2024 South Australian Premier's Nursing and Midwifery Scholarships

Study Tour Report and Action Plan

Name: Kristian Sanchez

Study Tour Title: Developing a World Class Acute Spinal Nursing service.

Study Tour Date: April-7/5/24

In line with the South Australian Premier's Nursing and Midwifery Scholarship Terms and Conditions, scholarship recipients must provide their supporting employer and the Department for Health and Wellbeing's Nursing & Midwifery Office (NMO) with a Study Tour Report and Action Plan **within thirty (30) days after the last day of the approved study tour.** Prior to submitting the Study Tour Report and Action Plan to the NMO, the report must first be **approved for submission** by the recipient's organisation's Chief Executive Officer or Executive Director of Nursing/Midwifery (or equivalent for private, community and aged care and sectors) and the recipient's direct line manager/supervisor.

Scholarship Recipient's Name: Kristian Sanchez

Scholarship Recipient's Position Title: Nurse Lead

Employing LHN: Central Adelaide

Ward/ Work Area: Surgery

Date Study tour undertaken: Commenced 20/4/24 Returned 8/5/24

Location of Study Tour: United Kingdom

Scholarship Recipient's SIGNATURE: _____ DATE: 26/6/24

Recipient name: Kristian Sanchez IS SUPPORTED IN LEADING AND IMPLEMENTING THE PRACTICE/WORKPLACE CHANGE AS STATED IN THE ACTION PLAN AND TO FACILITATE SUCCESSFUL ACHIEVEMENT OF THE OUTCOMES.

SIGNATURE of Direct line Manager/Supervisor: _____ DATE: _____

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SIGNATURE of CEO or EDON/M: _____ **DATE:** 11/7/24

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Acknowledgement

I would like to extend my heartfelt thanks to the Department of the Premier and Cabinet and the Nursing and Midwifery Office for their support and funding of my study tour. I am also grateful to the Central Adelaide Local Health Network (CALHN) for allowing me the time to undertake this tour.

Finally, I would like to express my deep appreciation to all the amazing spinal units, trauma centres and charities that I visited in the United Kingdom (UK). The nurses, medical and allied health staff were wonderful hosts and graciously shared their time, knowledge, resources, and intellectual property.

Executive Summary

The purpose of this study tour was to visit Spinal Injury units (SIU) in the UK to review models of care, staffing requirements and profile, the patient journey, patient information, and advanced spinal nursing roles. The aim is to put the learnings from the study tour into practice, to ensure that patients within our SIU's receive world class care.

Spinal cord injury (SCI) affects 20,800 Australians, with 1-2 new cases daily, and costs $3.7 billion annually in direct care (Spinal Cord Injuries Australia, 2021). SCI can result from traumatic events and non-traumatic causes, particularly among the elderly (World Health Organisation, 2024). The Royal Adelaide Hospital (RAH) operates a 16-bed spinal unit within CALHN.

The SIU at RAH has recently experienced a high staff turnover of 10.53% due to variety of reasons which are being internally investigated and this had led to a large number of new staff members joining team. There is an inconsistent approach towards education for SCI-specific competencies. The SIU has high nursing hours per patient day (NHPPD) compared to other surgical units which recognises the complexity of care required for spinal injured patients. However, there is no ongoing nursing research or dedicated spinal nursing case management. There are currently no advanced spinal nursing roles in the public system in South Australia (SA). To ensure an appropriate standard of care and effective management, SCI patients require highly trained and motivated staff due to the complex nature of care, physical and psychological and the potential acute complications. This study tour highlighted key learnings that can be incorporated into developing the RAH SIU Nursing Staff as outlined below:

Key Findings from the UK Study Tour

1. **Education**: UK units emphasised specialised nursing education, ensuring staff are well-equipped to manage SCI patients. Implementing a consistent orientation and competency framework at RAH will improve care quality.

2. **Ventilation Pathway**: UK SIU staff displayed competence in ventilator care. Developing a pathway in collaboration with the ICU at RAH to maintain competencies that will reduce ICU length of stay for SCI patients is recommended.
3. **Outreach**: Excellent communication and coordination in the UK between multidisciplinary teams and rehabilitation units can be replicated at RAH to streamline patient rehabilitation processes.
4. **Online Resources**: Providing extensive online resources for SCI patients, like the UK units, can empower them with knowledge for effective self-management and rehabilitation.
5. **Links with Spinal Charity**: Strengthening relationships with spinal charities like Estara in South Australia can enhance peer support for acute patients at RAH.
6. **Advanced Spinal Nursing Roles**: Introducing advanced roles, such as case management and specialised consultations, can improve continuity of care, comprehensive management, patient education, adherence to treatment protocols, and overall efficiency.

By addressing these challenges and implementing insights from the UK study tour, the SIU at RAH can enhance patient care, improve staff retention, and establish itself as a leader in SCI care and research. Steps include specialised education, developing a ventilation pathway, enhancing outreach, providing online resources, strengthening links with spinal charities, and introducing advanced nursing roles. This will create career pathways which will ensure that we attract talented staff to the SIU and develop these staff to become the future leaders of SCI in SA.

Background

Global

SCI is damage to the spinal cord that results in temporary or a permanent change in function. The majority of spinal cord injuries are from preventable causes such as car accidents, falls and violence; however, there has been a rise in non-traumatic SCI particularly in the elderly caused by tumours, degenerative and vascular conditions (World Health Organisation 2024). There are 20,800 Australians living with a SCI and there are 1-2 new injuries daily, the annual financial impact in direct care costs is $3.7 billion (Spinal Cord Injuries Australia, 2021). SIU were developed during the Second World War; Ludwig Guttman and Donald Munro are widely acknowledged as being the founders of modern treatments for spinal injuries (Weiner and Silver 2014).

CALHN

The RAH is part of the CALHN and has a dedicated 16 bed single room SIU that cares for patients with spinal injuries from both an emergency and elective perspective. CALHN has signed a memorandum of understanding with the Neil Sachse Centre for SCI. This partnership aims to undertake research that

will lead to significant breakthroughs for patients with SCI (SAHMRI 2021). There are many complications that a patient with a SCI may develop in the acute phase such as neurogenic shock, hypotension, vasodilatation, autonomic dysreflexia and abnormal temperature control. Other complications SCI patients are at higher risk of, due lack of movement include pressure sores, venous thromboembolism and depression. It is important that teams caring for these patients are aware of the life-threatening conditions that may also lead to a prolonged length of stay (Emerich et al., 2012). Nurses have a key function in the care of patients with a spinal injury and it is important that there is further research into the care required for patients with a SCI.

