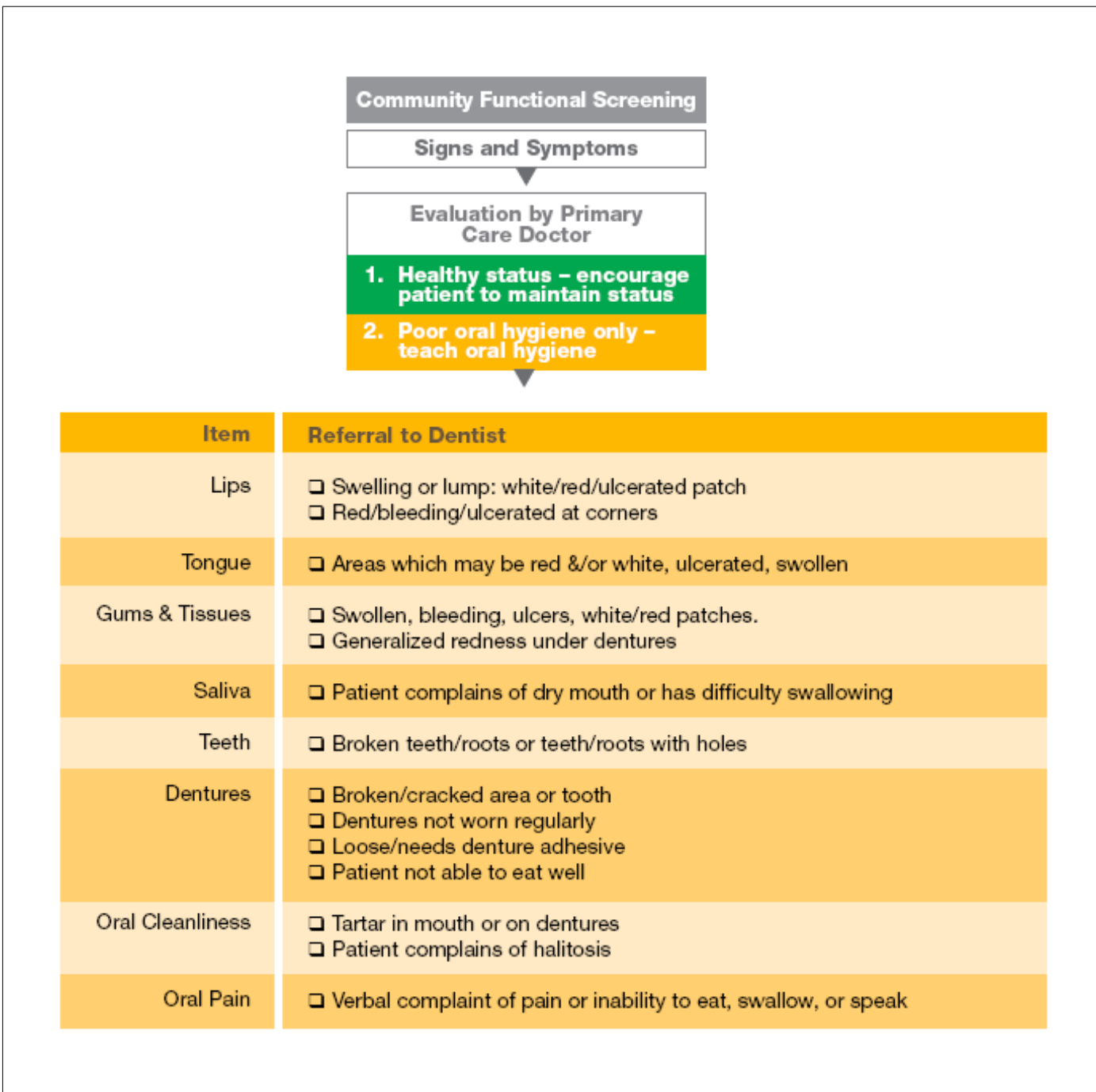
CLINICAL IMPLICATIONS

The primary care doctor can play an important role by reinforcing the need for regular oral examinations, early detection of problems and referral to a dentist for treatment (e.g. for decayed teeth, ill-fitting dentures, or swelling and

pain of dental origin). As the older adult is more likely to visit a primary care doctor regularly, the opportunity for the doctor to screen for oral health problems and refer older patients for further treatment must not be overlooked.

CLINICAL PATHWAY

Figure 7: Clinical pathway from screening to intervention



Source: 'Community Functional Screening Follow Up Resource for Primary Care Doctors', March 2011

MANAGEMENT AND REFERRAL

The main aim is for the primary care doctor to spot the significant lesions and do one of three things outlined below:

1. Healthy status - encourage the patient to maintain good oral hygiene.
2. Poor oral hygiene only - teach oral hygiene.
3. Lesions/broken prosthesis/require prosthesis - refer to a dentist.

Simple oral hygiene tips:

1. Dental check-ups/visits at least once a year
2. Recommend cutting back on the number of cigarettes or consider quitting smoking as smoking causes gum disease, dry mouth as well as increases the risk of oral cancer
3. Care of dentures

RESOURCES

For further information, prescribe to the patient:

- HealthLine - 1800 223 1313 to speak to a Nurse Advisor (available in 4 languages)
- Health Promotion Board website - <http://www.hpb.gov.sg>

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LEARNING POINTS

- **The Oral Health Assessment Tool (OHAT) developed by The Iowa Geriatric Education Centre is the recommended best practice oral health assessment.**
 - **The prevalence of poor mental health, dementia, depression, Alzheimer's Disease, Parkinson's Disease and physical function impairment increases with age and are associated with poor maintenance, greater risk of periodontal problems, edentulousness, poor oral function and pain.**
 - **Individuals with oral pain, dry mouth, poor dentition status, poor periodontal health, in need of oral prosthesis or who have existing prosthesis in need of repair/relining are referred to a dentist.**
 - **The primary care doctor can play an important role by reinforcing the need for regular oral examinations, early detection of problems and referral to a dentist for treatment (e.g. for decayed teeth, ill-fitting dentures, or swelling and pain of dental origin).**
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