Health Care for the Home Bound

A guide for the volunteers of San Vincent de Paul

PHYSICAL THERAPY
UNIVERSITY OF MINNESOTA

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Skin Care & Bed Positioning

What are pressure sores?

Pressure sores are areas of injured skin and tissue. They are usually caused by sitting or lying in one position for too long. This puts pressure on certain areas of the body. The pressure can reduce the blood supply to the skin and the tissues under the skin. When a change in position doesn't occur often enough and the blood supply gets too low, a sore may form. Pressure sores are also called bedsores, pressure ulcers and decubitus ulcers.

Signs of an infected pressure sore include the following:

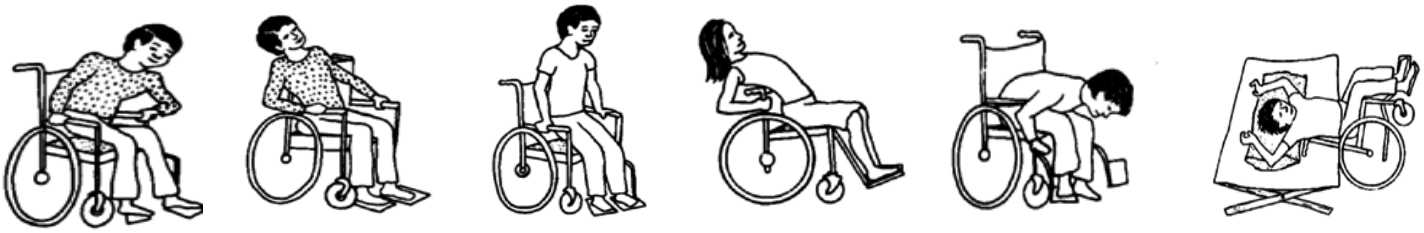
- Thick yellow or green pus
- A bad smell from the sore
- Redness or warmth around the sore
- Swelling around the sore
- Tenderness around the sore

Signs that the infection may have spread include the following:

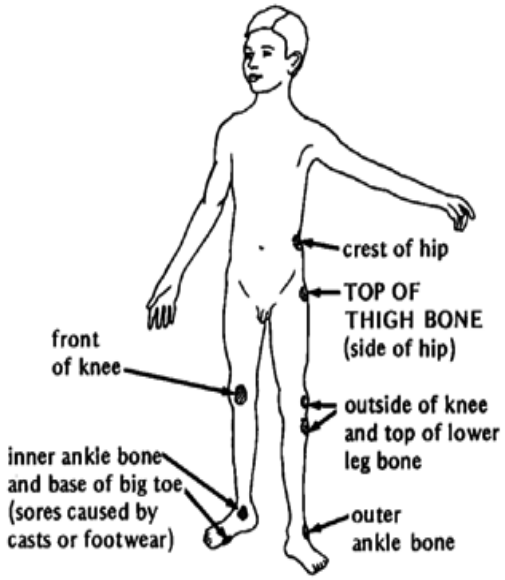
- Fever or chills
- Mental confusion or difficulty concentrating
- Rapid heartbeat
- Weakness

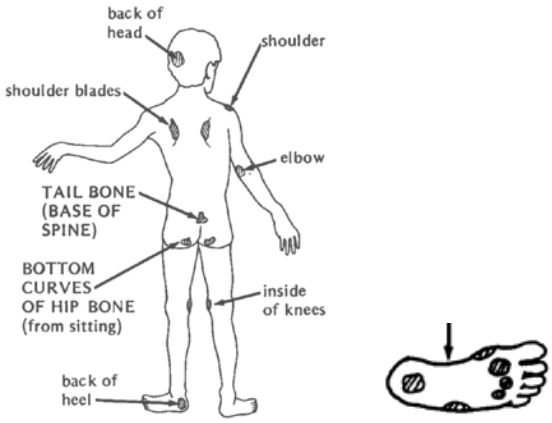
Guidelines for avoiding pressure sores

1. Change positions or shift your weight at least every 2 hours while lying down and every 15 minutes while sitting.

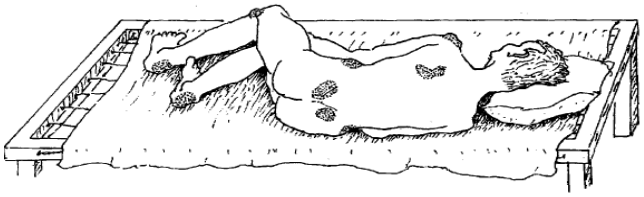


2. Keep heels off the bed.





3. Avoid pressure over bony parts of the body.



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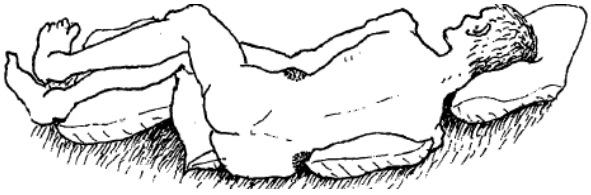


YES

4. Keep head of bed as flat as possible.

5. When moving in bed, avoid dragging your skin, lift your body.

6. Inspect your skin daily.

7. Wash with mild soap and water. Pat your skin dry.

8. Use lotion to prevent dry skin.

Guidelines for Foot Care

1. Inspect feet daily. Use a mirror to see bottoms of feet and check between toes. Have family members or friends check if you are unable.

