JOINT PROTECTION

Joint protection is a proven strategy of self-management that aims to reduce pain and maintain functional ability. Joint protection is focused on preserving the integrity of the joint structures by patient education, work modification, and when necessary the splinting and/or assistive devices to help preserve the integrity of joint structures.

BODY POSTURE AND JOINT PROTECTION

Key to joint protection is your body posture. Body posture is the means by which you support yourself against the forces of gravity while sitting, standing and lying. Good posture is the position in which minimal strain is placed on your muscles, ligaments and joints. Maintaining one position for a prolonged period will eventually lead to stiffness and pain and could contribute to future postural complications. It is important to shift and stretch. Try to condition yourself to change activity. Get up and move. Stretching exercises should be slow and pain-free and should always take into consideration any medical diagnoses and always in compliance with your physician's instructions. Never stretch past your comfort zone.

- Sitting – When working at a desk your sitting posture is important, you need to sit up with a good tall posture. Keep your head up, chin in, and your hips and shoulders against the
back of the chair. Choose a chair with a firm supportive back and seat. Arm rests are good. A foot stool to keep your knees higher than your hips and your feet flat can also be beneficial. Ask your therapist for exercises that can be performed while seated that focus on body awareness and help you sit up straight. As well as exercises designed to strengthen your core muscle and improve flexibility. You may need to consider desk height, work angles and lighting. Your therapist should be able to provide you with a list of work station ergonomics that will be specific to your needs.

- **Standing** - Avoid prolonged static standing; shift your weight forward to the balls of your feet. Keep your feet in a comfortable position with your knees straight but not locked. When you sit from a standing position, do not plop into your seat and when you stand from a seated position, avoid twisting the knees. Come to the edge of the seat and then lean forward over your feet. Straighten your knees using your leg strength and push with the palms of your hands on the armrest or on your thighs. To avoid hurting your hands, do not apply pressure anywhere except on the heel of your hand or on your forearm. Never apply pressure to the thumb and index finger while supporting yourself.

- **Walking** - Walk with an erect standing position. Your arms should swing freely at your sides, avoid slouching, by keeping your head up, stomach in and shoulders back. Try to avoid carrying heavy packages in one hand. A shoulder bag can be helpful.

- **Sleeping** - A firm supportive mattress is recommended without pillows or with pillows that promote a neutral alignment of your neck and avoid an excessive neck angle. Sleeping in a side-lying position or on your back is also recommended. Sleeping with your face down or in fetal position can promote joint stiffness and nerve compression. When you get out of bed take a few minutes to gently stretch. At the edge of the bed, roll to one side, drawing up your knees and turning your shoulders and hips at the same time.
This would be a good time to gently exercise your arms and legs. To get out of bed move your knees and feet over the edge of the bed, push up with a flat hand – palm down. Always use two hands to distribute the weight and minimize the stress on the smaller hand joints.

JOINT PROTECTION AND WORK SIMPLIFICATION TECHNIQUES

• **Plan Your Work** - Be efficient – Reorganize, prioritize and delegate whenever you can and perform your heaviest work when you are most rested.

• **Pace Yourself** – Take regular breaks, spread your work out, mix the heavy and light jobs and try to complete the more tiring tasks when you’re at your best. Remember to rest before you become tired and fatigued. Stop your activity when the pain begins.

• **Maintain Good Joint Alignment and Body Mechanics** - Minimize the stress on your joints and use the muscles that are best suited to the task. Carry heavy objects close to your chest. Use your forearms to carry the weight, not the small joints of your fingers. Bend your knees and hips when picking up items from the floor.

• **Use Your Larger Stronger Joints When Performing Activities** – Simply stated, this means whenever you can, use your palm or wrist instead of your fingers, your forearm or elbow instead of your wrist, and your arm or shoulder instead of your elbow.

• **Respect Your Pain** - Joint pain which lasts more than two hours following an activity may indicate joint damage. You should stop any activity before reaching the point of pain. Identify and limit the activities which cause you pain. Do not disregard your pain.
• **Maintain Your Health** – Maintain your joint motion. Take time to gently perform specific exercises designed to stretch and relax your joints. Strengthening exercises should be discussed with your physician and never performed when the joints are inflamed. Remember, you need to protect your joints. Resistive exercises performed incorrectly will only contribute to your pain and do more harm than good. Eat right and achieve a proper body weight. Additional body weight places increased stress on the weight bearing joints like your back, hips, knees, ankles and feet.

• **Isometric Strengthening** (force against equal force) – contraction of muscles without movement is best to minimize joint wear and tear. Resistive exercises should be performed within your pain tolerance and for short periods. Remember to always monitor your joints response to the exercises. When exercising, warm up first – exercise – and cool down.

• **Use Protective Splinting** - Splints are fashioned to provide support and stability to an unstable or painful joint. Splints are commonly used to improve ADL independence. Splints combined with joint protection techniques can prolong the integrity of your joints.

