Elective Surgical Hubs: Getting Spine Ready

A myth buster and guide

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GIRFT is part of an aligned set of programmes within NHS England

Foreword

As work on the elective waiting list backlog in spinal services continues it is clear that the effective use of elective surgical hubs has played a major part in facilitating a reduction in waiting times.

The GIRFT further faster programme in spinal services commenced in July 2023 and one year later the first cohort of trusts involved have reduced their 52-week backlog by 64%.

We have noted that for a combination of reasons, some providers are reluctant to utilise elective surgical hubs for spinal services and we are often asked for advice around this. This guide hopes to address common myths around the use of elective hubs for spinal surgery provision. I'd like to personally thank Vinay Jasani and all the other contributors listed for their hard work on producing this operational guide on the safe use of elective hubs in spinal injections and surgery.

Mike Hutton

GIRFT National Clinical Lead for Spinal Services

Elective hubs have made a massive impact on waiting list backlogs throughout England and have been shown to maintain this long term. Whilst spine surgery waiting lists have improved massively with the hard work put in by all, further reduction in wait times could be achieved by adding spinal surgery as one of the specialities that benefit from high volume low complexity work being carried out in elective hubs. This document aims to facilitate that process by reducing concerns about managing patients with spinal surgical problems in elective hubs (both integrated within Trusts and stand-alone hubs).

I'd like to thank the British Association of Spinal Surgeons (BASS) for giving permission to embed their documents here for ease of access and use.

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Introduction

Elective surgical hubs are dedicated hospital sites which carry out planned operations as well as related outpatient appointments. They are operated by an NHS trust and can either be part of a bigger hospital or located in a separate building. Hubs play a crucial role in tackling the elective waiting list and at the time of writing (September 2024) there are 110 hubs in England, with 24 more expected to be operational within the coming 18 months.

Elective hubs meet the same high standards of clinical care and safety that apply to all NHS hospitals. This involves the careful selection of patients who are suitable to be treated in the Hub. Some patients will have additional medical needs or risk factors which will require enhanced or critical care to be available either: at the hub; the hospital site where the hub is located; or a robust transfer policy to be in place. Most hubs will also be suitable for patients with a range of social needs, such as learning disabilities or language support needs.

Elective hubs have been highly successful in helping to tackle the backlog of High Volume Low Complexity (HVLC) cases across different specialities. Spine surgery continues to face challenges in timely access to treatment throughout England. Many private providers readily undertake HVLC spine surgery on NHS patients, as this group of procedures have similar patient flows, perioperative requirements, outcomes and patient experience as other HVLC subspecialty procedures. However, there are 110 elective surgical operational hubs at the time of writing, and less than 20% of these perform spinal surgical activity (not spinal injection only). This does not include the independent sector. Following discussions with providers across England, it was found that there were a number of reasons for this.

This guide intends to address preconceptions about safe and effective delivery of spinal cases in elective hubs and advise on how to introduce spinal cases into an established hub. The aim is to make hubs accessible to as broad a range of patients as possible while putting patient safety and well-being at the centre of decision-making.

For further discussion please contact england.focusedsupportgirft@nhs.net.

Further Reading

This summary guidance is best read with the following GIRFT products and journal resources:

The GIRFT Further Faster Handbook on Spine Surgery
https://gettingitrightfirsttime.co.uk/cross_cutting_theme/further-faster-programme/

GIRFT Surgical Hubs https://gettingitrightfirsttime.co.uk/hvlc/surgical-hubs/

Surgical Hub Toolkit (developed with SWLEOC) https://girft-hubtoolkit.org.uk/elective-hub-toolkit/

GIRFT Theatre Productivity https://gettingitrightfirsttime.co.uk/hvlc/theatre-productivity/

Lumbar medial branch block and Facet joint injections pathway
https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/01/Lumbar-Medial-Branch-Block-Facet-Joint-Injections-pathway.drawio-1.html

Lumbar nerve root block and Epidural pathway https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/01/Lumbar-Nerve-Root-Block-Epidural-pathway.drawio-1.html

One or two level anterior cervical discectomy and fusion and Disc replacement pathway
https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/01/One-or-Two-Level-Anterior-Cervical-Discectomy-Fusion-Disc-Replacement-pathway.drawio-1.html

One or two level posterior fusion surgery (PLF-TLIF-PLIF) pathway
https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/01/One-or-Two-Level-Posterior-Fusion-surgery-PLF-TLIF-PLIF-pathway.drawio-1.html

Posterior lumbar decompression and Discectomy pathway
https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/01/Posterior-Lumbar-Decompression-Discectomy-pathway.drawio-2.html

Day surgery discectomy guide https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/04/Spinal-Surgery-Day-Surgery-Discectomy-1.7-May-2023-FINAL-V2-1.pdf

