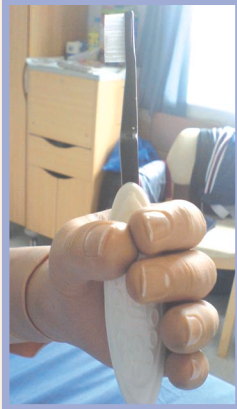




# Lending a Hand

Sakina Syed



A bilateral amputee with a motorised prosthesis, holding a toothbrush with a grip

## Scenario

James Rufi was injured in an industrial accident four months ago, and had to have his right arm amputated above his shoulder. He was an irregular attendee with his dentist at Opal Dental Spa, and last visited three years ago. Understandably, for upper limb amputees oral hygiene may seem to be of low priority, but if oral hygiene is not maintained, these individuals are potentially at higher risk of developing periodontal disease, dental caries and other oral problems.

The accident had left James with his left arm intact, and a prosthesis fitted on the right. It had been a traumatic four months, both physically and mentally. The task of maintaining his appearance, as well as the emotional struggle of coming to terms with adapting to life with only one fully functional arm,

was particularly difficult, and had caused considerable strain on his marital relationship. An excellent rehabilitation team had helped James to deal with his accident and help him return to normal life as best he could.

There is currently no prosthesis which restores all function, and movement is often limited. There are generally two types: a conventional prosthesis, which is cable-operated; and a myoelectric prosthesis (like James's) which uses electrical impulses produced by tightening or contraction of muscles. James was determined to look 'normal' in public, and found that the prosthesis gave his arm an acceptable aesthetic appearance, and also provided him with limited function.

Before the accident James was an irregular dental attendee, but was very well motivated in maintaining his oral health and looking after his general wellbeing. He was a non-smoker and moderate drinker, brushing his teeth twice daily and flossing. Undoubtedly his situation had raised difficulties for his independence and daily activities. James had found it difficult to brush his own teeth, and had recently suffered from bleeding gums. With the persuasion and support of his wife, he reluctantly agreed to visit Jackie Taylor, his dentist.

the day they were able to prepare for the appointment.

Maria remembered that her colleague Claire (one of the practice's dental nurses) was undergoing the Certificate in Oral Health Education, and that part of the coursework involved giving a case report on patient communication. She therefore thought that it would be beneficial for Claire to attend the appointment, and James gave his consent for her to observe.

A detailed history revealed that James had struggled to adapt to his new circumstances. At the rehabilitation centre, immediately after the accident, he had had a carer who helped him to wash and dress for the day. This included brushing his teeth once a day, in the morning. On his return home, his wife had brushed his teeth, but he often felt embarrassed and wanted to be more independent.

## Mountains and molehills

The choice of prosthesis is a multi-disciplinary team decision between the patient, the occupational therapist and the prosthetic technician, and while

## Taking small steps

Upon examination Jackie found that James's oral hygiene was poor, with generalised areas of plaque, calculus, bleeding upon probing, and carious lesions. She outlined a treatment plan and referred James to Maria Shaw, the practice's dual-qualified dental hygienist-therapist, as she had more experience in dealing with patients with physical disabilities, and would be able to complete periodontal therapy as well as restoring the carious lesions. When James's wife had called the surgery to make the appointment, the receptionist had made a note of his situation, so when Jackie and Maria checked their lists for

