

Disabilities

Oral care for people with disabilities

Treatment

Access

If the patient cannot hold his or her mouth open for an extended period of time, a mouth prop can be used. Alternately three or four tongue depressors taped together can be used as a mouth prop (Figure 6).



Figure 5: Mouth prop / tongue depressor

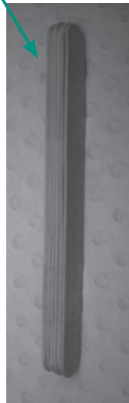


Figure 6: Mouth prop formed by taping tongue depressors

Scale and clean

Hand scaling or ultrasonic scaling can be completed, depending on patient compliance and safety measures. Adequate suction (high and/or low volume suction) can be used, again depending on the patient's acceptance.

Restorations

As restorations by indirect techniques are usually not possible, the choice of treatment is limited to the use of amalgam, composite resin and glass ionomer cements. However, proper placement of amalgam and composite resin that would otherwise have been ideal in normal circumstances is also compromised due to problems with access and isolation for longer period of time. Glass ionomer is therefore the material of choice, in most cases.

Atraumatic restorative treatment (ART)

Atraumatic restorative treatment (ART) refers to a minimal intervention technique for caries that is endorsed and promoted by World Health Organisation (WHO). It involves minimum cavity preparation using only hand instruments (small and large spoon excavators for caries removal) followed by restoration of the cavity, with an adhesive filling material, glass ionomer cement¹⁷. Local anaesthetic is not necessary and therefore ART is appropriate for people who tend to be very anxious, have/allow little mouth opening and where access or cooperation is difficult or limited. Although ART removes the need for a local anaesthetic for restorations, extraction of teeth cannot be carried out without local anaesthetics. However, if ART is used in the first instance for the restoration of teeth a patient can develop good rapport and trust with the dentist over time. At the least, ART can save teeth while patients are on the waiting list for the dental extractions under GA and minimize the time which would otherwise have to be spent for the GA.

Removable prosthesis

Due to the procedures involved in the making of dentures, adequate cooperation may be difficult or impossible. Carers need to be informed that even if dentures are somehow made they are often not managed by the patients.

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Extractions

Depending on the tooth (anatomy and mobility) and the compliance of the patient, extractions can be done on the dental chair, often with the help of oral/inhalation sedation.

Recall visits

Recall visits depend on the risk and dentate status of each patient. The recall times suggested are only general guidelines and should be modified on an individual basis.

High risk/urgent care (3 monthly)

People whose oral health needs to be maintained at an optimum level to avoid complex problems include those:

- on bisphosphonates
- with cardiac problems that need antibiotic prophylaxis
- with bleeding disorders
- who are PEG-fed and are at risk of aspiration pneumonia.

Moderate risk/care (6 monthly)

Patients whose general health is fair/good, but oral health is poor due to:

- inability to care for themselves (physical/cognitive issues)
- carers having difficulty caring for them (behavioural issues).

Low risk/care (annually)

People whose general and oral health is good, but need regular follow-up to maintain it.

Edentulous

Once every 2 years.

Summary

Managing oral health of people with disabilities may be challenging and time consuming, but patience and willingness to provide care can bring positive results and invaluable rewards.

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Australia's National Oral Health Plan 2004–2013¹ states that '...people with special needs experience substantially higher levels of oral disease' and '...have extra barriers to accessing dental care'. The number of individuals with disabilities in Australia is increasing, with poor oral hygiene and damaging oral habits contributing to high rates of periodontal disease compared to the general population. Yet, shortage of dentists with adequate skills to provide dental care to people with disabilities was the most frequently reported problem in accessing dental care². Anxiety and fear of pain, lack of dental awareness among carers and low expectations may be increasing their problems in accessing dental services. The vulnerability of people with disabilities places a responsibility on not just family members and carers, but also professionals to be advocates to ensure adequate oral health care is available to meet their needs. This information sheet aims to provide dental professionals with guidelines for integrating people with disabilities into general dental practice.

Developmental disabilities are permanent cognitive and/or physical impairments that usually occur in the early years of life but can occur anytime before the age of 18 years. Until recently, oral care for people with developmental disabilities was mainly a paediatric concern. With the advances in medical care, people with developmental disabilities and acquired disabilities are now living longer and are more frequently seen in the community than before.

What is disability?

The Australian Bureau of Statistics (ABS) 2003 Survey of Disability, Ageing and Carers³ defined disability as "any limitation, restriction or impairment which has lasted, or is likely to last, for at least six months and restricts everyday activities." Conditions include, but are not limited to, physical (loss of limb or motor function requiring the use of aids), intellectual, sensory (sight, hearing, speech), or psychiatric disability, and disorders of the nervous system to advanced dementia requiring constant help and supervision³.

