

SWALLOWING DIFFICULTIES FOR POLIOS

Although polios with difficulties swallowing are a minority group, this can be a frightening and life threatening experience.

First let me quote from Dr Sonier's paper:

"Normal aging does not cause changes in speech and swallowing, so any new signs of problems most likely are due to neuromuscular changes."

Here in WA, swallowing problems occur in about 16% of polio survivors. Often it is only an intermittent problem, occurring maybe months apart, but still leaving them never knowing when it might happen, when they may choke. This can be a very frightening experience. Some have reported choking on saliva whilst driving a car.

There doesn't seem to be any rhyme or reason as to who or why people are affected. For some, this was the only area affected by polio.

It would appear that the likelihood is greater in people who had bulbar polio. What is bulbar polio? Bulbar refers to the area of the spinal column that lies at the base of the skull or brain stem. This area controls actions like breathing, swallowing, facial expression, blinking and eye closure, pain management, central breathing and sleep control.

Polio is supposed to only affect voluntary muscles. But ask any polio patient or nurse who looked after acute polios and they can tell you of involuntary muscles that were not working properly at the time of acute polio. Some Polios lost control of bladder and bowel function. Others have reported to me - cardiac dysfunction, abnormal kidneys, (where pre-polio IVP had demonstrated normal kidneys), deafness, loss of vision etc. at the acute stage and also residual damage.

In trying to evaluate those who may have had bulbar polio, on talking to polio people coming through our clinic, we have found that probably the best indicator is a massive headache at the acute stage. This headache is one that has never been forgotten, it made such an impression. Certainly those with breathing or swallowing problems would have had bulbar involvement and so there can be further deterioration in that area now.

Normal swallowing involves 3 stages. The first is chewing and getting the chewed food (bolus) into position at the back of the mouth (A) to the tonsil position where the swallow response is triggered (B). The second stage involves 3 simultaneous actions. The tongue pumps the food down into the oesophagus (C), the epiglottis closes off the windpipe to the lungs, (D) the voice box moves up slightly, closing the vocal cords.

