Aspire Post-CSCST Fellowship
July 2023

Regional Anaesthesia and TIVA
Tallaght University Hospital

The Health Service Executive, in partnership with the Postgraduate Training Bodies, have established a number of Aspire Post CSCST Fellowships to commence in July 2023 in key areas of need within the Health Service.

Aspire Post-CSCST Fellowships

Background

Post-CSCST Fellowships within Ireland offer an alternative to trainees now that our own specialist clinical expertise and services have matured and developed. These Fellowships provide opportunities for those doctors who have completed specialist training in Ireland to access high-quality training in a specialised area of clinical care. They are designed for doctors who need to acquire additional training or experience which was not available in their Higher Specialist Training programme. The additional training provided exposes graduates of the Irish postgraduate training programmes to subspecialties and advanced clinical skills.

These 12 month posts offer:

- A structured educational experience designed to deliver the requirements of a particular subspecialty, not readily available within HST
- A supervisor with authority and accountability for the fellowship post
- Opportunities for audit and research
- An enhanced salary

Aspire Post CSCST Fellowships

The HSE has partnered with the Postgraduate Training Bodies to identify, develop, recruit and oversee these 12 month Post CSCST Fellowships. These opportunities will provide formal recognition of the Fellowships by the Postgraduate Training Bodies.

The process of identification of the Fellowships and subsequent recruitment will be managed through the Postgraduate Training Body with input from the HSE.

Aims and objectives

The Aspire Post CSCST Fellowship awards aim to:

- Stimulate the design and introduction of a number of high quality, relevant and valuable post CSCST fellowships that are not only attractive to doctors but also harness the potential for high-quality specialist training now available in Ireland
- Address the need to provide specific post CSCST training opportunities needed for a range of roles and skillsets at a consultant level in the Acute Hospital system at present and into the future
- Encourage innovation and medical leadership
- Increase retention of post-CSCST fellows
- Demonstrate that the Irish health system is world class and competitive
- Produce fellowship-trained consultants with skills tailored to the Irish context with consideration given to available and upcoming consultant posts
- Provide a more supportive and more diverse training environment for NCHDs
- Enable higher quality clinical research
- Encourage hospitals, hospital groups, and research institutions to compete for and support fellows
- Facilitate NCHDs who do not wish to (or are unable to) travel abroad for fellowship
- Opportunity to create a fellowship brand, similar to the strength of the Dr Steevens' Scholarships (during higher specialist training), for Post CSCST doctors to positively signal to the medical community at home and abroad the quality of opportunity in Ireland.

Conditions of the Aspire Post CSCST Fellowship award

- Approval is provided in respect of fellowships commencing in July 2023
- All approved post CSCST fellowships must provide a structured certifiable educational experience to doctors who have obtained CSCST from an Irish Postgraduate training body or entered the specialist division of the MCI register within three years.
- The post CSCST fellowship post must be evaluated and approved by the appropriate training body and have a supervisor assigned, with authority and accountability for the fellowship post
- Approved Post CSCST Fellowships must demonstrate:
    - An overview of the core curriculum to be offered
    - Details of how the fellowship will protect/prioritise the unique learning requirements of the fellow
    - A quality fellowship experience, protected training time and less of a focus on service delivery commitment
    - Evidence that there will be opportunities for audit and research
    - Details of the value of the proposed fellowship to the health service, for example addressing a particular workforce requirement, niche area, particular skillset acquisition, obtaining of skills/knowledge that are not available in Ireland at the current time, etc.
- The duration of the Post CSCST Fellowship should be outlined within the application (funding provided is for 12-month period from July 2022 however it is noted that funding partnerships with host institutions may be developed to allow for 24 month Fellowships – this can only be progressed with the prior agreement of HSE NDTP)
- The Post CSCST fellowship should align to workforce opportunities.
- The Post CSCST fellowship must not impinge on the training of pre-CSCST trainees
- Where appropriate, the fellowships should fulfil training body requirements for Medical Council specialist registration (e.g. Intensive Care Medicine) and HSE employment requirements for consultant posts.
- Aspire fellows are entitled to apply through the relevant training body for the HSE Higher Specialist Training funding scheme and through their employer for the HSE Clinical Course / Exam Refund Scheme. Both of these programmes are funded by NDTP and accessed through the NER
- Employers should note that other costs, including on-call costs / other additional payments/ trainers' grants/ overtime payments etc. are not provided within NDTP funding for this programme.
- All Aspire fellows sign the NCHD Contract 2010 with the relevant employing authority, and are subject to the terms and conditions of that employment contract.