2. Always wear shoes, do not walk barefoot.

3. Inspect shoes for foreign objects prior to putting them on.

4. Do not soak feet.

5. Wash feet daily and dry well between toes. Apply lotion but not between toes.

Avoiding contractures

Contracture: A shortened or tight muscles in a joint that limit movement. All joints of the body are at risk for contractures, including the shoulders, elbows, wrist and fingers, hips, knees, ankles, and toes.

- Avoid "positions of comfort".
- Avoid prolonged sitting.
- Avoid pillows under the knee in bed.
- Avoid letting the heels fall off the end of the bed.
- Lie on your stomach some time each day.
- Perform range of motion exercises.
- Perform stretching exercises.
- Perform out-of-bed upright postures.
- Perform weightbearing activities.
- Use the involved part of the body.
- Maintain joint in an extended position.

Transfers & Correct Body Mechanics

This section provides suggestions and ways to help both the individual and caregivers successfully transfer someone. As a rule of thumb, you must also maintain correct body mechanics to prevent an injury to yourself. To prevent injury, we have included pictures and descriptions along the way to make sure you are maintaining correct posture. This will limit the stress on your body and allow you to continue successful transfers for many years to come.

If more than one person is assisting in the transfer, always delegate one person to control commands to the patient and other caregivers. This will minimize confusion and allow for a safe effective transfer. An example for correct communication might be:

1. "I will count out loud to two and then say lift"
2. "On lift, we will lift together."
3. "One, two, lift."

NOTE: Remember to use good body mechanics:

- Keep a wide base of support with legs.
- Use larger and stronger muscles to help move (i.e. the legs)
- Keep the patient of load as close to your body as possible.

POOR lifting techniques

WARNING:
One disability can lead to another!

- Do **NOT** try to lift heavy objects or patients by yourself. Try to find help or make several trips.
- Make sure to **clear any obstacles** that will be in your path before moving objects and patients.
- **Avoid twisting** your body when moving patients.
- Do **NOT** attempt to lift heavy objects above shoulder level.
- Notice the **bad** posture in the pictures above.

GOOD lifting techniques

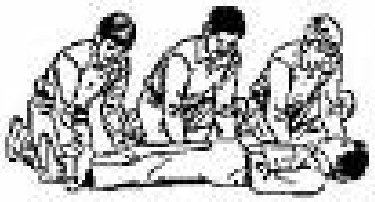
- Balance yourself before lifting, with feet about shoulder-width apart and clear any obstacles in your path.
- You may do a knee bend (shown in above picture).
- Maintain good posture throughout the lift: keep your back straight, your chest out, and your shoulders back while still keeping a minor arch in lower back.
- Squeezing your stomach muscles during the lift also helps maintain good posture.
- While under control with a strong grip, slowly lift or lower by using your hips and knees (keep back straight).
- Change direction by taking small steps and pivoting with your feet.
- Keep patient or load **CLOSE** to body.

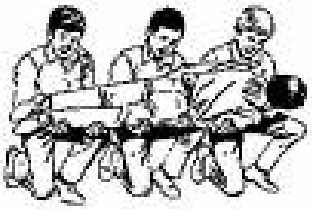
Dependent transfers

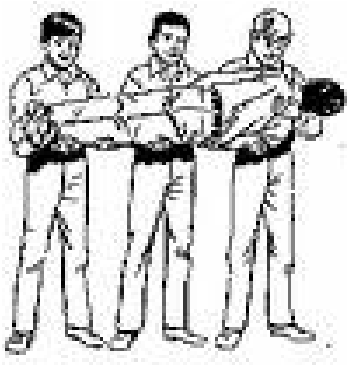
Either minimal or no involvement by the patient.

Sliding transfer (i.e. bed to table):

3-person carry:







Prepare this carry by ensuring that all three carriers have their arms securely underneath the patient. The middle person will be providing the greatest amount of support since this is where the patient weighs the most. Remember to have control of the patients head. Make sure you maintain bent knees to decrease any back strain. It will also help to make sure you're as close to the patient as possible with a wide base of support. Make sure wherever you are moving the patient that you slowly lower them back down while maintaining a wide base of support and keeping your knees bent.

