

# **Oral Care for the Dependent Elderly**

## **Oral Care System**

### **Oral Care Support Instrument**



## **Oral Care Clinic**



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## Introduction

### **The need for oral care for the dependent elderly**

As society ages, maintaining oral hygiene so that food can be chewed well and enjoyed is very important in terms of quality of life (QOL). Recently, oral care for the elderly has become a topic of increasing interest, yet many dependent elderly have difficulty brushing their own teeth. Moreover, since it is not easy for family members or caregivers to clean another person's teeth, the teeth of dependent elderly who cannot brush themselves are often simply left unclean. Recently, we are coming to a better understanding of how foreign bodies and bacteria in the mouth are related to aspiration pneumonia (a disease that occurs when foreign bodies or bacteria enter the lungs via the mouth) and endocarditis (a disease of bacterial proliferation in the heart), as well as the effects of mastication on senility and dementia. Of particular note is the solid scientific evidence that aspiration pneumonia, the leading direct cause of death among the elderly, can be prevented by thorough oral care. Preventing the development of these diseases through appropriate oral care, and maintenance of oral and general health, are goals of all of us involved in dental care.

In November 1999, the Department of Dental Surgery at Chubu National Hospital, National Institute of Longevity Science (Now: National Center for Geriatrics and Gerontology), established the first oral care outpatient clinic in the nation. We have instructed many people in methods of systematic oral care, and the service has earned a good reputation. In addition to providing tooth-brushing instruction for the healthy elderly, we have also developed an oral care procedure (oral care system) using an electric toothbrush for the dependent elderly who have difficulty maintaining oral health by themselves. This project was funded by a 2000-2002 grant in aid for scientific research (longevity science general research project, chief researcher Yasunori Sumi) from the Ministry of Health, Labor and Welfare. The system we developed is quick, reliable, safe, inexpensive, effective, easy, and cleans the entire mouth. Furthermore, for people who require a higher level of care, such as those who cannot communicate well, dislike oral care provided by a caregiver, or have difficulty gargling so that this oral care system cannot easily be used, we have developed an oral care support instrument for the convenient and appropriate provision of oral care. These procedures are now being applied clinically with the aim of improving the QOL of both dependent elderly and their care providers.

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## A quick review of the oral conditions of the dependent elderly

Maintaining oral hygiene is very difficult for dependent elderly who cannot freely brush their teeth.



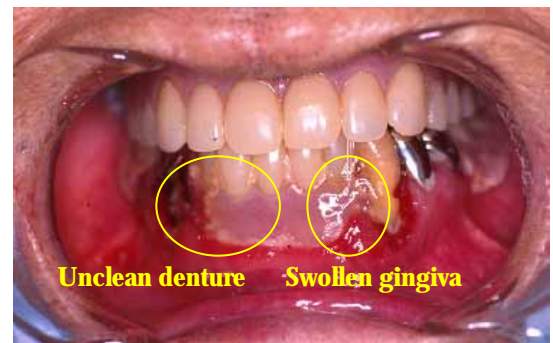
Patient with dementia



Patient whose left side is paralyzed from a stroke

The mouths of dependent elderly with dementia or paralysis are often not sufficiently cleaned, and food remains lodged in the mouth.

Moreover, some elderly people leave dentures in their mouths for long periods. In such cases, the unclean dentures can foul the surrounding teeth or mucosa supporting the dentures.



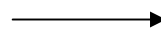
Patient with multiple cerebral infarction

Contamination (dental plaque, bacteria) of the teeth may be difficult to identify just by looking, but staining with a dye can reveal how unhygienic some mouths actually are.

### Specific oral care methods



Stain plaque



The following introduces two oral care methods for use according to the condition of the patient

1. For dependent elderly who can cooperate in oral care → **Oral care system**
2. For dependent elderly who have difficulty communicating, dislike oral care by a caregiver, or have difficulty gargling → **Oral care support instrument**

## 1. Oral care system

The oral care system was devised for use once each day for five minutes, so that anyone can keep the mouth of a dependent elderly person clean.