The SIU at the RAH currently has a high turnover of nursing staff for a variety of reasons that are being internally investigated, this coupled with an increase in operational beds has led to an increase in junior staff within the SIU. There is no documented evidence of spinal specific competencies being undertaken in the unit. As a result, it is unclear what nursing staff have advanced skills and how junior staff are supported in their development from novice to expert. There are also often long periods without having a patient in the unit on a ventilator or tracheostomy. Maintaining these skills is essential to ensure effective patient flow and minimising delays in transferring these patients out of the Intensive Care Unit (ICU). In acknowledgement and understanding of the complexity of care required to care for spinal injured patients the unit has high nursing hours per patient day (NHPPD). The vision of CALHN is to provide world class care within the top 5 performing health services in Australia and top 50 in the world (CALHN 2021). The SIU at RAH is modern in infrastructure as it is part of the New Royal Adelaide Hospital which opened in 2017. It is the only acute adult SIU in South Australia and should be recognised as centre of excellence for spinal nursing care, therefore investment needs to be undertaken to support dedicated spinal nursing case management and advanced nursing roles within the spinal unit as currently these roles do not exist. It is essential that we retain competent and motivated staff to ensure appropriate and safe care for this vulnerable patient group. Research is also vital in advancing spinal care by enhancing treatment strategies, improving patient outcomes, and refining nursing interventions tailored to the complex needs of spinal injury.

NHS

The UK and Ireland have 12 dedicated centres that care for patients with a SCI and these units have dedicated nurse specialists as part of their team. The aim of this tour was to spend time on several spinal cord injury units in the UK to understand their models of care, staffing profile, advanced nursing roles and patient pathways. In 2012, the National Health Service (NHS) in England introduced a significant re-organisation of trauma care, establishing Major Trauma Centres (MTCs) to provide specialised treatment for severe injuries. This change aimed to improve survival rates and outcomes for trauma patients by directing them to centres equipped with the necessary expertise and facilities,

bypassing smaller hospitals that could not provide the same level of care. The trauma network is made up of 22 regional networks that have 1-2 MTCs, which were strategically placed within regional networks to cover large geographical areas effectively (Cole, 2022). The establishment of MTCs included a strategic integration with spinal units to address spinal injuries effectively. This integration ensures that patients with spinal injuries receive immediate and appropriate care, which is crucial for preventing further damage and optimising recovery (NICE 2016). Spinal injuries, often resulting from major trauma, need specialised treatment that involves both surgical intervention and long-term rehabilitation. MTCs are set up to provide immediate stabilisation and initial care, and then patients are transferred to spinal units for further treatment. There are 12 spinal injuries centres across the UK and Ireland:

Figure 1-map of spinal unit locations in the UK and Ireland

1. The Queen Elizabeth National Spinal Injuries Centre, Scotland.
2. Spinal Cord Injury Unit for Northern Ireland, Musgrave Park Hospital, Belfast.
3. National Medical Rehabilitation Centre, Dublin.
4. North-West Regional Spinal Injuries Centre, Southport.
5. Welsh Spinal Cord Injury Rehabilitation Centre.
6. Midlands Centre for Spinal Injuries, Oswestry.
7. The Golden Jubilee North-East Regional Spinal Injuries Centre, Middlesborough.
8. The Yorkshire Regional Spinal Injuries Centre, Wakefield.

9. Princess Royal Spinal Injuries Centre, Sheffield.
10. National Spinal Injuries Centre, Stoke Mandeville Hospital.
11. Spinal Cord Injury Centre, Royal National Orthopaedic Hospital, London.
12. Duke of Cornwall Spinal Treatment Centre, Sailsbury.

Summary Description of Specialised Spinal Cord Injury Services (NHS England 2013)

- Providing high quality and cost-effective treatment and care.
- Providing appropriate psychological and mental health support to patients.
- Working with other healthcare providers to promote understanding of the special needs of people with spinal cord injury.
- Working with patients and those caring for them in the community to promote good health and avoid complications and hospital admissions.
- Providing outreach services to patients with spinal cord injury in other settings.
- Ensuring effective communication between patients, families, service providers, and local commissioners.
- Providing a personal service, sensitive to the physical, psychological, and emotional needs of the patient and his or her family.
- Participating in national programmes of clinical audit and outcomes data collection to improve the effectiveness and efficiency of the service.
- Working towards full compliance with the National Care Pathways for Spinal Cord Injury.
- Cherishing and using the National Spinal Cord Injury Database.

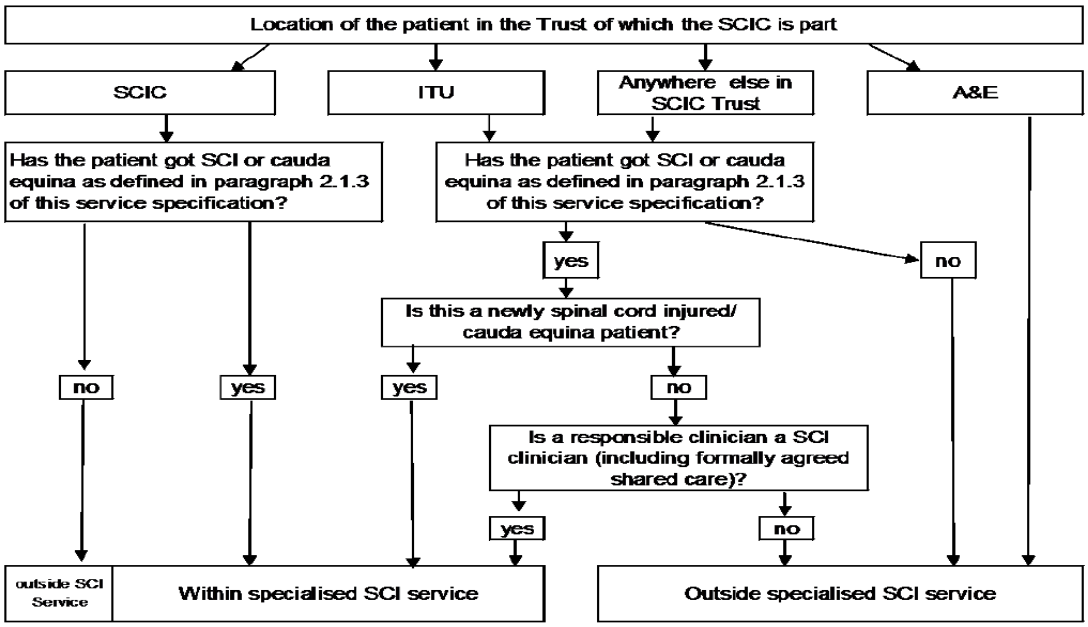

Figure 2: Pathway for spinal injurie patients (NHS 2013)

The British Orthopaedic Association (2023) have also defined standards for the management of Acute spinal injuries (appendix 1).

