



Transforaminal Lumbar Interbody Fusion Rehabilitation Guidelines

Indications:

- Leg pain secondary to nerve root compression (radiculopathy), often with lower back pain

Possible complications of surgery:

- Infection [$<1\%$]
- Nerve damage [less than 1%]
- Ongoing back/leg pain [5-10% long term]
- Dural tear [$<5\%$, higher if prior surgery]
- Recurrence [$<10\%$ at up to 10 years]

Expected outcome:

- Patient reports good relief of leg pain and a significant decrease in back pain.
- Back pain can persist and sitting tolerance can be decreased. Improvements can continue for up to 18 months post operatively

Post-operatively

Always check operation notes and post-op instructions.

Discuss any deviation from routine guidelines with team concerned.

NB: If dural tear intra-operatively, patient may complain of intense, severe headache. In this instance, mobilise as comfort allows. Surgeon will usually prescribe a period of flat bed rest.

On discharge home from hospital

Ensure all patients have outpatient physiotherapy arranged.

The patient should aim to achieve:

1. Independent and safe mobility, including stairs if appropriate
2. Independent and safe in home exercise programme
3. Independent in transfers

Early Rehabilitation phase: 0 – 6 weeks

Goals:

1. Mobilise independently and safely
2. Understand good posture and spinal mechanics
3. Independent in home exercise programme (HEP)
4. Understand self-management and pacing concept particularly with ADL and PDL
5. Return to driving at 4-6 weeks

Precautions:

For the first 6 weeks, whilst the initial post operative pain settles and the spinal fusion begins to heal, it is advised to be careful with some activities. A cautious approach is advised and a gradual increase in activities is recommended, whilst respecting post operative soreness, neural sensitivity and patient's previous level of fitness.

1. **Sitting** should be gradually built up during activities such as eating or relaxing and should be guided by the development of symptoms. A limit of 20 mins at any 1 time is sensible for the first few days, and once this is comfortable it can be increased gradually. If a long journey is unavoidable e.g. to get home from hospital the patient can recline as a passenger and ensure breaks every 20-30 minutes to mobilise.
2. **Avoid prolonged-sitting** [>1 hour] for about 4 weeks until neural sensitivity has settled and strength improved and can then try with care, e.g. in the bath.
3. **Walking** is unrestricted, and should be increased day by day as comfort allows.
4. **Caution with prolonged standing** for the first 4 -6 weeks.
5. **Avoid driving** for 6 weeks post-operation, or longer if there is a significant loss of function or sensation in one or both legs/feet. The patient should be able to sit comfortably in the driving position, drive, turn to look in the mirror and have 100 % reaction times for an emergency stop.
6. **For the 1st few days only lift about 1kg** (a ½ full kettle) and then slowly increase.
7. **Continue to log-roll** until neural sensitivity has settled and strength improved which takes about 6 weeks.
8. **Return to sedentary work** if appropriate and agreed with medical team

Treatment

Pain relief: Ensure adequate analgesia; suitable positioning.

Patient education: Reinforce self-management and building up of activities appropriately. Precautions as above

Postural awareness: Advice given on the importance of good posture especially in sitting.

Exercises: Teach core stability exercises in lying and in functional positions in brace/corset. Teach lying to standing through side-lying. Teach exercises from patient information leaflet.

Mobility: Ensure patient is independent with transfers and mobility, including stairs if appropriate. Pre- operative status will affect outcome. If a walking aid is given and was not used pre-operation, the surgical team will be informed

Milestones to progress to next rehab phase:

1. Adequate pain relief.
2. Starting to build-up normal activities.
3. Normal gait pattern.
4. Increasing walking tolerance to at least 20 minutes.
5. Ready to wean off brace/corset (check x-ray satisfactory). If patient is to be braced for a longer period rehab will be delayed.

Intermediate Rehabilitation phase: 6 – 24 weeks

Goals:

1. Increase normal activity and function
2. Return to work at 6 weeks (see restrictions below)
3. Return to sport/gym at 6+ weeks (see restrictions below)
4. Optimise normal movement
5. Increase lifting (gradually building up from light weights)
6. Return to driving

Restrictions:

These are designed to allow the fusion to heal and the pain to settle .It is balanced against the evidence supporting the return to early function and activity which decreases the risk of a poor outcome.

1. An appropriate return to work should be planned for 6+ weeks and it should be phased /part time if appropriate especially if there is a lot of travelling/sitting .If the job involves heavy manual work the aim would be to return by 6 months with a planned phased return if appropriate.
2. Avoid heavy lifting [>10 kg] until 6 months post-operation or until the surgeon advises.
3. Contact sports should be avoided until 6 months or at the surgical team's discretion.

Treatment

Pain relief: Ensure appropriate amount of exercise and activity with appropriate analgesia.

Patient education: Pacing activities within appropriate restrictions. Ensure patient not over or under exercising. Exercise cautiously particularly with previously aggravating activities. Postural awareness and encourage normal movement patterns. Advice on healing times; not smoking and body weight control.

Postural awareness: Reinforce importance of good posture especially when sitting, e.g. at work, driving and in the bath. Advise on good practice of changing posture regularly.

Exercise: Start core stability and progress as able (to include leg slides, gym ball, balance work and proprioceptive training). Progress functional range of movement. General fitness advice, e.g. swimming-start initially with backstroke and add-in other strokes as long as comfortable. Can attend gym and return to sport (see restrictions). Trunk, upper and lower limb conditioning as relevant to patient's goals.

Walking: *Pace up walking steadily*

Manual therapy: Soft tissue/neurophysiodynamics treatment as appropriate.

Joint mobilisations to be avoided at fused levels! TLIF guidelines.HN 2013 .review 2015

Milestones to achieve by 24 weeks

Recovery can continue up until 18 months so expectations must be individual and realistic.

1. Achieve realistic goals set by patient.
2. Return to normal activities.
3. Back at work
4. Continuing with paced exercise programme and good posture.

Late Rehabilitation 24 weeks +

Limitations:

1. Heavy lifting
2. Contact sports