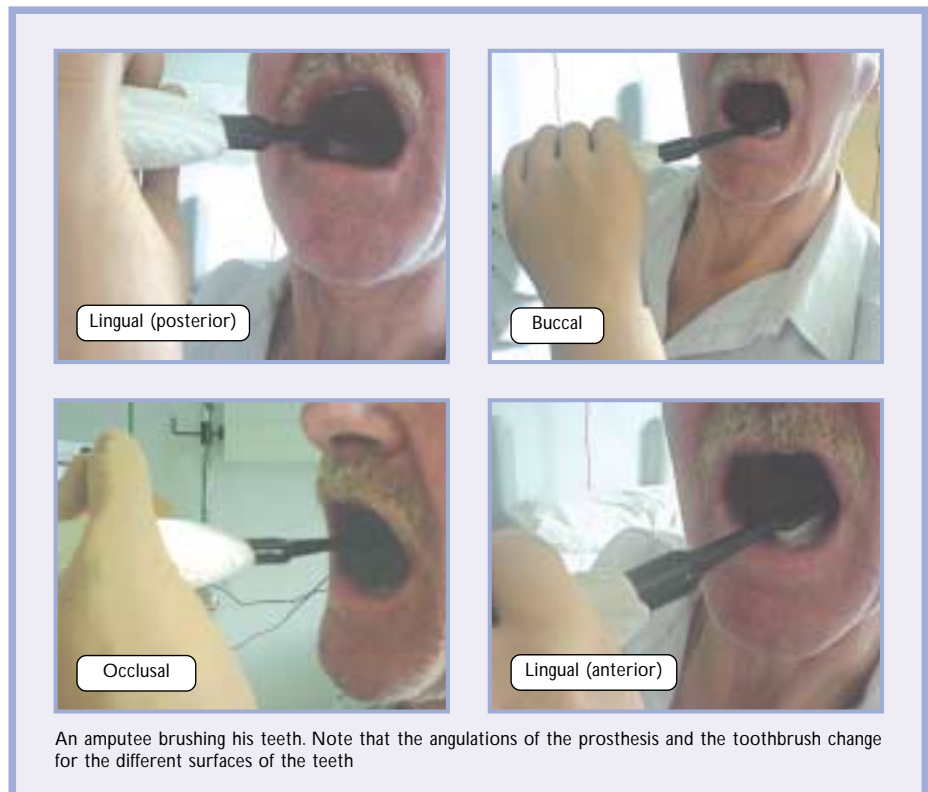
patients are waiting for limb fittings their oral hygiene is dependent on assistance from healthcare workers. In hospitals this can be only once a day, at no specific time! Having another person brush one's teeth is one of the least effective methods of plaque removal, and factors such as time, technique, and knowledge should be considered, as well as the inevitable invasion of personal space. Other daily tasks are a higher priority for patients than keeping their teeth clean. Some patients need to be motivated to improve their oral hygiene, whereas those who are less willing or able to adapt to new techniques need to be seen more frequently.

Holding a toothbrush, uncapping a toothpaste tube and

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squeezing toothpaste onto the brush can still be difficult tasks to complete, and other small adaptations may need to be made. If the toothbrush is held in a prosthetic hand, it may slip out, and depending on the range of movements the prosthesis allows, together with the strength of the individual, it can take many different angulations to brush all the surfaces of the teeth.

It is essential to assess how well the patient can use their non-dominant hand/arm for daily tasks. Maria discussed James's needs and abilities with him openly, and found that he was comfortable picking up items with his non-dominant hand, but he was not comfortable using his prosthesis, as he was still adapting to it, and it afforded him little movement in the hand and arm. He brushed his teeth with his left hand once a day, which he found very difficult, and the idea of flossing worried him. Maria realised that she needed to help James to use his left hand more as well as his prosthesis.



## Get a grip!

Toothbrush and oral hygiene adaptations come in all shapes and forms, and can be used to help patients who have poor manual dexterity, such as those suffering from forms of arthritis, multiple sclerosis, or congenital deformities. Many are very easy to make and can be custom-made at little cost. If considered appropriate, an electric toothbrush should also be considered. These brushes have small heads, are easy to manipulate, and (importantly for patients like James) have a wide handle which is easier to grip.

Maria observed James using a manual toothbrush with his prosthesis and left hand. The problem was that the toothbrush was thin and often slid out of the grip of the prosthetic hand. The range of movement was also limited, requiring many small movements and stretches for the toothbrush to reach the mouth. Maria demonstrated the use of a rubber attachment which the toothbrush could slide into, providing a larger area to grip and ensuring that the toothbrush stayed in the hand. James tried it and was surprised how much more comfortable he felt with it. Not only was he able to brush his teeth to an extent with his prosthesis, but he told Claire and Maria that he thought this approach might be able to help him with other tasks too.

