Joining an Exercise Class?

Tips for People with Hip & Knee Osteoarthritis or Hip & Knee Replacement

Research shows that activity and exercise can result in health benefits for all, including people living with a chronic disease such as osteoarthritis (OA) of the hip and knee. However, you need to know & follow any restrictions that your surgeon or specialist has given you, no matter what activity/program you participate in. You may participate in exercise classes/activities do so as long as you avoid or modify positions or activities you have been told not to do by your surgeon/specialist and that these exercises/activities do not cause joint pain.

When you exercise you may feel some discomfort in the muscles but should not feel pain in or around the joints. If you feel joint discomfort, discontinue the activity and discuss how to modify the activity with your therapist or surgeon.

Remember to start any exercise program in a progressive manner (gradually increase: your exercise time, number of sessions a week, how hard you work and weights/resistance). If you have been away from any exercise for more than two weeks you will have lost some physical fitness and need to return gradually. Doing too much too soon is the most common cause of injury. The discomfort of doing too much too soon is discouraging & is a common reason why people dropout of their exercise programs within the first two weeks of starting.

Generally high impact activities such as hopping, jumping and running on land are not recommended for OA or any lower extremity joint replacement as this will cause more wear on your joint. Below are some common restrictions or activities you may have difficulty with & how to modify them. Look under the section(s) that is most appropriate for your condition.

When attending exercise classes each instructor’s style & exercise routines may vary tremendously. The same class given by a different instructor may or may not be right for you. We strongly recommend you first observe the class that you want to attend to help you decide if the class and instructor are right for you. When participating in a class for the first time you may want to tell the instructor either before class that you may be modifying certain exercises to suit what you are allowed to do or talk to the instructor after class about modifications of exercises that you should not do or that are difficult for you.

In summary:

- Find out & know what activities/movements you should not do
- Pace yourself by including small rest breaks
- Gradually & progressively increase exercise/activity, increasing duration, frequency and intensity (repetitions or load) only one at a time
- Muscle discomfort is to be expected but not joint pain!
If You Have a Knee Replacement or Knee Osteoarthritis

• Kneeling may be uncomfortable or feel odd, however it will not cause damage to your knee replacement
   Whether you have OA knees or a knee replacement consider using a rolled up towel or floor mat either under your knee or under the upper leg/shin so there is less/no pressure on your knee cap.

• Getting up & down from floor may be difficult, using a wall, chair or aerobic step may help.

   Practice getting up & down from the floor before class with your therapist, or at home when someone can help you.

   You may be able to do your floor exercises on an aerobic step. The more risers you use on the step the less you have to bend.

• Avoid twisting your knee as shown in the hurdlers stretch below. If you are standing, move your feet to turn, don't twist your knee.

• Full knee bend may be uncomfortable for you but you can usually modify these activities as described above in getting up & down from the floor. In Yoga or Pilates class you can modify child pose by placing a rolled yoga mat(s) or a block under your buttocks to limit extreme knee bend.
If You Have a Hip Replacement or Hip Osteoarthritis

- If you have a hip replacement it is especially important that you ask your surgeon about movement and activity restrictions. Unlike knee replacements, restrictions after hip replacement vary for a number of reasons including: the type of hip you have, what muscles the surgeon had to go through to put your new hip in and if you have had your hip replacement revised.
- *Crossing your leg past the midline* of your body is generally not recommended nor doing *forceful repeated end range bending* of your thigh to trunk motions (e.g. aggressive rowing) or *forcing rotation* after a hip replacement. Avoid doing the following exercises or consult with your surgeon first.

  - Those of you with OA may have discomfort with these movements as well as with twisting motions.
  - Getting up & down from floor – see suggestions in knee replacement section.

**Spinning classes**

Using a stationary or spinning bike can provide a low-impact, high intensity cardiovascular workout and builds muscle strength and endurance. Setting up the bike in the right position will make you more comfortable, limit chance of injury and allow you to get the most from your workout. Take some time before the class to familiarize yourself with how to adjust the bike. Once you have adjusted the bike try a few “test runs” before you start a Spinning class to make sure your riding position will be comfortable for 45 minutes. If you experience any type of pain or discomfort, adjust your position.

