SURGEONS CHOICE™
MEDICAL CENTER

Health Notes

Volume 10, Issue 2
Spring 2021

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SURGEONS CHOICE MEDICAL CENTER REHABILITATION PROGRAM IS TOP RATED IN THE METRO DETROIT AREA

All levels of rehabilitation are designed to meet the needs of our patients by utilizing an interdisciplinary team approach. A comprehensive treatment plan is developed by our multi-disciplinary rehabilitation team. The rehabilitation care includes board certified physical, occupational and speech therapist. Surgeons Choice Medical Center's rehabilitation program being an advanced short-stay program is designed for patients that are "on-the-go".

Common conditions requiring rehabilitation can include: Joint Replacements, Spinal Surgeries, Fractures, Amputation(s), Multiple Trauma, Severe or Advanced Osteoarthritis, Stroke, Neurological Disorders and Cardiac and Respiratory Rehabilitation.

Here at Surgeons Choice Medical Center safety is our top priority and all treatment that is provided by our therapy staff is in compliance with all COVID-19 guidelines issued by the CDC.

REHABILITATION FOLLOWING LUMBAR FUSION

Rehabilitation and exercise are an essential part of recovery from a lumbar spine fusion. Careful planning and follow through on a prescribed physical therapy program will go a long way in helping the patient recover from the fusion and have the best prospects for pain relief over the long term.

Patients who have had or are contemplating lumbar fusion surgery are understandably concerned about making sure the fusion heals as intended. For this reason, many patients are afraid to be active and some do not want to move at all, fearing that they will risk having the fusion not set up properly.

See Failed Spinal Fusion Surgery

In actuality, and contrary to this fear, movement is essential to foster healing.

There are precautions to keep in mind—most patients avoid bending, lifting, and twisting– but staying active with short, frequent, gentle exercise is strongly recommended and delivers many benefits.

Benefits of Physical Therapy After Fusion

Careful, progressive return to activity and exercise after a fusion has a number of advantages, including:

- Movement activates supporting muscles. Following surgery or an episode of injury, smaller muscles in the area may become inhibited (turned off). These muscles have a great responsibility in maintaining stability of the spine. Encouraging the muscles to function properly will also reduce stress through the surgical site by active stabilization.
- Gentle stretching promotes flexibility. During periods of inactivity, range of motion can be lost, and stiffness soon settles in. Very gentle stretching of the core back and abdominal muscles, as well as the hip muscles attached to the spine and pelvis, will make all movement easier, even just getting out of a chair. Care must be taken to not be too aggressive too early, or a setback could undercut the benefit intended. See Stretching Exercise after Microdiscectomy Surgery
- Activity encourages healing blood flow. Movement and activity promotes healthy blood circulation, and blood brings the oxygen required to the healing site. Lack of oxygen will delay or sometimes prevent healing of tissues and healthy bone growth, which are critical to a successful fusion outcome.

In addition to the physical benefits, a careful return to normal activity has many emotional and psychological benefits, such as production of endorphins—the body's natural pain killing chemicals —and the feeling of well-being from staying active, enjoying fresh air and sunshine, and more.

Avoiding activity after fusion surgery will do more harm than good for patients. Although doctors will have different opinions about the kind and intensity of postoperative activity and exercise recommended, most types of fusion will show better outcomes if a prescribed physical therapy and exercise program is followed.

See Physical Therapy After Minimally Invasive Back Surgery

Checking with the surgeon performing the fusion both before and after surgery will help patients get the right advice for their specific situation.

Besides the above activities it is critical that patients who have a history of smoking do not use nicotine postoperatively. Nicotine kills the osteoblasts that grow bone (bone growing cells) and the postoperative results of patients who go back to smoking are much worse than of those who remain off of nicotine.

Although remaining nicotine-free for the first three months after surgery is the most critical, smoking even after a solid fusion is achieved has been well correlated to chronic low back pain.

Guide to Physical Therapy After Spinal Fusion

Meeting with a physical therapist before and/or a few days after surgery is important so specific direction can be given on when to begin various types of exercise. Surgeons use many surgical techniques and approaches for fusion—for example:

- Access to the spine can be achieved through incisions in the front, the back, the sides, or some combination of approaches
- Minimally invasive techniques or traditional open surgical techniques may be used

Because of these variations, some exercises may not be appropriate for all patients. The surgeon's technique and the patient's individual diagnosis will influence what rehabilitation should be done.

While the program will be different for each patient, here is a general guideline for postoperative spine fusion rehabilitation that should be customized for each patient.

Week 1: Start Rehabilitation and Exercise

A surgical team will typically advise a patient to take short walks and do gentle stretching during the first week after surgery. Patients should follow their surgical team's recommendations.

Day 1: Limit Exercise to Short Walks

The patient must move frequently beginning the first day after

surgery. The patient should walk as often as the surgeon allows, to the point of minor aching, but stop if there is any sharp pain.

Most surgeons will encourage patients to get out of bed and walk the first day after surgery, and recommend walking frequently throughout the initial recovery period, increasing the amount and length of the walks as tolerated.

Days 1-7: Start Stretching

For all stretches, patients should feel the stretch, but never to the point of pain, If a patient feels pain the stretch should be stopped.