Site Observations

The London Spinal Injuries Centre:

The London Spinal Injuries Centre (LSIC) s located at the London National Orthopaedic Hospital (LNOH) which is the largest Orthopaedic hospital in the UK. Patients are admitted predominately from the Southeast of England. The unit has 30 adult beds which comprise of beds for acute care, rehabilitation, and readmission. They have 2 acute beds for unstable spines and emergency admissions, 22 rehab beds and 6 ring fenced readmission beds. The physical environment is 3 double rooms, 4 side rooms and 5 - four bed bays.

Career Structure

It was important to understand the UK nursing career structure to understand roles and compare them against the roles here in Australia. Most NHS workers except Doctors and Dentists come under a banding system 1-9 (NHS 2023). I discussed these roles with the Spinal Nurse Consultant and the career progression available at LSISC (appendix 2). There are many different roles under each band and some of the common nursing roles are below:

Band 2: Entry level Healthcare Support Workers (HCSW). Their role is to assist Registered Nurses (RN's) to provide care. They are supervised by the RN and assist in Activities of Daily Living (ADL's) for patients.

Band 3: More advanced HCSW that may have specialised skills and have undertaken specific training or have additional qualifications. At LSCIC they are referred to as senior HCSW and have competence in bladder and bowel management for patients with SCI and they also work under the direction/supervision of the RN.

Band 4: Nursing associates, these will typically have additional qualifications and have more autonomy than band 3 HCSW. They are on the UK Nursing Midwifery council register. At LSIC they are work independently under the leadership of registered nurses.

Band 5: Newly qualified Registered Nurses and have the same responsibilities of registered nurses in our health system.

Band 6: Senior registered nurses that may take on leadership roles, supervise junior staff, and contribute to service development and improvement. At LSICS these roles were referred to as ward sisters and provided clinical leadership and supported colleagues on the ward. These roles appeared similar in responsible to the level 2 clinical nurse and associate role here in SA.

Band 7: Ward Managers, Nurse Educators and Specialist nurses. Band 7 roles often involve autonomous practice, clinical leadership, and advanced decision-making responsibilities. Nurses at this level would have usually undertaken training and have additional qualifications. These roles seem to be consistent with level 3 classifications in SA.

Band 8: Matrons, Advanced Nurse Practitioners, Nurse consultants. Nurses at this level will have Masters qualifications and either be in senior managerial or clinical positions.

Band 9: Chief Nurse, Deputy Chief Nurse, Director of Nursing. Band 9 nursing roles are for senior leadership and managerial within nursing.

Figure 3-LSCIC Ward Mangers and Nurse Consultant

Figure 4 LSCIC Gardener in Horatio's Garden

Ward Managers

There were two ward managers at LSCIC. They have a very similar role to the Nurse Unit Manager role at CALHN. The ward managers oversee nursing staff within a LSCIC and are responsible for staffing, budgeting, quality improvement, and ensuring that patient care meets standards and regulations. We discussed how the ward is staffed and they informed me that they use the "Safer Nursing Care Tool" which is a tool that supports nurses and midwifes to determine safe staffing levels using patient acuity and dependency measures to inform staffing decisions (NHS England 2023). On the day I was visiting the unit was staffed Early-13 (5 RN's/ 8 HCSW), Late- 8 (4 RNs/4 HCSW) and Night shift - 8 (4 RNs/4 HCSW). They also had one RN in addition working a twilight shift which started at 16:00-24:00h to assist the busy periods of the late shift and assist the night staff at the start of their shift. The above numbers did not include the high number of leadership and clinical roles within the unit, this included: 4.2 FTE of case managers, 5.5 FTE community liaison and outreach, 5 FTE of band 7 nurses (ward Managers, Educators and specialist nurses), Band 8 Nurse consultant and Matron.

Spinal Injuries Nurse Consultant

This role reports directly to the Chief Nurse and was introduced to provide stronger senior leadership and visibility on the ward for both patients and staff. The role also provides clinical leadership nationally in assisting to design pathways and national educational resources for spinal nurses.

Chief Nurse

I met with the Chief Nurse at LNOH. The role appeared similar to the Executive Director Nursing role at CALHN. The Chief Nurse was responsible for quality and safety standards, infection prevention and control, professional standards, education and workforce, patient and staff experience, professional lead for nursing and had voting rights on the board. We discussed the challenges with recruitment and retention of staff and the opportunities within specialised SIU.

The Tissue Viability Service

At LSCIC comprised of x4 staff a band 8 manager, x2 band 7 Nurses specialist and a band 6 clinical nurse. The team accepts referrals from across LNOH and receives 2-3 new referrals per day. They have clinics Monday to Friday which compromise of spinal, wound care clinics and plastics. Referrals are made via a computer system using an established referral criterion (appendix 2).

Neuro Urology Team

The team has dedicated Urology Consultant, Nurse Consultants, Medical Scientists and HCSWs. They undertake Nurse lead clinics and have an advanced scope of practice: urodynamics, sexual function, fertility service, Cystoscopies, suprapubic catheter (SPC) clinics, complex SPC clinics, Botox and sexual function clinic.

Outreach Team

The outreach team is responsible for providing specialist SCI education to patients, relatives and the staff looking after those with a SCI. Patients are referred to LSCIC through the national SCI database. A referral to the LSCIC should be made within four hours of injury and a member of the outreach team will visit the patient at the trauma centre within five days of injury. The team discussed that their currently long delay in transferring patients from the trauma centres due to the volume of patients trying to access their service. The waiting list is discussed each week and patients triaged for admission to the centre.

Bone infection Team

The RNOH has a bone infection unit that receives referrals from across the UK for the management of bone and joint infections.

The Bone Infection Clinical Nurse Specialist (CNS) is responsible for supporting the infection consultant in assessing the suitability of the patient for complex outpatient antimicrobial therapy, overall monitoring of the patient, prescribing, care and removal of VADs and arranging or training administration of IV antimicrobials. The CNS role coordinated the MDT for hip and knee infection and coordinated the care of these patients. We discussed the complexity of Joint infections and the pathways from referral to MDT (appendix 4).