### Implements

1. Gayle receptacle
2. Electric toothbrush
3. Oral care foam stick
4. Spatula-shaped tongue brush
5. Cup
6. Spray bottle
7. Povidone-iodine gargle (mouthwash)



All of these implements can be obtained at a drugstore or supermarket. There are many types of electric toothbrush on the market, but the system we introduce here uses one with a small cup-shaped brush head, made by Braun. We have found it convenient to gather these implements and keep them together as a set in a basket.

### Body position for persons receiving care with the oral care system

Care should be taken with regard to the position of the person receiving oral care, to prevent accidental aspiration of foreign bodies into the lung. Safe positions for the person receiving care are a sitting position, lying with his or her head on the caregiver's lap, or lying on his or her side. People with hemiplegia should lie with the paralyzed side up.



Sitting position



Side position



## Oral care system procedures

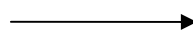
1. Using the oral care foam stick dipped in povidone-iodine mouthwash and the spray bottle, plaque and food remaining on the teeth or oral mucosa are dislodged. (About 1 minute.) This should be done gently, as the oral mucosa of elderly people is thin and easily damaged.
2. The tongue is cleaned by lightly scrubbing back-to-front using the spatula-shaped brush for about 10 repetitions. (About 30 seconds.) Care should be used not to harm the tongue. Since a dirty tongue is a cause of mouth odor, maintaining cleanliness is important.
3. The tooth surfaces are cleaned with the electric toothbrush while also using the gargle as needed. The mucosa is cleaned as required. (About 2 minutes, 30 seconds). See “[How to use electric toothbrush](#)” on next page.
4. The mouth amply rinsed with the mouthwash. (About 1 minute.) The Gayle receptacle is used to catch the expelled mouthwash. Sufficient care should be used to avoid aspiration. The person whose teeth are being cleaned should be in a sitting position when gargling, if at all possible.
5. The dentures of those who have them are cleaned and disinfected.



## Example of Oral Care System application



Oral care system  
(Once daily for 5 min)



## How to use electric toothbrush

### To start

- When not in use, place the toothbrush in the recharger to keep it fully charged.
- Before the brush is used for the first time, turn it on and closely observe the movement of the bristles. Also, tell the person about to have his or her teeth brushed that it may at times feel unpleasant.
- Moisten the brush before brushing the teeth. As a rule, toothpaste is not used.
- Turn the toothbrush on and off when the bristle head is in the person's mouth. If the toothbrush is operated outside the mouth, the contaminants from the bristles will fly off the brush into the surroundings.

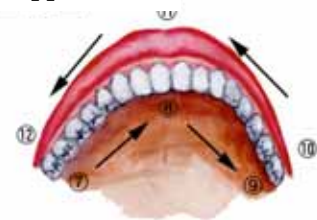
### Brushing procedure

- Areas left unbrushed will be a source of bacteria.
- Set a brushing order. Refer to the diagram to the right for a continuous brushing order that will not leave unbrushed areas.

### How to apply the toothbrush

- Position the brush at a right angle to the teeth, and hold with a pressure that does not cause the bristle tips to spread out. Brush one tooth at a time, with the brush touching the margin between the tooth and gums.
- The back (lingual) side of the lower front teeth and the outer (buccal) side of the upper molars are near saliva secretion points, and bacterial plaque mixed with saliva readily becomes dental calculus. Remove plaque before it becomes dental calculus.
- Since it is difficult to directly view and brush the molars, make sure that the brush is properly positioned when brushing. On the far side of the furthest posterior molars, turn the brush toward you so that the brush head envelops the tooth.

Upper teeth



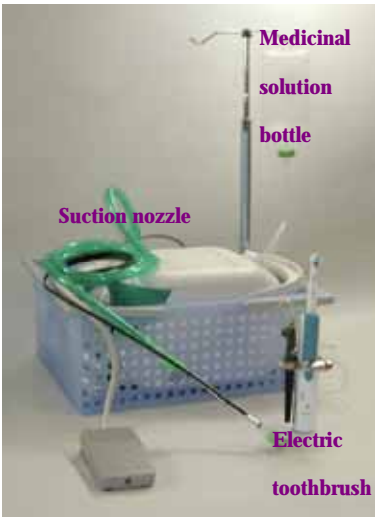
Lower teeth



## 2. Oral care support instrument (oral care for those requiring a high level of care)

The oral care support instrument is used to provide safe and effective oral care for people who require a high level of care and with whom the oral care system is difficult to use, such as those who cannot gargle themselves. It was devised to help protect the mouth and health of the dependent elderly, and improve the QOL of both the dependent elderly and their caregivers. The patent for this instrument is pending.

