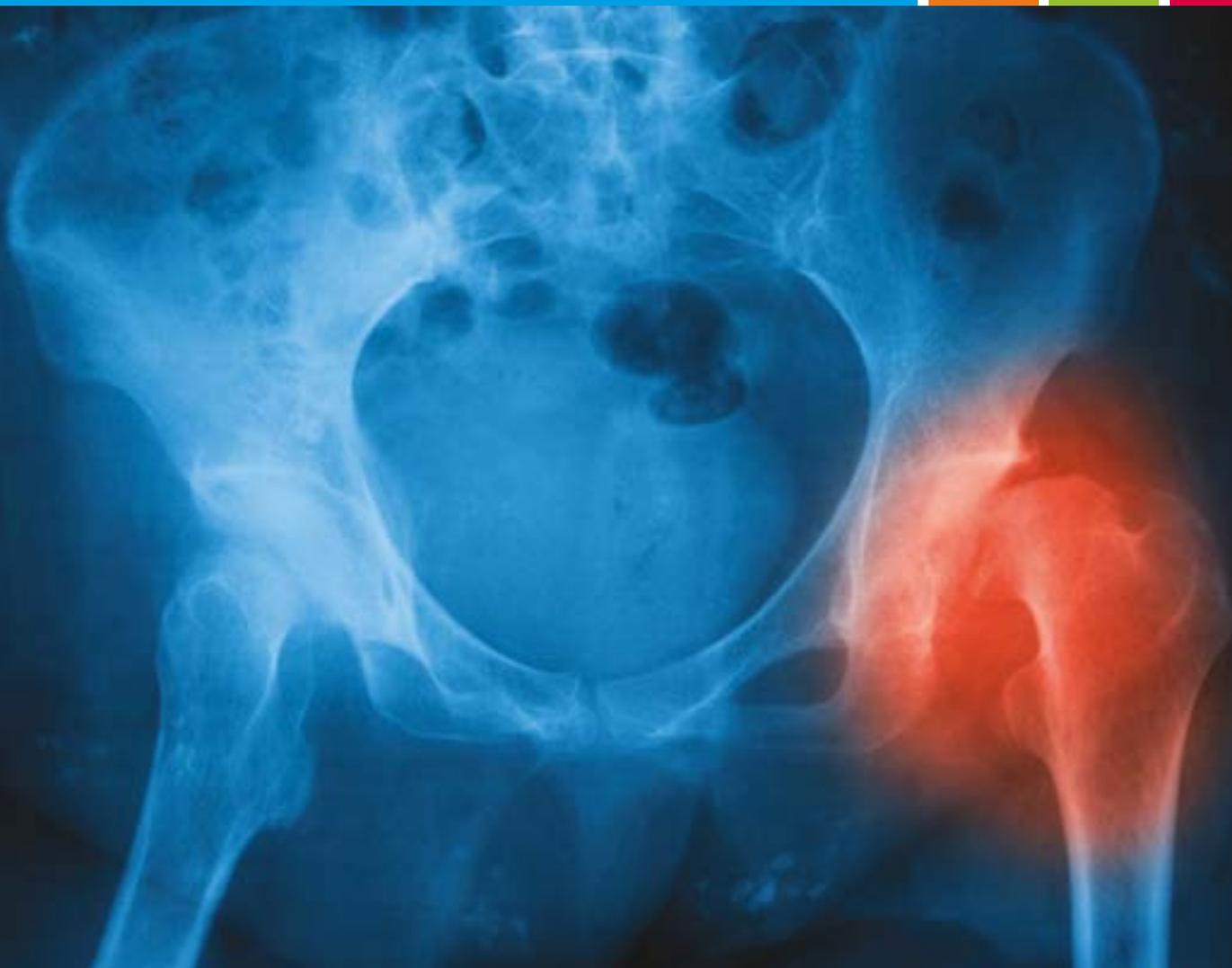


# A Competence Framework for Orthopaedic and Trauma Practitioners

CLINICAL PROFESSIONAL RESOURCE





# Acknowledgements

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This publication is due for review in June 2024. To provide feedback on its contents or on your experience of using the publication, please email [publications.feedback@rcn.org.uk](mailto:publications.feedback@rcn.org.uk)

## Publication

This is an RCN competence document.

## Description

The RCN recognises the importance and value of orthopaedic and trauma practitioners in clinical practice. These competencies have been revised to support these practitioners in a clear, consistent and evidenced based format to reflect their specific, specialist knowledge and skills. The competencies can be employed in various roles across acute, primary and community settings in the United Kingdom (UK) and the framework is inclusive for all practitioners working in the NHS, independent or voluntary sector.

