

Dental and Oral Functional Issues in Persons with Intellectual Delay

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The following information has been created or edited for this text in collaboration with the organization Oral Health/Total Health, a reflection of their absolute commitment to this neglected area of health care. As such, I have included their complete list of references.

Dental and oral issues are often overlooked or missed because dental health may not be considered a key part of one's overall general health and well-being. However, anyone who has experienced a toothache knows all too well that dental disease can result in significant pain and suffering which will affect your quality of life.

Persons with special needs including those with intellectual delay suffer more oral diseases such as cavities, abscesses and gum disease than the general public, all of which can be painful (1,2,3,4,5,6). Dental decay in children is the **most common** chronic infectious childhood disease in America (7). The ability to feel pain is very important because it warns us of possible dangers and motivates us to escape or avoid the source of the pain, which if not removed may lead to more serious damage. Pain motivates us to seek help in a timely manner (8).

Unfortunately persons with intellectual disabilities may lack the ability to communicate verbally and therefore cannot self report their pain. Changes in their behaviour such as anger, aggression towards others or themselves, increased anxiety, alterations in their eating, sleeping and other daily activities may be due to pain. They may look pale and tired with dull eyes. Something is bothering them, and this is frustrating. Caregivers must be able to identify and interpret these non-verbal behaviors as possible indicators of pain – the challenge then is to determine the source of the pain (8,9,10,11,12).

Don't forget the mouth in this assessment: look in the mouth and lift the lips to get a good look at the teeth and supporting soft tissues. If you see holes in teeth (cavities), broken teeth, badly discoloured teeth, inflamed red gums, swellings that look like boils (abscess) or ulcers (cuts) anywhere in the mouth you should arrange for them to see a dentist. All of these conditions can be very painful and can all be treated! Once the oral-dental pain is relieved the person's behavior and temperament should return to normal. The common dental diseases (cavities and gum disease) are preventable! This is the rationale behind the goal for all infants to have their first dental visit/screening before the age of 1 year. In order to identify any dental oral conditions that could result in pain or infection but more importantly to establish a sound, life-long preventive dental plan including tooth brushing with a fluoride containing toothpaste, proper diet, dental trauma prevention (mouth guards and helmets) and regular dental visits. Preventing dental disease from developing in persons with intellectual delay should be the goal (13).

In addition to the common dental diseases, persons with intellectual delay can also present with functional disorders affecting their chewing, swallowing and breathing all of which can have serious consequences for their health and behavior. The functions noted above will affect the

growth and form of the head and neck, and if not treated can result in more serious behavioral problems such as aggression, hyperactivity or withdrawal or health problems such as sleep apnea.

Infants who have problems with breastfeeding or were bottle fed and may have utilized pacifiers and then transitioned to a soft baby food diet and sippy cups most likely will be mouth breathers with a poor lip seal (lips apart at rest and sleep), have a narrower upper jaw, and experience difficulty with swallowing and may drool. All of which will result in these children being sleep deprived, which can then cause their attention or behavior to become worse. Ultimately they will develop chronic sleep apnea, which will affect their quality of life.(14,15). Unfortunately, many of these signs and symptoms can be found in older individuals and adults unaware of the consequences of their restricted airway or mouth breathing tendencies. For persons with special needs, many of these signs and symptoms can exacerbate their ability to function in day-to-day activities. Fortunately, if the functional airway issues are corrected then with increased sleep and rest their overall growth, development and function can be optimized. This further applies to addressing and improving breathing, swallowing, sleeping in the adult population.

As with the other dental diseases early identification and appropriate management and prevention are the way to go. All infants should be assessed shortly after birth to assess them for tongue-tie and to ensure that they are being breastfed. If they are feeding and suckling properly this will promote normal development of the upper jaw and nasal airway, which is located directly above it. In addition the caregivers should be instructed not to use a pacifier or sippy cup and when the time comes to introduce solid foods to encourage chewing which will promote normal oral and facial development. The focus is on the development and maintenance of a normal airway with normal nasal breathing (16,17).