Co, M., Marks, T., Tracey, F., Conti, S., and Clarke, G. M., The Impact of Elective Surgical Hubs on Elective Activity in Acute Hospital Trusts in England: A Generalised Synthetic Control Study. Available at SSRN: https://ssrn.com/abstract=4888136 or http://dx.doi.org/10.2139/ssrn.4888136 (A non-peer reviewed preprint from The Lancet)

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Myth 1: “Spines aren’t suitable for an elective hub – they are specialised procedures”

High Volume Low Complexity (HVLC) spine surgery (SS) is ideal for an elective hub. The procedures identified as HVLC are low risk, high turnover and often suitable for day case, 23 hour or short stay surgery. As such, they do not need to be restricted to specialist centres. This movement of suitable procedures to a hub can release capacity in specialist centres for complex and or specialist procedures. However, like all interventions, they must be carried out by clinicians with the appropriate training and competencies with an established practice in spine surgery (and/or spinal pain management when considering spinal injections).

Some injections can be given in a procedure room rather than in theatres, and this is explored in the ‘Right Procedure Right Place’ documents from GIRFT, available here: https://future.nhs.uk/GIRFTNational/view?objectId=38100496

The following spinal procedures are considered HVLC:

- spine injections (transforaminal, epidural, nerve root blocks, medial branch blocks);
- lumbar discectomy procedures;
- lumbar decompression procedures;
- lumbar posterolateral instrumented fusion (up to 2 levels);
- lumber posterior interbody fusion or transforaminal interbody fusion (up to 2 levels);
- anterior cervical discectomy and fusion (up to 2 levels); and
- anterior cervical disc replacement (up to 2 levels).

Links to the GIRFT HVLC spinal pathways can be found in Further Reading.

Procedure	Estimated number per 4 hr session	Estimated LoS	New to follow up ratio	Suitable for PIFU
Spinal injections	8-10 cases	Day case / ambulatory	1:1	Yes
Lumbar discectomy procedures (Up to 2 Levels Bilaterally)	2	Day case	1:1	Yes
Lumbar decompression procedures (Up to 2 Levels Bilaterally)	2	Day case	1:1	Yes
Lumbar posterolateral instrumented fusion & Posterior Interbody Fusions	1 – 2	24-72 hours	1:2.5	Yes
Anterior cervical discectomy and fusion (ACDF) / disc replacement	1-2	24-48 hours	1:2.5	Yes

Table 1: taken from page 18 of GIRFT Theatre Productivity Programme Practical Guides – available at: https://gettingitrightfirsttime.co.uk/wp-content/uploads/2024/07/Theatre-scheduling-V2-July-2024-1.pdf

Myth 2: “Spine surgery needs lots of complicated work-up and the tariff is too low”

All adult routine spine surgery must be referred through an MSK interface service so that the work up (MRI imaging correlating with clinical findings) is usually complete before referral to an elective hub. Patients should not be seen in a hub without going through the appropriate pathway.

The tariff paid for each procedure changes for factors such as Best Practice Tariff, Market Forces Factor and whether unplanned or elective. However, payments are consistent across acute providers and hubs.

Useful Resources:

- GIRFT Spinal HVLC Pathways: https://gettingitrightfirsttime.co.uk/surgical_specialties/spinal-surgery/
- MSK interface case study - South West London MSK network improve patient waits through MDT triage https://future.nhs.uk/GIRFTNational/view?objectID=176149701
- MSK interface case study - Virtual triage implementation in spinal services at Royal London Hospital https://future.nhs.uk/GIRFTNational/view?objectID=201352613
- GIRFT Preoperative assessment services guidance https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/07/GIRFT-Pre-operative-assessment-guidance-FINAL-V1-July-2023.pdf
- GIRFT Theatre Productivity Programme Practical Guides – Module 4: Patient Preparation and Effective Theatre Flow https://gettingitrightfirsttime.co.uk/wp-content/uploads/2024/07/Patient-Preparation-and-Effective-Theatre-Flow-Practical-Guide-V2-July-2024-1.pdf

The first appointment requires a clinical assessment and confirmation that intervention is appropriate. If not, the patient should be discharged. If intervention is appropriate, verbal and written information (https://spinesurgeons.ac.uk/Booklets) should be provided, and the patient listed for intervention. Occasionally radiographs may be needed but repeat MRI scans are not required for unchanged symptoms and if the last scan is within 12 months.

A preassessment process is required (not necessary for injections) and is standard for HVLC procedures. A preoperative consent appointment is required 2-4 weeks before any surgical intervention with the clinician performing the procedure.

