

This TelAbility handout provides an overview about range of motion and passive range of motion exercises.

### **Range of Motion (ROM) - the amount of movement available at a joint.**

- Range of motion is usually measured in degrees. [For example, normal range of motion of the knee for an adult is from 0° fully extended (straight) to 135° fully flexed (bent)].
- The amount of movement normally possible at each joint is different.
- Normal motion for children is sometimes different than for adults.

### **Why is Movement Important?**

When a joint is not moved or is not moved through its full range of movement, the tissues (muscles, tendons, and other soft tissues) around the joint may become tight. Over time this tightness can become permanent. This is particularly important during the growth years. Loss of range of motion can lead to joint contractures, deformities, decreased function, and decreased ease of care giving. It may also result in the need for surgery. Children with limited mobility can sometimes lose range of motion. This might be due to weakness, spasticity, or immobilization due to surgery or another treatment.

### **What are Range of Motion Exercises?**

One strategy for attempting to maintain range of motion is daily passive range of motion (PROM) exercises. Passive exercise means that you are moving the child instead of the child using his or her own muscles to move. Passive range of motion exercises can be done as specific exercises or as modification of activities that you routinely do with your child every day. (example: moving the legs through their full range of motion when changing a diaper or giving a bath)

### **We Move in Many Directions**

We move in many directions that we often don't think about. For example we move our arms at the shoulder forward and back, out to the side, over our head, across our chest and we also can rotate our arm to reach behind our back. Maintaining range in all these motions is important to daily functional activities. Therefore it is important to exercise all the motions at each joint.

### **Moving Feels Good**

- Gentle range of motion exercises can be relaxing and feel good to your child.
- Typically they should be done slowly and within the pain free range (do not stretch to the point of pain in any direction) unless otherwise instructed.
- Add music, rhymes, or stories to entertain and relax your child while you exercise.
- Sometimes exercising during or following a warm bath helps muscles relax.

**You doctor or therapist may give you specific exercises or instructions for your child depending on your child's needs.**

**Author:** Darlene Sekerak, PT, PhD **Contact Information:** [dsekerak@med.unc.edu](mailto:dsekerak@med.unc.edu) **Last Revised:** December 31, 2003

**Reference:** Kisner C, Colby LA **Therapeutic Exercise: Foundations and Techniques.** 2002 FA Davis Company. Philadelphia, PA 844p.