Contracture Management
A Clinical Approach for Managing the Effects of Joint Range Impairment
Contracture Management Program

Etiology of Contractures in the Long-Term Care Population

Contractures can develop very rapidly in the long-term care setting.

Residents in the long-term care setting are at risk for contractures as a result of immobility, positioning, illness, and medical conditions.

Some of the “at risk” reasons may be:
- Residents sit for extended periods of time without proper support creating upper extremity, hip, knee and ankle contractures.
- Residents do not ambulate as frequently as they should or are no longer able to ambulate without assistance.
- Residents have partial paralysis or complete paralysis of their extremities.
- Residents develop flaccid or spastic muscles.
- Residents develop fragile skin with skin breakdown.
- Residents have exacerbations or increase in intensity of a medical condition such as rheumatoid arthritis, osteoarthritis, or osteoporosis.
- Residents develop pain or edema in a joint and due to the discomfort, protection and compensation and immobility result.
- Residents develop dementia and reduce their daily functional activities and mobility.
- Residents have a poor fitting splint or immobilizer that causes diminished range of motion and pain or skin issues.

Therapists, nursing and all facility staff need to be involved in assessment, prevention, treatment, training and documentation for each resident with contractures.

A successful contracture management program requires a multi-disciplinary, facility-wide prevention and management approach.
Objectives and Goals of a Contracture Management Program

The Objectives and Goals of a Contracture Management Program are:

- Develop a multi-disciplinary approach to contracture management.
- Identify contractures through routine screening and care plan reviews.
- Once identified, evaluate the severity and begin management of the contracture with the following goals:
  - Stop the muscle shortening through exercise, adaptive equipment, and positioning
  - Promote circulation through range of motion and general activities
  - Ensure good hygiene to all involved joints
  - Retain and enhance joint mobility for functional use of the extremity
  - Limit and reduce pain
  - Promote a sense of well-being
  - Prevent secondary complications

Defining Skilled Therapy Interventions

- Interventions must relate directly and specifically to an active written treatment program.
- Program must be considered reasonable and necessary for the resident’s condition.
- Services must be considered under accepted standards of medical practice to be specific and effective treatment for the resident’s condition.
- Services must be of such a level of complexity and sophistication or the resident’s condition is such that a qualified therapist can only safely and effectively perform necessary services.
- There must be an expectation that the condition will improve significantly in a reasonable (and generally predictable) period of time.
- Services must be provided under the order of a physician.
Skilled Interventions for Contracture Management

**SPLINTING:**

<table>
<thead>
<tr>
<th>Evaluate contracture for potential splint/orthotic devices</th>
<th>Educate and train caregivers in application, use and care of splints/orthotic devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and fabrication of splints/orthotic devices</td>
<td>Provide verbal, physical, and written guidance for the use of splint/orthotic devices</td>
</tr>
<tr>
<td>Design and purchase of splints/orthotic devices</td>
<td>Implement the appropriate schedule for use of splint/orthotic devices</td>
</tr>
<tr>
<td>Fitting and adjustment of splints/orthotic devices</td>
<td>Evaluate the continued appropriateness of the splints/orthotic devices after receipt by resident</td>
</tr>
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</table>

**POSITIONING:**

<table>
<thead>
<tr>
<th>Evaluate each resident’s present positioning in bed and sitting on various surfaces</th>
<th>Determine modifications to present positioning to reduce and eliminate contractures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate each resident’s positioning during functional activities</td>
<td>Provide equipment to manage contractures</td>
</tr>
<tr>
<td>Determine modifications to present positioning to ensure reduction and prevention of contractures</td>
<td>Educate and train caregivers in appropriate positioning to prevent, reduce and eliminate contractures</td>
</tr>
</tbody>
</table>

**RANGE OF MOTION:**

<table>
<thead>
<tr>
<th>Therapists will train caregivers, including family members in range of motion for all joints</th>
<th>Range of motion sessions will be documented. Response of caregivers will be documented. Understanding of training will be documented.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of motion will be provided according to therapists’ and physicians’ recommendations</td>
<td>Range of motion changes, improvements will be documented</td>
</tr>
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</table>