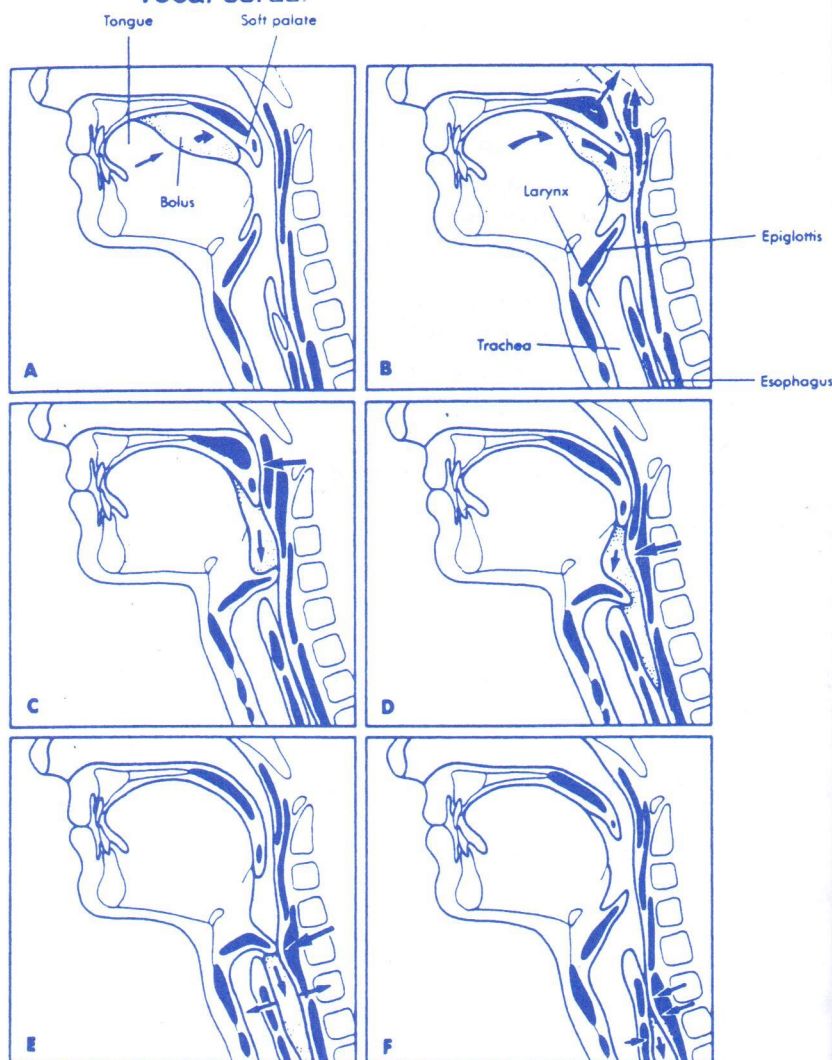


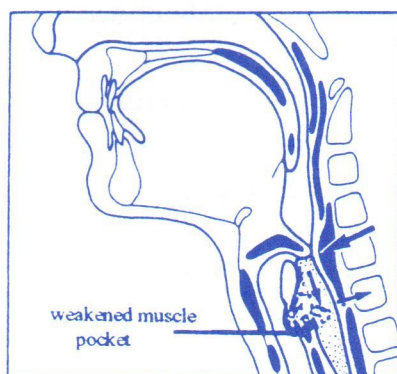
FIGURE 21-17

Swallowing.

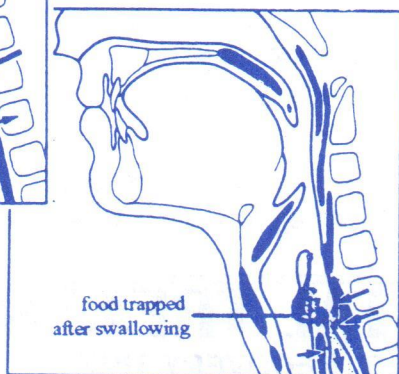
A During the voluntary phase a bolus of food (yellow) is pushed toward the pharynx.
 B to E During the pharyngeal phase the soft palate closes off the entrance to the nasopharynx, and the epiglottis closes off the entrance to the trachea with contractions forcing the bolus of food into the esophagus.
 F In the esophageal phase the bolus of food is moved by successive contractions toward the stomach.

The third stage, which also happens at the same time, is the relaxing of the small sphincter (a tight circular muscle) at the top of the oesophagus (E) allowing the food to pass down to the hiatus sphincter where it enters the stomach(F). Lack of synchrony in any of these actions can cause significant problems.

If the muscles are weak, a pocket can develop where food is trapped and does not go down further. Weakness here can cause coughing, a tickle in the throat, fluid entering the airways, pneumonia, food stuck half way down, choking sensation, inability to breath properly, snoring, temporary cessation of breathing when asleep.



These problems are always worse if we are very tired as muscles are weaker.



A number of our members have reported an improvement since they've been on carnitine.

THINGS WE CAN DO TO HELP SWALLOWING

- * Chew food slowly and well. Concentrate on swallowing. Don't talk, read or watch TV.
- * Take small mouthfuls. Eat small meals more frequently so muscles don't tire so quickly.
- * Alternate solids and fluids to help wash food down. Soften, thicken or liquefy foods.
- * Fluids are easier to swallow if the chin is tucked down. Raising the chin when swallowing allows food to drop into the airway.
- * Use a straw to swallow tablets as throwing the head back to get them to the back of the throat raises the chin increasing aspiration danger.
- * Cool or cold water often feels more "slippery" in the mouth and is more difficult to control. Cold constricts muscles making them less control-able as winter does to all muscles. Warm or hotter foods and liquids are easier.
- * If weakness is worse on one side, turn the head to the opposite side when swallowing as this closes off the weaker side allowing the stronger muscles to complete the swallowing action.
- * Voice boxes can also be affected by weak muscles. Don't try to talk if voice is weakening. Allow the vocal cord muscles to rest, like other polio muscles need to.
- * Avoid foods that have seeds, nuts, crumbly bits or require lots of chewing, like peas, cucumber, coconut, lettuce, raw carrot, steak, nuts etc.
- * Evaluation of swallowing problems can be done by ENT specialists and speech therapists.

SLEEP APNOEA

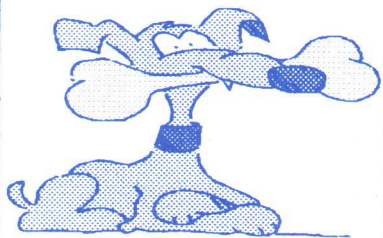
Another problem that can occur with weakness in this area is sleep apnoea. Snoring is a good indicator that the airways are not clear when asleep and you don't have to be polio to have problems with snoring as we all know.