**Bike adjustment knob & handles**

- Handle bar height
- Hand brake and resistance
- Pedal strap
- Seat forward/ backward
- Seat height
Here is how to adjust the bike…

1. **Seat height** – Your knee should be slightly bent when the pedal is at its lowest possible position. Sitting on the bike seat place your heels on the pedals. As you pedal backwards, your knees should fully extend but not lockout in the pedal down position. If your hips rock side to side, the seat is too high: you will have less pedaling power and place a greater load on the knees & back. If your seat is too low you will bend too much, placing a greater load on your hips, knees & back. Now you should have a nice smooth pedal stroke!

2. **Handle bar height** – With your hands on the handlebars your elbows should be slightly bent so that neck, shoulders, arms, and hands are relaxed, not gripping the handlebars tightly. For beginners a higher handlebar position is more comfortable, easier and safer and may place less stress on the lower back if you are not flexible. Make sure that the handlebars of the stationary cycle are at least as high as the seat or higher (especially if you have had a hip replacement). If the handlebars are too high, too low, too close, or too far away, you may have neck, shoulder, back, and hand pain.

3. **Seat forward & backward position** - With your feet on the pedals and the pedals horizontal, parallel with the floor, the bottom of your kneecap should be directly over or just behind the center of the pedal. It’s better to be a little behind the center than over it, as this places too much stress on the knees.

4. **Adjusting pedal straps & foot position** - Most stationary bikes have straps that hold your feet in place on the pedals. Having your feet strapped on to the pedals allows you to push down and pull up on the pedals in a circular motion which creates a smooth and efficient pedal stroke by using more muscle groups, a better workout and places less load on the knees. Make sure the ball of your foot is in the center of the pedal, the best position for comfort and injury prevention. Make sure the straps are comfortably tight without being too restrictive. If your toes are numb, the straps are too tight!

Sometimes the adjustment knobs on the bike get loose and need to be tightened - your seat or handlebars will feel wobbly. Simply slow down, stop and tighten the handlebar and/or seat adjustment knobs.

If you would like more details on how to adjust your bike you can consult reputable websites such as: [http://sportsmedicine.about.com/od/tipsandtricks/ht/StationaryBike.htm](http://sportsmedicine.about.com/od/tipsandtricks/ht/StationaryBike.htm) or [http://www.cartilagehealth.com/cycling.html](http://www.cartilagehealth.com/cycling.html) for additional pictures

**Other tips & precautions…**

- To slow down/stop use the hand brake, the tension knob below the handlebars (usually red); either pushing down or pulling up will slow fly wheel down. Do not try to stop pedals suddenly or remove your feet from the pedals without braking first as this may jar your legs &/or back. Because the pedals are directly linked to the fly wheel, which is quite heavy, the pedals & your feet will keep going even when you stop actively pedaling. Avoid sudden starts and stops as this places too much load on the hip & knee.
- Keep both hands on handlebars for all standing drills.
- Make sure you have a towel to dry your hands. If your hands get wet as you sweat, the handlebars can become slippery.
Standing places more load on the joints than sitting. Gradually increase the time you spend doing standing drills as your fitness and comfort level increases. You will need enough tension on the fly wheel to do a standing drill with control but not so much that you are “grinding away”. Avoid bouncing from side to side as this increases load on the joints as well as popping in and out of the seat to stand. You will be safer & get more leg strength by working in a controlled manner.

If you have had a hip replacement, limit drills with forward leaning of the trunk to a range that does not strain your hip & is comfortable. Forceful end range hip flexion (thigh to trunk movement) is to be avoided.

Your goal should be a pedal speed of about 80 to 100 revolutions per minute (rpm) to develop a smooth controlled pedal stroke. You do not want to go so fast that you are bouncing & out of control nor do you want to “grind away”.

