

Stroke Arm and Hand Management

Stroke Symposium 2013

Shannon Mulholland P.T.

Objectives

Participants will have a greater understanding of:

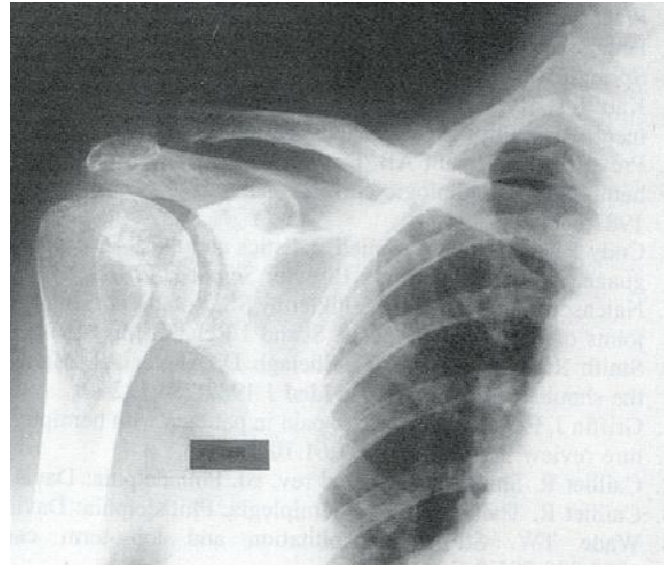
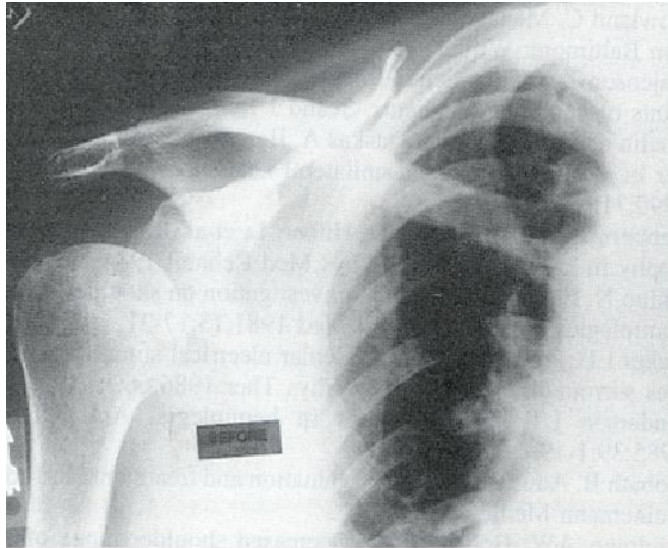
- ▶ 1. Problems often associated with the stroke arm and hand
- ▶ 2. Goals of positioning the stroke arm and hand
- ▶ 3. Basic guidelines for stroke arm and hand positioning and management
 - * in wheelchair, when dressing, during transfers, during walking, in bed

Common Arm Problems after Stroke

- ▶ Muscle imbalances - high tone, spasticity, over activity, stiffness
 - low tone, flaccidity, inactivity, heavy
- ▶ Altered sensory abilities - touch, temperature, pain, neglect

Complications from these Problems 1.

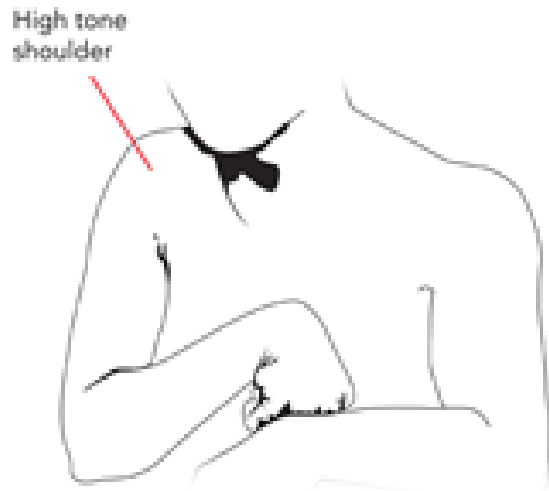
▶ Shoulder Subluxation



Effects of a stroke can reduce the strength and tone of the muscles supporting the shoulder joint. As a result, gravity can drag the head of the humerus down, overstretching the weakened muscles. This may cause the shoulder to move out of alignment. It may even cause a partial dislocation (subluxation).

Complications from these Problems 2.

- ▶ Decreased Range of Motion - active and passive



High muscle tone can pull the arm and hand toward the chest wall, making it extremely difficult for the stroke survivor to move in the opposite direction.

Complications from these Problems 3/4

- ▶ Swelling - impaired circulation, immobility, low toned hands
- ▶ Pain - impingement due to alignment problems, swelling, sensory changes, spastic muscles
- ▶ Many reasons to make the stroke arm and hand management a priority!

Goals of Positioning the Stroke Arm and Hand

- ▶ Preserve normal body alignment
- ▶ Reduce risk for shoulder subluxation
- ▶ Reduce risk for pressure sores
- ▶ Reduce pain
- ▶ Change abnormal muscle tone patterns associated with stroke
- ▶ Increase awareness of the affected side
- ▶ Enhance ability to rest and sleep

You Can Help Prevent or Help Manage
these Problems and Complications!