- In the event that the Fellow is on any type of leave (including but not limited to statutory leave entitlements such as maternity leave and any non-statutory leave) other than normal holiday leave for any period greater than 4 consecutive weeks or an aggregate period of 6 weeks in any consecutive 52 week period (which leave is referred to in this clause as “the extended leave”) the clinical site or host institution shall notify HSE-NDTP in writing immediately. It is acknowledged that the HSE-NDTP shall suspend payments of the Fellowship until such time as the Fellow’s leave ceases and the Fellow returns to the Fellowship programme.
- Following a formal request, HSE-NDTP may consider extending the Fellowship period by the period for which the fellow was absent due to the extended leave (other than holiday leave and other than the first 4 weeks of other leave). For the avoidance of doubt, the extension in the Fellowship period referred to in this clause will not result in any increase in the amount of the Fellowship payable. The liability of HSE-NDTP shall remain limited to payment of the amount of the Fellowship as set out above. The extension provided for in this clause shall therefore involve no extra cost to HSE-NDTP.

What is the eligibility criterion for a doctor applying for an Aspire Post CSCST Fellowship?

Doctors eligible to be appointed into one of the fellowships must be within three years of CSCST or entry onto the specialist division of the MCI register in July 2023 and have completed their HST training within an Irish Postgraduate Training Body.
In the case where a candidate has been appointed to the fellowship subject to completion of CSCST sign off from the relevant training body must be obtained.

Aspire Post CSCST Fellowship 2023-2024

Title:

(Please state the title of the proposed Fellowship)

Regional Anaesthesia and Total Intravenous Anaesthesia Fellowship **Tallaght University Hospital**

Duration of the fellowship:

(It is expected that most fellowships will be of a 12-month duration, however Fellowship proposals up to 24 months will be considered if funding has been identified)

12 months

Primary Location of the Fellowship (Employer):

Tallaght University Hospital

Secondary Location(s) of the Fellowship (if applicable):

N/A

Primary Clinical Lead/Assigned Supervisor's Details:

Name	**Organisation**
Dr Patrick Conroy	Dept Anaesthesia, Tallaght University Hospital
Email	**Telephone no.**
Patrick.conroy@tuh.ie	**014142653**

Please provide details of how the fellowship will protect/prioritise the unique learning requirements of the fellow:

- Patient caseload

Extensive array of patients requiring RA procedures in addition to patients who are suitable for TIVA

- People

Four Fellowship trained Consultant Anaesthesiologists with a special interest in Regional Anaesthesia and five Consultant Anaesthesiologists with International TIVA experience (all other Anaesthesiology Consultants regularly employ RA techniques and TIVA when required)

Acute pain service led by three pain consultants with a team of three clinical nurse specialists and a pain fellow. Daily acute pain rounds are conducted by the team who follows up on patients with neuraxial or peripheral nerve catheters and /or on opioid patient controlled analgesia.

- Necessary equipment and Accommodation for Fellowship already in place:

2 dedicated Regional Anaesthesia Block Bays with installed electronic patient monitoring and piped oxygen/suction. 2 adjacent RA bays facilitates patient workflow and staff utilisation as up to 12 theatres are receiving patients simultaneously. No supplementary accommodation is required for the provision of TIVA.

- Equipment

o Ultrasound scanners X 3 (multi-probe units high and low frequency)
o Stimulating and non-stimulating needling systems
o Peripheral nerve stimulators
o Regional anaesthesia catheter systems
o Ambulatory Elastomeric continuous RA infusion pumps.
o Two phantoms for practising needling skills.
o Depth of anaesthesia monitors available in every operating theatre
o Perfusor® Space Infusion Syringe Pump System X 12
o Access to iTIVA TCI simulator: A pharmacokinetic/ pharmacodynamic educational tool that provides information about the distribution of the drugs based on mathematical models and stimulates the behaviour of the target-controlled infusion pump

- Information System

Fully electronic Centricity GE Anaesthesia® patient record for both preoperative, intraoperative and postoperative anaesthesia care. Customised Regional Anaesthesia and Total Intravenous Anaesthesia record are configured into the system. Automated software reporting tool (Crystal Reports®) to facilitate ongoing audit and quality improvement initiatives.

