

Passive Movements

For a Person with Tetraplegia

A Handbook for Patients & Carers

*Produced at the
Allan Bean Centre for the
Burwood Physiotherapy Department
June 2002*

Photography, Illustration & Layout
Stephen Hannen
Julian Verkaaik

Principle Physiotherapy Advisor
Jason Nicholls

Model
Brad Hayward



allanbeancentre

Patient Name:

Physiotherapist:

Date Issued:

Introduction & Disclaimer

The passive movements and stretches outlined in this booklet are intended as a guide only. It is not intended to replace the advice of your physiotherapist. Some exercises may not be suitable for you. Therefore, your physiotherapist may alter the exercises from those shown. Please discuss this with your physiotherapist and ensure that you fully understand the exercises that you require.

Generally these passive movements should be done daily to maintain muscle length and joint range of motion. In the presence of spasm and/or pain you may benefit from more frequent stretches.

Unless done correctly, passive range of movement can cause injury to the joints. Do not let anyone do your passive movements unless they have been properly instructed.

A handwritten signature in black ink that reads "Wendy Fulton". The signature is written in a cursive style with a large, sweeping 'W' and 'F'.

Wendy Fulton

Service Manager, Physiotherapy Department

Burwood Hospital June 2002

Lower Limb

Tendon Achilles Stretch

5 Reps, relax between each rep



Starting Position

Legs straight on bed with toes pointing up.

Attendant Position

Cup the heel in one hand with the ball of the foot on your forearm, the other hand on the shin.

Movement

Bring the foot up by pulling down on the heel and pressing up on the ball of the foot. Hold stretch for 30 seconds

Ankle Rotation

5 times in each direction



Starting Position

Legs straight on bed with toes pointing up.

Attendant Position

Cup one hand under the ankle, grip the ball of the foot the other.

Movement

Move the ankle in circles.

Toe Bend

10 Reps



Starting Position

Legs straight on bed with toes pointing up.

Attendant Position

Grip the arch of the foot in one hand and place fingers over the toes.

Movement

Gently bend the toes down.

Toe Stretch

10 Reps



Starting Position

Legs straight on bed with toes pointing up.

Attendant Position

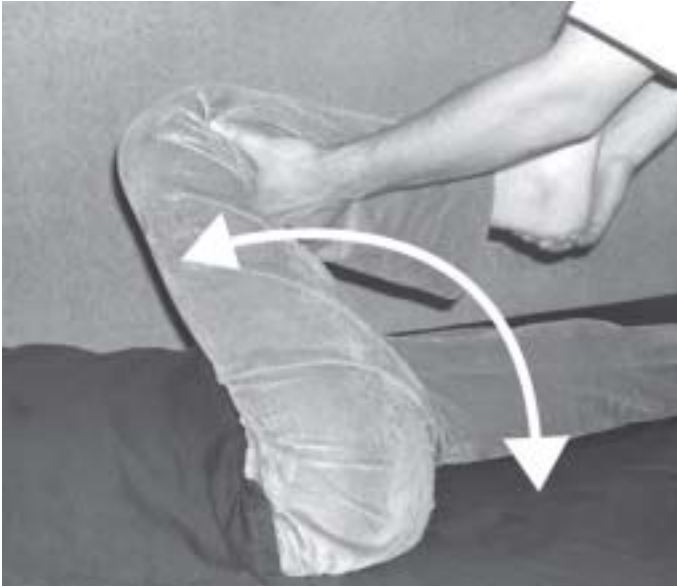
Grip the arch of the foot in one hand and place fingers underneath the toes.

Movement

Stretch the toes up.

Hip & Knee Flexion

5 Reps



Starting Position

Lying flat on the bed with knees towards the ceiling.

Attendant Position

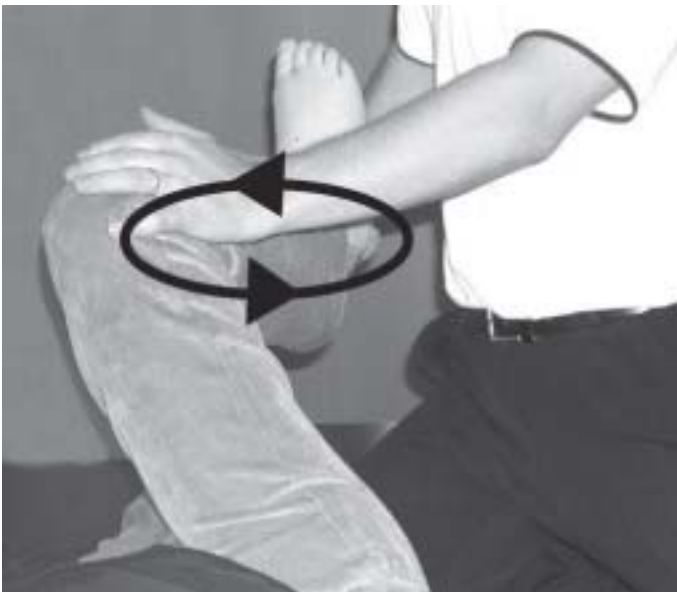
One hand under knee, the other under the heel.