Oral care support instrument

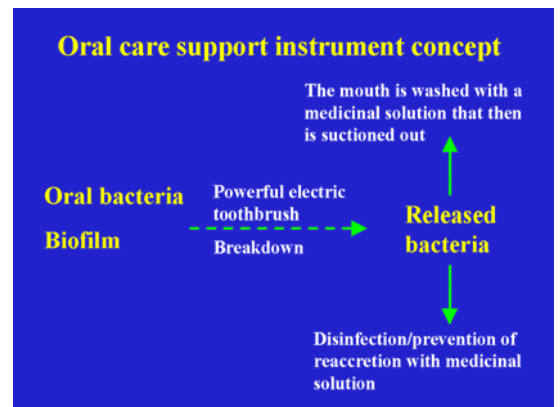


Example of Clinical application

### Oral care with use of oral care support instrument

Based on the concept shown at right, a powerful electric toothbrush with an attached medicinal solution sprayer is used to wash away food particles and plaque stuck to teeth, while contaminants are forcibly removed with a suction nozzle. This enables effective oral care even for dependent elderly who cannot gargle. Cleaning teeth once daily for two minutes is effective.

### Example of Oral Care Support Device application



Oral care support instrument  
(Once daily for 2 minutes)



(Patient with dementia on page 2)

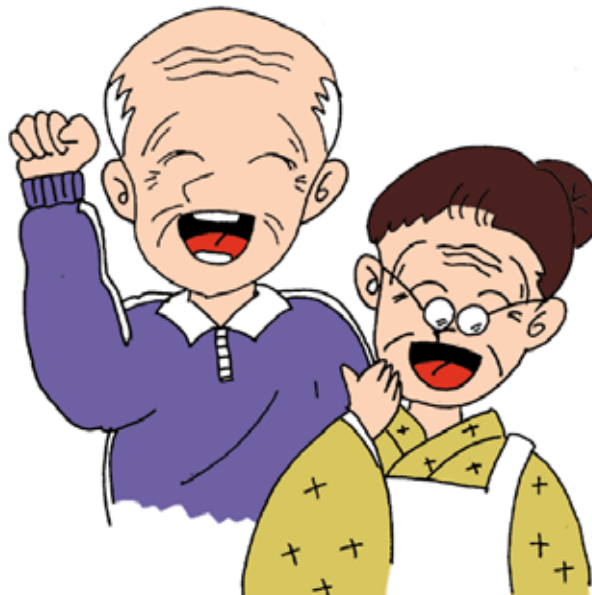
**If a hospitalized patient needs this oral care service, please ask our dental clinic.**

## Conclusion

In 1999, our department was the first in the nation to establish a clinic dedicated to oral care for the elderly and other people requiring care. In that time we have developed an oral care system to provide effective oral care for the elderly and other people requiring care, which is easy on both them and their families, and an oral care support instrument for elderly requiring a high level of care. Using these methods and instruments, we have attempted to raise the QOL of both the dependent elderly and their caregivers, and improve the general health condition of the elderly and other people requiring care. The spread of good oral care will help reduce aspiration pneumonia, endocarditis, and other systemic diseases in the elderly, as well as reduce and prevent diseases of the oral cavity such as periodontal disease and candidiasis. Oral functions will be restored and maintained by improving eating and swallowing functions, and it is our hope that the resulting restoration of health and social activity will lead to improved QOL for elderly people.

Daily care of the teeth and mouth is important for a healthy life. To maintain the ability to chew with one's own teeth over as much of one's life as possible, all people should receive regular check-ups by a dentist once or twice yearly, even if they have no symptoms such as pain or swelling.

Finally, a book describing in detail the oral care system presented in this pamphlet was published by Ishiyaku Shuppan in the summer of 2004. In addition, a videotape showing in detail the oral care system was published by Chuohoki Shuppan in 2003. Please refer to it for more detailed information.



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