

LOTHIAN PHYSIOTHERAPY ORTHOPAEDIC GUIDELINES

Lumbar Discectomy Guidelines

Introduction

Indications for Surgery: Unilateral or bilateral radicular leg pain, with neural compromise that is persistent or progressive.

Surgery:

Microdiscectomy/Discectomy: this involves removal of prolapsed (bulging) part of the intervertebral disc. The aim is to relieve pressure on nearby nerve and thus relieve leg symptoms. Surgery is not aimed at relieving back pain and patient may still experience back pain after surgery. Most of the disc is left in place as only the protruding part is removed. The operation is done through a small incision in the back (approximately 3 - 4cm).

Endoscopic Discectomy: A minimally invasive procedure completed under local anaesthetic/sedation occasionally converted to a general anaesthetic through a 1cm incision. A needle is inserted into the spinal canal adjacent to the protruding disc through which a guide wire is placed. Over this sequential tubes are passed allowing placement of a video-endoscope attached to a high definition camera. (see animated video at www.joimax.com). Only the disc protrusion is excised.

Expected Length of Stay: 1 night microdiscectomy; day-case endoscopic discectomy

Surgeons:

Microdiscectomy: Mr Fitzpatrick, Miss Myles, Mr Demetriades, Mr Liaquat, Mr Fouyas, Mr Sokol, Mr Kandasamy, Mr Gallo, Mr Kaliaperumal, Mr Statham, Mr Khan.

Transforaminal Endoscopic Discectomy: Mr Gibson

Follow up:

RIE 2 weeks post op

Physiotherapy advice is given to the patients on the ward, no further physiotherapy is given to the patient until their 2/52 follow up at clinic unless recommended by the ward physiotherapist.

WGH clinic appointment approx 3 months post op

All post op patients offered physiotherapy 4 weeks post surgery unless they decline.

SPIRE: clinic review at 3- 4 weeks post op.

Scope of practice

These guidelines are designed to guide physiotherapists when treating patients following lumbar discectomy surgery. They were produced by a systematic review of the current evidence based literature, medical and peer consultation. They were correct at the time of writing. The guidelines should be used in conjunction with the clinical reasoning skills of the physiotherapist and specific post operative instructions by individual consultants. Patients should always be managed on a case-by-case basis.

Aim

The aim of these guidelines is to provide physiotherapy staff with a series of recommendations, from the current evidence base, to assist them in the management of patients who have undergone this surgical procedure.

Literature review question

What is the most effective method of rehabilitation for patients following lumbar disc surgery for full return to function?

Search Process

Appraisal process: a systematic computer-assisted search was completed.

Data Bases:

Data Base	Dates	Limitations
Medline	1990-2016 (Jan)	English
Embase	1990-2016 (Jan)	English
Cinahl	1990-2016 (Jan)	English
Cochrane	1990-2016 (Jan)	English
Amed	1990-2016 (Jan)	English

Key Words:

Lumbar discectomy	Function
Lumbar diskectomy	Return to work
Lumbar microdiscectomy	Return to sport
Lumbar disc surgery	Time to discharge
Lumbar decompression	Pain
Post operative	Revision surgery
Post surgery	Success rate
rehabilitation	Quality of life
Physiotherapy	Physical Therapy
Exercise program	Endoscopic lumbar disectomy
Education	Minimally invasive spinal surgery
Advice	Transforaminal endoscopic surgery

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Results

There were 20 articles found to be relevant including 14 randomised controlled trials, 1 survey, 1 literature review, 2 Cochrane systematic reviews, 1 series case study review and 1 long term follow up of a previously documented RCT.

Keypoints

Active exercise programs should begin at approximately 4 weeks post surgery.

Patients who begin exercise programs from 4 weeks post surgery show a faster decrease in pain and disability than no treatment. There are no research papers looking at the optimal time to begin rehabilitation with the majority of programs starting around 4 weeks post surgery. There is no evidence that active exercise programs from 4 weeks post surgery increase the risk of re-operation rates.

(A1)

Higher intensity exercise programs lead to a faster decrease in pain and disability and quicker return to work rates.

In studies where patients undertook more intense exercise programs they showed quicker short term functional benefits. There was insufficient data to advocate any specific type of exercise but all of the intense exercise programs used incorporated a mixture of core stability, flexibility and aerobic training.

(A1)

Home exercise programs are as effective as supervised programs as long as compliance is good.