**FUNCTIONAL ACTIVITIES:**

<table>
<thead>
<tr>
<th>Therapists will observe resident during functional activities and determine if resident’s contractures are limiting their abilities</th>
<th>Therapists will determine if resident’s contracture management program requires modification based on resident’s completion of, or inability to complete functional activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapists will document if resident is experiencing pain during functional activities due to contractures</td>
<td>Modifications will be made to enhance resident’s functional activities in relation to contractures</td>
</tr>
</tbody>
</table>
Rehab: Rehab will screen the resident(s) in question and will determine if skilled services are medically necessary. Upon receipt of a Physician’s order to evaluate a resident, the Occupational Therapist or the Physical Therapist will proceed with the evaluation.

Possible modalities to be included in a contracture management program include, but are not limited to:

- moist heat
- splinting
- diathermy
- ultrasound
- positioning
- paraffin
- ice, ice massage
- adaptive devices
- electrical stimulation
- therapeutic massage
- therapeutic exercises/stretching
- whirlpool
- functional activities
- pain management
- functional mobility

Orders:

- The physician’s order should indicate the type of physical agent modality (Ultrasound, Electrical Stimulation, Short-wave Diathermy) if clinically indicated, the anatomical location (the area on the body where the modality will be used), the condition being treated (for what purpose: reduce pain, reduce spasticity, reduce inflammation, increase range of motion, increase circulation) and the frequency and duration.
<table>
<thead>
<tr>
<th><strong>Rationale</strong></th>
<th><strong>Goal</strong></th>
<th><strong>Modality Treatment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuromuscular re-education to increase ROM</td>
<td>Increase in ROM from _____ degrees to _____ degrees to improve ability to perform functional ADLs, and positioning.</td>
<td>Electrical Stimulation NMES</td>
</tr>
<tr>
<td>Decrease neuromuscular tone to decrease joint stiffness of the wrist and finger flexor musculature</td>
<td>Increase the ability to passively range wrist and digits from _____ degrees to _____ degrees to enable proper skin cleaning and positioning of orthotic device. Increase ability to don/doff UE clothing over head</td>
<td>Ultrasound (Sub-Thermal)</td>
</tr>
<tr>
<td>Decrease pain</td>
<td>Decrease pain from _____ to _____ consistently</td>
<td>Electrical Stimulation TENS</td>
</tr>
<tr>
<td>Increase extensibility of collagen tissues to improve ROM allowing stretch of the wrist and finger tendons</td>
<td>Increase the ability to cleanse and position wrist and hand for application of orthotic device</td>
<td>Ultrasound Shortwave Diathermy (Theramal)</td>
</tr>
<tr>
<td>Neuromuscular re-education to reduce disuse atrophy and muscle spasticity</td>
<td>Increase ability to walk and reduce falls</td>
<td>Electrical Stimulation NMES</td>
</tr>
<tr>
<td>Neuromuscular re-education to reduce disuse atrophy and muscle contracture of the upper extremity</td>
<td>Decrease UE contracture and increase strength for Sit –to-stand improvement</td>
<td>Electrical Stimulation NMES</td>
</tr>
<tr>
<td>Provide prolonged stretch to provide long term improvement of PROM (plastic change in soft tissue)</td>
<td>Fabricate and modify orthotic for ____ hrs wearing schedule without sign or symptoms of skin breakdown</td>
<td>Orthotic Therapy</td>
</tr>
<tr>
<td>Caregiver/resident education</td>
<td>Caregiver/resident to demonstrate _____% return demonstration of ROM program without further pain or injury to the joints</td>
<td>Combination of therapeutic methods</td>
</tr>
</tbody>
</table>
Contraindications for Contracture Management
There are conditions that would be contraindications for contracture management.

☐ Any ankylosed joint that cannot be mobilized
☐ Chronically dislocated joint
☐ Non-healing fracture site
☐ Advanced bone cancer
☐ Joint with a bony obstruction
☐ Intractable severe pain with ranging

Residents with these conditions would require consultation and care management with their physician.

