

How Can Older Adults Best Maintain Their Oral Health?

A guide to preventive care, oral diseases, and oral health promotion measures

Oral health has a major impact on overall health and well-being¹

Poor oral health can adversely affect the quality of life and various daily functions²



Pain and discomfort in the mouth³



Impaired chewing and swallowing, an altered sense of taste⁴



Constrained food choices and nutritional deficiencies⁴



Dissatisfaction with appearance³



Lowered self-esteem and social isolation³



Difficulty in social interactions and communication³



Increased economic burden⁴



Increased longevity has contributed to an increase in the population of older adults with poor oral health⁵

Good oral health is, however, crucial for healthy ageing^{5,6}

Older adults are particularly vulnerable to oral diseases due to:



Age-related diseases¹



Dependence on care⁵



Multiple co-morbidities²



Limited mobility and access to oral care services⁵



Lack of incentives and policies supporting oral care⁴



Poor oral hygiene²

Conditions associated with an increased risk of dental problems in older adults⁴

- Cognitive disorders
- Neurodegenerative diseases
- Uncooperative behaviours due to psychological disorders



Sedation or general anaesthesia may be required to conduct dental treatment in certain cases

Types of oral health issues in older adults



! Dental caries⁵

! Oral traumatic injuries⁵

! Conditions affecting the soft tissues of the mouth⁵

! Periodontal disease

! Oral cancer⁵

! Chewing and swallowing problems⁵

! Dry mouth⁵

! Tooth loss⁵

! Denture-related conditions⁵

Steps to ensure better control of oral health problems



Assistance by caregivers for maintaining daily oral hygiene⁵



Scheduling regular visits to dental professionals or arranging domiciliary dental visits every six months for those unable to visit a dental office themselves⁵

Screening of older adults

- Older adults should be screened for their ability to independently manage their oral care and hygiene maintenance, and for difficulties with eating, mainly difficulty in chewing and swallowing⁵
- Regular oral health screening by caregivers and non-dental healthcare providers in case of lack of access to dental care services⁵
- Regular screening for oral cancer: Check all areas of soft tissue in the mouth for signs of cancer⁵

Oral care measures⁴



Older adults should brush or have their teeth and/or dentures brushed twice a day⁵

Dentures



Dentures restore functional abilities and improve the appearance and self-esteem of older adults with partial or total loss of teeth

However, appropriate use and care of dentures is necessary to experience benefits and avoid denture-related health problems

Denture care measures

- ✓ Rinsing dentures after every meal⁵
- ✓ Using specific denture-cleaning brushes and pastes or soaps, and avoiding regular toothbrushes and toothpaste to clean dentures⁵
- ✓ Cleaning surfaces lacking teeth and other areas of the mouth with a soft brush⁵
- ✓ Cleaning and storing dentures in a dry and clean container while sleeping⁵
- ✓ Cleaning denture adhesives (if used) from mucosal and denture surfaces after removing dentures for the night, every day
- ✓ Visit the dentist once a year to assess dentures and the mouth

Dietary and lifestyle modification measures that help maintain good oral health



Avoid carbonated drinks⁷



Consume a balanced diet with sufficient proteins⁷



Ensure sufficient intake of calcium and vitamin D, since their deficiencies can contribute to tooth loss⁸



Avoid smoking and alcohol consumption⁷



Reduce dietary intake of sugar and sweeteners⁷



Ensure sufficient water intake



Decrease the consumption of processed foods⁹



Decrease the consumption of tea and caffeinated drinks with sugar multiple times a day⁷

• Medications or underlying medical conditions might cause insufficient secretion of saliva, leading to a dry sensation in the mouth in older adults

• Water will not only help clear the mouth of debris after meals, but can also replace sugary drinks

Oral hygiene aids and products that help maintain oral health

Toothbrushes



Electric toothbrushes (ETBs)

- ✓ Easier for caregivers to use on older adults⁵
- ✓ Better for people with reduced motor skill¹⁰
- ✓ More effective in plaque removal and controlling gum inflammation¹⁰
- ✗ Expensive compared to manual toothbrushes⁵



Manual toothbrushes

- ✓ More affordable⁴
- ✓ Familiar⁵
- ✓ Customising the toothbrush handle can make it easier to grab and hold¹¹
- ✗ Require proper muscle co-ordination and control¹⁰

? Are all types of powered toothbrushes equally effective?



Ultrasonic toothbrushes



Ionic toothbrushes



Powered toothbrushes with side-to-side motion



Powered toothbrushes with circular motion

Oscillating-rotating toothbrushes



Among powered toothbrushes, only oscillating-rotating toothbrushes have consistently outperformed manual brushes

Toothpastes and the role of fluoride



- A toothpaste with high fluoride content (i.e., 5000 ppm) may be prescribed when increased protection is necessary
- Using a fluoridated toothpaste decreases the risk of caries and aids in the replacement of minerals lost from the enamel¹²

- A non-foaming toothpaste can be used in persons with swallowing problems or when providing assisted oral hygiene

- ✓ Stannous fluoride: Antibacterial properties¹²
- ✓ Stannous and sodium fluorides: Anticavity properties¹²

Stannous fluoride toothpaste is effective in the prevention of gum problems and oral malodour as well¹²