Movement

Bend knee up to chest and return to starting position.

Hip Rotation

10 Reps



Starting Position

Lying on back with one leg straight, one knee bent.

Attendant Position

One hand above bent knee, the other cupped under heel.

Movement

When the hip and knee are bent, move the hip in circles.

Hip Abduction

10 Reps



Starting Positions

Lying flat on the bed with knees towards the ceiling.

Movement

Move one leg away from the other, knees and toes pointing to the ceiling.

Ensure the other leg doesn't follow.

Move 20° to the side.

Hip Adduction

10 Reps



Return the leg to the above starting position

Repeat.

Hamstring Stretch

3 Reps



Starting Position

Legs out straight on bed with knees pointing to the ceiling.

Attendant Position

One hand on top of knee, the other under the heel.

Movement

Place the heel on shoulder with leg approx 45°.

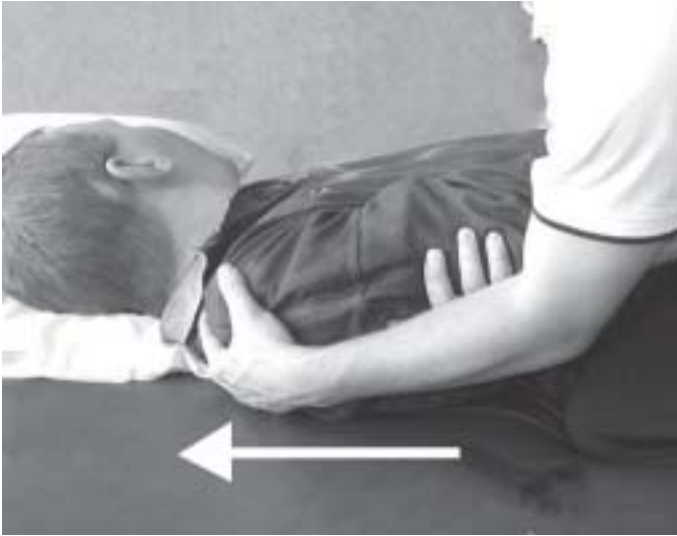
Slowly lift leg up towards the persons chest, keeping knee straight with both hands. Do not force this movement: Go just past the point of resistance and hold stretch for 30 seconds.

Return to starting position.

Repeat.

Shoulder Elevation

10 Reps



Upper Limb

Starting Position

Lying on back, arm flat on bed, elbow bent across chest.

Attendant Position

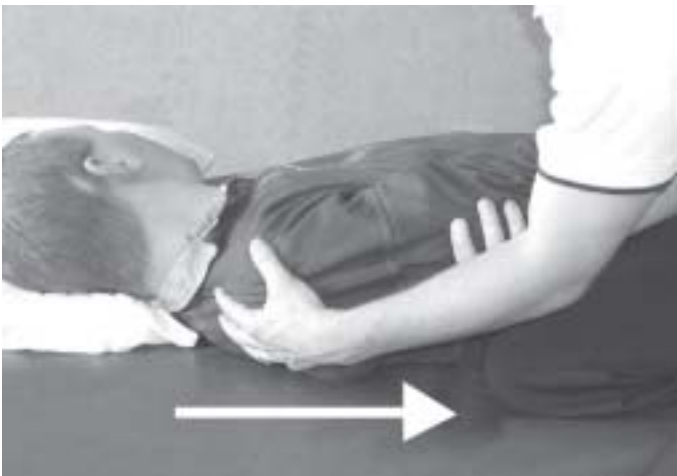
One hand holding elbow, the other hand on top of shoulder.

Movement

a) Shrug shoulder up.

Shoulder Depression

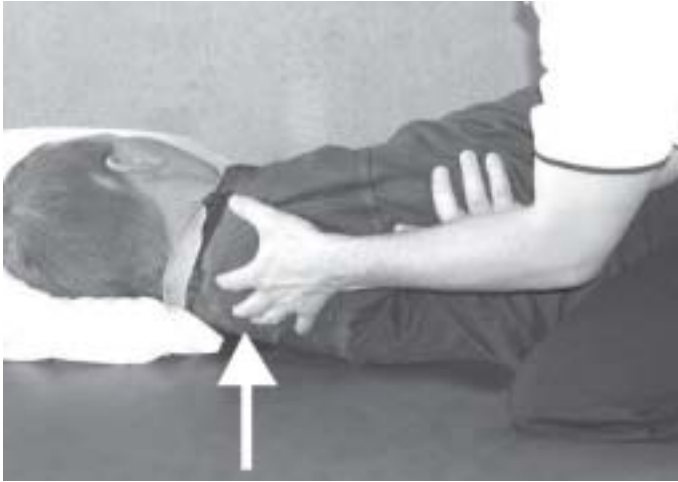
10 Reps



b) Shrug shoulder down. Take care not to pull on the arm. Use the hand on top of the shoulder to shrug the shoulder down.