Figure 5 Bone infection nurse consultant and microbiologist

North West Regional Spinal Injuries Centre, Southport

The North West Regional Spinal Injuries Centre (NWRSIC) first opened in 1947 and provides services for Merseyside, Greater Manchester, Lancashire and Cumbria, Cheshire, parts of North Wales and the Isle of Man. The centre is also recognised for the treatment of people who need permanent mechanical ventilation following SCI, admitting people from across the UK for this highly specialised care. There are 43 beds: 10 in the acute respiratory unit for SCI, 10 Acute/post op/ deteriorating patient beds and the other 23 are stable rehab. There are further 8 community outreach beds at two locations. Each area was staffed slightly differently dependent on acuity. The area with 4 ventilators had two RN's and one HCSW, the other 6 respiratory patients had 1:3 ratio with a HCSW.

Outreach team

Like LSCIC, NWSRIC reviews referrals from the national spinal injuries database and provide an outreach service to trauma centres. The outreach team attends the MTC's MDT's and are aware of patients awaiting a bed at NWRSIC, the MTC's visited by the outreach team were Salford, Preston and Walton Hospitals.

Case Management Role

The case management team was made up of four clinical staff all band 7 (x3 nurses and OT) and an administrative assistant. Each clinician has an allocated patient case load and would be engaged in the patient's entire patient journey. In the first weeks this would involve discussing the goals of rehab, social concerns, housing and meeting family. As part of the case management during Weeks 3 and 4 there are progressing meetings and discharge planning meeting and then there is a decision support tool meeting to decide if the patients care needs are healthcare or social care. In the SIU at RAH this is provided by a social worker who work across multiple specialities.

Figure 6-Acute respiratory unit

Figure 7-Acute Respiratory Physiotherapists

Respiratory team

The Centre has 9 out of 28 NHS England Commissioned beds available for managing ventilated patients with SCI making it the largest centre for ventilated spinal patients in the UK and it is classed as a level 2 facility. The team is made up of two Band 8A physiotherapists and a Speech and Language therapist (SALT). The team takes the lead on ventilation requirements including when to wean ventilator support and provides education to the entire team on ventilation, tracheostomy care and advice on decannulation. The team also provide domiciliary care virtually for 15-20 patients in the community. It was impressive to hear the passion and advanced knowledge this group had in respiratory management for people with SCI as this differs from other conditions where the respiratory system is compromised. The team informed me about a national group called Respiratory Information in Spinal Cord Injuries (RISCI) this is a special interest group, committed to improving respiratory management for people with SCI.

Out of hospital Outreach beds at Sandpipers

NWRSIC recognises that they have a long wait list of patients awaiting to access their services and as a result have established a community-based model that is an extension of the SIC rehabilitation centre. They offer 8 outreach beds at 2 locations close to the hospital.

This initiative commenced as a first of its kind trial in the UK in 2011, after proving to be a success an official partnership between the NWRIC and a disability charity called revitalise started (Barnett, 2015) and there is now 5 beds at the location and further 3 at another location. The aim is to continue to provide rehabilitation services to patients that are not ready to go home but do not require a hospital bed. The patients at these locations are taught how to self-direct their care, and although care in the day is provided by hospital staff, they partner with a disability charity who provide care overnight. This may be something for us to consider at CALHN as we often experience long delays in transferring patients our acute SIU to rehabilitation.

Practice Education Team

I met with Phillip Power who was one of several educators for the team at Southport. Education consisted of providing sessions to both patients, their families, and staff. All new staff at NWRSIC are required to undergo a 2-day induction to the unit. There is a competency book accompanied by a learning contract where staff are required to have competencies signed off in acute respiratory care, neurogenic skin care, bladder care, bowel management and other nursing clinical skills required for caring with patients with an SCI. This is a useful way to ensure staff are aware of the skill required to work on the SIU.

Advanced Clinical Practitioner Trainee

The Advanced Clinical Practitioner Trainee (ACPT) is currently an advanced clinical practitioner in spinal injury. The role works within the clinical team, working on rotation with a named consultant to care for his patient's needs which involves assessment, investigation, prescribing, treating and follow up.

ACPT manages a weekly clinic list of patients. This is a first attendance clinic and are typically Cauda equina cases. He has an active part of the centres research and audit program, presents cases in the mortality / morbidity and journal club meetings, manages the governance for the acute outreach service, line manager for the acute outreach team and a point of contact for the paediatric referrals from the children's hospital.

Figure 8- Advanced Spinal Clinical Practitioner

Golden Jubilee Centre, Middlesbrough

Figure 9-Golden Jubilee Centre Middlesborough

The Golden Jubilee Centre is situated within the James Cook Hospital which is a regional MTC offering 37 different specialities. The SIU has a catchment area of 3.8 million and when I visited had an impressive admission time of 7 days from referral. The unit comprises of 24 beds which is made up of 4 High dependency beds (HDU) and 20 rehabilitation beds. The HDU within the centre meets nationally required staffing levels for a level 2 facility. The Unit has dedicated Consultant anaesthetist sessions and junior cover is provided by anaesthetic junior medical staff. A respiratory lead physiotherapist and Nursing Sister, along with the Clinical Educator, ensure all staff are appropriately skilled and receive appropriate training to work in the HDU. The HDU is staffed by two RN's and one HCSW. The other 20 beds are made up of 4 side rooms and x4 four bedded bays. The Centre has dedicated SCI Urology clinics, plastic surgery, spasticity, hand surgery, fertility clinics, complex pain and paediatric clinics.

Clinical Director

The Clinical Director (CD) of The Golden Jubilee Spinal Injuries Centre in Middlesborough coordinated my visit to the unit. She described her vision for the unit is to ensure patients with spinal cord injuries can realise their full potential.

- Inspiring patients affected by a spinal cord injury to transform their lives.
- Challenge perceptions of disability
- Deliver Holistic services that build confidence and independence and offer a supportive network in the community to patients, their carers and family, friends, colleagues and employers.

The CD informed me that Middlesborough currently had a 7-day transfer time from referral to admission and that all patients had an outreach visit within 5 days of referral She was extremely passionate about the unit and was involved in the design and commissioning of the unit. she is also a member of the Northern Region Group for Rehabilitation, the MTC Clinical Advisory Group, the Spinal Surgery Board and Network Steering Group and the SCI Network Board. She has national portfolios and is the chair of the Acute Spinal Injuries pathway as part of a group brought together by NHS England (2022) to develop a set of recommended standards for patients presenting with a traumatic or non-traumatic spinal cord injury. The group consisted of representatives from the SIU's and spinal charities.

