



Learn Rehabilitation Therapies to Manage Side Effects of Chronic GVHD

Celebrating a Second
Chance at Life Survivorship
Symposium



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Learning Objectives:

Following this presentation, attendees will understand:

1. Types of stretches and exercises that can be done to improve range of motion and strength after HCT, particularly for those with GVHD
2. How to perform exercises safely; precautions to follow before and during exercises
3. Splints and casts to improve range of motion and positioning for GVHD patients
4. Adaptive equipment/devices to improve safety and function

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Corticosteroid-Induced Myopathy

Paulette Taku, DPT, PT

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What Is Steroid-Induced Myopathy?

- Corticosteroid induced myopathy also known as steroid-induced myopathy is one of the side of effects from prolonged use of taking glucocorticoid.
 - Glucocorticoid is a drug used to treat patients with Graft Versus Host Disease.
- This condition is defined as muscle weakness particularly in the muscles involving the hip and core regions.
- The elderly population has a higher risk of getting this condition due to having a lower baseline level of muscle mass.
- In addition, women are more prone to having it compared to men.

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Onset, Symptoms and Therapy

- The onset for corticosteroid induced myopathy can range from weeks to months after you start taking glucocorticoids.
- Common complaints with corticosteroid-induced myopathy are:
 - difficulty rising from a seated position
 - climbing stair
 - trouble with overhead activities.
- Physical therapy sessions consisting of cardio and strengthening exercises are effective ways to treating muscle weakness from the corticosteroid-induced myopathy.

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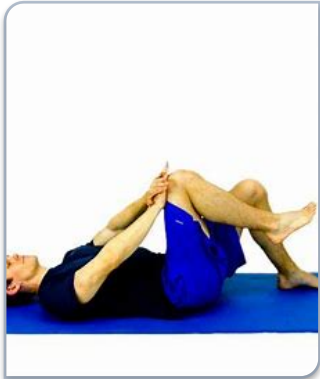
Exercises

Common exercises patients can do to strengthen their hip and core muscles include:

- Isometric Hip Flexion - Alternating
- Clamshells
- Marching
- Sit to Stand
- Bridges

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Isometric Hip Flexion – Alternating



1. Lay on your back with knees bent.
2. Lift your right knee up and press it into your hand for 3 secs.
3. Repeat on the opposite leg.

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Clamshells



1. Lay on your side with your knees bent.
2. Lift your top knee only 2-3 inches above the bottom knee. You don't want your body to roll backwards during the exercise.
3. Slowly lower your top knee down to the bottom knee.

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Marching

1. Lift knee up and then lower it back down.
2. This exercise can be done in standing or sitting position.



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Sit to Stand



Transition from a sitting to a standing position from a chair.

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Bridges



1. Lay on your back with knees bent. Your hands are placed on the mat near your hips with palms down.
2. Lift your hips up from the mat and hold for 2 to 3 seconds.
3. Gradually lower your hips down to the mat.

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Stretches for Chronic GVHD

Carly Cappozzo MSOT, OTR

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Why Stretching?

- Joint and fascia manifestations of GVHD include:
 - joint stiffness
 - restricted range of motion
 - joint contractures
- Research suggests the most effective way to maintain and restore joint contractures is a sustained, low intensity stretch.
- Completing stretches can also serve as a way to monitor for any GVHD or range of motion-related changes and allows you to address these changes as they come about.

Inamoto et al., 2014)

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Stretching Tips

- Apply moisturizer before you begin
- Hold each stretch for at least 30-60 seconds
- Stretch each joint at least 1-2 times per day
- Movements should always be smooth (not jerky or bouncy)
- Modify stretch or environment to best meet your needs
- Discomfort is okay, pain is not
- And, most importantly, remember to BREATHE!

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Note:

All stretches and other forms of physical activity can be dangerous if performed without medical advice and proper supervision.

Consult your physician before starting any new exercise program.

Please adhere to any precautions you may have throughout this stretching program.

BMT InfoNet and presenter are not responsible for any injuries or damages that may result from performing the stretches shown in this video.

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Shoulder Flexion

1. Raise one arm up overhead as far as you can with your thumb pointed up. Keep your elbow as close to your head as possible and keep your elbow straight.
2. To deepen the stretch, use your other arm or a wall for support to assist.

Modification:

While lying down on a flat surface, clasp your hands together and bring them over your head, keeping elbows straight and arms close to side of head. To deepen the stretch, hold a weight in your hands.



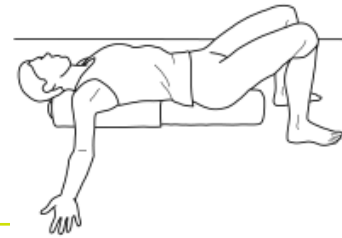
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Chest Opener

1. Stand with one forearm against a wall or edge of a doorway at shoulder height with elbow bent.
2. Turn your body away from the arm so you feel a stretch in your chest muscles.
3. You can adjust your arm higher or lower to stretch different areas of your chest.

Modification:

Lie on your back and let your arms fall straight out to the side with palms up. To deepen the stretch, hold a weight in each hand.



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Wrist Extension

1. Hold your arm out in front of you, with your palm facing up, and your elbow, wrist, and fingers straight.
2. Bend the hand and fingers downward. Use your other hand to pull your fingers back towards your body.

Modification:

Stand with the palms of your hand flat on a table or chair. Keep your elbows and fingers straight and lean forward to deepen the stretch.