2-person lifts: (i.e Wheel Chair to floor and back):

NOTE: ALWAYS MAKE SURE THE WHEELCHAIR (WC) is locked before doing any transfers.

Steps:

1. One person behind WC and one at pt feet.
2. Have pt cross arms.
3. Person behind WC reach underneath patients arm and grab onto the opposite wrist of the patients.
4. Determine which way to move and person at back of WC place one foot on that side.
5. Person at feet supports legs throughout transfer.
6. With instructions from the person at the head of patient, both lift together and make sure to be high enough so that patient clears WC.
7. Slowly lower the patient to floor and maintain correct body mechanics.
8. Reverse procedure to put patient back in WC.

Dependent Standing pivot:

Note: Assist patient to front edge of chair will help. A tool such as a sling may help you get a better grip.

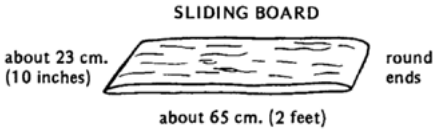
1. Put the patients feet on the floor and then lean forward against your body. Have them hold on as best possible.
2. Pivot your feet while swinging theirs between yours. Slowly lower to bed.

Always keep contact with a patient and ensure that they are as close as possible to caregiver for safe transfer and to lower stress on the caregivers back to prevent injury.

Assisted Transfers

Some assistance is provided by the patient.
*(**Always** encourage them or have help as much as possible, as this will build their strength)*

Sliding board with help:



1. Lift leg and put board under hip.

2. Have person put arms around neck while you put your hands under his hips, or grab his pants.

3. Slide the person along board to bed.

4. Lift legs onto bed.

Push-Up:
This is performed similar to the sliding board except without the use of the sliding board. Make sure the patient has adequate strength for this transfer.

1. Starting position. Patient moves to edge of WC and then does a push up with one had supported on WC and other on bed or another chair.

2. Performing the push-up.

Assisted standing pivot:

Similar to the dependent standing pivot, except now you have the patient help as much as possible.

1. Have patient put feet flat on the floor and then they lean forward as you assist as needed.
2. Patient then stands erect while using you as support if needed. Both the helper and patient then pivot feet until facing straight out from bed.
3. Slowly lower to bed.

Independent Transfers

Patient is now able to transfer independently without help.

With sliding board:

1. Place board under hip by leaning to opposite side or by pulling up leg.

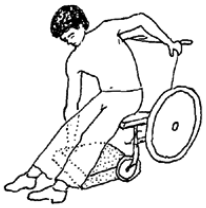
2. Lean forward, with your head and weight over knees.

3. Push yourself along the board.
4. When you are in the chair, remove the board and put it where you can easily get it.

Wheelchair to floor and back again:

1

2



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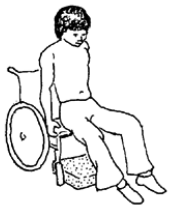

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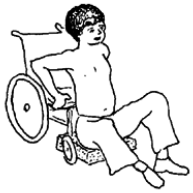

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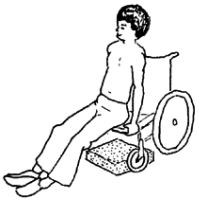

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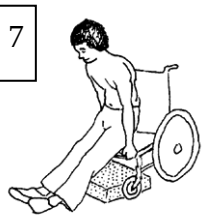

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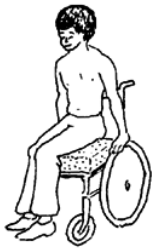

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Range of Motion and Stretching Exercises

Benefits:

- Prevents contractures and lengthens muscles
- Improves circulation
- Increases range of motion
- Creates a sense of well-being
- Improves posture and patient comfort

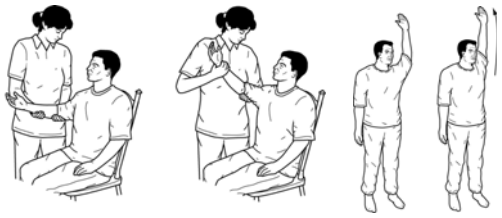
Precautions / General Tips:

- Always work in a **PAIN-FREE RANGE.**
- Stretches should be done slowly and smoothly.
- Never stretch or mobilize an area that has a recent fracture, an open wound, a healing incision, a new scar, a recent injury, or a hyper-mobile joint.
- If a patient is pregnant, make sure to not twist or stretch too deeply across the belly. Avoid lying on the belly or on the back for extended periods of time.
- Stop the treatment with any signs of numbness, dizziness, or pain.
- Never hold your breath.
- Stretches should be held for 30 sec. - 2 min.
- Most of these stretches can be done passively (with the caregiver moving the patient's body while they relax) or actively (the patient moves through the motion on their own).