Figure 10-Ward information board

I was impressed with the ward information boards at Middlesborough as each area had pictures of their leadership team and information on staffing and ward round times. This initiative that could be implemented across CALHN and will be discussing this with the Nursing leadership at CALHN.

Information Technology Specialist

The centre had an IT Specialist, who assisted patients with SCI with computer set up, voice activation, eye gaze, head mice and gaming. He had a passion for assisting patients with SCI realise their full potential. Darren has also introduced a patient application that allows patients to have access to information about the centre, the staff, patient education, a patient portfolio, events, and key contacts.

Figure 11- IT specialist instructions

Figure 12-Hey Siri, assisted technology

Figure 13-Centre app

Outreach Service

Similar to other centres, services received new referrals from the MTC's but had a more varied role at the Golden Jubilee Centre. They were involved in annual clinics, pressure injury clinics, MDT's and discharge to access funding meetings. They saw all patients within 2 weeks of discharge to see how they were going and would continue to follow up patients at home for 6 weeks post discharge.

Respiratory team

The therapies team at the centre have a respiratory lead who provides care to patients on ventilation, tracheostomy patients and those on non-invasive ventilation. The team provide chest physio, weaning, tracheostomy changes, review new patients, review patients in the HDU and provide outreach advice.

Psychology Service

The psychology service at the centre has 1.3 FTE. All patients in the centre have access to the psychology service and the team aims to meet with patients within their first week of admission. They will complete a full assessment which will include reviewing the patients, understanding their injury and measuring levels of anxiety and depression. Patients will then be triaged according to their complexity which ranges from routine to highly complex. The psychology team will offer 1:1 sessions, family sessions and has group mindfulness sessions. They offer OPD clinic follow up appointments for

patients that may have gone straight home such as Cauda Equina patients and offer access peer support.

Spinal Injuires Association, Milton Keynes

I was fortunate to spend the day with Spinal Injuries Association (SIA) which has a 50 year history of supporting people with SCI. They state that 'they are the expert guiding voice for life after spinal injury and that their aim is to reach everyone with a spinal cord injury, to tackle whatever barriers they face, and to connect them to all the help and support they need to flourish in their lives, in the way they want and choose' (SIA 2024). The team took me through their strategy to 2030 and explained the variety of services that they provide to patients with SCI.

The SIA provide the following services:

Support Coordinators: These are staff that have themselves been affected by SCI and cover specfic regions of the UK. They provide a wealth of knowledge and support on: travel, employment, housing, and accessibility.

SCI Clinical Specialist: Are nurses and Occupational therapists that cover specific regions and support patients to develop a personal and eergency care plan. They offer specific advice to patients on Bowel, Bladder, Skin, Respiratory care and autonomic dysreflexia.

Emotional support: The SIA provide a specialist councelling service run by people with SCI.

Advocating for people with SCI: The SIA will campaign on issues that affect people with SCI and want to ensure that policy makers involve people with SCI in the development of policies that affect them.

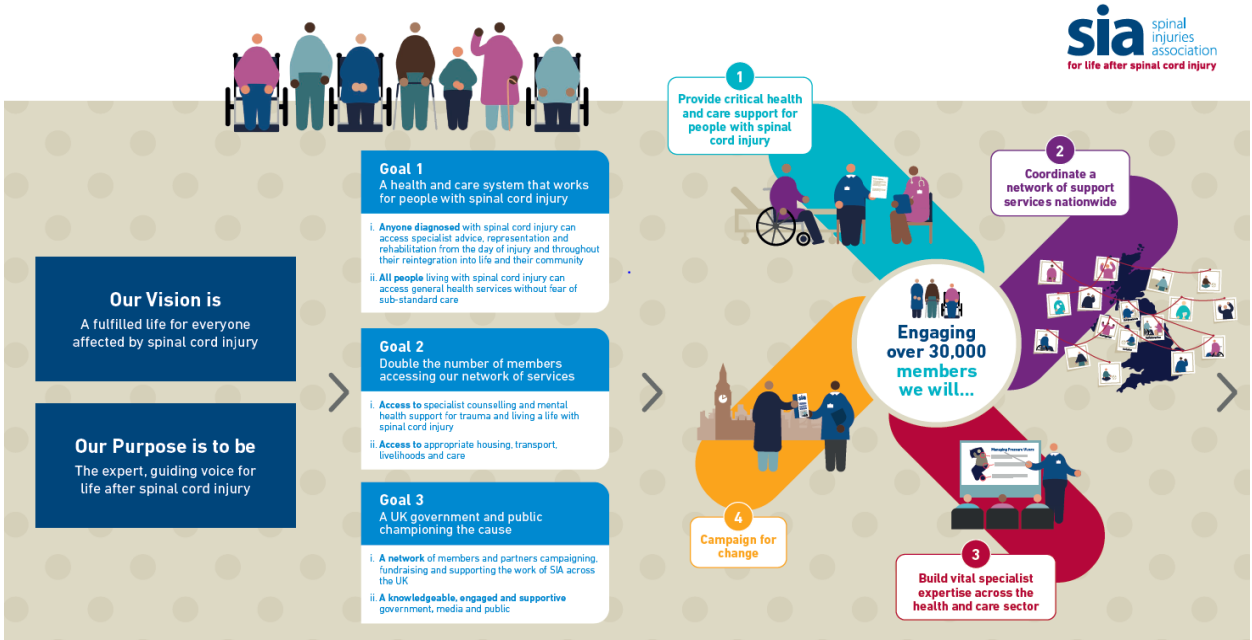

Figure 14-SIA Vision Statement

Figure 15-SIA Strategy

Spinal Injuries Association visit to St Georges Major Trauma Centre

St George's Hospital is the major trauma centre for the southwest London and Surrey trauma network covering a population of around 2.6 million. St George's receives and treats approximately 120 patients every month because of trauma (St Georges University Hospitals NHS 2024).

SIA Nurse Spinal Nurse Specialist

I spent the day with the SCI Nurse Specialist (NS) from the SIA to visit MTC, the role is varied and some of the common elements of his role are as follows:

- Education for staff without specialist SCI knowledge working district general hospitals.
- Engagement with staff at MTC and other sites about what the SIA can offer.
- Managing and responding to referrals.
- Visiting patients and their families in the early stage of SCI.
- Advocating and participating in meetings to determine care requirements of patient.
- Teaching to variety of health professionals such as nurse, physios, OT's and paramedics.
- Developing fact sheets and guidelines for the SIA.