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## 2. Introduction

This document is intended to provide a framework for orthopaedic and trauma practitioners in clinical practice. It is recognised that orthopaedic and trauma practitioners require specific, specialist knowledge and skills reflecting different levels of practice and job roles (Clarke and Santy-Tomlinson 2014, RCN 2012a), and that appropriate education and training is essential to support practitioners' development and competence. This document includes specific musculoskeletal trauma, but excludes major general trauma; this is covered in a separate document detailing competencies for the care of major trauma patients within major trauma centres and trauma units which has been developed by the National Major Trauma Nursing Group and can be found at: [www.nmtng.co.uk/adult-trauma-wards.html](http://www.nmtng.co.uk/adult-trauma-wards.html)

### The development of the competencies

Revision of The Orthopaedic and Trauma nursing competencies (RCN, 2012) was undertaken by a working group with representatives from Northern Ireland, Scotland, England and Wales.

### The new document

The revised competence framework has been reformatted so that it reflects the Nursing and Midwifery Council (NMC), *The Code: Professional standards of practice and behaviour for nurses and midwives* (2018). Each competency has been linked to the following NMC standards:

**Prioritise People, Practise Effectively, Preserve Safety and Promote Professionalism and Trust.**

Within the new framework the expectations of orthopaedic and trauma practitioners in National Health Service (NHS) pay bands 2-8 (NHS Employers) are clear, consistent and evidenced based (wherever possible). The framework is inclusive for all practitioners (working in the NHS, independent or voluntary sector), caring for musculoskeletal (MSK) patients across the lifespan, and across acute, primary and community settings in the United Kingdom (UK).

As a guideline, the document meets the requirements of the RCN Quality Framework.

It presents best practice statements based on highest possible evidence or, in the absence of this, consensus opinion through the expertise of the working group. The group acknowledge that there are different levels of evidence and have used the best available evidence to inform the document.

The document was shared with practitioners at the RCN Congress (2018) and reviewed by representatives from the pay bands during its development, to solicit feedback on its format and ease of use (Appendix 1). The framework can be used alongside the Knowledge and Skills Framework (KSF) (DH, 2004) for practitioner appraisal and contribute to individuals' continuing professional development (CPD). It can also be used in conjunction with learning contracts to maintain and improve competence and inform the NMC revalidation process. An exemplar learning contract is provided in Appendix 2. Whilst every effort has been made to reflect contemporary trauma and orthopaedic practice nationally, it is acknowledged that there will be variances in practice in different institutions and across the UK. Specifically organisations themselves must determine the scope of practice of staff employed across the range of pay bands.

Please note that, in the competence framework, the term 'carer' or 'family' refers to family members, patient advocates or people who provide significant unpaid care to the patient.

### RCN competence statement: Caring for the child, young person and adult with a co-morbidity

The orthopaedic and trauma competencies in this document can be applied across the lifespan of patients with a MSK condition as they transition through the health care system (varied health care providers, different settings such as in hospital or community, in-patient and out-patient), from child, young adult, adult and older adult. The practitioner has a responsibility to recognise and understand the individual needs of patients including any co-morbidities, mental health conditions, cognitive impairment or learning disability that may impact on the patient's return to health. Individual

practitioners and health care providers need to have a constant awareness of adult, child and young person safeguarding and must do everything possible to ensure those at risk are protected from abuse, harm and neglect.

Intercollegiate adult safeguarding competencies can be found here: [www.rcn.org.uk/professional-development/publications/pub-007069](http://www.rcn.org.uk/professional-development/publications/pub-007069)

Government recommendations for Safeguarding Children and Young People can be found here:

[www.gov.uk/government/publications/safeguarding-children-and-young-people/safeguarding-children-and-young-people](http://www.gov.uk/government/publications/safeguarding-children-and-young-people/safeguarding-children-and-young-people)

Person centred care requires effective communication, collaboration and coordination with the multi-disciplinary team (MDT). Including patients and family/carers (where appropriate) in decision making about their care and treatment is essential to ensure they are well informed and active participants in the journey to recovery following trauma or orthopaedic procedures.

All patients, across the lifespan and those with additional needs, must be cared for by competent practitioners – for example, registered nurse (RN) child or registered children’s nurse (RCN), for children and young people (CYP). Practitioners caring for CYP must have a sound knowledge of child anatomy and physiology, including child development. CYP practitioners will understand and appreciate the different physical and psychological aspects of caring for children with an orthopaedic or trauma condition, the employment of distraction therapy and play, the use of age related pain assessment tools, pharmacological and non-pharmacological pain management strategies, provision of a family and child friendly environment, the promotion of successful interaction with the child, conservative management versus surgical intervention, using correctly sized equipment and implementing appropriate care plans (RCN, 2010a; RCN, 2012b; RCN, 2012c).

The practitioner caring for the older adult requires knowledge of the ageing process and its impact on patients’ physical, psychological and social needs and care needs.

