RANGE OF MOTION
(ACTIVE, ACTIVE ASSISTANCE AND PASSIVE)

PURPOSE:
1. To move the resident's joints through as full a range of motion as possible.
2. To improve or maintain joint mobility and muscle strength.
3. To prevent contractures.
4. To increase strength and activity tolerance.
5. To reduce pain.
6. To prevent complications of mobility.

CONTRAINDICATIONS:
1. Evaluate and recognize the resident's limits of motion and support all joints during movement.
2. Resident's with septic joints.
3. Acute thrombophlebitis.
4. Severe arthritic joint inflammation.
5. Recent trauma.
6. Uncontrollable pain.

EQUIPMENT:
1. Bath blanket.
2. Assistive devices.

PROCEDURE-ACTIVE RANGE OF MOTION:
For active range of motion, follow the same procedure as passive range of motion instructing the resident to perform the activities independently with cueing and supervision by the staff.

Assist the resident as necessary and assess the resident's ability to perform active range of motion. This is "active assistive" range of motion.

GENERAL:
1. Assess the resident for disability, pain and weakness.
2. Determine which joints need range of motion exercise and need for passive or active assistance.
3. Perform all exercises slowly, gently and to the end of normal range of motion or before the point of pain.
4. Never force a joint to move beyond resistance or beyond the point of pain.
5. Always begin and end an exercise of an extremity in a neutral position.

NECK:
EXTENSION/FLEXION
1. Position resident supine on the bed without a pillow.
2. Support the back of the head with one hand and the chin with the other.
3. Bend the neck backward gently; bend head forward at the neck, bringing the chin toward the chest.

4. Ideally the resident should be able to rest the chin on the chest.

LATERAL FLEXION

1. Place one hand on each side of the resident's face.
2. Tilt head laterally; bring the ear toward the shoulder; slowly and gently bring the head back toward other shoulder and elbow.

ROTATION OF NECK

1. Place hands in same position as lateral flexion.
2. Turn the resident's head from side to side as if looking over shoulder.

SHOULDER:

EXTENSION/FLEXION

1. If possible, place resident in supine or sitting position; have resident's arms at his/her side with palms facing body (starting position).
2. Place one hand under the elbow and grasp the wrist with the other.
3. Keep the resident's elbow straight; bring arm straight up until it reaches the ear.
4. Bring arm down to resident's side.
5. Radial flexion-turn hand toward thumb.
6. Ulnar flexion-turn hand toward little finger. Raise arm straight in front and over head.

FLEXION

If possible, bend the elbow so the forearm reaches the head.

VERTICAL ABDUCTION/ADDUCTION

Assume the same starting position as for extension/flexion, then swing the resident's arm gently outward from the side, staying in the plane of the body.

ADDUCTION

Return the arm to the side and then direct it across the midline toward the other arm.

ABDUCTION

To achieve full range of motion, externally rotate the arm at the shoulder, bring the arm up to the ear and then return it to the starting position.

HORIZONTAL ABDUCTION/ADDUCTION

1. Place the resident's arms in vertical abduction.
2. Bend the elbow (horizontal abduction), grasp the elbow with one hand and the wrist with the other hand and carry the resident's arm across the body so the hand touches the opposite shoulder (horizontal adduction).

INTERNAL ROTATION

1. Place the resident's arm in horizontal abduction.
2. Grasp the wrist with one hand and the elbow with the other. Hold at 90-degree angle.
3. Keep the shoulder at 90-degree angle to the mattress.
4. Gently lower the forearm until the palm touches the bed (internal rotation).

EXTERNAL ROTATION

Return to the starting position, then gently push the dorsal forearm toward the mattress so the back of the hand touches the bed.

ELBOW:

EXTENSION/FLEXION

1. Place the resident's arm at his/her side with the palm facing upward (extension).

2. Grasp the wrist so the hand will not drop, keeping the upper arm on the bed. Bring the hand up toward the shoulder (flexion).

FOREARM:

SUPINATION/PRONATION

1. With the resident's arm in the natural, extended position, lift the hand into the air keeping the elbow on the bed.
2. Grasp the wrist with one hand and the elbow with the other; turn hand to bring palm up (supination).
3. Turn the hand back again to bring the palm down (pronation).

