

Getting Ready for Surgery

Postoperative Exercises are a series of exercises for preventing breathing and circulation problems after surgery. These are most useful if a person had general anesthesia. **Be sure the person's doctor has approved these exercises**

1. Prepare yourself to coach the person you care for through these exercises.
2. Check with the person's surgeon to be sure each exercise is appropriate. Know what exercises the doctor wants the person to perform
3. **Breathing Exercises** - Deep breathing helps to expand the lungs and keep airways open.
 - a. Begin by having the person sit on the side of their bed or sit upright in bed.
 - b. Have the person place the palms of their hands across from each other, down at the level of the diaphragm and along the lower borders of their rib cage.
 - c. Place the tips of the fingers lightly together and press lightly but firmly over the abdomen. This position will allow a person to feel their chest and abdomen move as they breathe fully in and out.
 - d. Have the person take a slow, deep breath, breathing in through the nose, while keeping their hands in place. Tell the person he or she should feel their middle fingers separate during the deep breath.
 - e. When taking in a deep breath the person should **not** use their chest and shoulder muscles to inhale. This is a waste of energy.
 - f. Next, have the person hold the deep breath to a count of three and then slowly exhale through their mouth as if blowing out a candle. The middle fingers will touch again as the person breathes out.
 - g. Repeat the exercise 3 to 5 times, each time breathing in fully and then holding the breath to a count of 3. Then the person exhales out slowly.
 - h. After surgery, the person should practice taking **10 slow deep breaths each hour while awake**. Be sure the breaths are slow and easy.
 - i. Sometimes deep breathing causes a person to cough. This is normal.
 - i. Have the person place the hands firmly over the area of surgery (such as the abdomen or chest) while deep breathing so as to splint a cough. Splinting lessens movement of the painful area during coughing.
 - ii. The person can also place a small pillow over the incision (stitches) when deep breathing and coughing to splint an incision.



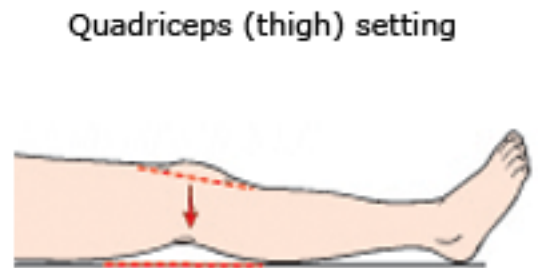
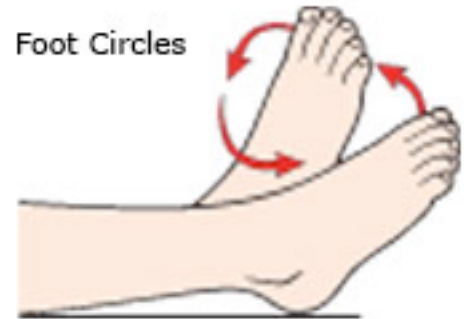
4. **Incentive Spirometry** – a spirometer helps to expand the lungs and increases air flow.
- A person will use the spirometer after surgery while they are awake.
 - Begin with the person sitting upright in bed or sitting on the side of the bed. If the person is sitting up in bed, make sure the head of their bed is at least elevated to 45 degrees.
 - On the side of the device there is a scale, it measures how deep a breath a person is able to take. A nurse will set the scale at the right volume for the person you care for.
 - Have the person place the mouthpiece in the mouth so that the lips completely cover the opening to the mouthpiece.
 - Then have the person take a slow, deep, steady breath, pulling in air until reaching the setting on the scale.
 - When the person reaches the maximum deep breath, he or she holds it for 3 to 5 seconds and then exhales slowly thru the spirometer.
 - Have the person repeat the deep breaths 8 to 10 times, but not more than 10 to 12 breaths. Talk the person through the exercise and encourage them as they try to reach their goal on the scale.
 - Expect the nurses to encourage the person to use the spirometer **every hour** while awake.