## The structure of the competence framework

This updated document has been designed using the existing four core domains within orthopaedic and trauma practice:

- partner/guide
- comfort enhancer
- risk manager
- technician

(Santy 2001) (See Table 1).

**Table 1**

### The Core Competence Domains

Domains of practice:

- partner/guide
- comfort enhancer
- risk manager
- technician

Competence statements are described under the headings:

- Skills and Behaviours
- Knowledge and Understanding

These are the expectations of practitioners working in different roles, stating the specific orthopaedic and trauma knowledge, understanding and skills that are required for each band of practice e.g. bands 2-8 (health care assistant to advanced practitioner).

Evidence: Online data sources were searched for the best available, current, valid and relevant evidence to support the document. Where research evidence was not available, a consensus of expert opinion from the working party integrating existing and new knowledge and practice developments informed the recommendations.

The + sign indicates the inclusion of previous statements for lower bands, building up from health care practitioner to registered nurse, to specialist and advanced practitioner.

## Using the framework

Read in conjunction with the NHS KSF (2004) and the NMC Code (2018), the framework can be employed as part of the performance appraisal process and used as a tool to assist RNs with NMC revalidation.

You can self-assess your level of competence, formulating a personal development plan for the skills and knowledge of orthopaedic and trauma nursing.

Ensure that you understand what the competence statement is asking of you and take responsibility for producing the supporting evidence for the achievement of each competence.

There are learning activities that can be used to provide evidence of competence. (see Table 2)

Table 2 Suggested Activities and Evidence to Support Competence
Self-directed study
Undertaking learning programmes and/or academic qualifications
Seeking learning opportunities in the workplace - for example, job shadowing
Supervised practice with direct observation
Viva voce (an oral assessment/exam)
Observed structured clinical examination (OSCE)
Practice write-ups
Oral and/or written reflections on the care you have provided
Portfolio of evidence
Reflective practice
Critical incident analysis
Writing papers for publication in professional journals which may include audits, case studies, literature reviews and primary research.
Presentations to colleagues (e.g. local, national and international seminars and conferences)
Developing learning and teaching resources for patients, families and colleagues
Certificates of attendance at conferences, study days and symposia with written reflections on learning
Evidence of group work to develop practice
Policy and protocol development
Standard operating procedures
Evidence of membership of advisory groups
Research and evidence-based reviews

Learning contracts can be used to facilitate individual’s continuing professional development plan. An example is given in appendix 2.

It is suggested that you keep a professional portfolio of personal evidence of competence and that knowledge, skills and practice are updated regularly. Completion of a learning contract can form an integral part of your professional portfolio.

## Anticipated benefits of the framework

The competence framework aims to benefit practitioners, their employers, patients and the public by providing a foundation on which to develop and evaluate the safety and effectiveness of orthopaedic and trauma practice. The framework provides clarity for organisations as to what they may expect from orthopaedic and trauma practitioners and can also be used as a benchmark for organisations to use in staff recruitment, development, appraisal and individual performance management. It is relevant to all practitioners now and in the future, including health care assistants and assistant/associate practitioners who are directly involved in the care of orthopaedic and trauma patients across the lifespan. The framework can also be used to develop curricula for the education of orthopaedic and trauma nurses so that education programmes can support the development of specialist skills and knowledge.

### Benefits for practitioners

The framework aims to provide guidance in the following areas:

- delivery of high standards of evidence-based care
- Continuing Professional Development (CPD), identification of education and training needs in relation to the levels of skills, behaviours and knowledge required resulting in structured professional development planning using Learning Contracts
- appraisal and revalidation (Registered Professionals) and for career progression in relation to orthopaedic and trauma practice.

### **Benefits for employers**

The framework aims to provide guidance in the following areas:

- expected levels of knowledge, skills and behaviours for practitioners working within different pay bands
- appraisal processes for individual practitioners and identification of workforce learning and development needs
- workforce planning to support delivery of orthopaedic and trauma services including recruitment and selection of staff.

### **Benefits for the patients and public**

- providing assurance to patients and the public that practitioner competence is assessed and validated using the framework and learning and training needs are addressed through individual and workforce development
- minimising variation in standards of competence, between providers of orthopaedic and trauma services.

Evidence: Benner P (1984); Department of Health (2004); Nursing and Midwifery Council (NMC) (2014); NMC (2018); NMC (2017); RCN (2009); RCN (2012)

## Glossary

**AKI** – acute kidney injury.

**Appliances** – example Orthotics: A support, brace, or splint used to support and position a part of the body.

**Compartment syndrome** – harmful pressure within an isolated muscle compartment.

**External fixation** – method of stabilising bones and joints using metal rods or frames outside of the body.

**MDT** – multidisciplinary team.

**MSK** – musculoskeletal, (includes bones, joints, ligaments, tendons, muscles, and nerves).

**Neurovascular** – system of nerves and blood vessels.

**NEWS2** – national early warning score to improve the detection and response to clinical deterioration in adult patients. See: [www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2](http://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2)

**Traction** – a system of weights and pulleys applied to a part of the body to exert a pulling force, to align and position a bone or rest a limb.