There is no significant difference between supervised and home exercise programs in terms of pain relief and disability. In patients who lack compliance however there may be benefit in taking part in a supervised exercise program.

(A1)

Rehabilitation programs that encourage early mobilisation may reduce post-operative pain in the first 6-12 weeks following surgery.

Early advice on transfers (sit – stand), encouragement to walk and commencement of exercises from day 1-2 post-operatively may show a relative reduction in pain (VAS score) in the first 6-12 weeks following surgery compared to those programs where active mobilisation is not encouraged.

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(B)

Rehabilitation programs that encourage regular range of motion exercises, functional strengthening and cardiovascular exercise may reduce post-operative pain in the first 6-12 weeks following surgery.

More regular range of movement exercises, muscular strengthening exercises and spinal stabilisation in functional positions, combined with cardiovascular exercises (e.g. swimming after 6 weeks post-operatively) may reduce pain in the first 6-12 weeks following surgery compared to those programs that include exercises that have less emphasis on functional exercises.

There is no conclusive evidence to suggest better outcome with additional lumbar multifidus training. **(B)**

Longer term outcome may be better with face to face physiotherapy intervention than with no intervention but there is not conclusive evidence to say what this intervention should include. (A3)

General Recommendations**0-2 weeks post op**

- Use pain relief in the first few weeks to allow more comfortable movement (C)
- Limit the amount of sitting in the first 2 weeks. No longer than 15 minutes and limit to 4 times per day (C)
- Frequent change of position (C)
- Light house work tasks (C)
- Gentle stability exercises (C) (see WGH patient handout)
- Encourage early walking, little and often to start with but quickly building up to longer walks
- **Don't** put the back into extreme positions, avoid forward bending and twisting movements (C)
- **Don't** lift heavy items (<3-5kg), or do heavy tasks such as hoovering (C)

2-6 weeks post op

- Active exercise /gym programs usually begin about 4 weeks post op. (A1)
- Patients who are fear avoidant, those who are unmotivated and those who are unfit with poor postural control would benefit from physiotherapy input. (C)
- Gradual return to normal activities (walking, light toning, pilates, more house work etc) but still avoid heavy lifting (>3-5kg) for up to 6 weeks. (C)

- Gradually increase sitting times. (C)
- For those patients with Coflex spacers, the manufacturers recommend **NO** extreme bending or twisting movements for 4 weeks.
- Return to work – 2 - 8 weeks (depends whether sedentary or manual/ consider lifting and sitting limits). (C)
- Drive 2 - 4 weeks depending on recovery should be able to do emergency stop and not on heavy painkillers that make patient drowsy. Check with insurance company. (C)
- Swimming 4 - 6 weeks. (C)
- Start stretching programs and stability programs: gradual build up. (C)

6 weeks + post op

- Patients who are fear avoidant, those who are unmotivated and those who are unfit with poor postural control would benefit from physiotherapy input. (C)
- Higher intensity exercise programs lead to a faster decrease in pain and disability and quicker return to work rates. (A1)
- Home exercise programs are as effective as supervised programs as long as compliance is good. (A1)
- Golf 6 weeks. (C)
- Return to gym 6 weeks (gradual increase in activity). (C)
- Gradual return to contact sport i.e. rugby 12+ weeks. (C)

Please also see

<http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/neurology/Pages/PatientLeaflets.aspx> and click on Neurosurgery - INFORMATION FOR PATIENTS - microdisc for information given to patients prior to surgery including risks/expectations of surgery (for physiotherapist information only)

Physiotherapy patient information leaflet available at

<http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/Physiotherapy/PatientInfoLeafletNetwork/Pages/Spinal,NeckHead.aspx>
click on physiotherapy after lumbar surgery

Appendix

Levels of Evidence

Evidence from large randomised controlled trials (RCTs) or systematic review (including meta analyses)†

A1

Evidence from at least one high quality cohort A2

Evidence from at least on moderate size RCT or systematic review A3

Evidence from at least one RCT B

Expert opinions C

Laboratory Evidence* D

† Arbitrarily, the following cut-off points have been used: large study size ≥ 50 patients per intervention group; moderate study size ≥ 30 patients per intervention group.

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* Arbitrarily, added by Lothian Physiotherapy Musculoskeletal Network Group

Modified from: MacAuley D and Best TM (2007) Evidence-based Sports Medicine. 2nd Edition. BMJ Books. Blackwell Publishing. Oxford, UK.

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