The SCI NS knowledge and experience of SCI was valuable, and this was demonstrated when we attended ward round and he was able to quickly answer patients and their families' questions and to deliver education to them in a way that they could easily understand.

Spinal link worker

We attended ward round with the spinal link worker for St Georges Hospital these roles had been developed to ensure there was a link between the MTC and the SIU. The spinal link worker would ensure all patients with SCI at St Georges had a plan and were receiving appropriate access to therapies while they were waiting for a bed at LSCIC. Patients with SCI were not necessarily based on home ward and the patients that we visited were on Orthopaedic, oncology and neurosurgery wards.

The Princess Royal Spinal Injuries Centre, Sheffield

The Princess Royal Spinal Injuries Centre (PRSIC) is on the Northern General Hospital site which is a MTC in Sheffield. The PRSIC is the 2nd largest spinal centre in the UK and has 64 beds spread over 3 wards. Osbourne 1 is the acute spinal ward with 22 beds: 6 ventilated beds, 2 respiratory bed and 14 acute beds. Osbourne 2 has 20 rehabilitation beds and Osbourne 3 has 22 readmission beds. The centre has an outpatient department, its own theatre and radiography suite. Staffing varied between the areas Osbourne 1 was staffed 11 (6 RNs/5 HCSW) on the early, 10 on the late (5 RN's/5 HCSW's) and 7 on nights (2 RNs/3 HCSW) for 18 beds. Osbourne 2 was staffed 9 (4 RNs/5 HCSW) on the early, 7 on the late (4 RN's/3HCSW) and 5 on nights (2 RNs/3 HCSW) for 20 beds.

Respiratory Team

The respiratory team at Sheffield consists of x2 band 7 staff (x1 physio and x1 nurse). I attended the ward respiratory ward round where all inpatients were discussed, plan for those that are ready for discharge in the coming weeks and we also discussed patients that were due to come to Sheffield on a ventilator. The team provided chest physio, weaning, tracheostomy changes, advice to other sites and education to all staff that worked in the acute unit.

Figure 16-Respiratory MDT

Outreach Team

The outreach team consisted of three staff, two provide community liaison and follow patients up for 6/52 post discharge and the other manages the acute list and liaises with the MTC and district general hospitals. This is a very similar service to the other SIU that I had visited.

Spinal Matron

It was great to spend some time with the Spinal Matron Nicola at Sheffield. Her position was accountable for providing strategic direction of the spinal unit, quality assurance, budget management, coordination of resources, building connections within the trust and nationally. Nicola explained her purpose as ensuring that patients who received care in the unit were given the best opportunity to reach their rehabilitation goals post injury and that staff were able to reach their full potential and had the skill required to look after patients with SCI.

Spinal out-patients

I spent some time with the spinal outpatient nurses who offer nurse led clinics in the following:

- Pressure Injury clinic
- Cauda Equina Clinic
- Spasticity Clinic
- Baclofen pump refill
- Urology Clinic
- Pre-op Clinic

There were three urology specialist nurses who ran their own clinic for neurogenic bladder and bowel. They provide telephone triage and advice for intermittent catheterisation, Indwelling catheters and SPC changes. They also had prescribing for prophylactic antibiotics and analgesia.

Implementation of Key Findings

There were several consistent findings from the tour that are recommended be implemented at the SIU at the RAH:

Education

One key finding was that all the units visited had a strong and consistent approach to education for staff working within the SIU's. The importance of specialised nursing education in the care of patients with SCI is crucial. Nurses equipped with specific knowledge and skills related to SCI are better prepared to manage the complex needs of these patients, thereby improving their overall outcomes (Khan et al., 2017). Specialised education ensures that nurses understand the unique challenges associated with SCI, such as neurogenic bladder and bowel management, pressure ulcer prevention, and autonomic dysreflexia (Emerich et al., 2012). Following the learnings from the study tour I plan to

implement a consistent orientation and competency framework for staff that will ensure new staff are aware of the key skills required to care for patients with SCI.

To implement this, I will present my study tour findings to the leadership team of the spinal unit and develop an action plan with the team to work on foundational competencies required. We will hold regular meetings and allocate some clinical nurse portfolio to developing resources. The surgical nurse educators will assist with supporting the clinical nurses on the unit in the development of these resources with a novice to expert framework. As part of the tour, I have collected several resources that will assist in the development of our own resources that I will share with team. To measure the outcomes of this project we will expect that all staff have recorded evidence of the spinal specific skills, and this will be tracked by adding to the NUMS monthly Key Performance Indicator (KPI) report and the Nurse Educators will also keep a record of staff that have completed the workbook. The target will be that 95% staff have completed within 12 months of commencement on the unit. The goal will be to achieve 100% of new staff completing the orientation package within 3 months of joining the unit.

Ventilation pathway

The UK SIU's cover populations of higher density, and this means that they have a higher number of patients with tracheostomy or on a ventilator than we have on the SIU at the RAH. This creates a problem with staff in the SIU not feeling comfortable in managing patients on a ventilator. In the UK it was evident that the staff in the SIU had highly specialised knowledge in looking after patients on a ventilator and most units had a specialised team overseeing the care.

It is therefore important to acknowledge this deficit and develop a pathway with the ICU that will allow for competency to be maintained and reduce the current length of stay that patients with SCI spend in the ICU. We will do this by working with the ICU to develop an education package for patients on a ventilator, consider rotating staff through the ICU and ensure that there is adequate support provided to SIU from the ICU. Success for this will be measured by senior staff from the spinal unit regularly rotating through the ICU and patients being transferred when they are ready without any delay. The target will be to ensure staff with ventilation portfolio rotate through the ICU regularly. The amount of time spent in the ICU will need to be negotiated through consultation with all key stakeholders.

Outreach

There was regular and consistent communication between the MTC, district general hospitals and the rehabilitation unit from a multidisciplinary perspective. It was clear when a patient had been accepted and expected timeframe before they could be transferred. Although the spinal injuries rehabilitation

consultant visits the RAH twice weekly, there can be confusion on who is accepted for admission, what is required for the patient to be ready for rehab, and when the date of transfer is likely. There is therefore an opportunity to work on a consistent process for patients awaiting rehab that would allow for elements of their rehab to commence whilst still in acute care and improve communication between sites. Success will be measured by tracking daily who has confirmed plans and using existing CALHN platform "CART" to track this.