Stretching the hamstrings and quads

It is particularly important to stretch the hamstrings and quadriceps, as well as the middle back where the nerve root is located to prevent the formation of adhesions or scarring of the nerve. Stretching of muscles should be done slowly with 30-second holds, three repetitions, two sets per day. Example stretches:

- A seated hamstring stretch can be performed while sitting on the edge of chair. Straighten one leg in front with toes pointed up and knee straight. Push belly forward to move into stretch while keeping chest high.
- The quadriceps flexion stretch is done while lying on the stomach, and bringing heel toward buttocks as far as possible.

Nerve stretches

Nerve stretches (mobilization) should be done in a "pumping" fashion without long hold times and can be done every two hours.

- A nerve stretch is achieved by lying on the back with legs on the ground, and slowly lifting one leg until a stretch is felt in the back of the thigh and through the hip. While supporting the raised leg with hands behind the knee, pump the ankle while holding the knee still.
- Variation: An active hamstring stretch can be done from the same position. While lying on the back, bend both knees. Slowly straighten one leg and pushing the heel toward the ceiling until a stretch is felt. Alternate stretching each leg.

Weeks 1-9: Include Static Stabilization Exercises

These movements are described as "static" because they are done without moving the trunk. They should be completed by moving arms and legs while avoiding any rocking or arching of the lower trunk.

Physical Therapy after Spinal Fusion: Weeks 6 to 9

The initial 6-week recuperation period after a spinal fusion focuses on getting back to feeling good. After this initial period, more advanced exercise should be added to strengthen the back structures and increase overall fitness.

Patients can add more rigor and variety to their routines by using an exercise ball or resistance bands.

The exact timing of when a surgeon will recommend adding dynamic exercises is dependent on both the quality of stability achieved at surgery and the surgeon's own personal preference.

Guide to Dynamic Exercises after Spine Fusion: Weeks 6-12

Because these exercises allow for motion of the trunk, many times they incorporate use of an exercise ball into the program.

Mat Movement Examples

Do these exercises on a yoga or gym mat. If you don't have a mat, try doing them on a rug or carpet.

- Strengthen abdominal muscles with a diagonal curl: while lying on the floor with knees bent, curl the trunk by raising the head and one shoulder towards opposite hip a few inches. Extend the back by alternating limbs: while on hands and knees, raise one arm and opposite leg, then alternate.

Band Movement Examples

- Stretchy elastic bands called resistance bands are commonly used for strength training and physical therapy. They are sold in sports equipment stores, big-box stores, and online.
- Stretch the back by using a resistance band wrapped around a stationary pole or column, and leaning back with straight arms.
- Strengthen the abdominals and oblique muscles by performing a diagonal pull with the band: with the band anchored low to the ground, and feet shoulder-width apart, grasp band and pull from lower right to left shoulder. Reverse sides.

Exercise Ball Movement Examples

When using an exercise ball, maximizing the range of motion is not as important as staying in control, which takes practice if a patient is not familiar with using an exercise ball. Don't worry about counting repetitions, but perform the exercise until fatigue is evident or control becomes difficult.

A set should last 30 to 60 seconds (so about the length of a commercial break during a television show). One set a day is usually recommended.

- While lying with stomach on the exercise ball and arms/hands in front, walk forward on the ball until it rests under the thighs, then raise one leg at a time.
- With stomach on the exercise ball and knees on the ground, walk straight out on the hands, but don't let the trunk twist or dip down.
  Variation: With stomach on the exercise ball and feet on floor, raise head and chest from the forward bent position to a straight (but not hyper-extended) trunk.
- While lying on back with the exercise ball under the calves, raise buttocks, hips and lower back from the floor, keeping the stomach muscles tight.

Physical Therapy after Spinal Fusion: Weeks 9 to 12

In addition to stretching and strengthening exercises already reviewed in this article, regular aerobic conditioning should be added starting about 9 weeks after lumbar fusion surgery.

Aerobic exercise is also important to help the fusion set up well. Regular aerobic exercise, even if it is just walking at a brisk pace for at least twenty minutes, will increase blood flow and oxygen which helps with the healing process. It will also burn excess calories, helping to maintain weight and preventing added stress on the back structures and surgical site.

Low-Impact Aerobic Exercise after Spinal Fusion: Examples

Several exercises can provide conditioning. The key is start slowly with shorter intervals of exercise and increase duration to 30 minutes a day, in total, as long as pain is not experienced.

Examples of low impact exercises include:

- Brisk walking
- Swimming
- Exercising using equipment available in most gyms or for purchase for the home, such as stationary bikes, elliptical trainers, and stair climbers.

Not all exercise is suitable, however. Higher-impact exercise that has abrupt stops, starts, and changes in direction can put a fusion that is still healing at risk. This includes exercises such as:

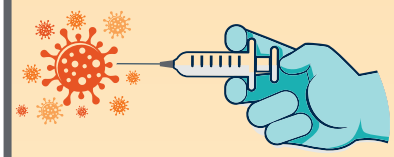
- Jogging or running
- Some forms of dance and aerobics
- Contact sports like basketball or football

None of these types of activities should be undertaken until a patient has been given approval by the surgeon.

Finally, whatever exercise is chosen, always stop if there is any shortness of breath, chest pain, or dizziness. All these indicate overexertion that could overstress the back and rest of the body.

Miller, Ron. "Rehabilitation Following Lumbar Fusion." SPINE-Health, Veritas, 31 May 2019, www.spine-health.com/treatment/physical-therapy/rehabilitation-following-lumbar-fusion.

In the Spotlight:



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