Other indications for sleep apnoea include disturbed sleep, particularly waking with a start for no explainable reason; waking even more tired in the morning; waking with a headache in the front of the head (from lack of oxygen during the night - the headache often goes as oxygen levels improve with normal breathing after a few hours of waking). Nightmares, particularly of falling or drowning, may indicate difficulty in breathing while asleep. Often your sleeping partner wakes because you are not breathing and becomes concerned. **You are not going to die from sleep apnoea on the spot,** which is often the concern. When oxygen levels drop, carbon dioxide levels rise. At a certain level of carbon dioxide, the brain wakes you up and then you resume breathing. This means that you

don't get the benefit of the restful deep sleep that you should. So you can end up sleepy during the day and even fall asleep driving your car and cause an accident. As well as fatigue this can increase pain. Over 15 years or so of this happening, people end up with shortness of breath during the daytime as well and eventually heart failure as the heart enlarges to cope with the strain.

Simple methods can often make a difference like always sleeping on your side not your back; avoiding things that make your muscles relax more or strains them - like alcohol at night, a heavy dinner, even getting too tired can make you worse.

Treating Asthma, a blocked nose from allergies or nasal constriction can improve nocturnal breathing. For some people, a specially made dental plate to keep the jaw aligned, works. Others may need a C-PAP, a machine which pushes air into the airways continuously through a face mask while you sleep. A referral from your GP to your state Sleep Disorder Clinic (SCGH for WA) is the first step. They deal with many people experiencing sleeping problems and most are not from polio.



TIPS for SWALLOWING

Difficulty with swallowing is affecting about 16% of polio survivors in WA.

This can range from occasionally choking on saliva, food causing a bout of coughing, problems initiating swallowing eg tablets, food 'sticking' in throat, getting stuck half way down, regurgitation of food, to obstruction of airways requiring assistance to dislodge eg slap on back or Heimlich manoeuvre.

Foods most likely to cause problems include dry crumbly food like cake, peas, nuts, seeds, dry bread, crisp vegetables (eg carrot, apple) tough meat, certain cheeses, peanut butter, pop drinks

1. Eat the most difficult foods first while swallowing muscles are less fatigued.
2. Avoid problem foods or prepare so easier to swallow eg peel apple, blend carrot, combine custard with cake, puree soup, mince meat.
3. Alternate mouthfuls of solids with mouthfuls of liquid to wash down throat - not in *same* mouthful
4. Concentrate on swallowing. Avoid distractions like talking, reading, or watching TV when eating.
5. Take your time. Small amounts. Eat slowly. Chew well. Swallow several times per mouthful and swallow all before next mouthful taken.
6. Close your mouth before swallowing. This helps to create a vacuum which helps the swallowing process.
7. Drink warm liquids - relaxes swallowing muscles so they work better. Avoid cold foods like icecream which seize up the muscles.
8. Sweet, sour and salty foods stimulate chewing, aiding the swallowing reflex.
9. Tuck chin down when swallowing. Do not throw head back as tightens muscles up.
10. Use a straw for thin liquids like water, tea, fruit juice, cool drinks. Thicker drinks like nectar, egg flips, purees, soups, jellies are less likely to cause problems.
11. Turning the head left or right as you swallow may help if muscles weaker on one side.

ALERT FOR DENTAL TREATMENT

Dental procedures can be a problem for polio survivors if adequate care is not taken by your dentist. He may be unaware that your previous polio can leave you vulnerable. Make sure that you show your dentist this article before your treatment.



1. LOCAL ANAESTHETIC

As with the difficulties that can occur with general anaesthetics, problems may also occur with local anaesthetics. Larger amounts of local may be needed due to hypersensitivity of nerve endings. There may be damage to opiate-secreting cells in the brain, so making you more sensitive to pain.

2. EFFECT of LOCAL

Greater areas may be paralysed by the local anaesthetic, if there is polio damage in the facial or neck areas, leading to extra sprouting to pick up orphaned muscles after polio. The effects of the local may also last longer than was expected causing facial, tongue or throat muscles to be paralysed for many hours, impairing swallowing and breathing, especially if shoulder and upper chest muscles are used to assist with breathing.

3. RECOVERY TIME

Polio survivors may take 3 times longer than non-polios to recover from any kind of surgery, including dental surgery. The affects of local as well as general anaesthetic could leave you more vulnerable to increased pulse rate, panic attacks, faintness, less postural stability (so more likely to overbalance and fall). This could be due to the vasoconstriction (narrowing of blood vessels) due to epinephrine, often included in local anaesthetic to stop it spreading too far. You may need to stay lying down in another room until the effects wear off

4. BREATHING

Breathing difficulties may occur due to posture in dental chair. The chair should be adjusted so that you are comfortable and breathing easily rather than to suit the dentist. Holding the mouth open for long periods may fatigue oral muscles. Throat muscles may weaken allowing leakage of saliva, leading to difficulties in clearing breathing airways.

5. PAINKILLING DRUGS

Painkillers like aspirin can cause profuse and excessive bleeding and bruising. These may need to be stopped several days before dental treatment.