- Work Processes and Regional Anaesthesia

Established culture of performing regional anaesthesia techniques for all suitable surgical procedures and rapidly developing TIVA expertise within Tallaght Hospital. Multidisciplinary support and enthusiasm for the benefits of regional anaesthesia from nursing, surgical and allied health colleagues.

Describe the opportunities for audit and research:

This fellowship provides ample opportunities for research and audit. The presence of a large patient pool, availability of regional and total intravenous anaesthesia expertise, computerised data collection system and guidance available for research (one of our Regional Anaesthesia consultant faculty has a PhD in Anaesthesia from UCC and another is on the editorial board of Anaesthesia). This will provide an ideal environment to foster research. Furthermore being a University Teaching Hospital affiliated to Trinity College Dublin (TCD) we have ample opportunity to collaborate with various university departments facilitating laboratory and/or animal research.

Protected non-Clinical Time:
A dedicated non-clinical day every Thursday will be facilitated to allow audit and research. Every Fellow appointed will audit an aspect of patient care – this will be facilitated by the maintenance of the electronic peripheral nerve block and total intravenous anaesthesia. In addition clinical research will also be encouraged and actively supported and novel ideas in this regard will be welcomed.

European Diploma in Regional Anaesthesia
Each Fellow appointed will receive Consultant delivered tuition both in terms of practical clinical skills as well as academic teaching. This will allow the Fellow to successfully meet the necessary criteria to attain the internationally recognised specialist qualification of EDRA (European Diploma in Regional Anaesthesia). Two of the Regional Anaesthesia Consultant Faculty in Tallaght Hospital are Council members of the Irish Society of Regional Anaesthesia (http://www.ra-ireland.ie/index.php) through which specialist training and exam preparation courses are organised.

Outline how this post CSCST fellowship would provide a quality experience, protected training time and less of a focus on service delivery commitment

- Daily support and training for Regional and Total Intravenous Anaesthesia Fellow:

The Fellowship will offer protected training time with a subordinate focus on service delivery. Four out of five normal weekday workdays will be spent in the Regional Anaesthesia Block Bay, covering theatres where procedures are performed under regional anaesthesia only (e.g. Plastic surgery theatre) or providing total intravenous anaesthesia with supplemental regional anaesthetic blocks for post-operative analgesia as required. There are 4 Fellowship trained Consultants with a special interest Regional Anaesthesia and a number with international Total Intravenous Anaesthesia experience. At least one of these named Consultants will always be present to advise and guide the Regional and Total Intravenous Anaesthesia Fellow on a daily basis in theatre. One day per week (Thursday) will be allocated for regional and total intravenous anaesthesia research activities as a Non-Clinical day.

- On Call and Out of Hours Cover:

Fellows undertaking this post will be post CCST and will regarded as supernumerary to our existing NCHD staff in terms of on call. To aid with their orientation to the hospital they will participate in our 3rd on call roster for their initial 3 months in the post contributing to weekend on call only with 2 Saturdays and 1 Friday/Sunday during this period. This will be instead of participating in the longer more service delivery oriented on call shift patterns. This on call pattern also ensures that they won't be missing from duty on post on-call days during the week. This will serve to maintain continuity of care in the Block Bay, maximise regional and total intravenous anaesthesia exposure for the Fellow as well as maintain compliance with the European Working Time directive (EWTD). Given that the Fellow will be post CCST they will participate in the Consultant Theatre on call roster for the remaining 9 months of their Fellowship. A Consultant mentor will rostered on duty with the Fellow as back-up. This will allow the Fellow increased clinical autonomy as well as giving an opportunity to transition to independent practice in a structured and supported manner.

- Follow-up of Post-operative Regional anaesthesia patients from the day prior.

Based on the regional anaesthesia electronic patient log from the day before (or for Fridays and the weekend in the case of Monday mornings) the Fellow will visit those patients who are still inpatients on the ward. The purpose of the visit will be to review the patient's analgesic requirements and to determine block duration. Block-related complications will also be looked for and recorded in a standardised format on the electronic anaesthesia patient record. Those patients discharged as day cases will be telephoned by the Fellow to record the same information.

- Planned list of regional anaesthesia procedures to be performed each day.