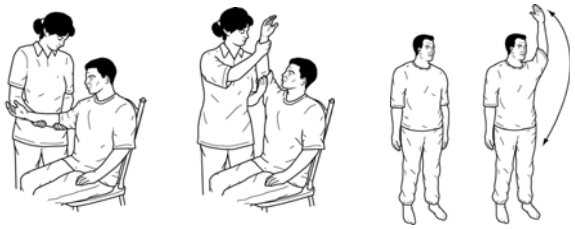
Although stretches are pictured in specific positions, most can be adapted for seated, standing, or laying on the back, belly, or side.

SHOULDER MOTION

Flexion / Extension – Either actively or passively, bring arm forward and up to a comfortable stretch for flexion. Slowly bring arm back down and back behind the torso for extension.



Abduction / Adduction- Bring arm out to the side and up for abduction. For adduction, hold arm out parallel to the ground and then bring inward towards the opposite side.

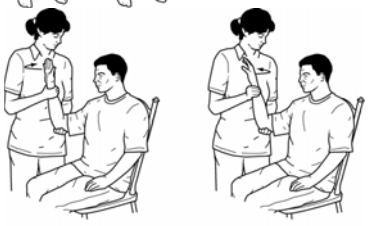


Internal Rotation / External Rotation – Bring arm out to 90° and bend elbow. Slowly bring hand down towards the ground while keeping upper arm still.

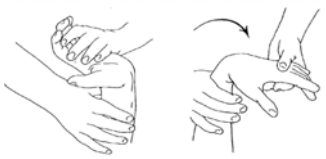
ELBOW AND WRIST MOTION

Elbow Flexion / Extension –Slowly straighten and bend elbow.

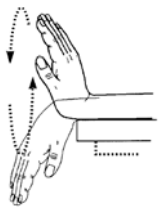
Pronation / Supination – Keeping upper arm stable, turn the palm of the hand to face up (supination) and then down (pronation).



Wrist Flexion and Extension –Keeping the forearm still, move hand up and down.



Dynamic Wrist Rotation - Keeping the forearm stable, move the wrists in circles.

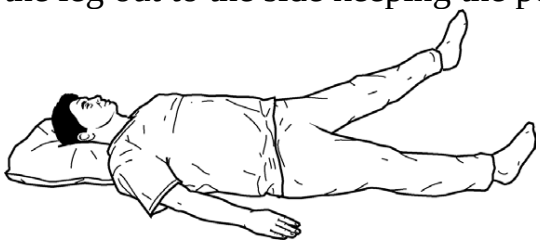


HIP MOTION

Flexion – Bring the knee up towards chest. This stretch can be done with the leg straight.

Extension –Either laying on the belly or standing up, have the patient reach their leg out behind them.

Abduction / Adduction –Bring the leg out to the side keeping the pelvis steady.



Internal Rotation / External Rotation – Keeping the pelvis from moving, roll the leg back and forth in the hip joint.

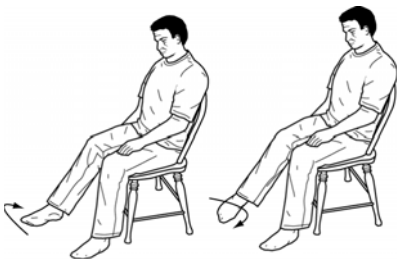
Butterfly Hip Stretch – Placing the soles of the feet together, allow the knees to drop open to the sides. Make sure that the lower back is lifted and not rounding (not pictured).

KNEE AND ANKLE MOTION

Knee Flexion and Extension – Kick leg out for extension and draw the heel towards the buttocks for flexion.

Dorsiflexion / Plantar Flexion - Lift toes up towards the sky (dorsiflexion), and then point them down towards the ground (plantar flexion).

Dynamic Ankle Rotation (Composite Motion) – Rotate the ankle in the air as if drawing circles with the toes. Slowly repeat the motion 5 times counterclockwise and 5 times clockwise.

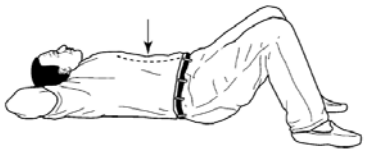


NECK AND BACK MOTION

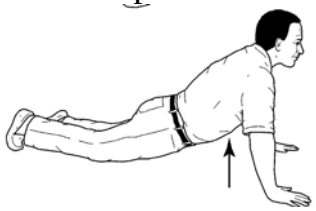
Neck Flexion / Extension – Tilt the head forward bringing the chin to the chest (flexion). Lift the chin towards the sky, making sure not to let the head drop back and compress the neck (extension).