Sitting

- ▶ Support the arm and hand on a lap tray or other supporting surface such as a pillow when sitting in a wheelchair.
- ▶ Hips fully back in w/c will help survivor sit with better posture which supports overall better shoulder/arm/hand alignment.
- ▶ Encourage the survivor to use their unaffected hand to gently open the fingers of the affected hand and place the hand on the supporting surface.
- ▶ Make certain the stroke arm/hand is in their visual field.



Dressing

- ▶ Make sure to always dress the stroke arm first when putting on a shirt or sweater
- ▶ **Do not pull on the arm or wrist**
- ▶ Gently and Slowly support the whole arm when moving the limb for function
- ▶ **Do not lift the stroke arm above 90 degrees** unless instructed by your Physiotherapist

Transfers

- ▶ **Do not lift from underneath the arm pits**
- ▶ Guide body forward with hands on the trunk or hips
- ▶ The stroke hand can be supported on the thigh or a with a shoulder support/sling provided by the PT/OT

Walking

- ▶ The stroke hand can be supported in a pocket, with a shoulder support/sling, or on a walker handle

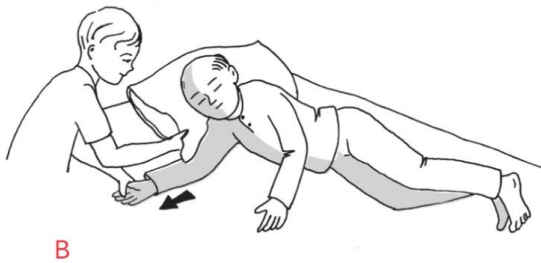
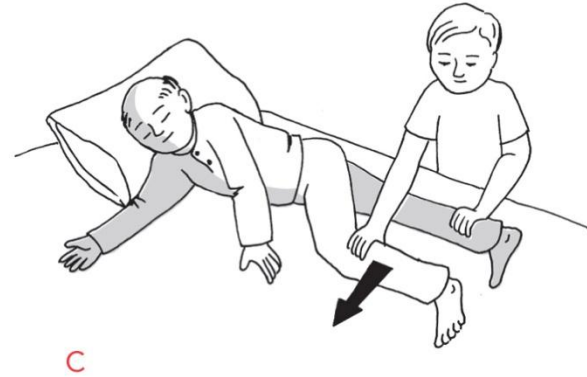
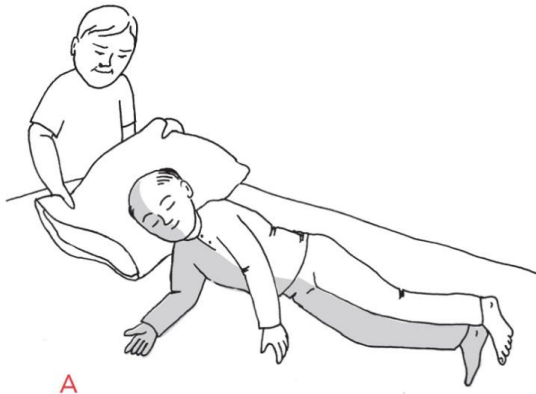
Bed



Make sure the stroke shoulder blade is gently moved forward on the chest wall and then supported in this position with towel. Use pillows, towels, facecloths to improve position and provide support for the stroke arm/hand in bed. Aim for most natural, comfortable positions. Elevate the arm/hand where needed to reduce swelling.



Bed 2.



Make sure the stroke shoulder blade is gently moved forward on the chest wall before rolling onto the stroke side. Support with pillows at the back so that the survivor is not directly on the shoulder joint, but laying slightly backwards on the flat surface of the shoulder blade. Use pillows, towels, facecloths to improve position and provide support for the stroke arm/hand in bed.

Always take one last look to see if positioning looks comfortable.

Spastic Hands

- ▶ Gentleness is important with a spastic hand. Never force the hand open. Starting at the base of the thumb, use slow rotational movements to open the hand.
- ▶ **Do not have the stroke survivor squeeze a ball/cloth** to exercise the spastic hand.

Flaccid Hands

- ▶ Lack of sensation and mobility after stroke can make a low-tone hand prone to positioning problems and swelling.
- ▶ Swelling and disuse may cause pain and skin problems.
- ▶ Follow the guidelines above for support and positioning.

Having Difficulties with Stroke Arm/Hand Management?

- ▶ Report joint or tissue pain to the right person.
- ▶ Never perform exercises unless approved by the mobility expert on your team.
- ▶ The affected shoulder can be injured more easily than the unaffected shoulder.
- ▶ If you have any concerns, talk to your team PT about the right techniques and strategies.
- ▶ A physiotherapist or occupational therapist can teach you safe exercises and ways to position and move the affected shoulder.

Thank You!

- ▶ Tips and Tools for Everyday - A Guide to Stroke Care 2013
- ▶ WWW.SNSEO.CA/resources/videos
- ▶ smulholland@cogeco.ca