The fellow will finalise this list by review of the cases on the electronic operating theatre schedule between 08:00-08:30hrs. This list will be generated by the Fellow following a review of all the cases on the operating lists. It is the responsibility of the Fellow to communicate directly with the anaesthesia, nursing and surgical team from each theatre where a patient has been deemed suitable for regional anaesthesia- this communication should occur first thing in the morning. Following consultation with the relevant surgical, nursing and anaesthesia teams at the theatre morning team briefing a consensus plan relating to the performance of regional anaesthesia in a particular patient is agreed between the Regional Anaesthesia Fellow, the surgical and other members of the anaesthesia and nursing teams.

- Maintenance of the Electronic Regional Anaesthesia Patient Record and Procedure Database.

Details of all peripheral, neuraxial nerve block procedures and total intravenous anaesthesia cases will be recorded in the relevant section of the customised electronic anaesthesia patient record (GE Centricity Anaesthesia®). Thus Fellows will receive feed-back on patient's actual clinical outcomes on the basis of the data collected above as well as continuous assessment of their clinical performance. Automated performance reports will be generated from Centricity GE utilising Crystal reports software.

Through focussed exposure to the performance of regional and total intravenous anaesthesia it is envisaged that the Fellow will become proficient in the steps of preoperative patient assessment and arriving at informed consent for various regional and total intravenous anaesthesia procedures. Fellows will also learn and practice the performance of all the basic and advanced peripheral nerve block techniques and administration of total intravenous anaesthesia through an apprentice type model of learning using ultrasound guidance but also using peripheral nerve stimulator.

Outline the value of the proposed fellowship to the health services

1. Identified unmet patient need

This Fellowship addresses a national deficit in Regional Anaesthesia and Total Intravenous Anaesthesia expertise. Regional anaesthesia and total intravenous anaesthesia is currently a niche area of anaesthetic practice in Ireland. This is largely because there is a shortage of Anaesthesiologist's available who have specialised skills in regional and total intravenous anaesthesia. This deficit exists for many reasons including the current shortage of training places in hospitals with a sufficient caseload of regional anaesthesia procedures to allow enough clinical practice in a reasonable time frame to both learn and practice the necessary skills. Factors such as lack of familiarity of TIVA, historical misconceptions about the technique and lack of training opportunities limits opportunities for developing TIVA expertise. Consequently, up to this point the vast majority of Anaesthesiologists wishing to develop expertise in advanced regional and total intravenous anaesthesia skills have had to move internationally to acquire this structured experience. To date only three Fellowship positions for regional (two in Cork and one in Galway) and no fellowship exists for TIVA on the island of Ireland. None are currently available in the greater Dublin area which contains 1.9 million people (40% of the total population). Establishment of this post in Tallaght hospital would be a significant step forwards both locally and nationally in addressing these shortcomings.

2. Speciality and service priorities

a. Ensure consistent availability of a Regional and Total Intravenous Anaesthesia Service:
Presently there is inconsistent availability of NCHD staffing for the regional anaesthesia service due to a shortage of adequate NCHD staff numbers to fully meet current levels of demand. Patient numbers and demand for regional anaesthesia continues to increase year on year due to the proven advantages of regional anaesthesia in multiple domains e.g. improved pain relief, quicker postoperative recovery, shorter theatre and hospital stays, etc. All anaesthetists are likely to encounter a scenario where there is no alternative but to administer TIVA due to patient and surgical factors. Lack of experience and training leads to an increase incidence of adverse events. Maintaining a dedicated funded Regional and Total Intravenous Anaesthesia Fellow post guarantees service availability.

b. Improve theatre workflow and theatre utilisation/turnaround time:
A patient's pathway through theatres and surgery is very linear, starting off in the admissions lounge moving to a holding bay, the anaesthetic room for their anaesthesia, the operating room for their surgery and then moving to the recovery area for recovery and discharge home or to a ward. At any of these locations unnecessary delays lead to decreased theatre efficiency. Having a dedicated consistently staffed RA and TIVA Fellow position means that regional anaesthesia procedures can be completed well in advance of the theatre becoming available following completion of the current patients operation. This significantly reduces theatre turnaround time between cases and as the next patient will have their regional anaesthesia procedure completed and assessed as working in advance so that the next patient can then be wheeled straight into the theatre on completion of the preceding patient's case.