It should be emphasized however, that although early identification and management is best practice, the same examinations should be conducted on adults (i.e. assessing tongue restriction, tongue range of motion, breathing, etc.) as with appropriate diagnosis and therapy, much improvement could still be gained. Physical signs that the person with intellectual delay may have an oral functional problem are: tooth grinding and clenching, lips apart at rest, an anterior open bite (space between upper and lower front teeth when mouth is closed with back teeth in contact), drooling, snoring, head flexed forward (poor posture; ear lobe is in front of the center of their shoulder when assessing from the side), chronic nasal congestion / allergies, facial grimacing with swallowing, speech problems and facial/jaw pain. In addition they may present with behavioural issues such as hyperactivity, short attention span, aggressiveness, anger, withdrawal and/or depression.

If any of these are present the person with intellectual delay should be referred for oral myofunctional therapy (OMT) for assessment and management. The goals of therapy will be to eliminate any oral habits to restore lip seal, nasal breathing with correct tongue position at rest with proper chewing and swallowing. For individuals that are still growing, optimizing the normal growth and development of their airway with appropriate early assessment and treatment will maximize their potential for their personal growth and development (18,19,20).

To reiterate, dental and functional oral issues should be assessed in infancy for all individuals. Preventive and interceptive therapies can be put into place to prevent dental disease and to optimize normal oral facial growth and development which in turn will allow the person with intellectual delay to reach their full potential. If not addressed dental and functional oral issues may be responsible for behavioural and adaptive problems seen in persons with intellectual disability.

What can happen if the oral dental functional issues are missed or ignored? Oral pain from dental disease can have serious effects including lack of sleep, poor growth, learning and behavioural problems. This can affect their socialization, communication, self-esteem and acceptance. Dental problems and their management are also associated with a significant lost time from school/work (21,22,23,24,25). Dental disease may also be associated with increased risk for cardiovascular disease, severe respiratory disease (pneumonia), poor diabetic control and low birth weight and pre-term delivery (26,27). Aspiration pneumonia most notably occurs when an individual inhales bacteria that have formed in their mouth for over 48 hours (indicating a lack of sufficient daily oral hygiene care). These increased risks for general diseases, pose even greater health risks with catastrophic outcomes for this high-risk population. Furthermore, untreated dental caries can lead to severe infections with serious consequences such as brain abscess and death (28,29). If the airway, breathing and swallowing issues are not addressed this may result in a greater risk for developmental and respiratory disturbances with the possible development of sleep apnea. Sleep apnea can result in chronic fatigue with an impact on overall growth and development, heart health with an increased risk for high blood pressure and heart attack, the development of diabetes and liver disease (30).

The early identification and management of oral / dental issues in those with special needs such as intellectual delay will maximize their natural potential for their normal growth and development and improve their daily quality of life; consistent with the saying “an ounce of prevention is worth a pound of cure”.

Ten Observations to Identify Oral Health Problems that Could be Causing Pain and therefore Challenging Behaviours (reference OHTH*)

As a caregiver, family member or staff member you have the ability to help ensure that persons with special needs are able to attain a state of good oral health with optimized function. We ask that you do your best to provide daily oral hygiene practices to all individuals in your care.

If you notice any of the following observations which may indicate that an individual is in pain and the cause may be orally related, please have the individual seen by an oral health professional for assessment.

1. Noticed any changes in their eating and/or drinking?
2. Noticed any changes in their behaviour - more aggressive to themselves or others, more excited or more withdrawn?
3. Noticed any changes in their sleeping pattern?

4. Noticed an increase in teeth grinding, clenching or drooling?
5. Are they recently avoiding daily oral care?
6. Noticed any facial swelling or redness on one side, possibly with a fever?
7. Are their lips apart at rest and/or snoring at night?
8. Do they have really bad breath?
9. Look in the mouth: red inflamed gums that bleed on looking or touching with a toothbrush, broken teeth, holes in teeth, pimples/boils/ swellings on the gums?
10. Need for more medications such as PRN medications for pain or behaviour?

Author's Note:

As a last resort consider exploring with the primary care physician a three-five day trial with a pain medication, e.g. Tylenol with codeine. If during this trial behaviour returns to normal, the individual may well have pain from some unknown source and a referral to a dentist should be made as soon as possible.

* *Oral Health, Total Health* (OHTH) is a Federal Non-Profit Organization, dedicated to addressing the lack of access to oral health care issues which face persons who have special needs. *OHTH* works in affiliation with many associations and organizations in order to educate, advocate and improve the oral health care of persons who have special needs.



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