Although tariff varies according to comorbidities, Market Forces Factor and Best Practice Tariff (BPT), the tariff for spine procedures is in keeping with comparative HVLC procedures. The tariff adequately reflects the cost of procedures, time in theatre and volume of cases that can be done. The minimum paid for these indicative procedures is as follows, taken from the 2023/25 NHS Payment Scheme:

HVLC procedure	HRG Code	HRG name	Unit price for combined day case / ordinary elective spell (£)	
			Without Best Practice Tariff	With Best Practice Tariff for BSR registry
Lumbar 1 or 2 level decompression	HC64C	Intermediate extradural spinal procedures with CC score* 0-1	3781	4179
ACDF 1 or 2 Level	HC63C	Major extradural spinal procedures with CC score* 0-1	4731	5229

Table 2: Examples of HVLC procedures in the payment scheme, taken from: https://www.england.nhs.uk/publication/2023-25-nhs-payment-scheme/

*CC score = comorbidity score

BPT for spine surgery is currently 10% applied after achieving compliance with the British Spine Registry, as explained in Annex DpC of the 2023/25 NHS Payment Scheme: https://www.england.nhs.uk/wp-content/uploads/2022/12/23-25NHSPS_Annex-DpC-Best-practice-tariffs.pdf#page31

Myth 3: “Spine Surgery needs complicated post-operative care, and any complications are difficult to manage”

HVLC spine surgery (SS) requires a knowledge of postoperative mobilisation with an emphasis on day of surgery mobilisation without review by the surgical team. This can be achieved by physiotherapy and/or nursing teams managing MSK patients.

Useful resources:

- Case study: Improved spinal day case rates through multi-disciplinary working at Northern Care Alliance NHS FT https://future.nhs.uk/GIRFTNational/view?objectID=152715941
- Spinal surgery guide: Northern care alliance approach – patient eligibility criteria and person-centred physiotherapy https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/04/Spinal-Surgery-Day-Surgery-Discectomy-1.7-May-2023-FINAL-V2-1.pdf
- GIRFT Theatre Productivity Programme Practical Guide – Module 5: Surgical Discharge https://gettingitrightfirsttime.co.uk/wp-content/uploads/2024/07/Surgical-discharge-Practical-Guide-V3-July-2024-1.pdf
- 2023-24 CQUIN guidance https://www.england.nhs.uk/wp-content/uploads/2022/12/Commissioning-for-Quality-and-Innovation-CQUIN-2023-24-guidance-version-1.2-1.pdf
- 2023-24 CQUIN Scheme Indicator Specifications https://www.england.nhs.uk/wp-content/uploads/2022/12/CQUIN-scheme-for-2023-24_Indicator-specifications-v1.8.pdf

HVLC SS patients do not require bed rest unless a specific complication mandates this. All uncomplicated cases can mobilise unrestricted and be discharged with a postoperative milestone and FAQ sheet. This should be agreed with the local surgical team.

As with any surgical procedure, there are generic medical and surgical issues to monitor for as well as speciality specific issues. However, these are not common in spine surgery. The exact criteria should be agreed with the local surgical team, but a guide is outlined below (table 3).

HVLC SS cases do not require more than ward level care as a normal standard of care. Out of hours medical cover is no more than would be required for an arthroplasty patient. The patient population is similar to general orthopaedic patients with discectomies and lumbar fusions generally being in younger patients and decompressions in the older patient. It is to be expected that the main concerns will be related to patient specific medical issues or generic surgical issues. Regular routine neurological assessment should be undertaken as routine.

As with any elective hub patient, an escalation process must be in place for acutely unwell patients requiring post-operative level 2 or level 3 support.

Urgent or emergent postoperative imaging is sometimes required to assess some postoperative spine complications. Access to MRI scanning and CT scanning may be required, as such a clear policy for this should be in place, including an agreed escalation pathway to a centre providing 24/7 MRI scan (if not available at the elective hub), facilitated by a category 2 transfer policy agreed with the local ambulance service.

Emergency Imaging and or Return to Theatres in Elective Hubs

For HVLC SS patients, 90% or more will have uncomplicated care postoperatively.

In rare circumstances (see table below) patients may require emergency imaging (usually MRI) in the early postoperative period, or a return to theatres.

Where the elective hub does not have access to on-site MRI or out of hours surgery, a standard operating procedure should exist with local spinal surgical units that provide out of hours imaging and/or surgery for emergency patient transfer (Category 2).