Currently most regional anaesthesia procedures are completed by the anaesthesia team responsible for waking up and transferring the current patient to the recovery room. This means the operating theatre, surgeons, nurses etc. must then wait after finishing their previous case for their anaesthesia team of the day to complete the anaesthesia induction and other regional anaesthesia procedures on the next patient in their theatre. Having a Block Bay staffed by a dedicated Regional Anaesthesia Fellow will significantly reduce the idle turnover time of this theatre and its associated surgical, nursing and anaesthesia staff. This changes the patient's pathway through theatres from a linear model to a 'parallel performance' model. Indeed, creating a block room for hand surgery enabled surgeons in Vancouver to operate on an extra 3 patients per day (Canadian Journal of Anaesthesia 2011, Aug: 58(8):725-32). Data from Sunnybrook Block room in Toronto (where one of the authors of this proposal has completed a Fellowship in Regional Anaesthesia) demonstrates an 18% reduction in turnover time, leading to an extra joint arthroplasty per day (Journal Clinical Anaesthesia 2009, Jun;Jun 21(4):253-7).

c. Reduce over-crowding in Theatre Recovery department: Regional anaesthesia is also known to decrease time patients spend in theatre recovery. This is attributed to decreased pain scores and decreased nausea and vomiting, reducing recovery staff workload [7]. There is also potential to fast-track patients directly to second stage recovery, reducing the bottleneck of first stage recovery in theatres, which is currently a common inefficiency. TIVA is associated with shorter discharge times from recovery and decreased interval to achieve discharge criteria in ambulatory surgical day cases due to its superior recovery profile.

d. Improving Safety and Quality standards in Regional and Total Intravenous Anaesthesia:
Teaching and training using the block room model that incorporates a Regional Anaesthesia Fellow would greatly improve the safety of the current regional anaesthesia service. Focused periods of time in a block room enables more consistent training as experienced by trainees returning from Regional Fellowships in North America where the model is standard. In addition the fellow would be assigned surgical lists with consultants experienced in TIVA to gain hands on experience in this technique. These TIVA lists often incorporate regional anaesthesia blocks for postoperative analgesia. We would be one of the first hospitals in the Ireland to develop such an innovative service. Ultimately the patient would benefit from the improved focused clinical care from a dedicated team. Overall having a Regional and Total Intravenous Anaesthesia Fellow would significantly raise the clinical standards among other Anaesthesia peers in the department

3. Niche area, particular skillset acquisition:
a. Total Intravenous Anaesthesia: General anaesthesia has traditionally been administered by the inhalational route and this practice has persisted despite the development of better intravenous drugs and the technology to infuse them accurately and safely. Total Intravenous Anaesthesia (TIVA) is an alternative to inhalational anaesthesia for any patients who require a general anaesthetic. Whilst TIVA is appropriate for all surgeries it is specifically indicated in certain patient cohorts and subspecialties (table 1). It has many advantages for both the patient and the environment. TIVA is gaining popularity amongst patients, surgeons and anaesthetists but a lack of knowledge and experience in this technique has acted as a barrier to widespread uptake. TIVA accounts for less than 8% of general anaesthetics in the UK & Ireland

Patient Factors	**Surgical Factors**
Malignant hyperthermia risk	Tubeless ENT surgery
Severe postoperative nausea and vomiting	Day case surgery
Difficult intubation/extubation	Anaesthesia in non-theatre environment
Neuromuscular disorders and situations where neuromuscular blocking agents are avoided	Surgeries requiring neurophysiological monitoring
Patient choice	Transfer of anaesthetised patient

b. Regional Anaesthesia: A recent audit of Regional Anaesthesia procedures performed over one year in Tallaght Hospital showed that we have provided more than 700 regional anaesthesia blocks (excluding neauraxial blocks which are also commonly performed).
Examples of surgeries receiving regional anaesthesia include shoulder and elbow reconstructive surgery, upper limb arthroplasties and hand surgery, pelvic/acetabular reconstruction, lower limb arthroplasty and foot and ankle procedures. In addition, we have one of the busiest units in the country for trauma surgery and the hospital is the leading trauma unit in the Dublin Midlands hospital group.
The number of regional anaesthesia procedures we perform is more than that which can be performed even by a single full-time regional anaesthesia fellow. However, many cases such as this ensure that there is sufficient volume and breadth of caseload to provide a rich training experience for a full-time RA fellow. Additionally, this means that a large amount of RA procedures will still remain to be performed. As a result, our existing reputation among Irish Anaesthesia trainees as an excellent location to acquire expertise in regional anaesthesia will not be compromised. This is because our caseload is of sufficient volume to satisfy the needs both of a full-time fellow as well as our existing cohort of anaesthesia trainees.