• **Use Adaptive Equipment** - These devices are used to assist with completing activities of daily living. Consult your physician or therapist. There are a number of outlets and catalogs offering a wide range of devices that could fit your needs.

• **Incorporate Energy Conservation Techniques** - Fatigue secondary to pain and disability will interfere with or prevent you from doing the things that you need or want to do in your life. Energy conservation techniques are designed to reduce the amount of effort required to perform your normal routine. Here are some suggestions you can use or adapt to help your routine performance.

• **Sit Instead of Stand** - This can save you energy by giving your legs a rest.

• **Take Breaks** – there is nothing wrong with rest.

• **Avoid Fatigue** - scheduling frequent rest periods.
• **Practice Good Posture and Body Mechanics** - Good posture can help in reducing muscle fatigue and stress. The less physical stress you're putting on your joints results in the less pain you will experience throughout the day.

• **Avoid Emotional Stress** - Everyone experiences stress but compounding the normal emotional stressors with the physical stressors is exhausting.

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**ENERGY CONSERVATION TECHNIQUES**

• **Storage** - Keep frequently used items in easily accessible places.

• **Environmental Modifications** –
  Replace existing heavy items with lighter ones; for example, use plastic plates and cups rather than china and glass.
  Install long handles on faucets and doorknobs.
  Adjust work spaces, such as raising a tabletop, to eliminate awkward positions; bad posture drains energy.
  Install pull-out or swing-out shelving in cabinets.
  Wear an apron with pockets to carry around cooking utensils or cleaning tools.
  Consider moving your bed to the first floor to eliminate stair climbing.

• **Eliminate Unnecessary Effort** –
  Sit rather than stand whenever possible: while preparing meals, washing dishes, ironing, etc.
  Get a rolling cart to transport things around the house, rather than carry them.
  Use store-provided wheelchairs or scooters when you shop.

• **Plan Ahead** - Gather all the supplies you need for a task or project before starting, so everything is in one place.

• **Schedule** - Plan enough time for activities – rushing takes more energy.

• **Keep a Journal** - Try keeping a daily activity journal for a few weeks to identify times of day or certain tasks that result in more fatigue.

• **Prioritize** - Eliminate or reduce tasks that aren’t that important to you.
• **Delegate** – Ask your friends or family members for help.

• **Hire Professionals** - Consider hiring professionals, such as a cleaning or lawn care service, to cut down your workload.

**FUNCTIONAL TASKS - ADL AND IADL**

Routine tasks that are performed in our daily lives are divided onto two distinct aspects, Activities of daily living (ADL) and instrumental activities of daily living (IADL).

**ACTIVITIES OF DAILY LIVING**

The basic tasks that all of us do every day without need of any assistance they are the required tasks needed to get going in the morning, get from place to place, and closing out the day in the evening. Activities of daily living involve caring for and moving the body. They are all necessary for an independent lifestyle.

• **Eating** - **Assistive eating devices** are utensils people use when they have difficulty with feeding or drinking independently. These devices are typically used for people with disabilities, but have been used for children or people that have low dexterity.

• **Personal Hygiene** - **Sit down to bathe and dry off. Wear a terry robe instead of drying off.**

• **Dressing** - **Dressing and undressing should be done in a warm, comfortable environment.**

  It will help the individuals to focus on the task,

  Avoid tight fitting clothes.

  **Reduce the number of clothes worn.**

  Front closing garments are easier to put on.

  Avoid small buttons and zippers without loops.

  Avoid clothing or footwear which requires excessive tugging to put on.

  Purchase garments that do not require ironing.

  Explore with your therapist adaptive equipment to assist in performing dressing tasks.

  To remove your clothing from the hanger, place the hanger on the doorknob and remove the garment without stressing your hands.
Minimize leaning over to put on clothes and shoes. Bring your foot to your knee to apply socks and shoes.

Fasten bra in front then turn to back.

Wear comfortable low heeled shoes and slip on shoes.

Wear button front shirts rather than pullovers.

**INSTRUMENTAL ACTIVITIES OF DAILY LIVING**

The tasks that are performed to support an independent lifestyle but are not necessarily required activities of daily living. Many people can lead an independent lifestyle even though they are unable to perform all the IADL. IADL include meal prep, transportation, communication skills, housework, shopping, and managing finances and medications.