- Talk to the patient to establish how well they have adapted to their prosthesis, and the range of movement available to them. Remember that patients may be uncomfortable discussing their limitations, particularly if the injury is recent.
- Ascertain whether there is an access problem to the surgery, particularly if a lower limb has been amputated, or if the practice is only accessible by car. Obstacles such as stairs, dips, narrow corridors, and the dental chair itself may all present challenges.
- Find out their current oral hygiene regime, and whether anyone currently helps with them with their oral hygiene.
- If the patient does not brush their own teeth, ask them if they would like advice on how to adapt to doing so.
- Provide advice on fluoridated (non-alcoholic) mouthwashes, bearing in mind that they may need help with opening bottles.
- Provide dietary advice, especially on reducing the frequency of sugar intake.
- Arrange more frequent visits for professional prophylaxis if the patient is not able to remove plaque effectively or use interdental aids.

## Alternative toothbrushing techniques

### Putty grips

A grip can be custom-made to the exact shape of a patient's hand by taking an impression of their hand in fast-setting silicone-based impression putty. This is particularly appropriate for patients who have limited strength due to conditions such as arthritis.

### Makeshift grips

A variety of items may be used to increase the surface area of the toothbrush handle, and some patients report that certain objects work better than purpose-built grips. Examples include pushing the brush handle through a hole in a tennis ball, or mounting it on a bicycle handlebar grip. Patients should be encouraged to experiment to see what works best for them. At a push, an elastic band may be double-looped around the hand or prosthesis to give extra grip if a more suitable item is not available.

### Rubber suckers

A brush may be mounted on a sucker to hold it still. This is particularly useful for amputee patients who have dentures (remember that cleaning dentures normally requires the use of two hands).

James had previously used floss regularly, but it was clearly not going to be easy for him to continue with this. Maria suggested the use of flossettes (pieces of floss mounted on a handle), which he could use with his left hand. James decided to buy both items, and, now feeling more confident about looking after his health, arranged a follow-up appointment before returning home.

Claire had never before appreciated how difficult an otherwise simple task like this could be for a patient like James, and was delighted that she and Maria had not only helped him with toothbrushing, but had also managed to help him to feel more positive about living with his prosthesis. Seeing the difference it had made to James's outcome, Maria wondered whether it would be worth pursuing a post-certificate qualification in special needs dentistry, and mentioned it at her next performance review. Jackie felt that this might benefit both the practice and its patients, and added it to her professional development plan. As we all know, prevention is the key to good oral health, and it is the role of all dental care professionals to recognise individuals that may be at risk, and to support those who require extra help.

# Events Calendar

### British Dental Trade Association (BDTA) Dental Showcase 2007

18-20 October 2007, NEC, Birmingham

The FGDP(UK) will be at stand number J03 throughout the exhibition. Visit [www.dentalshowcase.com](http://www.dentalshowcase.com).

### BADN Annual Dental Nursing Conference: Dental Nursing – A New Beginning

10-11 November 2007, Holiday Inn Milton Keynes East

Visit [www.badn.org.uk](http://www.badn.org.uk)

### BACD Annual Conference 2007: Comprehensive Aesthetics – Pink, white, and all the colours in between

15-17 November 2007, Novotel London West, London

Visit [www.bacd.com](http://www.bacd.com)

### FGDP(UK)/Denplan study day: Cases, communication, conversation, conjuring... as if by magic

16 November 2007, The Royal College of Surgeons

Visit [www.fgdp.org.uk](http://www.fgdp.org.uk) or see page 3 of *First-Hand*

### BSDHT Oral Health Conference

16-17 November 2007, International Conference Centre,

Bournemouth

Visit [www.bsht.org.uk](http://www.bsht.org.uk)

### Dental Nursing study day: How to get going with CPD

28 November 2007, MANDEC, Manchester

Visit [www.dental-nursing.co.uk](http://www.dental-nursing.co.uk)



### A new face

The FGDP(UK) is delighted to welcome Anna Schüle to the role of Assistant Development and DCP Officer. Anna's role will include supporting development of educational initiatives for DCPs, as well as administration of the new Key Skills in

Primary Dental Care assessment. She is therefore likely to become a familiar voice at the end of the phone for many DCP members of the Faculty over the coming months!

### DCP Survey

The FGDP(UK) would like to thank everyone who completed the DCP training needs survey over the summer. The Faculty was encouraged by the high number of responses; there is obviously a great deal of enthusiasm for further training out there! A full report of the results will feature in the January edition of *Team in Practice*.