Do not increase the resistance to a point where your pedaling speed drops below 60 rpm as this often results in an unsmooth pedal stroke & grinding away, putting more load on your knee.

A stiffer soled shoe is actually more comfortable for your feet while biking and results in less power loss (better performance with less effort). A soft cushy sole flexes over the pedal which strains the foot more, resulting in discomfort and a lot of wasted energy.

Aqua-fit

If you have never done aqua-fit or are returning to exercise take more rest periods & go slow.

Deep water aqua-fit provides a good cardiovascular workout, no impact through the lower extremities and requires minimal modifications.

Ask if the pool has stairs. Either fixed or movable stairs with a handrail rather than a ladder will make it easier for you to get in & out of the pool. If movable stairs are available ask if they can be put in place before the class you plan to attend.

Check the recommendations below to see which may apply to you.

If you have had a hip replacement & should not cross your leg past the midline of your body – modify exercise so you only bring your leg to midline (you will still get the muscle workout).

If you have had a knee replacement & your surgeon does not want you to do whip kick (i.e. breast stroke) do a flutter kick or scissor kick instead.

If you are tall and find that some of the jumping or running type activities are causing discomfort in your feet or legs from the impact then try: deep water aqua-fit to eliminate impact, or keep your legs bent so water is at neck level (higher water level = less impact), or do other leg activities such as walking forward, sideways, backwards, etc.

To make your workout harder you can:

- Increase the speed of the movement
- Work with straight arms & legs
- Do large movements
- Push and pull the water with a cupped hand

To make the workout easier: go slower, bend your arms & legs & keep your fingers spread.

If your feet get sore with jumping/running/walking you may want to try water socks or shoes, keep the water level at your shoulder level (higher water level = less load) & bring your knees up; you will get a great tummy workout!
**Working on stability-ball**

- Not highly recommended in a class situation if you have had a hip replacement. For your safety you will need individual assistance from a trainer/therapist to ensure you have exercises that match your level of physical ability. The stability ball is a great way to increase you trunk “core” strength but there is higher risk of falling & having the leg cross midline due to exceptional trunk & hip strength required to do some of the exercises safely.
- Use a smaller &/or under inflated ball, so it is slightly easier to balance.
- Do not kneel on the ball. The risk of falling is too great!
- If your balance or trunk/core strength is poor, consider the risk of falling, especially if you have had a hip replacement.
- Remember, a common movement to avoid after hip replacement is crossing your operated leg past the midline of your body. If your surgeon has told you this, avoid doing all exercises where the side of your body is against the ball.

**Jumping, hopping, skipping**

- Replace these activities with: light marching or high stepping (no pounding), side stepping, ¼ squats, mini lunges (to the front, side & back), etc. Don’t forget to move your arms vigorously as this gets more muscles working & will give your heart & lungs a better workout.

**Lunges & squatting exercises**

- Squats
  - Start with ¼ squats if comfortable increase to ½ squats, but no further. This is also a recommendation for most people without joint problems.
  - Always keep your knee aligned over your foot (no knock knees).
  - Progress to single leg or using weights only if comfortable.
- Lunges
  - Start with small lunges so your front knee is bent no more than 45 degrees (1/4 squat position) with feet closer together.
  - Keep knee aligned over foot as with ¼ squat.
  - Progress to using weights only if comfortable.

For ideas about fitness classes that may or may not be appropriate you may want to refer to the recommendations and color coding found within the YMCA class schedule that the Holland Centre physiotherapists established (www.sunnybrook.ca/content/?page=Focus_Msk_Info). The green coded classes are suitable for most people with OA or lower extremity joint replacement(s) with no or minimal modifications needed. Yellow coded classes may be suitable if you avoid or modify positions or activities you have been told not to do by your surgeon/specialist & if these exercises/activities do not cause joint pain. Red coded classes are not recommended for OA or any lower extremity joint replacement as these may cause more wear on your joint or require extreme movements beyond what you can &/or should do.