**Meal Preparation:**

- Prepare double portions and freeze the leftovers.
- Arrange the prep area for easy access to frequently used items.
- Arrange cupboards so the items that are frequently used are in easy reach. If cupboards are very high or very low leave place the frequently used kitchen items on the countertops.
- Use a sharp knife that offers less resistance when preparing.
- Use a short handled knife such as a paring knife or steak knife.
- Use your shoulder for cutting motions that require force when cutting.
- Place the food that you are cutting directly in front of you.
- Use lightweight cooking dishes – plastic dishes are easiest to handle.
- Avoid cast iron skillets.
- Use pots with two handles.
- Use adaptive equipment.
- Use small appliances that take less effort.
- Use easy to prepare foods think convenience.
• Use a kitchen stool with a swivel and back support to prepare meals while sitting down.
• Avoid scrubbing dishes by allowing them time soak and let dishes air dry
• Use paper cups and plates

Transportation

• Plan ahead to avoid rushing.
• When you enter the car, sit down on the seat first, and then turn your body into the car with your knees together. Adjust your seat close to the pedals to promote hip flexion and back alignment.
• Back supports, mirror and headrest positioning will prevent hyperextension of the neck.
• When riding on public transportation try to be seated. If you have to stand put your forearm around the pole and maintain your hold by keeping your elbow flexed.
• While standing tighten your stomach, shoulders and back and tuck in your buttocks. Don’t hold your breath.

Communication

• When performing a task requiring grip or pinch (for example, writing, telephoning) take frequent breaks to straighten and stretch the fingers.
• Avoid texting using the phone’s dial pad – use the voice option.
• Use Bluetooth headset to minimize prolonged grasp.
• Use call logs for frequently used phone numbers.

Housework

• Organize your cleaning schedule. Do not try to clean the entire house in one day instead spread out your cleaning chores through the week.
• Perform your house work sitting down when possible.
• Use flexible long handled dusters and long handled dust pans to minimize your bending.
• Use vacuum cleaners with wheels.
• Drag or slide objects rather than lift.
• Stop working before you become over tired.
• When using equipment such as a mop, stand with your left leg forward if you are right handed and shift your weight from foot to foot and turn your body comfortably.

Shopping

• Call ahead to stores to make sure the items you need are available.
• If possible shop daily and organize your shopping lists and shop when the store is not busy.
• Use extra bags and minimize the weight.
• Use a powered grocery cart.
• Minimize the stress on your joints when carrying the groceries to your car and into home. Ask for help if possible. Carry only the perishables and leave the rest for your spouse, children or friends. Ask for help.
• If you use plastic bags place your forearm through the handles and carry them with your forearms to prevent stress on the smaller joints of the hand. Keep extra bags in your car to avoid heavy shopping bags.
• To lift a bag from the counter encircle the bag with your arms and hold it tightly to your chest. Remember to keep your wrists straight while holding the bag to your chest.
• Explore the use of delivery services for your groceries.
• Consider shopping online for your other purchases.

SPECIAL CONSIDERATION FOR THE HANDS
• Avoid tight stressful grips. Use a relaxed grip whenever possible. Do not hold items with a “death grip”. Use only the force necessary to complete the task. Enlarge handles on writing utensils, pot and pan handles and other hand tools to avoid stressing the smaller finger joints. When opening jars, place the palm of your hand on the lid and twist with your forearm. Use both hands whenever you can.

• Avoid holding or maintaining a sustained grasp for long periods.

• Use an assistive device or clamp to hold objects when feasible.

• Avoid repetitive hand activities - Take breaks and alternate your activities. Perform gentle tendon glide exercises.

• Remember the two hour pain rule. If your experience pain following an exercise program or an activity that lasts for two hours or more, the exercise or activity is too strenuous and should be modified by decreasing resistance or duration.

• Avoid pressure to the pad of your thumb – The thumb is used in almost 50 percent of normal hand activities. Use alternative joints or consider a functional splint for protection.

• Avoid any pressures that oppose your joint alignment. Most of the joints in your fingers and thumb are referred to as hinge joints. They are designed to allow for one plane of movement (bending and straightening). Most any activity that requires a degree of force will result in conflicting force on the small joints of your hand. With time this will result in lax and potentially painful joints.

• Motion of the hands should be in the direction of the thumb

• Avoid resistive tasks which cause the wrist to rotate. Try to use the wrist in a straight alignment with your forearm.

• Consider using a functional wrist splint.

• Use the larger and stronger body parts to protect the small joints. Use your hip to push open a door rather than pushing with your arm. Use your feet to close the lower cupboards and drawers.

• Use your forearm for lifting and pulling (strap handles are helpful when possible).

• Remember to incorporate tendon glide exercises in your daily routine. These exercises are designed to promote maximum tendon and joint excursions.
SPECIAL CONSIDERATIONS FOR THE HIPS AND KNEES

- Don’t Kneel – Kneeling will place the bulk of your body weight on your knees.
- Minimize strain to your knees by picking light objects up from the floor while bending forward in a seated position.
- Use seats with armrests when possible.
- If needed, consider weight reduction it may be the most valuable form of joint protection.

RESOURCES

www.arthritis.org. - Many free booklets that provide useful information for patients.


www.rheumatology.org/public/factsheets - Education regarding different types of arthritis.