

# Improving oral hygiene for edentulous bedridden patients

## Introduction

Elderly population growth has been increasing sharply due to the enlargement of life expectancy among this age group as well as the smaller number of newborns across the globe. Despite all the advances in dentistry, complete dental loss is still a recurrent issue that directly interferes with patients' quality of life. The scope of the present work is to think about patients who use complete removable dentures. This scenario becomes even more accentuated when it comes to bedridden patients, who are dependent and whose functional capacity is shortened, but whose cognitive skills have not been totally affected. Dependent patients are those who rely on others to perform the most basic daily activities, namely bathing, dressing, toileting, transferring, continence, and feeding.

Therefore, a bedridden patient usually faces the given reality: they are constrained to their rooms, without having access to the bathroom, being a lot of times limited, for example, to eating, sleeping, sunbathing, and watching television (maybe reading or listening to music), which are not activities they will be able to do without help. In order to assess patients' capacities, the Katz Index of Independence in Activities of Daily Living, commonly referred to as the Katz ADL, is the most appropriate instrument to assess functional status as a measurement of the client's ability to perform activities of daily living independently. Clinicians typically use the tool to detect problems in

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performing activities of daily living and to plan care accordingly. The Index ranks adequacy of performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding. Clients are scored yes/no for independence in each of the six functions. A score of 6 indicates full function 4 indicates moderate impairment and 2 or less indicates severe functional impairment (Table 1).

**Table 1** Katz ADL

Katz index of independence in activities of daily living		
Activities	Independence:	Dependence:
Points (1 or 0)	(1 Point) No supervision, direction or personal assistance	(0 points) with supervision, direction, personal assistance or total care
Bathing points: _____	(1 point) Bathes self completely or needs help in bathing only a single part of the body such as the back, genital area or disabled extremity.	(0 points) Needs help with bathing more than one part of the body, getting in or out of the tub or shower. Requires total bathing.
Dressing points: _____	(1 point) Gets clothes from closets and drawers and puts on clothes and outer garments complete with fasteners. May have help tying shoes.	(0 points) Needs help with dressing self or needs to be completely dressed.
Toileting points: _____	(1 point) Goes to toilet, gets on and off, arranges clothes, cleans genital area without help.	(0 points) Needs help transferring to the toilet, cleaning self or uses bedpan or commode.
Transferring points: _____	(1 point) Moves in and out of bed or chair unassisted. Mechanical transferring aides are acceptable.	(0 points) Needs help in moving from bed to chair or requires a complete transfer.
Continence points: _____	(1 point) Exercises complete self control over urination and defecation.	(0 points) Is partially or totally incontinent of bowel or bladder.
Feeding points: _____	(1 point) Gets food from plate into mouth without help. Preparation of food may be done by another person.	(0 points) Needs partial or total help with feeding or requires parenteral feeding.
Total points = _____ 6 = High (patient independent ) 0 = Low (patient very dependent )		

Within such circumstances, the question is: how can the dentist contribute to the betterment of this patient's life? If the subject has, for instance, four meals in a day, the cleaning of his or her complete dentures will be done four times as well. As mentioned before, since the patient cannot go to the bathroom, what usually happens is that a caretaker, or family member, ends up doing this work on their behalf. What if the bathroom is somehow transported to the bed? In what ways can the dentist instruct this patient in order to give him or her more autonomy over his limited abilities? Firstly, the dentist needs to assess whether this patient is capable of handling, holding, and grasping objects. If this ability hasn't been compromised due to an arthrosis or another pathology this means that he or she is able to brush their dentures. If so, then the dentist can propose certain adaptations in the toothbrush (Figure 1) This device increases the volume of the handle and makes it easier to use the brush, thereby enabling the patient to perform brushing by him/herself, consequently diminishing his/her dependence and improving self-esteem, contributing to the maintenance of the elderly patient's functional capacity.



**Figure 1** adapted tooth brush with foam ball used in physiotherapy.

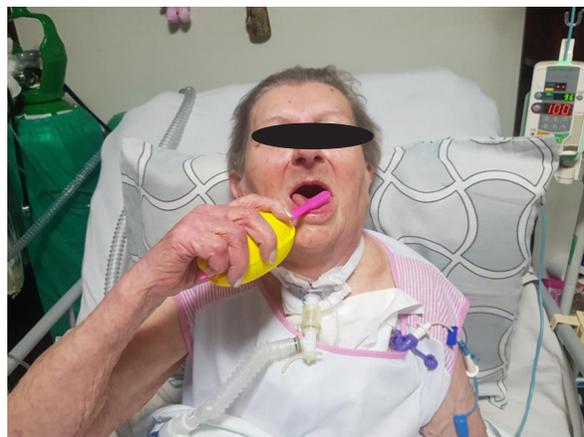
Secondly, once the patient may not be able to move around his room, the sink may be improvised. In this case, a plastic container filled with water and denture cleaner can be a solution, allowing the patient to do his or her hygiene on his or her lap (Figure 2).



**Figure 2** Container with water and denture cleaner.

As an alternative for cleaning dentures of patients with some motor limitation of the hand, especially in cases of arthritis or after a stroke, adaptation of a device to toothbrush handles can be indicated.<sup>1</sup> This device, which can be made from a variety of materials and object, for instance, bicycle handbar mittens, a foam ball used in physiotherapy, among others, increases the volume of the handle and makes it easier to use the brush, thereby enabling the patient to perform brushing by him/her, consequently diminishing his/her dependence and improving self-esteem, thereby contributing to the maintenance of the elderly patient's functional capacity.

Aside from the prosthesis' hygiene, one must also take into account the importance of keeping the lips, cheeks, alveolar ridge and tongue clean in order to avoid health complications (from fungus until a bacterial infection) that may become life-threatening to the patient, involving contamination of the inferior breath tract, which can cause pneumonia, for instance.<sup>2-5</sup> In order to prevent that from happening, dry gauze, or gauze soaked in a solution prescribed by the dentist taking into account each patient's needs and limitations, and toothbrush should be used to clean mouth and tongue (Figure 3A) (Figure 3B).



**Figure 3(A)** Patient using toothbrush to clean tongue.



**Figure 3(B)** Patient using gauze to clean mouth.

Furthermore, a quite simple, and sometimes forgotten, measure is to provide patients with a hand mirror, which will enable them to see themselves if they want to (Figure 4).



**Figure 4** patient holding hand mirror.

The aforementioned initiatives all aim at the betterment of bedridden patients, trying to provide them with more autonomy, which increases quality of life and self-esteem altogether.<sup>6</sup> Full autonomy cannot be expected at this time, but the main purpose here is to ensure the best course of action given the possibilities. As a final word, therefore, it is essential to mention all the professionals and people who are involved in this task: a multiprofessional team, well equipped to instruct patients, family members, and caretakers should work together in order to foresee all the limits and complications ahead of time.<sup>7</sup> Caretakers, be them fully trained professionally or people who are instructed by the family, have a decisive role in this process as they are active in the patient's daily life. Because of that, professionals must be attentive and give proper orientation to all of those who are dealing with the patient in an everyday basis.

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## Conflict of interest

The authors declare no conflict of interest.

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