Neck Side Bending – Tilt the head from side to side as if dropping the ear towards the shoulder. Be sure to keep the shoulders relaxed and do not force the stretch too deep.

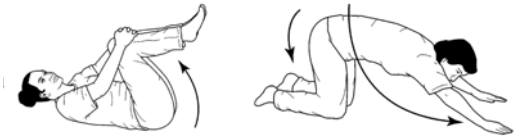
Pelvic Tilts – Laying on the back, allow the tailbone to tuck under and press the lower back into the floor or bed. Then allow the lower back to arch and gently press the tailbone into the floor or bed.



Back Extension – Lying on the belly, place the elbows under the shoulders and prop the chest up allowing the lower back to relax. For more intensity, place the hands under the shoulders and lift up higher, still allowing the hips and lower back to relax. Make sure to keep the shoulders down the back, away from the ears. Spinal extension can also be done standing, placing the hands on the hips and bending backwards.

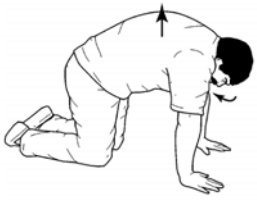


Flexion- Lying on the back, hug both knees into the chest. An alternative position is sitting back onto the heels, letting the belly rest on or towards the thighs.



Rotation- Seated, gently turn the body to one side as if looking over the shoulder. Make sure the spine is long and that the patient is not slouching. An alternative position would be to lay on the back, bend the knees and hips and allow the knees to drop to one side. Make sure both shoulders stay on the ground. Repeat on the opposite side.

Cat Stretches – On hands and knees with the hands under the shoulders and the knees under the hips, exhale rounding the back and relaxing the head between the arms. On the inhale, lift the gaze upward and arch the back into extension, lifting the tail bone towards the sky. Repeat each motion 10 times, coordinating the movement with the breath.



Strength and Aerobic Exercises

Regular Exercise Helps To

- Improve how well your heart and lungs work
- Maintain a healthy weight or help you lose weight
- Improve balance, muscle tone and joint flexibility
- Relieve stress and tension and improve your mood
- Reduce risk of heart disease, high blood pressure, osteoporosis and diabetes

Types of Exercise

AEROBIC EXERCISE: Moves larger muscles and improves health of heart and lungs. Examples include walking, jogging, bicycling, swimming, dancing. Ideally, healthy younger individuals should be exercising aerobically at least 3-5 times per week and at least 30 minutes each session. Decrease intensity and frequency as needed for elderly. Walking is a great choice for beginners and the elderly since it is low impact for joints and helps keep the heart and lungs strong too.

STRENGTH TRAINING EXERCISE: Strengthens muscles and helps build strong bones. Examples include sit-ups, squats and weight lifting. Ideally perform strengthening exercises at least 2-3 times per week.

FLEXIBILITY EXERCISE (STRETCHING): Increases the length of muscles to improve balance and joint health. Stretching is most important after exercising (see previous section for details).

Exercise Tips

EXERCISE AT A COMFORTABLE PACE: Listen to your body. You are exercising too hard if you have pain in your joints/feet/ankles/legs, have problems breathing, feel weak/faint/dizzy after exercising. Remember to breathe while performing the movement. Exhaling with exertion or during the hardest part of the lift is suggested. With strengthening exercises, if you are sore the next day, be sure to take a 1-3 day break from these same exercises to let your body recover.

STOP EXERCISING AND CALL YOUR DOCTOR IF: You have pain or pressure in your chest/left neck/shoulder/arm, you experience sudden dizziness, cold sweat, pallor, fainting.

How to Create a Strengthening Program:

Step One: Determine what areas of the body the patient needs to improve on and strengthen based on their physical performance and goals. The following questions may help with selection:

- What physical movements does the patient struggle with?
- Do they have problems with transfers due to a weak lower body?
- Do they lose their balance often?
- Can they lift and carry objects easily?
- Are they strong enough to sit or stand without support?
- What are their goals?

Step Two: Select exercises to reach goals and create a log sheet to keep track of progress.

- The following strengthening exercises are divided into body segments. Each segment includes a description of common activities that utilize these specific muscles and may help guide you.
- To begin, select 1-3 exercises in each category that the patient needs to work on.
- Add additional exercises over time as needed.

Step Three: Determine the patients' initial skill level and select exercises within that level: Beginner (*) or Advanced (**).

