

## Dental Care

### **Introduction**

It should be stated at the outset that the teeth of people with Huntington disease (HD) are no different from those of other people. They are not innately more susceptible to tooth decay or gum disease but people with HD do present clinically with more dental problems. For the dentist, treatment of patients with advanced HD is difficult. He, or she, can be faced with a patient who, needing a number of fillings, cannot open his mouth widely, or cannot sit still, or both. Possible financial difficulties, transport problems, access to dental surgeries, and apathy or resentment in the patient and/or the family, all contribute to the fact that treatment is frequently neglected.

It is possible that a person with such rampant decay would often be advised to have all teeth removed and full dentures constructed; but for individuals with HD this can create more problems due to the function of dentures. Initially a full denture stays in by suction, but more important is the pull of the facial muscles forcing the dentures into place. This muscle activity is automatic but for those with HD the uncontrolled involuntary movements can frequently and spontaneously eject a denture from the mouth often override such low-level muscular activity. Eating for these individuals can be a real trial, further aggravating their dysphagia (difficulty in swallowing). For those without teeth and no denture an attractive facial appearance is destroyed by loss of cheek and lip support. Consequently, there is a lowering of self-esteem apart from the lack of function.

### **Specific dental problems and their causes**

Dental problems for those with HD may be caused by a number of issues. Firstly,

people with HD will usually lack dexterity to use a toothbrush efficiently, if at all. Secondly, the high caloric needs of individuals may mean a diet that is high in sugar. This diet can lead to tooth decay.

Simply, decay of a tooth is caused by sugar (from food) being processed by bacteria (in the plaque) into acid. The acid then dissolves the tooth under the plaque. The tooth can be considered to have a threshold (varying from person to person) of the number of times a day that it can withstand acid attack without decaying. (The tooth can recover by remineralization between attacks). If this threshold is exceeded for many days then the surface of the tooth will be disrupted and an irreversible lesion will have occurred. This coupled with the decreasing dexterity in plaque control by using toothbrush and dental floss, the decay attacks part of the teeth not normally susceptible – and rampant decay has arrived. Additionally, bacteria in the plaque on the teeth liberate toxins that progressively irritate and destroy the gums and the ligament that attaches the teeth to the bone. As these ‘gum disease’ progresses, the teeth become loose and sensitive to pressure, and other problems may occur.

### **Prevention of dental disease in people with Huntington’s disease**

The prevention of tooth decay for individuals with HD has the same importance as for everyone. There needs to be an understanding of the importance of the prevention of tooth decay in providing quality of life. Prevention should be especially emphasised for all people living at risk for developing Huntington disease. Thirdly, dental care in the ‘at risk’ family should be particularly frequent in order to maintain teeth in their optimum condition before the possible onset of the disease.

Finally, in the advanced stages assessing pain in the mouth or teeth can be difficult when the person with HD can't communicate clearly. Someone must then take responsibility to ensure that dental care is provided. This can be a family member, nurse or other health care provider.

### **Prevention of gum disease**

Keeping the teeth free from plaque and irritation by bacteria ensures prevention of gum disease. This is done with the toothbrush and by using dental floss in a sweeping motion across the surface of the tooth not reached by the toothbrush. Early in the course of Huntington disease, it is possible for sufferers to floss their own teeth but as dexterity deteriorates it may be possible for a member of the family to do it everyday. It is advisable to use a good quality electric toothbrush as early as possible and to develop good habits of dental self-care which then remain an automatic behaviour during the course of the disease. The massaging action of the electric toothbrush is an additional benefit.

### **Prevention of tooth decay**

**Diet.** Almost all foods contain sugar in sufficient concentration to cause decay but some foods appear to contain protective factors. Careful consideration of appropriate foods is important, especially with regards to texture.

**Oral Hygiene.** The correct and frequent use of dental floss and an electric toothbrush will help. Use a toothpaste that contains fluoride.

**Bedtime.** As saliva flow is much less during sleep, food clearance is slowed. It is therefore most unwise to eat within half an hour of going to bed.

**Fluoride treatment:** a) It may be worth looking into using a toothpaste with more than the normal concentration of fluoride. b) A fluoride mouthwash can be self-applied

on a weekly basis or can be staff-supervised in a care centre. It is advisable to have a dentist apply fluoride to the teeth in a stronger solution or as a slowly dissolving varnish at the regular 6 monthly checkups.

**Care by dentist.** The dentist can, at regular intervals, clean the teeth to prevent gum disease, apply fluoride to improve the resistance of the teeth (raising the frequency of intake threshold), and detect early cavities. If he knows the patient is a risk for Huntington disease, he can choose specific filling materials (such as glass ionomers) that, although being a little more brittle than silver amalgam, do tend to increase the resistance to decay. Normal cavity design can sometimes be modified with a view to prevention of decay. Even the early stages of the disease, people should be treated as if he had rampant decay. Design of partial dentures should be in sympathy with this and should have extra retention to counteract excessive dislocating forces. As extraction of other teeth is more likely, denture design can allow for easy addition of extra teeth.

Dentists may find it helpful to speak with other members of the care team to provide the best support for the individual with HD during examinations or treatment, for example use of anaesthesia.

*Taken from the Huntington's Disease Association UK*