Mouthwashes



Mouth rinsing with a 0.12% chlorhexidine solution has been shown to be an adjunctive strategy in the management of acute oral conditions¹³



- ✓ Decreases the oral microbial load¹³
- ✓ Minimises plaque formation¹³
- ✓ Reduces oral malodour¹³
- ✓ Provides a refreshing sensation



Anti-plaque mouth rinses

Chemical anti-plaque agents are generally more effective when delivered as mouth rinses

Mouth rinses exhibit:



Better distribution in tough-to-reach areas



Positive impact on oral health by reducing bacteraemia from oral micro-organisms

Mouth rinses can contain anti-bacterial ingredients that aid in plaque control, like:

- Chlorhexidine
- Cetylpyridinium chloride
- Essential oils



However, use of chlorhexidine mouthwash has also been associated with multiple side effects such as:

⚠ Tooth discolouration⁵

⚠ Allergies⁵

⚠ Irritation of the inner lining of the mouth (cheeks, tongue, etc.)⁵

⚠ Altered taste sensation⁵

⚠ Hazardous in older adults with cognitive decline and swallowing difficulties⁵

• Mouth rinses do not replace toothbrushing

• This is particularly important for chlorhexidine, where clear instructions regarding preparation and mode of application should be provided¹³



• Mouth rinses should be used only after recommendation/prescription by a dentist

• Mouth rinses should not be used for long periods unless otherwise recommended by a dentist

Considerations and recommendations for oral care in older adults^{1,2,5}



Educate older adults and their carers on proper oral care techniques



Implement policies that improve access to oral care service



Promote a healthy lifestyle, including a healthy diet



Ensure regular dental check-ups in the community and in long-term care facilities



Implement dental examination at the time of admission in long-term care facilities

Key takeaway

Oral health promotion measures, including a healthy lifestyle, daily oral hygiene maintenance, regular dental screenings, and access to high-quality and affordable dental care, can decrease the oral disease burden of older adults and improve their quality of life^{3,5}

References:

1. Koistinen, S., Ståhlacke, K., Olai, L., Ehrenberg, A. & Carlsson, E. (2021). Older people's experiences of oral health and assisted daily oral care in short-term facilities. *BMC Geriatrics*, 21(1), 388.
2. Tyrovolas, S., Stergachis, A., Krish, V.S., Chang, A.Y., Skirbekk, V., Dieleman, J.L., ... & editors. (2022). Global, regional, and national burden of diseases and injuries for adults 70 years and older: systematic analysis for the Global Burden of Disease 2019 Study. *BMJ*, 376: e068208.
3. Ortiz-Barrios, L.B., Granados-García, V., Cruz-Hervert, P., Moreno-Tamayo, K., Heredia-Ponce, E., & Sánchez-García, S. (2019). The impact of poor oral health on the oral health-related quality of life (OHRQoL) in older adults: the oral health status through a latent class analysis. *BMC Oral Health*, 19, 141.
4. Duangthip, D. & Chu, C.H. (2020). Challenges in oral hygiene and oral health policy. *Frontiers in Oral Health*, 1, 575428.
5. Charadram, N., Maniewicz, S., Maggi, S., Petrovic, M., Kossioni, A., Srinivasan, M., ... & e-Delphi working group. (2021). Development of a European consensus from dentists, dental hygienists and physicians on a standard for oral health care in care-dependent older people: An e-Delphi study. *Gerodontology*, 38(1), 41–56.
6. World Health Organization. (2015). World report on ageing and health. World Health Organization. <https://apps.who.int/iris/handle/10665/186463>
7. Pitts, N.B., Twetman, S., Fisher, J., & Marsh, P.D. (2021). Understanding dental caries as a non-communicable disease. *British Dental Journal*, 231, 749–753.
8. Botelho, J., Machado, M., Proença, L., Delgado, A.S., & Mendes, J. J. (2020). Vitamin D deficiency and oral health: A comprehensive review. *Nutrients*, 12(5), 1471.
9. Kotronia, E., Brown, H., Papacosta, A.O., Lennon, L.T. Weyant, R.J., Whincup, P.H., ... & Ramsay, S.E. (2021). Poor oral health and the association with diet quality and intake in older people in two studies in the UK and USA. *British Journal of Nutrition*, 126(1), 118–130.
10. Flyborg, J., Renvert, S., Sanmartin Berglund, J., & Anderberg, P. (2023). Use of a powered toothbrush to improve oral health in individuals with mild cognitive impairment. *Gerodontology*, 40(1), 74–82.
11. Colvenkar, S., Patra, P., & Vijay, L. (2022). Customized toothbrush handle for patients with limited manual dexterity. *Journal of Oral Biology and Craniofacial Research*, 12(3), 385–387.
12. Clark-Perry, D. & Levin, L. (2020). Comparison of new formulas of stannous fluoride toothpastes with other commercially available fluoridated toothpastes: A systematic review and meta-analysis of randomised controlled trials. *International Dental Journal*, 70(6), 418–426.
13. Brookes, Z.L.S., Bescos, R., Belfield, L.A., Ali, K., & Roberts A. (2020). Current uses of chlorhexidine for management of oral disease: A narrative review. *Journal of Dentistry*, 103, 103497.

