Day Case Spinal Anaesthesia Guideline

University Hospital Wishaw

TARGET AUDIENCE	Anaesthetists, Theatre/Day Surgery Nursing Staff
PATIENT GROUP	Adult Day Case Patients

Clinical Guidelines Summary

This guideline:

Establishes a framework for patients undergoing day case spinal anaesthesia at University Hospital Wishaw (UHW).

Ensures suitable and willing patients can safely have surgery and be discharged the same day.

Provides guidance for healthcare professionals on care and management during day surgery.

Is part of ongoing training and best practice for staff.

Follows a standardized, evidence-based protocol based on British Association of Day Surgery (BADS) Guidelines.

Includes criteria for patient discharge, overnight admission, and follow-up.

Outlines measures for patient satisfaction and audit processes.

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Introduction

There have been considerable improvements in day surgery rates within the NHS since the target of 75% of elective surgery to be performed as day cases was set in 2000(1). Day surgery has a high level of patient satisfaction and avoids the expense of an overnight hospital stay.

There is good evidence for the safe use of low dose spinal anaesthesia for day surgery(2). The advent of newer agents with rapid onset and shorter duration of action have enabled good intra-operative conditions to be established for a range of operations below the umbilicus, with prompt motor recovery to allow same day discharge.

This pathway is primarily based on the British Association of Day Surgery guidelines (3), which encourage anaesthetists to offer patients (including those with certain co-morbidities) a spinal anaesthetic for day case procedures, thereby avoiding potential peri-operative airway, respiratory or circulatory complications related to general anaesthesia (GA).

Patient selection: Pre-assessment and list booking

All patients presenting for surgery will be pre-assessed online (via the NHS Lanarkshire Elsie app) or in-person at nurse-led pre-assessment clinic. Possible anaesthetic options will be explained to the patient in broad terms, including regional anaesthesia. If the patient does not meet day case criteria at pre-assessment, they will be booked as inpatient.

Some patients may be seen by an anaesthetist in pre-assessment clinic and while the option of a spinal anaesthetic may be discussed, they should be told that the final decision will be made on the day of admission by the list anaesthetist.

Any patient identified as a potential candidate for a day case spinal anaesthetic at pre-admission should be on a morning list or be booked onto the start of an afternoon list to enable sufficient time to achieve discharge criteria before the day surgery unit (DSU) closes.

Once the patient has been assessed by their anaesthetist on the day of surgery, DSU staff should be informed if the patient is to have a day case spinal, to allow post-operative care planning.

Anaesthetic Protocol

- The patient should be scheduled at the start of a list (applies to PM lists only)
- Day case spinal anaesthetic confirmed by anaesthetist on day of surgery, after liaising with surgeon and discussing risks/benefits with patient.
- Inform DSU staff that patient will receive day case spinal anaesthetic. DSU will inform bed manager that inpatient bed not required.
- Give low dose or short acting spinal anaesthetic (see below)
- Ensure anaesthetic cover available until 8pm to support DSU staff. After reviewing patient post operatively, handover patient to CEPOD consultant if the patient has not been discharged from DSU prior to the list anaesthetist leaving the hospital.

- Document named contacts and DECT/telephone numbers on anaesthetic chart, including handover.

Choice of Agent for Day Case Spinal Anaesthesia

Low dose Bupivacaine +/- Fentanyl:
Bupivacaine is an established safe local anaesthetic which gives good surgical anaesthesia and relatively rapid recovery of motor function.
Fentanyl is a short acting opioid with no risk of late respiratory depression in low doses.

Maximum doses that should be used for a day case spinal are:

- Up to 7.5mg of Bupivacaine (equivalent to 1.5ml of 0.5% heavy bupivacaine)
- Up to 25mcg of Fentanyl (equivalent to 0.5ml of 50mg/ml solution)(3)

With low dose bupivacaine spinals, full motor block may not be achieved, however, surgical anaesthesia should be expected. It may take up to 20 minutes for full effect to be seen.

Recent UHW departmental audit showed bupivacaine is frequently used in higher doses than those recommended above, particularly for trauma day cases which can be long and complex. As a result, there was shown to be a dose-dependent increase in time to discharge from DSU and an increased risk of inpatient admission. We therefore advise that these higher doses of bupivacaine should only be used on morning lists, to allow recovery of motor function before DSU closes at 8pm.