Prevalence of disability

In South Australia, there were over 13,300 people with disabilities registered with Disability SA⁴ in July 2008 with approximately 6,500 people having intellectual disability⁵. The number of individuals receiving disability services from either Disability SA or non-government organisations funded by government has increased by more than 5,000 (33%), from 15,081 in 2003-04 to 20,107 in 2007-08⁶. However, the most recent National Health Survey⁷ included only severe or profound disability conditions like mental health, back problems, arthritis, cardiovascular diseases and asthma, but excluded people in institutions in Australia and those classified as having disability conditions in the Australian population such as Down syndrome, cerebral palsy and dementia.

Medical history

People with disabilities present with multiple challenges that have implications for oral care. A thorough medical history should be obtained with a current list of medications. Due to possible problems with communication, medical history forms can be posted along with the appointment cards, so they are completed by a family member or person responsible (manager) and brought at the time of the appointment. Patients with disabilities may present with one or more of the following conditions.

Medical conditions with dental implications

Down syndrome is an example of a condition with multiple medical and physical disorders, such as cardiac disorders and osteoporosis that have dental implications. For those with cardiac disorders, current Australian guidelines for antibiotic prophylaxis⁸ should be followed. About 25% of adults with Down syndrome suffer from osteoporosis and are on bisphosphonates to help in maintaining bone health, and reduce the risk of osteoporosis⁹. Current Australian guidelines for bisphosphonate associated osteonecrosis of the jaws should be followed if patients are on bisphosphonates¹⁰.

Dementia occurs in over 80% of older adults with Down syndrome⁹, which results in further decline in the person's daily active functioning – physical, social, and emotional. With the loss of ability to perform everyday tasks, a person becomes dependent on carers for daily oral care. With anxiety, fear, confusion and disorientation in time and place, and the inability to concentrate, often accompanied by disruptive behaviour, they need special care at home and in clinical settings.

Sensory disabilities

Sensory disabilities include vision, hearing and speech impairment, common in people with disabilities.

Visual impairments

- Patients should be given adequate support to allow safe movement through the surgery.
- Tactile feedback, such as a gentle touch, can make the patients feel comfortable and help in building trust.
- Very clear descriptive language should be used to explain the feel and sound of instruments used in any upcoming procedure.

Hearing loss and deafness

- Practitioners should speak to patients who lip-read in a normal tone before putting on a mask.
- Visual feedback is helpful.
- Background noise (the radio and the suction) should be turned off.

Seizures

Seizures are common in people with developmental disabilities. The mouth is always at risk during a seizure with patients chipping teeth or biting the tongue or cheeks. The frequency of seizures and the medications used to control them should be recorded. Any known factors that trigger the patient's seizure should be avoided. If a seizure occurs during oral care, any instruments in the mouth should be removed. The patient should be turned to one side, and the airway monitored to reduce the risk of aspiration.

Neuromuscular problems

Neuromuscular problems can affect the mouth causing an imbalance of forces on the teeth and contribute to an open bite and therefore drooling. Drooling can cause chronic irritation of the facial skin, increase peri-oral infection, halitosis and dehydration due to fluid loss. Many strategies have been described in the management of drooling but none appear to be universally successful.

Others may have swallowing problems allowing food to stay in the mouth longer than usual, increasing the risk of caries. In addition, gagging problems can further complicate oral care.

- Patients with swallowing problems should be in a more upright position and the head should be tilted slightly to one side.
- For patients with a gagging problem, early morning appointments should be scheduled, before meals. The gag reflex can be minimized by placing the patient's chin in a neutral or downward position.

Uncontrolled body movements

Uncontrolled body movements are common in people with cerebral palsy, Parkinson's and Huntington's disease. Such movements make it very difficult to complete good dental treatment. Extreme care is needed so as not to injure the patient, carer and/or dental staff. Every effort should be taken to keep patients calm and relaxed. Relaxation will not stop the uncontrolled body movements, but may reduce their frequency and intensity.

Mobility problems

Many people with disabilities have mobility problems, with some needing walking frames or wheelchairs. Clear pathways should be maintained for their movement in the surgery. While a few can be transferred to the dental chair, most need to be treated in their wheelchairs. Reclinable wheelchairs should be reclined at a level that is comfortable for the patient, and then locked for safety. More recently, fixed and mobile wheelchair platforms and lifts have become available.

Medications

People with disabilities are generally prescribed one or more medications. Medications, such as sedatives, may reduce salivary flow while some antiepileptics may cause gingival hyperplasia. Attention should be given to minimise such oral side-effects of medications.

Oral health problems

Dental caries

Poor oral hygiene and a diet high in sugar can cause caries. In contrast to some studies that have reported a high prevalence of untreated dental caries among people with disabilities¹¹, a South Australian study¹² found that 17% of care-recipients had untreated decay, which was lower than the untreated decay prevalence of 26% in the general Australian population aged 15 years or more¹³.



