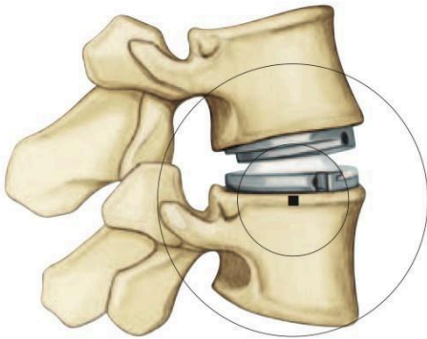


Lumbar Disc Replacement Rehabilitation Protocol

Lumbar artificial disc replacement surgery may be recommended to treat chronic, severe low back pain caused by degenerative disc disease. Disc replacement is only advised if a minimum of 6 months of nonsurgical treatments are ineffective and if the pain is limiting ability to function in everyday life.

This surgery consists of replacing the painful spinal disc with a device designed to mimic the disc's natural movement. The goal of artificial disc replacement is to alleviate pain by reducing aggravating micro-motion, stabilizing the spinal segment, and minimizing inflammation.



Precautions

Avoid bending, twisting, lifting, pushing and pulling 6kg or more for two weeks.

Limit sitting, including in the car, to no more than 30 minutes at a time (standing/walk breaks).

No extension range of motion, nor rotation exercises, for eight weeks.

Phase 1 (Week 0-2)

- Postural Education: Upright sitting posture with lumbar roll at all times, frequent changes in positions and sleeping positions
- Body Mechanics: Light lifting, transfers (include log rolling), positioning, etc.
- Walking Program: Begin one to two times a day for 10 minutes or less. Progress as tolerated
- Transverse Abdominis Bracing: 10" isometrics with normal breathing (without pelvic tilt)
- Multifidi: 10" isometrics with normal breathing in prone (if able to tolerate)
- Glute Set: 10" isometrics with emphasis on proper glute firing
- Light Stretching: Hip flexors, quads, hamstring, gastrocs
- Electrotherapy as appropriate

Phase 2 (Weeks 2-6)

- Continue above exercises and modalities as appropriate
- Transverse Abdominis/Multifidi Progression
- Continue with Proper Glute Activation Exercises
- Lower Extremity and Upper Extremity Strength Training (once proper transverse abdominis and glut firing achieved)
- Balance (with transverse abdominis bracing): Single leg stance, tandem, foam, etc.
- Stretching: Hamstrings, gastroc/soleus, quadriceps, hip flexors, piriformis, etc.

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- Neural Mobilisation: Performed as needed, gentle with caution not to flare up nerve roots

Phase 3 (Weeks 6-8)

- Continue above exercises and modalities as appropriate
- Advanced core strength and stabilization exercises: progress to weight bearing, balance, Swiss Ball, etc.
- Progress to multi-planar exercises with lower extremities and upper extremities
- Progress lower extremity/upper extremity strengthening
- Begin running, agility and plyometrics for return to sport at 8 to 12 weeks (if symptoms stable)
- Cardiovascular endurance
- Return to work

Phase 4 (Week 8+)

- Continue above exercises
- Work on improving lumbar extension range of motion, but avoid end-range
- E.g., prone lying, prone on elbows, press-ups and/or gentle standing extensions (if no peripheralisation)
- Dynamic lumbar stabilisation exercises
- Pelvic tilt progression
- Continue balance and proprioception
- Return to sport after 6 months