Prilocaine 2% Hyperbaric (Priloketal®):
Prilocaine is an amide local anaesthetic with a good safety profile. Its use has become more popular in recent years and it is now being used for over 50% of day case spinal anaesthetics in Wishaw.

Prilocaine does not require the addition of fentanyl as it produces a dense, short duration block, so can be used on afternoon lists whilst still enabling discharge before DSU closes.

The recommended dose range of Prilocaine is 40mg to 60mg (2-3ml of 20mg/ml solution), with a maximum licensed dose of 80mg(3). This dose range is shown to produce a sensory block to T10 with an offset time of 100-130 minutes(4).

Advantages of using prilocaine include the avoidance of intrathecal opioid related side effects such as itch and urinary retention. Recent audit data also demonstrated patients were discharged on average 95 minutes sooner following a prilocaine spinal (compared to bupivacaine).

Ampres® Chloroprocaine hydrochloride 1%.
Chloroprocaine is an ester local anaesthetic with rapid onset and offset of action. The preservative-free formulation was approved in 2021 for spinal anaesthesia in adults where the expected operative time is less than 40minutes(5).

Chloroprocaine also produces a dense short duration block which does not require the addition of fentanyl, enabling same day discharge with afternoon list use.

The recommended dose is 40 – 50mg with a maximum dose of 50mg, to achieve an upper sensory level of T10. Studies show an onset time of 2 minutes with a median motor offset time of 60 minutes. (5,6)

Close communication with surgical colleagues and consideration of surgical preparation time is essential to ensure optimum use of the agent (i.e. having the surgeon scrubbed with theatre team ready to position the patient immediately after spinal).

Contraindications to its use include:
- patients with known hypersensitivity to ester-type local anaesthetics or para-aminobenzoic acid based metabolites
- patients with known pseudocholinesterase deficiency (including those with severe liver impairment)

Recent departmental audit data has shown that chloroprocaine is infrequently used, which reflects the increasing complexity of cases being done under day case spinal (patients undergoing a day case spinal anaesthetic had a mean operative duration of 55 minutes). Chloroprocaine remains a useful agent and should be considered for select cases of short duration i.e. hysteroscopy, EUA, short lower limb trauma cases.

Suggested Day Case Spinal Method

- The patient should be fasted as for GA.
- Minimum monitoring (as per Association of Anaesthetists guidelines). (7)
- Patent IV access obtained prior to the spinal anaesthetic.

Anaesthetic technique:
- The patient can be positioned either lateral (operative side down), or sitting. Strict asepsis must be observed and a small gauge pencil point spinal needle utilised.
- Local anaesthetic should be injected rapidly at a rate of 1ml per second. Barbotage is not recommended. (3)
- Anaesthetic spread can be influenced by patient positioning and agent

Intra-operatively:
- Additional sedation may be administered at the anaesthetist's discretion
  - e.g. low-dose propofol Target Controlled Infusion (TCI)

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- Oxygen can be delivered via facemask perioperatively to maintain normal saturations.
- End-tidal CO_2 monitoring is recommended if sedation is employed.
- If required treat spinal related hypotension preferentially with vasopressors rather than iv fluids. Limit iv fluids to max 500ml to reduce risk of urinary retention.

- Complete or partial failure of spinal anaesthesia may occur and may require repetition or supplementation with:
  - Local anaesthetic
  - Parenteral opioids
  - General anaesthesia

- Use of local anaesthetic infiltration or regional blocks where possible to provide prolonged post-operative analgesia and reduce opioid use.
  (NB - recent audit at UHW showed failed day cases following a day case spinal were most commonly due to uncontrolled post-operative pain where a long acting local or regional local anaesthetic block had not been administered)

Considerations if using intrathecal fentanyl:

- Respiratory depression may occur, peaking around one hour post-administration.
  - Ensure intrathecal opioid observation chart is filled for observations up to 4 hours after administration. This can be completed in DSU.
- Respiratory rates of 9–10 breaths per minute may be observed. Treatment is rarely required.
- Pruritus occurs in over 10% of patients - patients should be warned of this potential side effect.
- Urinary retention may occur in up to 5% of patients with increased risk in lower GI surgery (e.g. inguinal hernia repair), males especially if over 70 & pre-existing benign bladder problems, patients should be warned of this potential side effect.

Postoperative Recovery and Discharge

The list anaesthetist should inform DSU of any patients who have consented to day case spinal anaesthesia (along with an estimated recovery time based upon agent used) to allow discharge planning. DSU staff should, if required, contact the bed manager at this stage to cancel the booked inpatient bed.

At UHW first stage recovery can be bypassed by patients who have received a day case spinal if no sedation has been given or over half an hour since last dose of sedation and Ramsey Sedation score of 0 or 1, blood pressure is stable and provided there are no concerns with the patient at the end of the procedure. They can be transferred directly from theatre to DSU recovery.

DSU recovery is criteria based, rather than time based, due to the wide variation in time to full recovery from a day case spinal. The current Modified Post Anaesthesia Discharge Scoring System (PADDS) (Appendix 1) is suitable for use in day case spinal anaesthesia,

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however patients must score 2 for activity level (steady gait with no dizziness or meets preoperative level of function), and should pass urine prior to discharge as per the guideline.

Prior to mobilisation the patient should report normal sensation in the legs and buttocks and be able to straight leg raise with normal power. A DSU nurse should be present on first mobilisation but should not provide any physical support for the patient in line with safe manual handling practice.

If the patient has not mobilised or passed urine 5 hours post spinal insertion, or by 5pm, the anaesthetist should be contacted for advice. The list anaesthetist will have left contact details and arrangements on the anaesthetic chart. The bed manager should be contacted to arrange an inpatient bed if required. If urinary catheterisation is required for failure to pass urine within the stipulated timeframe or the patient has symptoms of urinary retention, this should be performed by a trained nurse or surgical team doctor. In-out catheterisation should be performed if the residual volume is less than 500ml. The relevant surgical team should also be informed if the patient requires admission.

On discharge from DSU, the patient should be provided with the day case spinal Patient Information Leaflet (Appendix 2). The patient's details should be filled out on the follow-up questionnaire, and the process of telephone follow-up at 48 hours should be discussed with the patient. The patient should be told to contact DSU or the on-call anaesthetist if they have any concerns regarding their spinal anaesthetic.

Follow up and Audit

It is recommended that all patients receiving day case spinal anaesthesia are followed up to detect any related morbidity (e.g. post dural puncture headache, transient neurological syndrome). (3) It is also highly desirable to measure patient satisfaction. The telephone follow-up, along with the Patient Information Leaflet on discharge, should enable detection of rare events associated with spinal anaesthesia (e.g infection or haematoma).

Routine patient follow up in the form of a structured telephone questionnaire should be performed by a nominated DSU nurse (Appendix 3). This should take place at 48 hours post-spinal, with further contact made at 96 hours if required. If unable to contact the patient by telephone, this should be recorded on the follow-up proforma, with the date and time that contact was attempted.

The first point of contact for any problems identified on follow-up should be the anaesthetist who inserted the spinal, or their supervising consultant. If unavailable, the "Senior On" or CEPOD consultant anaesthetist should be contacted (8587). The weekly anaesthetic rota is available in DSU. This escalation pathway should also be used when patients contact the DSU for advice regarding their spinal. In this situation, details of the phone consultation, advice given or escalation measures taken, should be documented on a progress sheet and stapled to the follow-up questionnaire. The date and time of the phone call should be clearly recorded.

In the case of a suspected neurological emergency, emergency admission should be

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arranged under the parent surgical team.. On arrival to hospital, the patient should also be reviewed promptly by a senior member of the anaesthetic team. The results of routine follow up and any major adverse events are audited regularly and any major adverse events recorded.

Recent UHW audit data demonstrated 100% of patients received a follow-up phone call from a DSU nurse, with an 85% response rate. There were no major adverse events recorded although 26% reported a headache post-spinal (none of which were consistent with a post-dural puncture headache or required readmission). Satisfaction rates were high; 86% reported being very satisfied with their day case spinal and 80% would choose this option in future if available to them.

References/Evidence

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Appendices

Appendix 1: Current NHSL Discharge Protocol for Day Surgery Patients: Modified PADSS

Discharge Protocol for Day Surgery Patients

In the day surgery unit, we recognise that individual patients recover at different rates following anaesthesia and surgery, hence keeping patients for a fixed time in recovery makes no sense. We assess recovery from anaesthesia in individual patients objectively, against five validated criteria. Once these criteria have been met, the patients can be discharged. Delaying discharge once the patient has satisfied the criteria does not benefit the patient, nor does it help the smooth running of the unit.

Modified Post Anaesthesia Discharge Scoring System

Vital signs	BP and pulse within 20% of preadmission baseline		2
	BP and pulse 20%–40% of preadmission baseline		1
	BP and pulse .40% of preadmission baseline		0
Activity level	Steady gait, no dizziness, or meets preoperative level		2
	Requires assistance		1
	Unable to ambulate		0
PONV	Minimal: successfully treated with oral medication		2
	Moderate: successfully treated with IM medication		1
	Severe: continues after repeated treatment		0
Pain: should be controllable by oral analgesics			
	Acceptability	Yes	2
		No	0
Bleeding	Minimal: does not require dressing change		2
	Moderate: up to two dressing changes required		1
	Severe: more than three dressing changes required		0

Maximal score is 10; patients scoring 9 are fit for discharge.

Additional parameters:

1. Patients who have undergone *gynaecological* or urological procedures, or who have had a spinal anaesthetic should pass urine prior to discharge.
2. Patients should have no residual sensory or motor weakness related to their spinal anaesthetic prior to discharge (this excludes the effect of other regional anaesthesia blocks inserted for post operative analgesia) and must score 2 for activity level.

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Appendix 2: Day Case Spinal Anaesthesia Post op. Patient Info. Leaflet (UHW version)

Patient Information: Post-op spinals

You have had a spinal anaesthetic which occasionally causes side effects which may only appear after you have left hospital.

This leaflet lets you know: what you may do after your spinal anaesthetic, what side effects you may experience, how to treat them and what to do if they persist.

If you have had a day case procedure, when you get home you should rest for most of the day.
Do not drink alcohol, operate machinery or attempt to drive until the day after your operation at the earliest.
The day after a spinal anaesthetic you may be as active as you wish.

Back pain: Spinal anaesthetics do not normally cause back pain however your lower back may be tender for a few days on the skin where the spinal injection was put in.

Headache: You may get a headache. If you do develop a headache, drink plenty of fluids (not alcohol) and take pain relieving tablets at the recommended dose (you will have already been given these to take home).
There are many reasons unrelated to your anaesthetic for having a headache however about 1 in every 200 people develop a severe headache after a spinal anaesthetic. This typical post-spinal headache is worse on standing up and rapidly relieved by lying down. If you have a severe headache, which even after painkillers, prevents you from carrying out your normal activities or is unusual for you then please telephone us on the numbers below for advice and help.

Pins and needles: rarely, you may experience pins and needles in the lower body and legs which should only last for a few hours. Very rarely, in less than 1 in every 10,000 cases, there may be prolonged pins and needles. If you experience prolonged pins and needles, please let us know straight away also.

Difficulty passing urine: This may occur after certain operations after spinal or general anaesthesia. You will not be sent home until you can pass urine but if you develop this after you have gone home, please let us know straight away. You may have to come back to the hospital for us to help you.

We will phone you about 48 hours after your surgery but if you have any concerns at any time with regard to your spinal anaesthetic, please contact the Day Surgery Unit between 8am and 8pm Monday to Friday **on 01698 366771 and ask for the spinal nurse.**
Outwith these times phone University Hospital Wishaw switchboard on **01698 361100 and ask for the on-call anaesthetist**.

Appendix 3: Day Case Spinal UHW Follow up questionnaire.

PATIENT LABEL

DAY SURGERY UNIT

University Hospital Wishaw **SPINAL ANAESTHETIC Follow up Form**

Date of surgery - **Anaesthetist -** **Surgeon -**

Pt. Home Phone No. - **Mobile -** **NOK Number-**

Complete above details prior to discharge from DSU and place in "DSU Spinals" folder at DSU desk for follow up phone calls.

1st Phone Call - 48hrs

2nd Phone Call - 96hrs: if required

If no reply document date/time & retry next day.

Q1. Do you have or have you had a HEADACHE since discharge?

Yes : enquire all below:

No : go to Q2

PAIN SCORE: 1 2 3 4 at 48 hours PAIN SCORE 1 2 3 4 at 96 hours

Patients own description of headache first:

_____

Then enquire specifically:

- Constant or Intermittent?
- Interfering with any activities?
- Aggravating factors (standing up?)
- Relieving factors (lying down?)
- Improving since discharge or worsening?
- Any other symptoms e.g. Nausea, Vomiting, Photophobia, Neck Pain, fever?

_____

Ever had this type of headache before?

_____

Any analgesia taken: record name, dose, regularity

_____

If strong postural component (i.e. worse on standing up and rapidly relieved by lying down) then likely Post Dural Puncture "spinal" Headache). May also have neck pain, photophobia and nausea. Reassure and give advice re. likely cause, regular analgesia with supplied medications, adequate oral fluids, avoid alcohol but caffeine may help, advice regarding lying flat for short term relief and planned follow up call. If later follow up call and headache persistent and at all troublesome contact anaesthetist.

If associated with fever and/or vomiting then advise anaesthetist who may call or advise hospital review.

Q2. First counsel that pain associated with surgical site/procedure and minor back discomfort at skin insertion site is to be expected.

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Q2. *Have you had any new onset of back, buttock or leg pain since spinal? Y/N*
If yes record onset, site, severity, improving or worsening, associated numbness, paraesthesiae (pins and needles), or weakness. Enquire as to bowel and bladder function. Other symptoms?
Transient Neurological Symptoms are characterised by pain in buttocks, thighs and legs after an initial full recovery from Spinal anaesthesia, it is expected with an incidence of less than 1% but should not be associated with progression or bowel, bladder or motor deficits.

If new onset pain/unexpected pain presenting with progressive sensory, bowel, bladder or motor deficit speak personally to anaesthetist responsible above (or if unavailable to rota'd Senior On or CEPOD Anaesthetic Consultant) for advice regarding an emergency hospital review by anaesthetic team.

Q3. Patient Satisfaction
A. Did you experience any pain or discomfort during the insertion of the spinal? *Y/N*
If Yes pain score 1 2 3 4 and detail please.

B. Did you experience any pain or discomfort at the operative site during your operation?*Y/N*
If Yes pain score 1 2 3 4 and detail please.

C. If you were having the same or similar surgical procedure again and were offered the choice of a Spinal +/- sedation or General Anaesthetic (being completely unconscious) which would you choose? *Spinal or General*
*Why?*_____

D. Overall I was *very satisfied / quite satisfied / satisfied / slightly unsatisfied or very unsatisfied* with my care during my day case procedure

E. If a close friend or close family member was attending as a day patient for a similar operation would you recommend a spinal anaesthesia versus a General Anaesthetic?
Yes definitely recommend a spinal anaesthetic versus GA
Yes probably recommend a spinal anaesthetic versus GA
Neutral would neither recommend nor discourage against or toward either
Probably recommend GA against spinal
Definitely recommend GA vs. Spinal
Any comments on your care.

ACTION –If you contact anaesthetist ensure you detail below who you spoke to, when and their agreed plan for follow up or review

If negative replies to Q1 & 2 i.e. asymptomatic:	DISCHARGE
If Transient Neurological Symptoms:	CONTACT ANAESTHETIST
If disabling headache despite analgesia:	CONTACT ANAESTHETIST
If headache at 48 hour follow up:	PHONE IN 48 HRS
If still headache at further follow up:	CONTACT ANAESTHETIST

Please enter free text preceded by date and time followed by name, designation and signature. Use continuation sheet if necessary. Attach to this form until filed

1. Governance information for Guidance document

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CONSULTATION AND DISTRIBUTION RECORD	
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Distribution	

CHANGE RECORD

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January 2009	C Slorach	Day Case Spinal Anaesthesia NHSL initial pathway approved based on BADS day case spinal handbook recipe.	1
2014	C Slorach	Reviewed & updated including utilising local audit and to include Priloketal as approved by SMC for day case spinals.	2
2017	C Slorach	Reviewed & updated including utilising local audit	3
November 2021	A. Stark, C. Slorach	Reviewed & updated to include Ampres as approved by SMC for day case spinals.	4
June 2025	R. Smart, C. Slorach	Reviewed & updated to reflect current evidence base & national guidelines and inclusion of advice based on local audit.	5