Figure 1: Poor oral hygiene in a patient with developmental disabilities

Periodontal disease

Contributing factors for periodontal disease include poor oral hygiene, and damaging oral habits. Gingival hyperplasia caused by medications such as some anticonvulsants, antihypertensives, and immunosuppressants also increases the risk for periodontal disease. An Australian study¹⁴ noted that periodontal disease was about seven times as frequent in people with developmental disabilities compared to the general population.

Malocclusion

Malocclusion is common in people with developmental disabilities and may be associated with intraoral and peri-oral muscular abnormalities, delayed tooth eruption, underdevelopment of the maxilla, and oral habits such as bruxism and tongue thrusting. Malocclusion can make chewing and speaking difficult and increase the risk of periodontal disease, dental caries, and oral trauma. Scott et al. (1998) noted that malocclusion in people with developmental disabilities was about twice as frequent compared to the general population¹⁴.

Damaging oral habits

Damaging oral habits can be a problem for people with disabilities. Some of the most common of these habits are bruxism, food pouching, and tongue thrusting. Other oral habits include self-injurious behaviour such as picking at the gingiva or biting the lips, rumination where food is chewed, regurgitated and swallowed again, and pica – chewing objects and substances such as gravel, sand, cigarette butts or pens. For patients who brux, night guards can be made if they can tolerate them.

Oro-facial anomalies

Oro-facial anomalies affect many people with developmental disabilities. Patients may present with high lip lines with dry gingiva, enamel defects, and variations in the number, size, and shape of teeth. Cranio-facial anomalies such as facial asymmetry are also seen in this population. High-arch palate and cleft palate tend to collect plaque and mucus, which if not cleaned regularly can form an unsightly crust.

Trauma and injury

Protruding anterior teeth are more likely to be displaced, fractured, or avulsed from falls or accidents among people with developmental disabilities, especially those with seizures. Some oral traumas could be self-inflicted. Carers should be informed that traumas require immediate professional attention for better chance of success. Any suspected case of abuse and neglect of people with disabilities can be reported to the National Disability Abuse and Neglect Hotline on 1800 880 052 or email disabilityhotline@pwd.org.au

Tooth wear

Tooth wear (attrition and erosion) is also common among people with developmental disabilities.

Figure 2: Tooth wear in a patient with a developmental disability



Attrition

Attrition is present mainly from grinding teeth, which can sometimes be heard in the waiting room. It may be also caused by chewing hard non-food items.

Erosion

Dental erosion occurs either from frequent intake of soft drinks or GORD (Gastro-oesophageal Reflux Disease), which sometimes affects people with developmental disabilities such as cerebral palsy. Such teeth may be sensitive and therefore either regular toothpaste should be replaced with high fluoride concentration toothpaste or application of fluoride gel to teeth every night.

Dental management

Communication

Communication skills and levels should be confirmed with carers, which may vary from ineffective, effective non-verbal to effective verbal communication. A South Australian study of adults with disabilities showed that while 23% communicated non-verbally, 34% of them had little or no effective communication¹⁵. Intellectual disability and therefore their level of communication can vary widely from mild to profound as follows:

Mild – IQ 50-69 i.e., mental age 9-12 years
Moderate – IQ 35-49 i.e., mental age 6-9 years
Severe – IQ 20-34 i.e., mental age 3-6 years
Profound – IQ <20 i.e., mental age <3 years



Figure 3: A letter board used for communication

Non-verbal communication can vary from the use of letter boards (Figure 3) to written or typed messages. A good assessment of the patient's cognitive or functional level is needed to provide appropriate behavioural support and communication techniques and determine the "cooperative window" for management in the dental surgery – this can include the period of time for which the particular patient may be expected to cooperate, as well as the scope of procedures tolerated. Patience is necessary for effective communication at the level that a patient can understand.

Informed consent

After assessing the patient via the medical history and communication with the patient and/or carer, informed consent should be obtained from the patient or the person responsible, which could involve the Office of the Public Advocate or the Guardianship Board.