Shoulder Protraction

10 Reps



Starting Position

Lying on back

Attendant Position

One hand supports the arm the other hand underneath shoulder.

Movement

a) Lift shoulder up, taking the movement from the shoulder blade.

Shoulder Retraction

10 Reps



b) Push shoulder down.

Rotation

10 Reps



Starting Position

Place arm out to side with elbow bent at 90°.

Attendant Position

Place one hand on the upper arm and one on the wrist.

Movement

a) turn arm so hand moves away from the body



b) turn upper arm down so hand moves towards the stomach.

Repeat

Shoulder Abduction

10 Reps



Starting Position

Have patient place arm at side with elbow bent to 90°.

Attendant Position

Hold the wrist with one hand, the elbow with the other hand.

Movement

Move elbow away from body until it is almost at 90°.

Return to side.

Repeat.

Shoulder Elevation Stretch

10 Reps



Starting Position

Lying on back, arm flat with palm down.

Attendant Position

Grip underside of arm above elbow and hold wrist with other hand.

Movement

Vertically swing arm over head. Support slightly bent elbow throughout. Return to starting position.

Repeat.

Elbow Flexion

10 Reps



Starting Position

Place arm at side with palm down.

Attendant Position

Grasp the wrist and place the other hand above the elbow.

Movement

Bend elbow allowing wrist to rotate naturally as it moves up. Return to starting position.

Elbow Extension

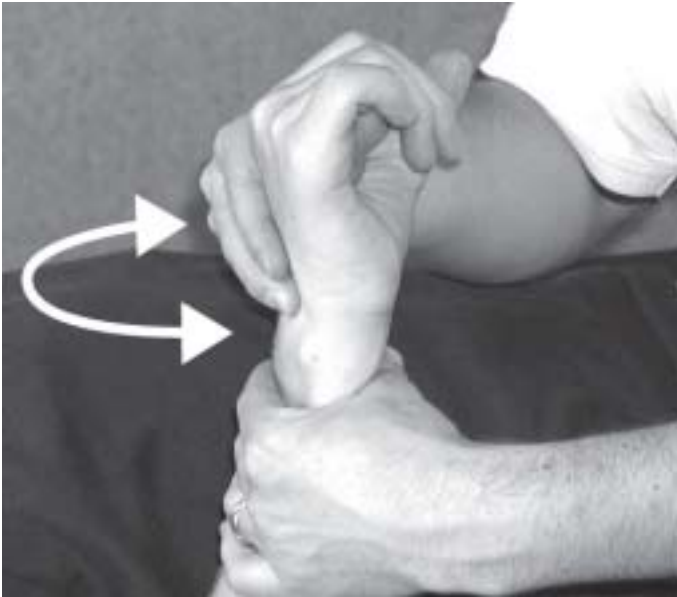


When elbow is bent, palm should face shoulder.

When elbow is straight, palm should be down.

Wrist Pronation

10 Reps



Starting Position

Arm at side with elbow bent to 90°.

Attendant Position

Grasp the wrist in one hand and the hand with other.

Movement

a) Twist the forearm so palm faces feet

Wrist Supination

10 Reps



b) Twist the forearm so that the palm faces the shoulder.

Repeat

Wrist Extension with Finger Flexion

10 Reps



Starting Position

Arm at side with elbow bent to 90° .

Attendant Position

One hand holding the wrist, the other over the fingers.

Movement

Bend wrist back and do not straighten fingers. Ensure that the knuckle joint bends down to 90° .

Wrist Flexion with Finger Extension

10 Reps



Starting Position

Arm at side with elbow bent to 90° .

Attendant Position

One hand holding the wrist, the other hand holding just below knuckles.

Movement

Bend wrist forward and straighten fingers. *Avoid stretching wrist and fingers back at the same time.*

Thumb Opposition

10 Reps



Starting Position

Arm at side with elbow bent to 90°.

Attendant Position

Hold the back of the fingers in one hand. Place your thumb over the base of the persons thumb.

Movement

Gently push thumb across palm towards the little finger.

Do not stretch the thumb back.

Fingers

3 Reps



Starting Position

Arm at side with elbow bent to 90°.

Back of hand facing attendant.

Attendant Position

Hold fingers in both hands.

Movement

Spread fingers apart.

Prone Lying

20 minutes a day minimum



Use pillows under shin to avoid pressure on the toes, or lie with toes off the end off the bed. Ensure that any catheter tubing can drain freely.

Frog Lying



Use pillows to support knees in this position. You may be able to lie in this position while your upper limb passive movements are done.

The above positions are also recommended to help maintain joint and muscle length and may help reduce spasm. You may require assistance to get into these positions.

Additional Exercises: