Introduction to Regional Anaesthesia (RA) at North Bristol NHS Trust (NBT)

Scope: Summary of organisational processes, locations, equipment and local training available at NBT and further training opportunities related to peripheral Regional Anaesthesia.

Intended Audience: New starters to NBT anaesthetic department including trainees, consultants, SAS, Staff Grades and Clinical Fellows. Particularly relevant to those with an interest or job plan responsibility involving RA.

Version 1.0	Valid from 01/01/2024	Review due 01/01/2027	Authors: Dr David Quinn Dr James Peters Dr Yolande Squire Dr Edward Gomm (NBT Regional Anaesthesia Lead)

INTRODUCTION

NBT is a tertiary trauma centre with a high volume of orthopaedic, plastic and vascular surgery. It has a designated trauma ward (25A), acts as a tertiary centre for renal services and has a 48-bed Intensive Care Unit (ICU). Consequently, there is a significant requirement for peripheral regional anaesthesia (>3500 procedures per annum) & this is an increasing component of anaesthetic work within the Trust. NBT is an excellent centre to train in a wide range of RA techniques and we can support all stages of training (*note in certain circumstances, those completing a special interest area may get first refusal*). This guide aims to help orientate you to the provision of regional anaesthesia at NBT to allow you to both learn and contribute as fully as possible for the benefit of our patients. If you are at all unsure about a specific block or need support, help is always be available.

You need never block alone!

ORGANISATIONAL PROCESSES

Block Anaesthetist

If you are not directly supervised, NBT identifies a 'Block Anaesthetist' during normal daytime hours to provide support and guidance with respect to RA. This individual can be found on the CLWRota app → Rota by Location → Block. This is nearly always a Consultant but may be a Stage 3 trainee completing their Special Interest Area (SIA) in RA. The 'Block Consultant' may be free-floating or have their own list but will typically be doubled-up with a trainee able to work independently so that they are likely to be able to provide hands on RA assistance if required.

The Block Consultant will have ongoing responsibility to their own list (often including RA cases and education) and so early communication is crucial. This is important to emphasise as there are times

when RA support is required in several locations at a similar time in addition to theatre cases (ICU, ED, ward patients suffering with acute pain). An instant messaging group exists 'NBT Regional Training' which can be used for additional support from other senior colleagues experienced in RA. We encourage you to join the group during you time here, but please remember to leave when you move on as confidential patient information is occasionally shared:

https://chat.whatsapp.com/KD2StR97jjh3lCFmC68DtA

Medirooms

These pre- and post-operative rooms are used to assess and prepare patients prior to their surgery and they then act as a mini personal recovery area post-operatively. Each room has a wall-mounted **full monitoring availability** so they can represent a useful area for performing RA. This could be prior to planned or emergency surgery or as a preferable location for ward patients requiring a regional analgesic technique.

Ward patients coming to a Mediroom solely for a regional analgesic technique will require clear communication and a structured approach to organise the intervention:

1) **Review patient** on ward, assess requirement for intervention and **consent, including marking laterality if applicable**. Trainees should consider liaison with the Block Consultant or Co-ordinating 9030 Consultant (in normal hours) or the Consultant On-Call (out-of-hours) dependent on the case specifics and their level of experience.
2) Liaise with **Mediroom Nurse in Charge** in order to **allocate available Mediroom**.
3) Organise **experienced assistant** (potential options include Mediroom staff member with prior experience of block assisting, anaesthetic colleague or ODP)
4) Once a room is assigned to the patient – **request a porter** (burgundy polo top uniforms) to collect using a paper slip located in the tray in front on the porter benchtop located adjacent to the central Mediroom stations.
5) Prepare your **equipment for the procedure.** A **Regional Anaesthesia Trolley** is situated on both Level 2 and Level 3 Medirooms in front of the central station. These are designed to stock all equipment required except the LA. Please re-stock items used at regular intervals.
6) On patient arrival follow the **Regional Anaesthesia Local Safety checklist** below for carrying out STANDALONE procedures. Patients must be monitored for at least 30 minutes post procedure.
7) **Document** procedure clearly in the patient notes. *Specific block stickers are now available in the RA trolleys.* A peripheral nerve catheter infusion administration & observation chart should be used to record observations.
8) Refer to the **Acute Pain Service** when indwelling catheters are placed. (if already under review update on new intervention **via bleep 1509** in hours until 16:30)

Irrespective of patient pathway, any RA procedures undertaken in a Mediroom must maintain the same standards of practice as those performed in the operating theatres. This should include

follow the regional anaesthesia local safety checklist as shown below. RA-UK **Prep-Stop-Block** moment must be performed with a suitably experienced and competent colleague able to challenge any errors or omissions. The Prep-Stop-Block safety moment must be repeated following **any position change** of the patient or the equipment. Infection control processes and strict asepsis in the performance of techniques must also be maintained.

Full Guideline available:
https://link.nbt.nhs.uk/Interact/Pages/Content/Document.aspx?id=25980&SearchId=0&utm_source=interact&utm_medium=category_search&utm_term=*

Link to LocSIPP Video: RA VIDEO.mp4

QR code for LINK/NBT systems:

QR code for external devices (Adobe):

NHS North Bristol NHS Trust

Regional Anaesthesia
Local Safety Checklist (LocSIPP)

- This Checklist **MUST** be used when Regional Anaesthesia is administered by anaesthetists **as a stand-alone procedure (e.g analgesic block or catheter).**
- This safety checklist **MUST** be used **BEFORE** the procedure is commenced.
- **2 people** are required, one of whom should be the Anaesthetist/operator.
- Separate consent and documentation should be used for all invasive procedures.

SIGN IN – PREP	
3 POINT IDENTITY CHECK:	
- *Name*	☐
- *D.o.B*	☐
- *MRN/NHS no.*	☐
CRITICAL STEP:	
- Laterality confirmed.	☐
- Imaging reviewed.	☐
- Relevant notes reviewed.	☐
Higher risk of wrong sided intervention in non-theatre procedures.	
- Consent form completed.	☐
- Site marked.	☐
- Coagulation acceptable	☐
- Equipment checked	☐
- Local anaesthetic dosing reviewed. *Care with co-morbidities and <50 kg*	☐
- AoA Monitoring	☐
- Position optimal.	☐
- Allergy status reviewed.	☐
- Location of nearest intralipid confirmed.	☐

TIME OUT – STOP Immediately prior to needle insertion	
2 Person STOP BEFORE BLOCK:	
- Identity	☐
- Laterality	☐

BLOCK

SIGN OUT	
If catheter left in situ:	
- Occlusive dressing applied	☐
- Infusion prescribed	☐
- Post procedure monitoring for minimum 30mins	☐
- APS referral on ICE for catheters	☐

This for should be used in conjunction with:
Guideline for Anaesthetists Providing Regional Anaesthesia As A Stand Alone Procedure

Acute Pain Service (APS) & Intensive Care Unit (ICU)

The APS may request advanced regional techniques for patients in acute pain within the hospital. These referrals for review, decision-making and interventions should normally come through the Block Anaesthetist in hours. In some cases, they may be made to the Co-ordinating Anaesthetic Consultant (Bleep 9030). Out-of-hours requests for assistance with patients suffering acute pain will be via Bleeps 9030 (On-Call Cons) or 9033 (3rd On-Call Trainee/SAS).

The ICU teams often require input for the provision of advanced regional techniques. Commonly this is analgesia for thoracic trauma either empirically to deter respiratory complications or to help facilitate transition from mechanical ventilation.

LOCATIONS RELEVANT TO THE PERFORMANCE OF RA

All theatres should be fully equipment with equipment to provide single shot blocks.

Ultrasound machines can be found throughout the theatre complex.

<u>"Block" trolleys</u>

A **Regional Anaesthesia Trolley** is situated on both Level 2 and Level 3 Medirooms in front of the central station. These are designed to stock all equipment required except the Local anaesthetic.

Please re-stock items used at regular intervals.

There is a folder on top which contains relevant paperwork, regional documentation stickers & important guidelines.

Anaesthetic Store Cupboard

Additional equipment for procedure & restocking of trolley can be found on level 2 & level 3 in the 'Theatre Store'.

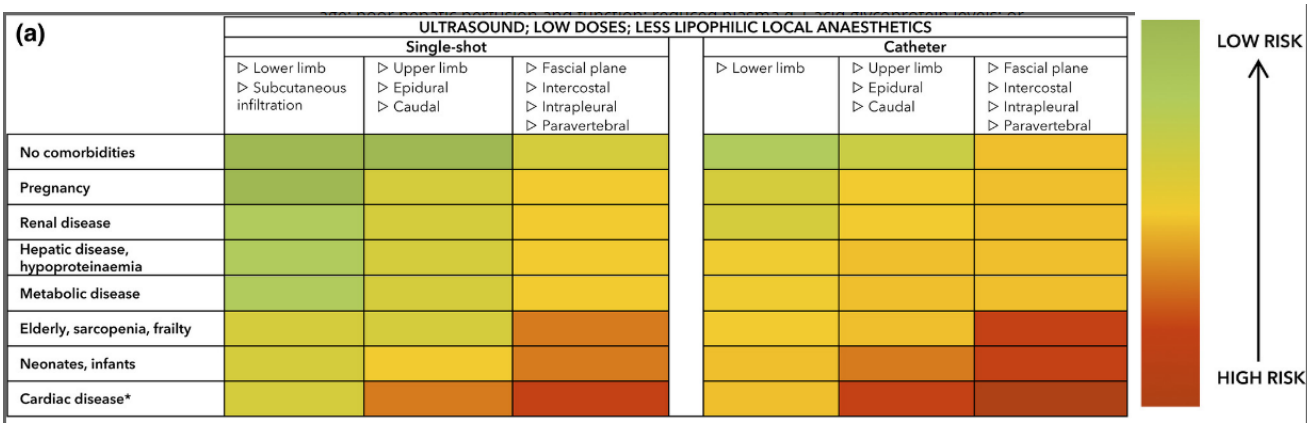
Theatre pharmacy stores on level 2 and level 3 (near blood bank)

Intralipid 20%® is found in green container on the shelf inside

IMPORTANT GUIDELINES

Management of Local anaesthetic systemic toxicity (LAST)

All anaesthetists providing regional anaesthesia should be familiar with recognising and treatment of LAST. Quick reference guides can be found on the block trolleys in the guideline folder or via this link Uploader.ashx (nbt.nhs.uk).



Anticoagulation

Before any block or catheter, you should consider the patients anticoagulation status. This is particularly important for deep blocks. Guidance can be found here:

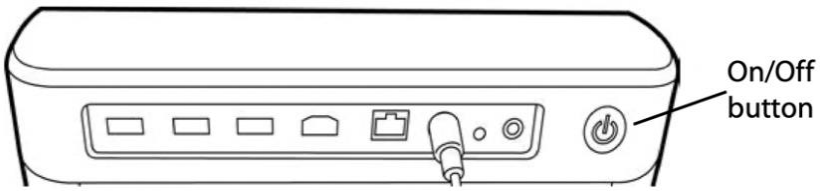
https://link.nbt.nhs.uk/Interact/Pages/Content/Document.aspx?id=7302&SearchId=0&utm_source=interact&utm_medium=category_search&utm_term=*

Nerve injury

While very rare, if you suspect a nerve injury has occurred, or a patient has persisting neurological symptoms (sensory or motor) following peripheral regional anaesthesia please follow the local guidance shown here. See appendix for referral paperwork.

https://link.nbt.nhs.uk/Interact/Pages/Content/Document.aspx?id=25978&SearchId=0

EQUIPMENT



Ultrasound Machines

Anaesthetic teams currently use predominantly Fujifilm Sonosite SII machines. Those new to the machines should note the ON/OFF button is located on the back of the machine, top left. There are a handful of other machines including 1x Sonosite Export and 1x Sonosite ST. Functionally there are very similar.

We have 2 types of probe for RA:

Linear high frequency (15-6MHz): High resolution for superficial structures (nb there are a handful of 13Mhz probes with slightly poorer definition).

Curvilinear (5-2Mhz): Better for deeper structure (>4cm), High BMI, Neuraxial procedures.

→ Sonosite SII Quick Reference Guide: https://www.sonosite.com/support/userdocs/SII_Quick_Reference_Guide_ENG_P20556-04B_e.pdf

Needles: As of September 2024 these should be NR fit compliant.

BBraun needles 27g/25G grey/orange	• Local anaesthetic to skin
Pajunk Sonoplex II NRFit  **19G x 50mm** **19G x 80mm** **19G x 100mm**	• Echogenic, stimulating single shot nerve block needle • Echo' – multi-angulated needle tip and 'cornerstone reflectors' (step-like indentations) on shaft to aid echogenicity. • 'Nanoline' is a coating designed to assist needle passage, insulate shaft of needle (when using nerve stimulator only tip conductive) and also aid echogenicity. • Depth markings and smooth needle surface • Colour coded needle hub

Catheters

Pajunk SonoLong NRFit  **19G x 75mm** **19G x 100mm:** **-Facet (sharper) and Tuohy tip available.**	• Catheter-through-Needle (CTN) technique (classical Seldinger insertion). • Catheter tip has 6 lateral holes in distal 3cm for LA infusion. • Catheter contains a steel stylet to aid advancement into position • Echogenic needle and nanoline coating (see above) • The 'zebra crossing' heavily dotted marking area on the catheter– good point to view under US to check correct placement. • **Good for ESPs, PVBs and sciatic catheters**. • 'Fixolong' filter disc securement device often sits best and remains accessible at superolateral pectoral region. • Placement needle removed is larger than catheter left in situ so skin glue plug around catheter at the skin can help to reduce dislodgement, LA leak around base, need for re-dressing, calls regarding leaking and also the potential for associated infection.

Pajunk E-Cath NRFit  18G x 51mm 18G x 83mm	• Catheter-over-Needle (CON) technique. • Indwelling catheter is inserted through the initially sited placement catheter / cannula which remains in situ. • Placement catheter has a set of green wings at the base – need to consider this when siting to avoid potential pressure injury if securing in a dependent location. • Indwelling catheter feeds through and Luer locks (or NRFit lock) into placement cannula. • **Good for: Femoral nerve catheter (often 50mm adequate) and Interscalene catheter** (use 50mm as this is shortest available).
Portex Epidural Minipack System NRFit  Sizes available at NBT: 16G / 18G	• Frequently used for RSCs especially in Theatre 5. Available in theatre 'Drawing up Trolleys' along with Y-connectors. • 16G kits preferred by majority of surgeons that site regularly (stiffer needle and easier to inject initial loading doses through). • Can be used for ESPs though less echogenic needle than the Sonolong Echo system.

LOCAL ANAESTHETICS:

We have several different local anaesthetic options for RA at NBT depending on desired duration/function. Ideally dosing should be based on Ideal Body weight, but we recognise weight-based dosing is **just one factor** that places a patient at risk of Local Anaesthetic Systemic Toxicity (LAST). (see above)

- **Care should be taken in those with extremes of body weight (especially <40kg) and with severe renal/liver impairment.**

Drug	Maximum dose plain	With adrenaline	Suggested concentration for AWAKE/Surgical block	Suggested concentration for analgesia block (with GA)
Lidocaine	3mg/kg	5mg/kg	1.5-2% Lidocaine with adrenaline 5 or 10mcg/ml	Limited duration
L-Bupivicaine	2mg/kg	2mg/kg	0.5% Levo-bupivicaine (**note long duration**)	0.125-0.375%
Ropivicaine	3mg/kg	3mg/kg	0.5-0.75%	0.2-0.375%

Local Anaesthetic mixing:

Adding adjuncts to local anaesthetic other than adrenaline is not advised nor supported in the literature, as many mixtures are off-licence. Dexamethasone 0.1-0.2mg/kg Intravenously will usually prolong analgesia by 4-6 hours.

Infusions

Before placing catheter ensure that infusion pump is available & can be managed safely by the patients ward.

All infusions must be prescribed in the patient drug chart & handed over to the managing ward nursing team with clear instructions on monitoring & observations.

Current pumps in use at NBT – can be found in Medirooms on L2/L3 or discuss with pain team

	**Wound infusion catheters** • Femoral/FIB catheters • Brachial plexus catheters **Used if no elastomeric available**
	**Epidural pump** • Epidurals • Erector Spinae Plane catheters
	**Elastoeric Pump:** • Peripheral nerve infusions (e.g sciatic). • 5.2ml fixed 0.125% Levobupivicaine

Modules/Sign-offs:

HALO STAGEs 1, 2, 3.

Regional Anaesthesia is now a core component of the curriculum, as such evidence collection and sign-off for HALO completion can and should be completed at all hospital sites in the deanery. Please see the RCoA curriculum document for evidence and entrustment levels for successful sign-off. In addition to a recent MTR/MSF a Regional Anaesthesia specific logbook is very useful.

*NB: Ophthalmic anaesthesia is no longer a specific curriculum module but does feature in the Stage 2 key capabilities (**RA_S2_DD:)**.. Ideally clinical exposure to Ophthalmic lists/blocks is gained (UHBW/DGH hospitals) prior to sign-off, but as a minimum evidence of reading and reflective practice is required.*

HALOs sign of names:

Edward Gomm, Alexander Loosely, Rhys Rhidian. James Matthams.

RA-UK have produced a fantastic curriculum resource document which can direct you to useful resources. We have tried to highlight local opportunities below.

RA-UK Curriculum resource document

RCoA 2021 curriculum regional anaesthesia training stages mapped to potential NBT training opportunities:

Stage 1	
Key Capability	**NBT Training & Learning Opportunities**

RA_S1_AC:
A – Explains clearly to patients the risks and benefits of regional anaesthesia.
B – Describes the indications and contraindications to regional anaesthetic techniques.
C – Practices measures to avoid wrong-site blocks.
	- Review NBT/RCOA patient information leaflets available for RA.
	- Discuss 'Prep-Stop-Block' approach with a supervising consultant during a relevant list.
	- Publications
	  ○ RA and outcomes. *BJA Ed* 2018; **18**: 52-56
	  ○ Which patients benefit from RA? *Curr Op Anesth* 2016; **29**: 620-625

RA_S1_DD: D – Performs spinal anaesthesia for ASA 1-3 surgical patients independently.	- CDS training - Orthopaedic elective & emergency lists - Urology lists - CEPOD pilonidal / perianal abscesses
RA_S1_EE: E – Performs simple peripheral nerve blocks with ultrasound.	- Attend NBT Plan A Day. - Use ScanNav module attached to an US machine to scan yourself or colleague to improve your appreciation of anatomy relevant to Plan A blocks.
RA_S1_FF: F – Performs ultrasound-guided femoral or fascia iliaca blocks independently.	- Trauma lists - Liaise with Acute Pain Service for notification if any repeat Femoral Nerve / Fascia Iliaca blocks required in cases of delayed time to theatre. - Respond to calls from ED & orthopaedics requesting assistance with provision of RA for hip fractures where competent.
RA_S1_JJ: J – Discusses the scientific basis of ultrasound and the generation of ultrasound images.	- Consider using allocated EDT time to complete eLearning for Healthcare RA Modules (see eLearning section below).
RA_S1_KK K – Discusses drugs and equipment used in regional anaesthesia.	- Read equipment section of this document. - Review contents of Regional Anaesthesia Trolleys located in Medirooms on Level 2 and 3. - Discuss LA options and rationale with supervising consultant during training list. - Discuss NRFit equipment.

Stage 2	
Key Capability	**NBT Training & Learning Opportunities**
RA_S2_AA: A – Performs ultrasound-guided brachial plexus blocks.	- Review NBT patient information leaflet '*Nerve blocks for shoulder, arm and hand surgery'* - See recommended lists below for brachial plexus block experience
RA_S2_BC: B – Performs ultrasound-guided fascial plane blocks for the chest or abdominal wall. C – Demonstrates how to achieve an optimal ultrasound image and recognises common ultrasound artefacts.	- Respond to ICU requests for analgesia for rib fractures (options include ESP / SA / Epidurals with ESP being most common intervention). - Consider siting TAP blocks in obstetric patients post GA CS where competent. - Practice on yourself / colleague +/- ScanNav AI image annotation to improve scanning technique.
RA_S2_DD: ***D – Describes ophthalmic blocks for patients undergoing awake ophthalmic surgery.***	- Explore ophthalmic blocks available using resources outlined later in this document.

	- Those with specific interest could consider use of EDT time to attend Bristol Eye Hospital in liaison with UHBW Anaesthetic Department.
RA_S2_EF: E – Involves the patient in planning and understanding potential complications of regional anaesthesia. F – Assesses when a regional technique is not appropriate.	- Patient pre-op assessments in Medirooms and determination of their priorities & individualised risk - Gain experience liaising with surgical teams to determine suitability of RA and best technique(s) aligned to surgical plan. - Attend Plastics Trauma meeting in Carpenter meeting room (Level 2, Trust offices corridor). - Case-based discussions with Consultant when determining optimal anaesthetic plans
RA_S2_GG: G – Manages inadequate block in the awake patient and in recovery if used as an adjunct to general anaesthesia.	- Experience of 'rescue' RA for example distal upper limb adjunctive blocks in liaison with supervisor & surgeon. - experience of adjunctive sedation and conversion to GA where appropriate or required.
RA_S2_HH H – Describes the longer-term management of complications of regional anaesthesia.	- Read NBT Anaesthetic Department Guidance '*Suspected Nerve Injury after Peripheral Regional Anaesthesia'* - eLearning - Case discussion.
RA_S2_II I – Discusses the use of regional anaesthesia in the presence of abnormalities of coagulation.	- Case experience - Review guidelines for anticoagulation (shown above) - Case review in conjunction with consideration of risk-benefit profile, ASRA Pain Medicine Coags App and supervising Consultant advice.

Stage 3	
Key Capability	**NBT Training & Learning Opportunities**
RA_S3_AA: A – Tailors RA techniques to patients undergoing day surgery.	- Leadership of day case RA lists - Selection and management of CEPOD cases suitable for RA.
RA_S3_BB: B – Manages regional anaesthesia and analgesia safely in the perioperative period in all settings.	- Management of RA in theatres, CDS, ED, ICU and Recovery. - Provision of regional techniques in Recovery for 'rescue' analgesia.
RA_S3_CC: C – Performs ultrasound-guided regional anaesthesia for the chest wall independently.	- Attend NBT Plan A Day - Use ScanNav module attached to an US machine to improve your appreciation of anatomy. - Respond to APS requests for analgesia for rib fractures/ESP catheters - See recommended lists below for chest wall RA
RA_S3_DD: D – Performs ultrasound-guided regional anaesthesia for the abdominal wall independently.	- Obstetrics siting TAP blocks in post GA CS where appropriate. - See recommended lists below for abdominal wall block experience
RA_S3_EE: E – Performs ultrasound-guided nerve blocks for lower limb surgery independently.	- See recommended lists below for lower limb block experience
RA_S3_FF: F – Performs ultrasound-guided brachial plexus block independently	- See recommended lists below for brachial plexus block experience

Regional Lists: Not necessarily up to date, so please check!

	Surgeon	Anaesthetist(s)	Usual Day(s)	Typical Blocks/techniques	Notes
Prox upper limb/Shoulder					
Theatres 20-24	Crowther	Lewis/Laxton	W/Th	ISB/Suprascapular/Superior trunk	
	Packham	Pyke	Th1	ISB/ Superior trunk /Suprascapular	OOP technique
	McCann	Church	Tu	ISB /Superior trunk	
	Edwards	Gomm/ Thompson	W	ISB/ Superior trunk	
	Sarangi	Preston/Zander	Tu	ISB /Superior trunk	
	Tasker				
	Tucker				
Distal Upper limb					
Theatres 20-24	Bott	Thompson/Matthams	W	Ax BPB/Supraclavicular/	
	Amirfeyz	Wills	Th	Ax BPB/Supraclavicular	
	Lin	Matthams	W	Ax BPB/Supraclavicular, awake cases	
	Kizley	Dodd	Fr	LA/Ax BPB	
LOWER Extremity Ortho					
Theatres 20-24	Lines	Laxton/Carey	M	Ankle/Pop sciatic	
	Hepple	Rhidian/Jenkins	M/W	Ankle/Pop sciatic	KJ discussion on risk in RA
	Harries	Hopson	M	Ankle/Pop sciatic	
	P Robinson	Morris	F	Ankle/Pop sciatic	
	Jonas				
KNEES					
Theatres 20-24	Smith	Morris	Fr	Adductor Canal	
	Bick	Howes	Tu	Adductor Canal	
	Davies	Thompson/Lewis		Adductor Canal	
	Murray	Dolling	M	Adductor Canal	
	Howells	Dragnea	F	Adductor Canal/iPACK	
	Harries	Hopson	M	Adductor Canal/selective tibials	
	Porteous	Walton/Deep		Adductor Canal	
	Putnis	Learner/Loosely	Th	Adductor Canal	
	Clark	Learner/Loosely		Adductor Canal	
	Blucher	Mortimer	M/Fr	Adductor Canal	
HIPS					
Theatres 20-24	Waring	Preston	Tu	PENG	
	Poole	Rhidian	Mon	SIFI	
	Acharya				
	Sullivan				
VASCULAR					
Vascular th8/hybrid	Debridement	Variable	All	Pop sciatic/Ankle for debridement	
	Amputation	Variable	All	Fem/Sciatic +/- catheter for amputations	
	Carotid surgery	Variable	All	Cervical plexus inc awake	
	Angioplasty	IR consultants	Variable	Popliteal sciatic	
PLASTICS					

Plastics th11/12	Henderson	Looseley	F	AxBPB awake	
	West/Hoult	Rhidian/Matthams	M/W	AxBPB awake/forarms	
	Wheble	Shinde	Th	AxBPB	
	Glancy	Nickell	M	Mixed site depending including ESP	
	Pelvic	Gomm/Laxton	W	SIFI/Femoral/Epidural	
Plastics trauma th1 & 2	Mixed	Laxton, Herneman, Nickels, Macdougall, James, Agombar, Burrows, Greer, Carey	Daily	Ax BPB, supra/infraclavicular and awake surgery. -Upper Limb catheters	
MISC					
Colorectal	Smith	Rhys Davies	Mon	Abdominal blocks	
LKD transplant	Transplant	Griffith	Alternate Tu	TAP	
Vascular Access th 17/18	Howes,Khan,Turner, Nath	Greer, Looseley, Carey	Tu/Fr/other	Awake AxBPB/Supraclav and Paravertebral	
Neuro	various	Klepsh		Scalp blocks	
Breast	Clancy, Jackson, Stanilov, Cook	Mixed	Mon, Tues, Wed	Chest wall blocks	
TRAUMA					
Trauma Th 3	Mixed	Halder, Ballisat, Whittle, Howell, Morgan, Miles, De Zoysa, Harris, Rhidian.	Daily	Lower limb/upper limb and NOF inc Femoral, sciatic, LCNT, Suprainguinal fascia iliaca, obturator	
Trauma th 4	Orthoplastics		M/Fr	Pop sciatic for ankle flap sometimes	

PATIENT INFORMATION LEAFLETS

- Peripheral nerve blocks: https://www.rcoa.ac.uk/sites/default/files/documents/2023-12/10-NerveBlocks2023web.pdf
- Brachial plexus blocks: https://www.rcoa.ac.uk/sites/default/files/documents/2019-10/10-NerveBlocksweb.pdf
- Spinal anaesthesia: https://www.rcoa.ac.uk/sites/default/files/documents/2020-01/03-YourSpinalweb.pdf
- Sedation explained: https://www.rcoa.ac.uk/sites/default/files/documents/2022-06/12-SedationExp2021web.pdf

PATIENT INFORMATION VIDEO:

We have a fantastic video produced by Dr Ruth Greer demonstrating the process of having RA and NBT. Please do direct patients towards this as part of the consent process:

https://youtu.be/5Zbu8gEPbaU

Search: North Bristol Nerve Blocks – An information video

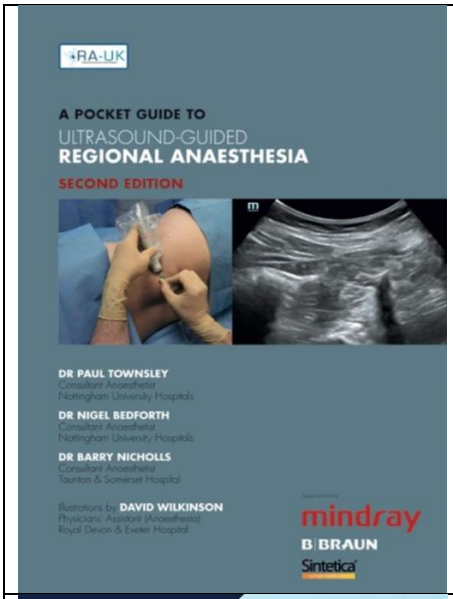
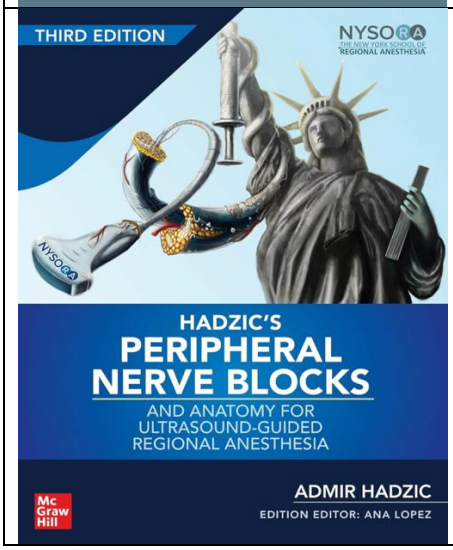
FURTHER TEXTBOOKS, COURSES, eLEARNING, MEMBERSHIPS & QUALIFICATIONS

RA is an expanding area of anaesthetic practice with increased demand for those skilled and experienced in its performance anticipated. For those interested in RA below are a number of options for expanding your RA learning and training:

Local teaching

- Use of the scan nav in the department to practice skills. See instructions attached to ScanNav for use. The HDMI cable needs to be plugged into the HDMI out of the US machine. This should be pre-configured for the S2 Machines. The other machines need need specific output setting changes, so are better avoided.
- "Block club" delivered by advanced trainees & consultants sessions focusing on specific plan A blocks these should be advertised on the trainee WhatsApp.
- Plan A day- organised by Rhys Rhidian, normally runs 2x year in Spring & Autumn

Textbooks

	**A Pocket Guide to Ultrasound-Guided Regional Anaesthesia (2nd Edition). Townsley P, Bedforth N, Nicholls B.** Recommended for all trainees performing RA. - Clearly outlined indications, anatomy, landmarks and positioning sections. - Excellent technique summary sections for each block. - Available as electronic version to RA-UK members.
	**Hadzic's Peripheral Nerve Blocks and Anatomy for Ultrasound-Guided Regional Anaesthesia. (3rd Edition). Hadzic A.** Recommended for Stage 3 and SIA trainees. - Excellent anatomy chapter. - Fantastic diagrams correlating transducer positioning, US image and graphical anatomical representation of structures. - Copy available to loan locally from Cheltenham General Hospital library: 0300 422 6495 or Ghn-tr.libraryghnhsft@nhs.net.

Training Courses (not exhaustive list)

Comfortably Numb in Cheltenham Course organised by Dr Toby Jacobs 1 day course. 5.5 CPD points. Typically runs in January. Sandford Education Centre, Cheltenham Suited to those with little or no experience of RA or looking to refresh learning. Covers US principles, needling techniques, benefits and risks and upper and lower limb blocks. Recommended for Stage 1 and 2 trainees. £80 for trainees.
Bristol RA-UK Ultrasound-Guided Regional Anaesthesia Course with Cadaveric Anatomy Course organised by Drs Alia Darweish and Anthony Carey (NBT Consultants) and Dr Anthony Allan. 2 day course. 10 CPD points. Typically runs in early April. Engineers House, Clifton, Bristol. Suited to those with prior experience of RA. Covers extensive range of blocks with focus on scanning time and cadaveric anatomy learning. Recommended for Stage 2, 3, SIA trainees, SAS Doctors and Consultants. £410.

eLearning/Reading:*BJA Education* Regional Anaesthesia Collection

BJA Education

eLearning for Healthcare (eLfH) Regional Anaesthesia Modules: Stage 1/2: e-LA → Core Training - Clinical → Module 05a – Pain Stage 1/2: e-LA → Core Training – Clinical → Module 05b – Regional Anaesthesia Stage 2/3/SIA: e-LA → Specialty Training – Clinical → Module 10 – Regional Anaesthesia
Ki-Jinn Chin YouTube Channel Dr Ki-Jinn Chin (Canadian Registered Doctor - Associate Professor University of Toronto) https://www.youtube.com/@KiJinnChin More detailed video summaries of RA techniques highlighting multiple strategies for improvement of block performance.
Regional Anaesthesiology & Acute Pain Medicine YouTube Channel. Dr Jeff Gadsden (US Registered Doctor - Duke University) https://www.youtube.com/@regionalanesthesiology Excellent short video summaries of full range of RA techniques.
Dr Amit Pawa YouTube Channel Dr Amit Pawa – (UK Registered Doctor - G&ST) and past RA-UK President https://www.youtube.com/@DrAmitPawa Particular RA expertise in US-Guided Paravertebral Blocks

Memberships (both RA-UK and ESRA hold annually conferences discounted to members)

1) RA-UK. Membership £10 annually for trainees. Combined ESRA option available.
2) ESRA. Membership €40 annually for trainees. Requires Trainee Declaration Form to be completed, signed by ES / department and attached to application. ESRA membership is required to register for the EDRA – dates for exam are posted on ESRA website near the start of the year and spaces often fill quickly.

Qualifications

EDRA (European Diploma of Regional Anaesthesia)

- Created in 2005 to establish high standards for RA.

- Part 1 is a 'bring your own computer' MCQ exam. Entry requirements, syllabus and FAQs on the ESRA website.
- Part 2 is divided into Part 2A Online Exam and Part 2B Practical Exam. You can enter both at the same time but need to be able to evidence having performed 150 central and 150 peripheral nerve blocks to be eligible.
- If interested in EDRA it requires early planning to be able to register for the exam (often spaces fill quickly), attend the conference and fit in the revision.
- *Please speak to recent EDRA diplomates (Ed Gomm, Chris James if considering). We have a handful of textbooks available which are of use.*

MSc in Principles of Regional Anaesthesia

- Delivered as distance learning by the University of East Anglia
- Part-time MSc over 3 years
- *Dr James Matthams is the last consultant to have undertaken this.*

Project work

There are often several opportunities to get involved with QI or audit projects in regional anaesthesia. Please speak to Consultants with an interest in RA if this is something you would like to pursue.

Further Questions

If you would like advice around experience, training or further learning in RA the below departmental contacts may be able to help:

Dr Edward Gomm (Current lead for RA), Dr Alex Looseley (Former lead for RA), Dr Alia Darweish (Acute pain specialist and co-director of the Bristol RA-UK Course), Dr Anthony Carey (Former lead for RA and co-director of the Bristol RA-UK Course)

IF YOU HAVE ANYTHING YOU WOULD LIKE TO ADD TO THIS DOCUMENT, PLEASE LET ME KNOW.

Enjoy you time here.

Ed Gomm Responsibility	Name	Division / Specialty	Job Title
Author Contributor	Dr David Quinn Dr James Peters Dr Yolande Squire	Anaesthesia	Anaesthetic ST7 Doctor Anaesthetic ST7 Doctor Anaesthetic ST7 Doctor
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