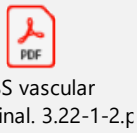
Procedure	Potential complication	Frequency of complication	Possible Consequence
Spinal injection	Temporary weakness	<1%	Very rarely overnight stay/MRI if not improved by 24hrs
Lumbar discectomy procedures	Intraoperative vascular injury	<0.25%	See BASS vascular guidance  BASS vascular policy-final. 3.22-1-2.p
	CSF leak	<5%	In some cases; bed rest or return to theatre (0.25% at 90 days)
	Cauda equina syndrome	<1%	MRI scan and return to theatre if surgical cause identified (urgent)
	Significant new weakness or numbness	<1%	MRI scan and return to theatre if surgical cause identified
Lumbar decompression procedures	Intraoperative vascular injury	<0.25%	See BASS vascular guidance (embedded above)
	CSF leak	<5%	In some cases; bed rest or return to theatre (0.25% at 90 days)
	Cauda equina syndrome	<0.3%	MRI scan and return to theatre if surgical cause identified (urgent)
	Significant new weakness or numbness	<1%	MRI scan and return to theatre if surgical cause identified
Posterior Lumbar Fusion 1 or 2 levels (Includes posterolateral and interbody instrumented fusion)	Intraoperative vascular injury	<0.25%	See BASS vascular guidance (embedded above)
	CSF leak	<5%	In some cases; bed rest or return to theatre
	Cauda equina syndrome	<0.3%	MRI scan and return to theatre if surgical cause identified (urgent)
	Significant new weakness or numbness	<1%	MRI scan and return to theatre if surgical cause identified
Anterior cervical discectomy and fusion/disc replacement	Intraoperative vascular injury	<0.25%	See BASS vascular guidance (embedded above)
	CSF leak	<1%	In some cases; bed rest or return to theatre (0.1% at 90 days)
	Significant new weakness or numbness	<1%	MRI scan and return to theatre if surgical cause identified (urgent)
	Stroke	<1%	Stroke team advice
	Wound haematoma causing breathing problems	<0.25%	Return to theatre to evacuate

Table 3: Complication rates taken from the National Consultant Information Programme

Myth 4: “Spine Surgery needs complicated expensive equipment”

HVLC SS does need some specialised equipment for a good standard of care and improved patient outcomes. Exact requirements should be agreed with the local anaesthetist and surgical teams. However, many of the following outline requirements will already be in place in an established hub:

1. Ward – no specialist beds, trolleys or chairs are required
2. Operating tables – radiolucent (if undertaking lumbar fusion surgery) and remote control to allow reverse Trendelenburg and height adjustment
3. Patient positioning – anaesthetic competency in prone GA
4. Operating table and/or accessories (E.g. Montreal Mattress, foam support for head)
5. Instrument sets – basic generic spine tray
6. Lumbar discectomy / neck / fusion extras trays
7. High speed burr
8. Image intensifier (for all HVLC procedures including injections)
9. Radiographer
10. Operating microscope
11. Consigned implants for ACDF and lumbar fusion (avoids loan fees; use 1-2 companies only to maximise discount bands)
12. Dural sealants and dural repair kit
13. Haemostatic agents (these should not be used in every case)

Getting started quickly

For a quick, easy start consider beginning with the low risk, less than 24 hr stay procedures that have few complications and mobilise quickly:

1. Injections –
   Lumbar transforaminal epidural, lumbar nerve root block, caudal epidural or any region medial branch block
   Cervical and thoracic transforaminal epidural, epidural or nerve root block
2. Lumbar microdiscectomy (1-2 levels)
3. Lumbar microdecompression (1-2 levels)
4. Anterior cervical discectomy and fusion (1-2 levels)

1. Injections Lumbar transforaminal epidural, lumbar nerve root block, caudal epidural or any region medial branch block Cervical and thoracic transforaminal epidural, epidural or nerve root block	• Requires an ambulatory or day case area for local anaesthetic procedures (1% lignocaine or similar skin and soft tissue infiltration) • Image intensifier with a radiographer • 22 – 24G spinal needles • Radiopaque contrast • Epidural steroid e.g. dexamethasone 3.3 mg (or Surgeon preference) and long-lasting local anaesthetic e.g. 5% chirocaine (or Surgeon preference) • Anticipated 20-minute procedure • PIFU pathway For cervical and thoracic, additional to all of the above: • Requires escalation pathway and on-site capability to manage cervical or thoracic epidural anaesthesia if it should occur (including on site resuscitation and airway management)
2. Lumbar microdiscectomy (1-2 levels) 3. Lumbar microdecompression (1-2 levels)	• Preassessment pathway and pre-admission consent process • Admission on day of surgery • General anaesthesia with prone positioning • Anticipated 2 hr surgery • Return to ward with early mobilisation (check operation notes for variance) without surgeon assessment • Home same day with OP physiotherapy and nurse assessment for wound • PIFU pathway
4. Anterior cervical discectomy and fusion (1-2 levels)	• Preassessment pathway and pre-admission consent process • Admission on day of surgery • General anaesthesia with supine positioning • Anticipated 2-3hr surgery • Return to ward with early mobilisation (without surgeon assessment – check operation notes for variance) • Anticipated <24hrs stay • PIFU pathway

Table 4: HVLC procedures and requirements

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