5. **Controlled Coughing** - removes the mucous loosened by deep breathing and spirometry.
- This exercise works best if the person is sitting, because the lungs can expand more fully, however it can also be done while the person is lying on their side.
 - The person places their hands directly over the area where it is likely they will have an incision (stitches). Have the person place one hand over the area of the incision and the other hand on top of the first hand.
 - An option is to place a small pillow over the incision and then place both hands over the pillow.
 - The person next takes two slow deep breaths through the nose and blows out through pursed lips. Then just after taking a deep breath a third time, the person holds the breath to a count of three and coughs fully two or three times in a row without taking a breath.
 - Coughing is not simply clearing the throat. You want the person to cough 2 or 3 times in a row, to be strong enough to remove mucous from their lungs. The cough will not hurt their incision if done the right way.
 - Repeat again, the person takes two slow deep breaths, holds it, then coughs 2 to 3 times in a row, without taking another breath.

- g. As the person coughs, he or she presses gently against their incision area (stitches) to splint or support it. You can also use a small pillow or folded towel placed under the hands. People feel that extra padding helps with splinting.
 - h. While at home have the person practice coughing with splinting at least **3 times a day**.
 - i. In the hospital, a person should cough 2 to 3 times every 2 hours while awake.
 - j. If the person has a great deal of pain when coughing, ask a nurse to give them pain medicine about 30 minutes before the exercise.
 - k. Once the pain medicine takes effect, it becomes easier to cough.
6. **Turning** - turning helps prevent breathing and circulation complications that can happen after surgery.
- a. Start by having the person lie flat in bed on their back.
 - b. Next, have the person bend the knees, press the heels against the mattress and slowly move the buttocks over to one side of the bed (in this case, practice moving to the left side of the bed).
 - c. Have the person slowly move the head and shoulders over to lie straight. By moving to the side, the person will have more room to turn on their side when in a narrow hospital bed.
 - d. Now have the person place their right hand firmly over the area where they will have an incision (stitches). This is helpful when the person is to have surgery of the abdomen or chest area. The hand supports or splints the incision during turning.
 - e. Next, while keeping the right leg straight, have the person flex their left knee up. Note that some surgeries (such as back or hip surgery) will not permit a person to bend their knee. In that case you would keep both legs straight. **Your nurse or doctor will tell you if the person will be allowed to bend their legs.**
 - f. Now, have the person turn or roll to the right side. In a hospital bed the person will be able to grab a siderail with their left hand to make rolling to the side easier.
 - g. Simply reverse the order of the exercise to turn to the left side.
 - h. Once on their side have the person move their hip back to stay on that side.
 - i. Practice turning, so that the person is comfortable with each position (left side, back, and right side).
 - j. In the hospital the nurses will usually ask persons to **turn every 2 hours** or they will come and help persons turn.
 - k. If the person is having joint replacement or spinal surgery, **do not use this turning method**. Instead, the person will be “log rolled” with the nurses doing the turning and the person remaining in a straight stationary position.
7. **Leg Exercises** - help prevent breathing and circulation problems (such as blood clots in the legs) that can happen after surgery.

- a. These are also good exercises to perform when you are riding an airplane for several hours or after sitting for long periods of time in the car or at home
- b. Have the person lie flat on their back. Stand by the bed to coach them.
- c. The first exercise improves circulation in the lower legs. Have the person rotate each ankle in a full circle as they imagine drawing circles with the big toe. Perform the exercise slowly in a full circle. **Repeat the exercise 5 times with each foot.**
- d. Next, have the person stretch and then flex their calf muscles.
 - i. Have the person push their feet against your hand
 - ii. Then alternate by stretching their foot back with the toes facing their knee.
 - iii. Stretch the muscles smoothly and slowly. **Repeat 5 times with each foot.**
- e. This next exercise improves knee mobility and circulation.
 - i. Have the person tighten their thigh muscles by bringing their knee down toward the mattress
 - ii. Then relax the muscle.
 - iii. Place your hand under their knee. Feel if the person is tightening their leg properly. Have the person **repeat the exercise 5 times with each foot.**
- f. After surgery, a person should perform **each of the leg exercises every 2 hours while they are awake.**
- g. If an exercise ever causes severe pain in the legs, stop what they are doing immediately and call the doctor.



Practicing all of these exercises before surgery will make recovery in the hospital a bit easier.