Patient and staff online resources

All the spinal units I visited had a vast array of resources available for patients online and at Middlesborough there was an online application available for patients that had an array of resources. I plan to discuss this with key stakeholders which would include the data and analytics team, subject matter experts, education, media team and consumers regarding the possibilities of building online resources that will have contact information for the spinal units and charities, educational resources, interactive tools, and peer support. The aim would be to provide SCI patients with access to knowledge and tools that are needed for effective self-management and rehabilitation, ultimately enhancing their independence and quality of life. We will complete a pre and post patient survey regarding knowledge of complication to measure the effectiveness of tools and ensure consumers are engaged throughout the development process.

Links with Spinal Charity

Although the rehabilitation unit is linked with a spinal charity in South Australia there does not appear to be the same relationship with the acute site. I plan to meet with the managers of the spinal charity to explore the services they offer and establish a partnership with agreed processes for reviewing patients in the acute SIU. We would measure whether this had been successful by the amount of peer support visit provided to the acute SIU.

Advanced Spinal Nursing roles

There were a variety of spinal specialist nursing roles in the UK and these included case management roles, outreach, spinal nurse consults with a variety of portfolios and leadership responsibilities. We currently have no advanced spinal roles with the acute unit at the RAH and it is important that we look at opportunities to develop career pathways for spinal nurses in South Australia. I plan to meet with key stakeholders from across rehabilitation and acute to discuss the many roles that I encountered in the UK and where they feel the most need is. The development of advanced spinal care could lead to the following benefits:

- **Specialised Knowledge**: Advanced spinal nurses possess knowledge of spinal injuries, leading to more accurate assessments and tailored treatment plans.
- **Continuity of Care**: Consistent follow-up and management reduce the likelihood of complications and readmissions.
- **Comprehensive Care**: Focus on the physical, psychological, and social aspects of patients with SCI, leading to a more holistic approach to care.
- **Patient Education:** The advanced spinal nurse could on injury management, rehabilitation exercises, and lifestyle adjustments empowers them to take an active role in their recovery.
- **Adherence to Treatment**: Increased patient understanding leads to better adherence to treatment protocols and rehabilitation plans.
- **Cost-Effectiveness:** Advanced spinal nurses can identify and manage potential issues early, reducing the need for readmissions. Efficient handling of complications and secondary conditions minimises the need for additional hospital stays.
- **Care Coordination**: Acting as a liaison between various healthcare providers, ensuring all team members are informed and aligned.
- **Streamlined Care**: Coordinated efforts lead to a more streamlined and efficient care process.

Success for this role would be minimising admissions by 50% from other LHNS that did not require acute spinal nursing care. Tracking and improving LOS for SCI injury Diagnostic Related Groups (DRG's) by actively case managing and coordination of care. Providing education to patients that reduces complications associated with SCI.

Government of South Australia
SA Health

SA Premier's Nursing and Midwifery Scholarship 2024

Name: Kristian Sanchez

Date: 23/06/2024

Title: Spinal Study Tour Action Plan

Action Plan

Line managers/supervisors are required to initial or sign the 'Supervisor' column as validating that the proposed action has been completed and implemented successfully in the workplace.

Identified issue	Action/s	Barriers	Timeframe	Outcome	Measures of success	Supervisor
Knowledge of study tour finding by spinal team, rehab and colleagues.	Engage Spinal colleagues sharing knowledge and observations of study tour. Complete a PowerPoint presentation. We will keep stakeholder engagement plan and tracker	Nil	3 months	Spinal Senior Nurses and surgery leadership team will have knowledge of findings from UK.	Engagement from both spinal and surgical leadership team in changes. Success will measured by delivering projects in forecasted timeframes and active participation by team members.	Amanda Clark, Executive Director of Nursing, CALHN

Spinal Competencies for spinal Nurses	Establish a working group for spinal education. Engage surgical nurse educators as resource for spinal clinical nurses on how to develop training resources. Identify key staff to develop resources	Allocated portfolio time can be taken due when shortfalls in area. Engagement of team.	6 months	Competency workbook developed. Education resources available for all staff.	100% of new staff (less than 2 years) within the unit to have completed workbook with 6 months. This will be tracked by the surgical education team and added to NUM KPI report.	Amanda Clark, Executive Director of Nursing, CALHN
Orientation package for new staff and reliving staff.	Meet with senior staff from the spinal unit.	Allocated portfolio time can be taken due to PCL. Engagement of team.	6 months	Orientation package for new staff. Spinal routine and information available for reliving staff.	All staff to complete orientation package within 3 months of joining the unit. Tracked by spinal leadership team and metric added to NUM reporting tool. Improvement in new staff satisfaction. Reduction in staff turnover to target	Amanda Clark, Executive Director of Nursing, CALHN

					range of 4.5% currently 10.53%. Staff questionnaire will be developed with organisational development to monitor staff satisfaction at end of placement or at 3 months into new position.	
Delays in Ventilated patients transferring to the spinal unit from intensive care.	Meet with ICU senior nursing staff and spinal to discuss opportunities to improve process. Consider rotation of spinal staff through the ICU. Allocate respiratory leads from Spinal and ICU.	Dependent on consultation with another program.	6-12 months	Development of pathway for spinal patients requiring a ventilator. 100% Staff from the spinal unit complete training on home ventilation with 6months.	Spinal patients with a ventilator are transferred when ready without delay. Time from ready to be transferred out of ICU currently not measured so will work with NOC and ICU to develop a mechanism of measuring this. Target will be 24 hours from ICU ready to time of transfer to SIU.	Amanda Clark, Executive Director of Nursing, CALHN

Nursing communication between the acute and rehabilitation setting.	Meet with rehabilitation consultant and NUM.	Engagement with stakeholders	6 months	Agree on consistent criteria for transfer and communication points. Process for tracking patients electronically agreed by all stakeholders.	Patients transfer date and goals for rehab are always documented. Target: all accepted patients to be on CART tool. Record to be kept post spinal meeting and will be tracked using existing CART tool.	Amanda Clark, Executive Director of Nursing, CALHN
Lack of online resources for staff and patients.	Meet with data and analytics to explore possibilities. Develop an application for patients. Engage with Middlesborough about their application	Funding Requires considerable input from data and analytics team. Overseas staff availability to meet with CALHN team.	12 months	Develop a plan to introduce a patient specific app for patients with SCI.	Improvement in patient satisfaction and knowledge of possible complications. To measure this we will work with the surgical consumers and add questions to existing patients surveys.	Amanda Clark, Executive Director of Nursing, CALHN
Spinal Advanced Nursing Roles.	Review opportunities for spinal advanced Nursing roles at CALHN. Review any existing roles interstate.	Funding	12-18 months	Develop a business case for advanced spinal nursing role. Develop a Role descriptor.	Successful brief for introduction of an advanced spinal nursing role at CALHN	Amanda Clark, Executive Director of Nursing, CALHN

	Meet with all Key stakeholders.				Reduction in overall LOS for SCI patients, this will be monitored by tracking LOS for specific DRG's through our LOS reporting. Target would be a 10% improvement in LOS. Improvement in spinal hospital avoidance: Reduction in transfer from other networks not requiring acute spinal care by 50%. 25% reduction in complications associated with SCI during admission, tracked via SLS system.	

