**Physical Therapist – Range of Motion**

Physical therapists work with patients who have lost certain physical abilities through injury or illness to relieve their pain, help them regain physical strength, help them recover the use of an affected limb, or relearn how to perform the activities of daily living. They confer with the patient’s physician prior to initiating treatment and evaluation. Physical therapists take a variety of measurements during the patient's evaluation. These measurements are used to decide on the treatment and to document any improvements made.

**Atrophy** - wasting away of muscles

**Contractures** - shortening or tightening of muscles/ligaments/tendons, usually due to lack ofmovement

**Goniometer** - an instrument for measuring angles - resembles a protractor.

**Physical Therapist** - one who provides specialized therapy to aid in restoration of function andthe prevention of disabilities

**Range of Motion (ROM)** - amount of movement which can be made by a particular joint

**Range of Motion Exercises** - exercises performed to increase circulation, prevent contracturesand atrophy of muscles and increase range of motion

**Investigation**

A 25-year-old man, Jason Smith, has come to you because he has fallen off a ladder and landed on his right side. His right hand, knee, and neck are very stiff and sore. Jason's doctor, Dr. Shelley, has referred him to you to evaluate his condition. You will need to start a patient chart, collect data using a goniometer (or protractor), and decide if his range of motion is normal. Dr. Shelley will need a detailed written report as to your findings and your recommendation for treatment.

**How to use a Goniometer to measure Range of motion (ROM)**

1. Position the patient’s body part (could be arm or leg) so it forms a continuous line.
2. Position the arms of the goniometer parallel to the patient's body part.
3. Position the fulcrum of the goniometer over the axis of the joint.
4. The goniometer should be at zero degrees.
5. Have the patient use the joint, moving the body part as far as possible.
6. Measure again.
7. The ROM is the arc that's formed from the starting position (first measurement) to the ending position (or the second measurement).

Collect the following data and record on your chart. (Take measurements from your partner.) Be sure to collect measurements for both sides of the body so you can compare normal range of motion to the injured side. Remember the range of motion on the injured side may be limited.

**Wrist**

Patient sits beside a desk and rests the arm on the top of the desk. The shoulder should be at a 90-degree angle and the elbow at a 90-degree angle. Palm faces the ground and the hand is free to move. Align the fulcrum over his/her wrist joint. Have patient move his/her wrist so that the arm makes a horizontal line. This is the starting position (0 degrees). First, measure how far he/she can push his/her hand down (flexion). Record the measurement. Next measure how far he/she can extend his/her hand up (extension). Record the measurement.

* *It's important that no other joint is used, only the one being measured. Then repeat on opposite wrist.*

**Knee Flexion**

Patient lies on his/her back with legs extended. This is the starting position (0 degrees). Patient bends his/her knee. Measure and record. Repeat on opposite leg. Next, patient lies on their stomach. Extend leg (starting position). Bend knee. Measure and record. Repeat on opposite leg. Measure and record.

**Head Rotation**

Patient sits with his/her back supported by a chair facing forward. Looking down from the top of their head, center the goniometer in the middle of the head (over the spine). Align one arm to the tip of the patient nose (0 degree). Have patient rotate their head to the right. Measure and record. Repeat to the left side, measure and record.