WRIST:

EXTENSION/FLEXION

1. With resident's arm in the same position as for forearm exercises, bend the hand back toward the dorsal forearm (extension).
2. Bend hand forward (flexion).

LATERAL FLEXION

In the same position as for extension/flexion, rock the hand gently from side to side.

CIRCUMDUCTION

In the same position as for extension/flexion, rotate the hand in a circular motion.

FINGER AND THUMB:

EXTENSION/FLEXION

1. Keep the arm in the same position as for forearm exercises.
2. Grasp the palm and wrist with one hand and gently straighten the fingers with the other (extension).
3. Place your hand on the back of the resident's finger and gently bend hand into fist (flexion).
4. Repeat these two motions with each finger, individually flexing each joint.
5. Support the wrist.

ABDUCTION/ADDUCTION

1. In same position as for extension/flexion, spread two adjacent fingers apart (abduction).
2. Bring fingers back together (adduction).
3. Repeat this exercise for all fingers and thumbs.

OPPOSITION

In the same position as for extension/flexion, pinch the thumb and fingertip together, one at a time.

CIRCUMDUCTION

In the same position as for extension/flexion, rotate the thumb in a circle.

HIP AND KNEE:

EXTENSION/FLEXION

1. With the resident's leg flat on the bed in the natural, extended position, place one hand under the ankle and the other hand under the knee.
2. Bend the hip and knee under the chest, sliding your hand out from under the knee to allow full joint flexion.

3. Flexion – raise the leg.
4. Extension – straighten the leg.

ABDUCTION/ADDUCTION

1. Place your hands under the ankle and knee and move the leg from side out and away from the other leg (abduction).
2. Move leg back toward midline over and across the midline if possible (adduction).

INTERNAL/EXTERNAL ROTATION

1. With the resident's leg flat on the bed, grasp back of leg just above the ankle and at knee.
2. Roll the leg toward the midline (internal rotation).
3. Roll leg away from the midline (external rotation).

ANKLE:

DORSIFLEXION/PLANTAR FLEXION

1. Place one hand under the heel and the other hand on the ball of the foot.
2. Push the foot toward the head and pull the heel back (dorsiflexion).
3. Move hand from the ball of the foot to the top of the foot and pull the foot down toward the bed with the heel back (plantar flexion)

CIRCUMDUCTION

Place one hand under the ankle and grasp the foot with the other hand; rotate the ankle in a circular motion.

FOOT:

ENVERSION/EVERSION

1. Maintaining the starting position as for ankle circumduction, hold the ankle securely.
2. Turn the foot with the sole toward the midline (enversion).
3. Turn the foot away from the midline (eversion).

TOES:

EXTENSION/FLEXION

1. Hold the ankle securely with one hand and curve the toes toward the sole with the other hand (flexion).
2. Straighten and stretch the toes back toward the top of the foot (extension).

ABDUCTION/ADDUCTION

1. Spread the two adjoining toes apart (abduction).
2. Bring toes back together (adduction). Repeat for all toes.

SPECIAL CONSIDERATIONS:

1. When the resident's activity level or joint function is at risk of or decreases, range of motion should be started as soon as possible. Joints begin to stiffen within 24 hours of disuse.
2. Keep extremity in proper alignment and repeat exercises at least three times, but more often if tolerated.
3. Encourage the resident to participate in the exercise.
4. If the resident requires long-term rehabilitation after discharge, teach a family member or care giver to perform range of motion exercises.

DEFINITIONS RELATED TO RANGE OF MOTION:

1. ADDUCTION: Movement of limb toward the center of the body.
2. ABDUCTION: Movement of a limb away from the center of the body.
3. ENVERSION: Toward the midline of the body.
4. EVERSION: Away from the midline of the body.
5. INTERNAL ROTATION: Turning inward toward the center.
6. EXTERNAL ROTATION: Turning outward away from the center.
7. ROTATION: Turning or movement of a part around its axis.
8. SUPINATION: Turning upward.
9. PRONATION: Turning downward.
10. ACTIVE RANGE OF MOTION: The resident is able to move his/her joints.
11. PASSIVE RANGE OF MOTION: The resident's joints are put through the range of motion by another.