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Appendix 1-The Management of Traumatic Spinal Cord

BOA STANDARD

The Management of Traumatic Spinal Cord Injury

November 2022

Background and justification

Acute Spinal Cord Injury (SCI) due to traumatic or vascular damage, resulting in neurological deficit is a rare but devastating injury. Spinal cord compromise can result in immediate or insidious onset of neurological symptoms. Appropriate urgent management from the time of diagnosis has been shown to reduce complications and improve outcomes.

Inclusions:

All patients (adults and children) with traumatic spinal cord injury resulting in complete or incomplete para- or tetraplegia.

Standards for Practice

1. All hospitals receiving patients with SCI must have a named linked Spinal Cord Injury Centre and named linked Specialised Spinal Surgery Centre (SSSC) which offers 24 hour consultant spinal surgeon availability. SCI Centres should provide 24 hour advice and support to the Major Trauma Network (MTN).
2. All hospitals within a MTN should have an agreed, common protocol for protecting the neck and spine and exclude injury in line with BOAST-2 (Spinal Clearance in the Trauma Patient (2015)).
3. Centres receiving patients with SCI require 24-hour access to CT and MRI. Initial trauma CT scanning must be followed by whole spine MRI scanning once safe.
4. Daily generalised neurological review should be recorded as part of the routine ward round or multidisciplinary assessment.
5. Full detailed neurological examination should be recorded on an ISNCSCI chart, within 2 hours of admission, in keeping with the International Standards for Neurological Classification in Spinal Cord Injury (ISNCSCI).* This should also occur weekly as well as before and after major interventions and/or surgical procedures.
6. ISNCSCI charts should be completed by clinicians trained in their use.
7. Protocols for skin care, gastric, bowel and bladder care, neuroprotection, joint protection and therapy requirements must be agreed with the linked SCI Centre and follow national guidance.
8. For patients requiring surgery, protocols for anaesthesia and spinal stabilisation must follow national guidance.
9. All major trauma and SSSCs should have dedicated link nurse and therapy arrangements to provide specialised care until transfer to SCI centre.
10. All patients with SCI in England must be submitted to the National Spinal Cord Injuries Database** within 24 hours of diagnosis. An agreed management plan between admitting unit and SCI centre must be formulated and recorded in the medical notes within 72 hours of diagnosis.
11. Transfer to a SCI Centre should take place within 24 hours, unless it is in the patient's best interest to remain locally. Regionally agreed support / liaison arrangements need to be in place in the event of a delay.
12. Appropriate psychological support should be provided for patients, family and carers.

* ISNCSCI chart (replaces ASIA chart) https://asia-spinalinjury.org/international-standards-neurological-classification-sci-isncsci-worksheet/
** National Spinal Cord Injuries Database: https://www.nscisb.nhs.uk

SCI referrals can be made via: https://referrals.mdsas.com

Appendix 2-LSCIC Training Career Path

Appendix 3-Referral to Tissue Viability

Referral to Tissue Viability

Royal National Orthopaedic Hospital NHS

Monday-Friday 08.00-16.00 hrs (referrals after 14.00 will be picked up the following working day)

Contact number: 5879 Referrals: via ICE - "Tissue Viability" Via Vocera for *Urgent

Ward level Responsibility BEFORE referral –

- All dressings and bandages MUST be removed on admission to allow wound assessment/ skin check
- Pre admission information MUST be gathered from District nurses/ carers/ GP etc
- All wounds MUST be assessed and documented on the wound assessment in the patient booklet
- If possible, photograph wounds and save in ward round app under patients details
- Any rapidly deteriorating wound MUST be reviewed by the patient's medical/ surgical team urgently
- Consider the exclusion criteria/ consider alternative appropriate speciality
- **Has support been escalated to – Band 6 → Band 7**
- Referral to Tissue Viability MUST be completed on ICE; full details including type of wound, location of wound , wound assessment and specific reason for referral are required.
- Referral visits will be prioritised as per the Priority Criteria.
- Incident forms/safeguard referrals to be completed if evidence of harm or neglect.

Exclusion Criteria	
Condition	**Action**
No wound assessment completed	Complete assessment and follow ward responsibilities above
Healing/ improving wound	Continue current care plan
Cellulitis without active wound	Requires systemic antibiotic treatment and standard skin care
Previously seen by TVN	Review "tissue viability" notes. Re-refer only if not responding to current management or new wound
Moisture lesions	Perform incident form, wound assessment Follow Incontinence Skin Care Protocol and consider referral to continence nurse Refer only if not responding after one week
Skin condition with no active wound	Refer to dermatology
Diabetic Foot ulcer	Refer to Foot Team
Leg ulceration known to Vascular team/ known vascular disease	Ensure care plan present from vascular team prior to admission
Patients receiving prophylactic topical negative wound dressings	Follow TNPW decision tree of management and medical teams advice

Referral Priority (list not exhaustive and dependent on TVN workload/ activity)	
URGENT (30min – 1 hour)	• Attending outpatient clinic • Attending plaster theatre
HIGH (1-2 working days)	• Cat 3/ 4 / unstageable or DTI pressure ulcers • Complex wound requiring sharp debridement • Complex malignant wound • Unexplained deterioration in any wound • Safeguarding concerns involving wound or skin • Pain / distress due to wound
MEDIUM (2-3 working days)	• Static/ non-healing wounds • Leg ulceration not under care of Vascular team and not responding to current treatment • Moisture lesions not responding to Incontinence skin care protocol • Cat 1/2 pressure ulcers
LOW (3-5 working days)	• Non complex wounds • Moisture lesions – first referral • Healing wounds • Other service is required • Advice regarding equipment/ discharge/ mobilising • Review of patients previously seen by TVN with no new concerns

Appendix 4-Joint Reconstruction Unit Bone Infection Pathway