

## **DYSARTHRIA**

### **SPEECH PATHOLOGY**

#### **WHAT IS DYSARTHRIA?**

Dysarthria is a speech disorder. It can be caused by damage to the nerves that control the muscles of speech or from direct damage to the bones or muscles.

Dysarthria may involve problems in any one or more of the following aspects of speech:

- Breathing
- Articulation
- Rhythm
- Rate
- Voice
- Resonance

Dysarthric speech can range from mild unintelligibility to a severe impairment where a person's speech may no longer be understood.

Dysarthria will often be accompanied by a visible change in tone of the facial musculature (ie. There may be a facial droop or conversely the facial muscles may be very tight).

#### **NORMAL SPEECH PRODUCTION**

To make speech sounds, the following physical process takes place:

- Take an adequate breath
- Breathe out at an even, steady rate to make the vocal cords vibrate
- Modify the air stream by changing the shape of the mouth to make different sounds

To make these speech sounds intelligible, further consideration is given to:

- The speed and coordination with which the rapid, changing sequence of movements is performed.
- The ability of the vocal cords to make changes in tone of voice and volume.

#### **DYSARTHIC SPEECH**

Dysarthria can range from muscle disturbance in one area to an inability to use these muscles for speech at all. This means that dysarthria can present in many dif-

- Slurred speech
- Increased or decreased rate of speaking
- Hypo/hypernasality – too little or too much air coming through the nose
- Increased or decreased loudness
- Reduced control over pitch
- Hoarse, husky or strained voice quality
- Difficulty articulating longer words or words with hard sound combinations eg. two or three consonants together such as br, str, etc.

### WHAT CAN BE DONE?

A Speech Pathologist is specially trained to diagnose dysarthria and treat it. Each of the different types of dysarthria require different therapy. A Speech Pathologist can design a programme to either improve intelligibility (speech clarity), or use an alternative method of communication such as a mechanical device or communication books containing pictures. Improving intelligibility can be done in a combination of ways; either by improving strength, range, speed or coordination, or by using strategies to maximise the remaining movements. Often, alternative communication methods will be introduced whilst working on speech in order to maximise communicative effectiveness.



Alternative and Augmentative Communication Devices

It is important to remember that dysarthria is a speech disturbance. Therefore a person with dysarthria (without any other problems such as hearing loss, aphasia, or cognitive disturbance) will be able to:

- Understand what is said
- Write messages (if they have sufficient hand control)
- Use an augmentative and alternative communication system to convey their message (such as an alphabet board or a computerised device)
- Know what they want to say

Dysarthria is caused by damage to the brain and as with other conditions affecting nerve supply to muscles (like paralysis of a limb), full recovery may not always occur. Speech Pathology intervention therefore focuses on maximising communication potential rather than just restoring full function.

**For further information contact your Speech Pathologist at the Royal Rehabilitation Centre Sydney on 02 9807 1144**