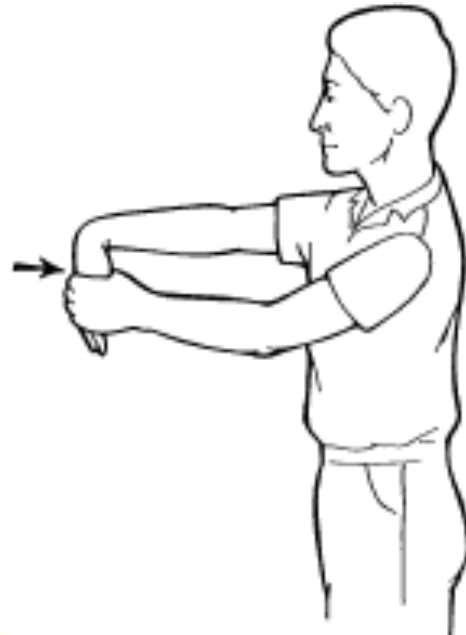
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Wrist Flexion

1. Hold your arm out in front of you, with your palm facing down, your elbows and wrist straight, and your hand in a fist.
2. Bend the hand and fingers downward. Use your other hand to push the hand down further.

Modification:

Extend your fingers straight and/or bend your elbow to make the stretch less intense



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Hip External Rotation

1. While seated in a chair or at the edge of bed, cross one leg over the other so your ankle is resting on your thigh just above your knee.
2. Keep your back straight and lean forward.
3. If it is too difficult to bring your ankle to your thigh you can rest your ankle along your lower leg.



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Ankle Dorsiflexion

1. While seated on a bed or chair with your foot on a stool, place a towel underneath the ball of your foot and pull your toes up towards your body.
2. Try to keep your knee and your back straight



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Side Body Stretch

1. While seated, lift one arm above your head.
2. Slowly bend to the side with your arm reaching overhead without leaning forward or backward.



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Trunk Rotation

1. Sit up tall in a chair and rotate your body to look over your shoulder.
2. You can hold onto the back or seat of the chair to deepen the stretch.



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Adaptive Equipment for Chronic GVHD

RACHAEL PETRIE MSOT, OTR/L

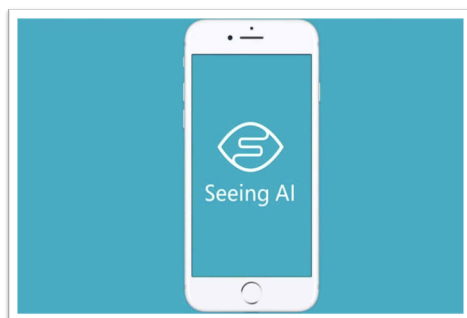
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Why use adaptive equipment?

- Complete daily activities independently
- Save energy
- Maintain safety and prevent falls
- Reduce frustration

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Low Vision App: Seeing AI



Source: www.onmsft.com

Audio recognition:

- Facial
- Environmental
- Barcode
- Text
- Currency
- Light/Color
- Handwriting

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Birdrock Grabber Pick Up Tool



Pick up hard to reach items:

- Overhead
- Ground level
- Small items
- Clothing
- Cans

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Freedom Wand Tool



Personal hygiene device:

- Carry discretely and clean easily
- Useful for shaving, toileting, bathing

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Lotion Applicator



- Apply lotions recommended by dermatologist
- Medicated Creams
- Long handle to reach legs and back

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Easy Lotion Applicator



- Easy open/close
- Removable for hygiene
- Apply lotion to hard-to- reach areas

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Slippie Gator



Apply compression garments
to arms and legs with ease

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Medi Vario Butler Stocking Donning



Apply compression stocking
to legs with ease

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Sock Aide



- Reduce need for bending
- Save energy

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Strain Free Gripper Opener



- Adjustable for different size bottles/jars
- Uses longer level arm and larger joints

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Multi-Kitchen Tool Set



- Open chip bags using razor
- Open soda cans without snagging nails

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Bedside Commode



- Easily adjustable for height
- Easy transport from room to room
- Safety with toilet transfer

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Tub Transfer Bench



- Save energy while sitting down to shower
- Reduce risk of falls

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Splinting & Casting for Chronic GVHD

Rachael Petrie MSOT, OTR/L

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Benefits of Custom Splints and Casts

- Chronic GVHD can result in difficulty fully extending fingers, wrists, ankles, shoulders, elbows.
- There are splints made for stretching, positioning, and splints that can be changed weekly to aggressively treat severe contractures.
- Splinting and casting provide low load, prolonged stretch resulting in increased range of motion for greater functional use of the upper and lower extremities.
- Splinting and casting provide a means for stretching tight tissues across multiple joints. Casting provides circumferential and equal force.
- The nature of casting can also provide warmth which allows for greater stretch of the fascia.

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Hand Based Paddle Splint



- Stretch to the thumb and webspace to prevent shortening and promote fine motor skills
- Finger extension to prevent muscle imbalance
- Allows for wrist range of motion

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Finger and Wrist Extension Cast



- Bivalved and strapped for ease of taking on/off and hygiene
- Padded for comfort
- Thumb and fingers in a functional position to place tendons on stretch with wrist in slight extension
- Allows for elbow range of motion

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Elbow Extension Cast



- Bivalved and strapped for ease of taking on/off and hygiene
- Padded for comfort
- Progressive elbow extension to address flexion contracture
- Allows for full shoulder, wrist, and finger motion
- Can include digits/wrist if needed, based on individual needs

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Dynasplint



Gentle tension to elbow to
increase elbow extension

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Ankle Cast



- Bivalved and strapped for ease of taking on/off and hygiene
- Padded for comfort
- Ankle and toes placed in a neutral position to prevent overstretching
- Functional positioning needed for walking

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Questions?



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