Behavioural guidance

Behavioural problems can complicate oral health care. Behaviours may range from fidgeting or temper tantrums to violent, self-injurious behaviour such as head banging. Anxiety and fear about dental treatment can also cause some patients to be uncooperative. This is challenging for the carer and the dental health professional. Most behavioural challenges can be overcome through "behavioural guidance", a continuum of individualised interactions involving the dentist and patient directed toward communication and education "which ultimately builds trust and allays fear and anxiety"¹⁶. This includes:

- Involving the entire dental team from the receptionist's friendly greeting to the caring attitude of the dentist and the dental assistant in the surgery.
- Recording and listening to the carer's warnings and suggestions. Early signs of distress/discomfort should be noted and the procedure should be stopped, when safe to do so. Trigger factors should be avoided in future appointments.
- Giving adequate time for the patient to become familiar with the office, staff, and equipment before treatment begins. Patients may respond to familiar objects like a toothbrush rather than a mirror. Depending on the patient's compliance and acceptance, other dental instruments can be slowly introduced.
- Gaining cooperation in the least restrictive manner – allowing the use of comfort items such as a soft toy or a blanket and/or asking the carer to sit nearby holding the patient's hand.
- Systematic desensitisation or gradually exposing the patient, beginning with simpler procedures and moving to a more complex one.
- Tell-show-do: explaining and demonstrating the procedure, prior to performance of the procedure.
- Giving short periods of "rest" during treatment, conditional to periods of acceptable target behaviour as positive reinforcement.
- Distraction or diverting the patient's attention from what may be perceived as an unpleasant procedure with favourite music or simply counting.
- Praising and reinforcing good behaviour, ending each appointment on a good note.
- Arranging appropriate appointment times that suit the patients' "best/better times of the day" (morning versus afternoon) and keeping them short, providing only the treatment that the patient can tolerate.
- Appropriate staff – e.g. only male, only female, a second dental assistant where necessary.
- Consistency (same staff, same surgery and appointment times) helps to sustain familiarity and increase the patient's compliance.
- Deferring treatment where appropriate.

The effective use of such non-invasive, non-pharmacological behavioural guidance/support techniques can not only avoid the need for conscious sedation or general anaesthesia (GA) but also can teach the patient to develop coping skills that may train them to receive short and simple dental treatments in the dental chair.

Pharmacological behaviour management

For patients who are extremely anxious, or have little or no compliance, pharmacological management may be necessary. For the anxious, but who can communicate effectively, nitrous oxide sedation may be indicated. For those with limited or no effective communication, oral sedation may be preferred. The dentist should discuss oral sedation with the patient's physician and coordinate the time of administration with carers. The drugs of choice for oral sedation are benzodiazepines. Diazepam (5-10mg) is the most commonly used drug administered an hour prior to the dental appointment. There should be accurate recording of appropriate sedation – type, dose, onset and effect – for future reference. When the patient's needs are beyond the skills of the general dental practitioner, appropriate referral to a special needs dentist should be arranged. GA for dental treatment is the last resort. It is important to realize that there are

times when reasonable physical restraint (supporting head or holding hands) is preferable to more extreme alternatives and might be acceptable for single, short interventions.

Oral examination

Adequate time is needed (about 45 minutes) for the initial oral examination to assess patient communication, competence, compliance (behavioural issues) and to obtain consent from person responsible (for possible behavioural/pharmacological management). Several visits may be needed to accomplish simple tasks – seating the patient in the dental chair, a visual oral examination followed by one using only fingers or toothbrush or mirror. Warnings about the patient biting should be considered and in such cases, extra care should be taken by placing fingers and mirrors only on the buccal sulcus.



Figure 4: Positioning a wheelchair-bound patient

Radiographic examination

An orthopantomogram (OPG) is necessary for dental assessment. Depending on the compliance of the patient, it may be taken at the first visit or at subsequent visits. If an OPG is not possible, lateral obliques (LO) can be taken. LO radiographs are good alternatives to OPG and intraoral radiographs among people with disabilities who cannot or will not open mouth or hold film in position or stay in position while the radiograph is being taken.

Identifying and modifying risk factors

Brushing frequency

A South Australian study¹⁵ found that less than 30% of adults (18-44 years) with disabilities were able to clean their own teeth and nearly 50% needed complete assistance for toothbrushing. Nearly 40% of them had their teeth brushed once a day or less. Infrequent brushing was more common at family homes compared to community housing and institutional settings.

Diet

Many people with disabilities have difficulty in chewing and swallowing. Their diets are often limited to liquids and soft foods which tend to adhere to the teeth and do not always provide the dentition, gums, and oral musculature with mechanical stimulation, increasing the risk of decay. Patients who are fed via a PEG (percutaneous endoscopic gastrostomy) have nothing by mouth and often accumulate large quantities of calculus which if not adequately cleaned will cause periodontal problems, halitosis and even aspiration. Scaling needs to be done regularly with good, high-speed suction to avoid calculus and water being inhaled by patients whose airway is already vulnerable from impaired swallowing.

Preventive measures

Oral diseases are much easier to prevent than to treat. Adequate daily oral hygiene, well balanced diet and regular visits to the dentist can prevent many oral diseases. At each dental visit, home preventive measures can be reinforced and fluoride varnish applied to high risk patients. (Diet, cleaning of teeth, mouth, tongue, etc, home use of fluoride, further suggestions and tips for carers are set out in the companion publication – 'Dental care for people with disabilities – information for carers' pamphlet).