

## MUSCLE TONE

### 1. Normal Tone 2. Abnormal Tone 3. Handling Techniques

#### 1. Normal Tone

The muscles of the body are normally in a state of tension or resistance which is called "resting muscle tone." This state of tension is modulated by the brain which sends messages to the muscles to maintain an even balance between muscles which are contracting (tightening) and those which are relaxing. We need a resting state of tension to keep us ready to move and respond. The muscles in the body move reciprocally – when one set contracts the opposite set will relax in order for smooth, coordinated movement to occur.

People vary in their resting muscle tone. Some people have naturally higher tone – their muscles may appear well defined and they may have an upright spring to their walk or a tendency to walk on their toes. Others have a lower resting tone – they may have loose or "double" joints, a looser walking pattern and perhaps a tendency to slouch.

#### 2. Abnormal Tone

Abnormal tone occurs when the messages from the brain are disrupted or incorrect. This is caused by damage to the brain or spinal cord and is frequently seen in the following conditions:

- Cerebral Palsy
- Traumatic Brain (head) Injury
- Multiple Sclerosis
- Spinal Cord Injury

Abnormal tone ranges from too low or **Hypotonic** to too high or **Hypertonic**. A combination of hypotonic and hypertonic is referred to as **Fluctuating Tone**:

**Hypotonic** muscles feel soft. There is a floppy or "rag-doll" quality to people with low tone or hypotonia. They often have a hard time holding up their head.

**Hypertonic** muscles, also referred to as Spastic, feel hard or stiff. The muscles and joints feel resistant to movement.

**Fluctuating muscle tone**, also referred to as Athetosis, occurs when muscle tone switches rapidly from high to low leading to jerky, uncontrolled movements.

### **3. HANDLING TECHNIQUES**

Abnormal tone is frequently accompanied by other motor disabilities such as movement disorder, abnormal postures and reflexes. It is often present in people with severe and multiple handicaps.

The term “handling” is used to describe how we can use our own hands to move other people or help them to move themselves. How we handle people can have either a beneficial or detrimental effect on their tone and motor problems. If we provide people who have abnormal tone with good handling then over time we can enhance their overall comfort level and the quality of their daily life experiences.

The following are some general guidelines for handling people who have increased tone or spasticity:

- a. Use a slow, calm approach with your voice and manner – a stressed or hurried approach will increase tone.
- b. Touch should be gentle yet firm and even – no light or tickling touch.
- c. Movements should be slow and rhythmical. Rocking and rotational movements help reduce tone. Don't use quick or jerky movements.
- d. Where you place your hands makes a difference. Areas of the body close to the centre such as the shoulder girdle or pelvic girdle (hips) often provide better control for reducing tone than parts of the body furthest from the centre such as the hands and feet.

**Example:** (using the above principles)

You are caring for someone who has a tightly fistted hand and flexed elbow. You are having real difficulty getting their coat on. Your natural tendency might be to pull on their hand to straighten the elbow to try to get the arm in the sleeve, at which point you find that the elbow tightens even further.

Instead try:

- ask them to relax – speak gently
- start movement at the shoulder – slowly and rhythmically rotate the shoulder
- as you feel the arm start to relax, move down to the elbow and provide a slow, even stretch to the elbow
- only when the rest of the arm is relaxed do you try to gently open the fingers and pull the arm through the sleeve.

For specific techniques or suggestions for individuals with abnormal tone please speak with your consulting therapist.