- *Do not progress exercise to Advanced Level until patient is able to accomplish all Beginner Level criteria with full range and without fatigue.*
- <u>Beginner Level Criteria (*):</u>
  Do not use weights; simply move limb through full range
  Start in easiest position listed within exercise. Ex: lying or sitting vs. standing
  Start with 1 set of 8-10 reps per exercise
  Progress to 2 sets of 8-10 reps per exercise

- <u>Advanced Level Criteria (**):</u>
  Add dumbbells or heavy objects: 1,3,5 kilos
  Progress to more difficult positions listed within the exercise. Ex: standing vs. sitting
  Start with 2 sets of 8-12 reps
  Progress to 3 sets of 8-12 reps

*NOTE: * = Beginning Level ** = Advanced Level*

SHOULDER STRENGTHENING

Strengthening the shoulder muscles will help with lifting objects up and overhead, getting up out of a chair, reaching for objects, cooking, cleaning and dressing.

Prone Retraction
Lying on stomach with a towel roll under forehead with arms straight out from shoulders. Raise arms off the ground and pinch shoulder blades together and hold 2-5 seconds. Try not to hike shoulders up.
*As pictured

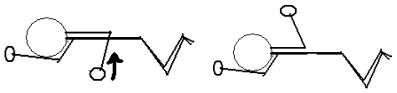
** Lift arms and circle hands together above head or down to sides.

Internal Rotation
Lying on side with bottom arm under body and elbow bent with palm up. Lift the bottom hand from the floor across the chest. Keep elbow on the floor.
*As pictured lying on side

**Sitting or standing with arms at sides and elbows flexed

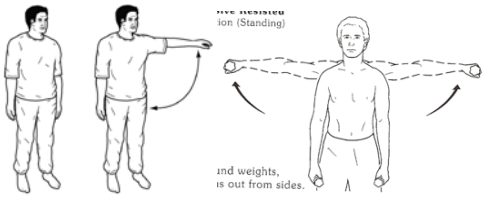
External Rotation
Lying on side with bottom arm under head and top arm elbow bent toward floor with palm facing body. Lift the top hand from the floor up to the ceiling. Keep elbow touching body.

*As pictured lying on side
**Sitting or standing with arms at sides and elbows flexed

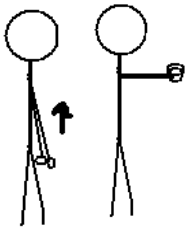


Abduction
Sitting or standing with arms down by sides. Raise arms straight out up to shoulder height either together or one at a time. Try to keep elbows extended and try not to shrug shoulders.
*Perform in seated position

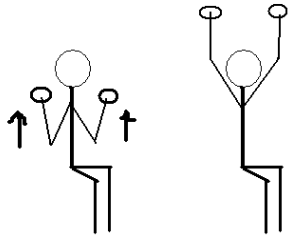
**Perform standing on two feet or single leg.



Front Lifts
Sitting or standing with arms down in front. Raise arms straight up to shoulder height together or one at a time. Try not to shrug shoulders.
*Perform in seated position
**Perform standing on two feet or single leg.



Shoulder Press
Sitting with back straight, arms up with elbows in and palms facing forward, push arms straight up above head keeping palms facing forward. Try to keep head up.
*Perform in seated position
**Perform standing on two feet or single leg, push one arm up at a time.

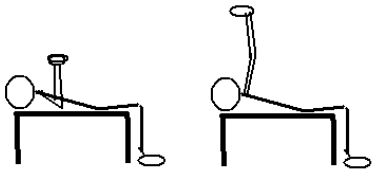


CHEST STRENGTHENING

Strengthening the chest will help with lifting body up and out of a chair, pushing doors open and lifting objects up and across the body.

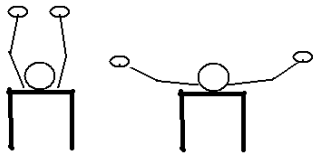
Chest Press
Lying on back with elbows bent in line with shoulders and palms facing forward, straighten elbows and push hands up until arms are straight above shoulders. Try to keep back flat on surface.
*As pictured

*With one weight in both hands or one weight in each hand.



Pec Flys
Lying on back with arms straight up to the ceiling with palms facing in, slowly lower arms out until hands are even with shoulders.
*As pictured

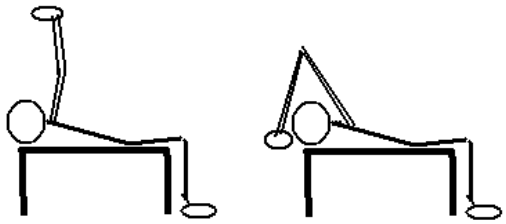
*With weights



ARM STRENGTHENING: TRICEPS AND BICEPS

Helps with pushing up out of a chair, lifting objects, carrying bags, pushing doors open, reaching overhead and self-care.