Rehab will write a program for caregivers to follow upon resident’s discharge from skilled therapy program.
Documenting Pain

Many residents with contractures have pain associated with movement or pain at rest. It is very important that caregivers accurately assess and document pain in the medical records.

When assessing and documenting pain the following guidelines may be considered:

- Assess pain with the resident and encourage them to verbalize what pain, how much pain, and when they experience pain.
- Ask about the pain using words as discomfort, aching, or soreness to enable the resident to describe the pain and its effect on their daily activities.
- Assess the impact of pain on physical function. Observe facial expressions of pain, grimacing, rapid blinking of the eyes, sad or frightened face, or other expressions of pain.
- Does the resident react negatively during transfers, resist bathing, dressing or toileting, resist movement of a specific body part, guard extremities, tense up, limp, and resist moving in any way?
- Assess the psychological implication of pain. Has the resident changed their common routines, has difficulty sleeping, sitting or relaxing?
- Does the resident refuse food or have a change in appetite?
- Is there a mental change? Is the resident more confused, more agitated, crying more often, or in apparent distress?
- Is the resident aggressive, combative, display decreased social interaction, socially inappropriate behavior, or disruptive or withdrawn behavior?
- Measure the limitations objectively, carefully, and slowly – use a goniometer.
- Assess the effect of medications on the pain.
- Allow the resident time to respond to your question about the intensity of their pain.
- Assess present pain, not comparison to hours ago or days ago secondary to memory deficits that a person may have.
- Design an individualized program of mobility to improve flexibility, strength, and function as tolerated by the resident.
- Document what effect the mobility program, splinting, or positioning has on pain.
- Document improvements, deterioration, or complications from the pain.
Pain Assessment Scale
A resident is asked to rate their pain on a numerical scale from 1-10, with 10 representing the worst pain experience.
Resident can be asked the following:
- Where is the pain located?
- Is the pain constant?
- Is the pain intermittent?
- Is the pain constant, radiating from a particular location, or referred?
- What movements or activities make the pain worst?
- What is the pain rated (0-10) when (10) pain is the worst? You may also use a 1-5 scale.
- If pain is relieved what activities or interventions relieve the pain?
- How long is the pain relieved?
- What time of day is the pain the greatest?
- When pain affects sleep, how much sleep is obtained in a given period of time?
- Describe the medication schedule and the effect of medication on the pain type and duration.
- What is your current rating of pain?
- What relieves your pain the best or what has no effect on your pain?.
Instructions for Usage

Explain to the person that each face represents a person who has no pain (hurt), or some, or a lot of pain.

Face 0 doesn’t hurt at all. Face 2 hurts just a little bit. Face 4 hurts a little bit more. Face 6 hurts even more. Face 8 hurt a whole lot. Face 10 hurts as much as you can imagine, although you don’t have to be crying to have this worst pain.

Ask the person to choose the face that best depicts the pain they are experiencing.
Screening for Contractures

1. Determine by facility reports if there are residents who currently are identified with contractures or at risk for contractures as those residents with:
   - Neurological diagnoses
   - Feeding tubes that limit a resident’s mobility
   - Wounds
   - Positioning needs
   - Current splint utilization
   - Restraint utilization
   - High risks for developing contractures
   - Bed rest status
   - Sustained immobility for periods of time
   - Start with these concerns and initiate the screening process.

2. Review medical record for:
   - Prior level of function
   - Cognition and ability to follow direction
   - Prior therapy intervention
   - Medical diagnosis
   - Length of stay in facility
   - Physicians’ and nursing notes
   - Social services and activities’ notes
   - Dietary information and hydration intake
   - Medications
   - Care plan noting changes in functional level and assistance with ADLs

3. Obtain the monthly care plan list and screen all residents with upcoming assessments with particular attention to their range of motion of all joints.

4. Obtain the most recent Quality Indicator Profile Report of the facility and address any resident with contractures identified on the Profile.

5. Discuss the identified residents with nursing and decide as a team how to manage the contracture.

6. Determine equipment needs and training that will be provided to the facility staff and family members to assist with the contracture management.

7. Each week formally discuss the residents who have been identified with contractures and the current status of the care plan.