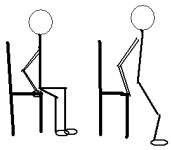
Skull Crushers
Lying on back with arms straight up above chest with palms facing each other, bend elbows to lower hands to sides of forehead. Try to keep arms straight up so elbows are in line with shoulders.



*Perform lying on back
**Perform with one weight held with both hands or one weight in each hand

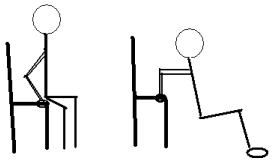
Sit to Stand (push with arms)
Sit in chair, position hands at the front of the chair with knuckles facing forward. Lift body up off chair and hold for 5 seconds. Try to lean forward before trying to stand up.

*As pictured
**Only keep one leg on the floor



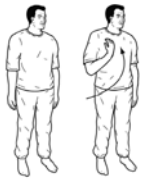
Dips
Sitting on a chair, hold onto the front of the chair with knuckles facing forward, slide body out and lower toward the floor. Keep back close to the chair and push back up to top.
*Keep knees bent and feet close to body

*Straighten legs out in front until only heels are on the floor with toes pointed up to ceiling.



Curls
With arms at your side, elbow straight, and palms facing forward, bend the elbow and bring hand up to shoulder. Don't lean back or swing arms.

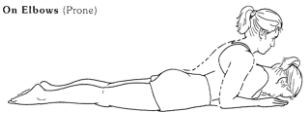
*Perform seated, one arm at a time
**Perform standing on both feet or one foot with both arms lifting at the same time.



BACK STRENGTHENING

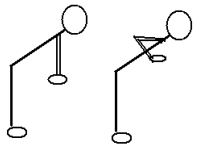
Helps with posture and stability of the body when moving and lifting. Abdominal exercises are important to pair with these and may be used instead if unable to get into positions shown below.

Extensions
Lying on your stomach with your face down and hands placed next to your ears, slowly extend your back using your arms for support as little as possible. Hold 2-10 seconds and come back down slowly.
*Use arms for support.



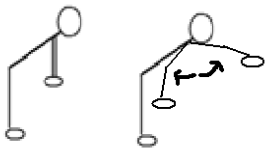
**Don't use arms for support. Prop up with pillow so when you return down, you use a larger range of motion.

Bent over Row
Standing or sitting, bend over at waist starting with arms straight and palms facing body. Bend elbows to bring hands up to shoulders. Try to think of pinching your elbows together behind your back. Hold 2-10 seconds and return to start position slowly.
*No weights
**Add weights



Reverse Fly
Standing, bend forward at your waist with arms straight and palms facing each other. Raise hands up to shoulder height while keeping arms straight.

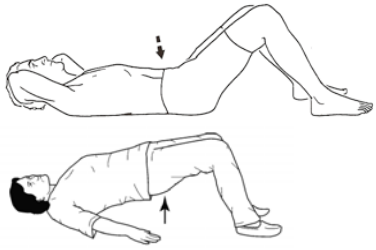
*No weights
**Add weights



ABDOMINAL STRENGTHENING

Helps with posture and stability of the body when moving and lifting. Be sure to do some of these!

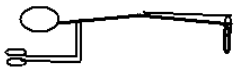
Pelvic Tilt
Tighten stomach and buttocks. Pull belly button down into spine and push lower back towards the floor; hold for 10 seconds. A great beginner's exercise!



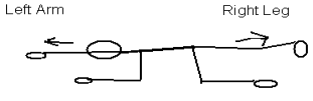
Bridge
Lying on back with arms at sides and knees bent and feet flat on the floor. Lift buttocks off floor until back is straight and hold 5 seconds.

Plank
Lying on stomach with elbows bent and toes on floor. Lift up stomach until only the forearms and toes are on the floor. Keep back flat and hold 5-45 seconds.

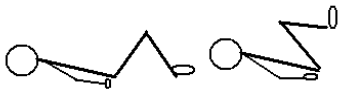
*Only forearms and knees on floor
**Only forearms and toes on floor (knees up!)



Alternate Arm and Leg
On hands and knees, lift right arm and left leg off floor until both are lined up with body keeping back flat. Hold at top 3 seconds and return to start position. Alternate sides.



Reverse Crunch
Lying on back with hands under hips and knees bent. Lift legs toward chest while keeping knees bent.



Curl Up
Lying on back with knees bent and arms crossed across chest. Lift shoulder blades off floor bringing elbows closer to knees.

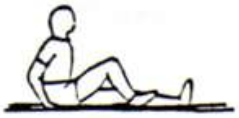
Curl up to side
Lying on back with knees bent and arms extended toward legs. Lift shoulder blades off floor bringing hands outside of one knee. Lower and repeat to opposite side.

HIP & GLUTEAL STRENGTHENING

Important for walking, standing up, bending over and squatting.

Glute Sets
Lying on back, squeeze buttocks together and hold 5 seconds.

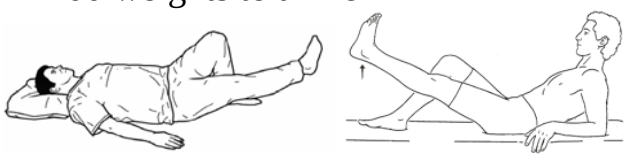
Heel Slides
Sitting or lying with hands at sides. Bend knee to slide one heel toward body & return, switch.



Clam Shells
Lying on back, bend both knees and place heels together. Keeping heels in same place, move knees out and down to bed then back up and together slowly.

Straight Leg Raise
Lying on back with one knee bent. Keep other leg straight and raise it toward the ceiling, alternate legs.
*No weights, can bend knee if straight leg is too difficult

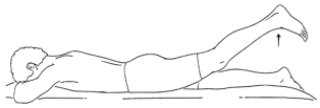
**Add weights to ankle



Hip Adduction
Lying on side, place your top leg behind your bottom leg to create room for movement. Slowly lift up bottom leg as far as you can and place back down.

Hip Abduction in Side-Lying
Lying on side, slowly lift up top leg until end range of motion as shown. You may want to bend bottom leg for more stability in side-lying position.

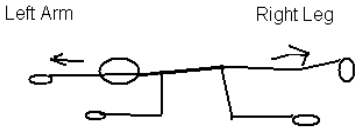
Hip Extension
Lying on your stomach, slowly lift up one leg at a time keeping knee straight if possible. Return to starting position. Alternate legs.



Marching in Chair
Sitting in chair with feet on floor, pick one foot off floor as high as possible bringing knee to chest. Return foot to floor and repeat alternating sides.

Alternate Arm and Leg
On hands and knees, lift right arm and left leg off floor until both are lined up with body keeping back flat. Hold at top 3 seconds and return to start position. Alternate sides.
*Move one arm only or one leg only

**Move arm and leg together (as described above)



Mini Squats
Standing behind a chair, gently place your hands on back of chair to steady yourself. Slowly squat down no more than 1/3 of the way to the floor keeping your heels on the ground then return.

*Use your hands and arms for help

**Try to use your hands and arms as little as possible.

Lunges
Standing with one leg in front and one leg behind, hold onto wall for support and bend both knees to lower body toward floor.

Sit to Stand
Repeat the motion of sitting to standing and back down. This is a very functional movement and also helps with the strengthening needed for walking!
*Use hands for help
**Don't use hands

Wall Slides
Stand with back against a wall and feet hip width apart and in front of body. Bend knees and slowly lower buttocks while sliding back down the wall. Make sure your hips never move below your knees. Hold at bottom for 10 seconds.

KNEE STRENGTHENING: HAMSTRINGS & QUADS

Strengthening your muscles surrounding your knees will help with walking, standing up and squatting.

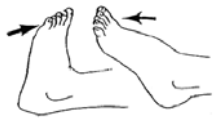
Hamstring Strengthening
Lying on stomach, slowly bring heel up to buttocks and back down. (Bend and straighten knee). Alternate.

Leg Extension
Sitting in chair with feet on floor, straighten one knee to bring foot up to hip height and return. Alternate.

FOOT & ANKLE STRENGTHENING: CALF & SHIN MUSCLES

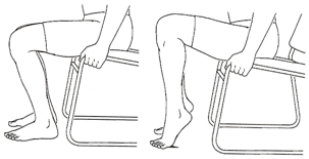
Strengthening these muscles will especially help with walking, climbing stairs and stability standing.

Ankle Pumps
Sitting or lying on back with legs straight. Point toes away from body and then bring towards body.

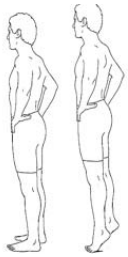


Toe Raises
Sitting in chair with feet on floor, raise toes off floor while keeping heels on floor.

Heel Raises
Sitting in chair with feet on floor, raise heels off floor while keeping toes on floor.



Heel Raises Both Legs
Standing with feet hip width apart and legs straight, rise up onto your toes.
*Use hands resting on wall for balance
*Don't use hands



Heel Raises One Leg
Standing on one foot with leg straight and other leg bent. Rise up onto toes of foot. (Note: should be able to successfully complete 10 heel raises using both legs before progressing to single leg).

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www.healthinfotranslations.org