**UTI** – urinary tract infection.

**VTE** – venous-thrombo-embolism; a term that encompasses DVT (deep vein thrombosis) and PE (pulmonary embolus).

## 3. The competencies

### Domain 1. Partner guide

This domain relates to the partnership between the patient and the health care practitioner who guides the patient through their journey in orthopaedic and trauma health care. Supporting the patient and ensuring they are at the centre of their care is essential. In addition, working in partnership with the patient's family/carers is vital, as is liaison and collaboration with all members of the MDT to ensure seamless holistic care.

### Partner guide competencies

Competence 1: To have knowledge of MSK conditions/injuries in order to provide holistic care

Competence 2: To have knowledge and skill in the provision of information, education and support to patients and family/carers about the patient's MSK condition/injury

Competence 3: To have knowledge and skill in the promotion of MSK health, as well as general health and wellbeing

Competence 4: To have knowledge and skill in ensuring accurate, timely record-keeping and communication with the MDT in order to provide seamless holistic care.

Key words:

- Support and guidance
- Patient information and education
- Health promotion
- Rehabilitation

**Evidence:** Clarke and Santy-Tomlinson (2014); The UK Quality Code for Higher Education (2014); RCN (2018); Scottish Government (2017); RCN 2010b

**Domain 1: Partner Guide Framework**

Links with the following NMC Code 2018: **Prioritise people; Practise Effectively**

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Skills and behaviours	Assists with patient care throughout their journey of care, and effectively communicates, under the <b>direct</b> supervision of a registered nurse.	+ Assists with patient care through effective communication under the <b>indirect</b> supervision of a registered nurse.	+ Facilitates person-centred patient care under the indirect supervision of a registered nurse. Documents MSK care/risk assessments/ complications accurately and in a timely manner to provide information to the MDT.	+ Facilitates holistic care through effective communication appropriate to individual need. Promotes evidence-based care delivery and delegates appropriately. Provides information/advice to the patient/family/carers in regard to general health and well-being and MSK conditions/injuries.	+ Co-ordinates care and guides patients and families on their orthopaedic/trauma care journey.	+ Actively develops the practice of others in patient and carer education and support in relation to MSK injuries/conditions and promotion of MSK health. Manages complex issues and acts autonomously in planning and implementing patient care.	+ Leads strategic planning and policy/guideline development in relation to supporting and guiding patients in the Trauma and Orthopaedic (T&O) setting.
Knowledge and understanding	Has a basic knowledge of common MSK conditions/injuries to inform holistic patient care.	+ As band 2.	+ Has knowledge of the impact (short/medium/long term) of MSK condition/injury on the individual and their family.	+ Knowledge of evidence-based strategies and MDT resources to support the individual and/or their families. Knowledge of health promotion strategies.	+ Knowledge of complex MSK conditions/injuries and the impact of co-morbidities.	+ Knowledge of strategies to promote MSK health within the wider community. Is aware of national and international innovations and guidelines that contribute to and inform MSK nursing. Provides education for staff in complex MSK conditions/injuries and the impact of co-morbidities.	+ Advanced knowledge of national and international innovations and guidelines that contribute to and inform MSK nursing. Critically evaluates MSK and advanced practice current research, suggesting new hypotheses to investigate where appropriate.

**Learning Contract:** Use a learning contract to facilitate and guide your development (see appendix 2).

## Domain 2: Comfort enhancer

Comfort is a concept which is central to the fundamental care of the orthopaedic/trauma patient. It is a complex human experience which can be interpreted in different ways and is closely related to the experience of pain, especially for patients who have received a MSK injury. The comfort of orthopaedic/trauma patients is paramount for high-quality care and positive health outcomes. This essential aspect of care may be more complex for the orthopaedic/trauma patient due to the nature of their condition, injury or surgery. MSK instability and movement can result in significant pain and discomfort.

Competence in providing essential care within this context is therefore central to high-quality care and again highlights the need for that care to be provided in a specialist setting where practitioners possess the requisite specialist competence.

### Comfort enhancer competencies

Competence 1: To have the knowledge and skill to recognise pain and discomfort, assessing pain levels using appropriate pain tools.

Competence 2: To have the knowledge and skill to position the patient's trunk, limbs and joints, using slings and other devices, as well as using other non-pharmacological methods to promote comfort and reduce pain, such as ice/heat packs, pillows.

Competence 3: To have knowledge in the administration of analgesia and other drugs needed to maintain patient comfort, including side effects, contra-indications and devices used in administration.

Competence 4: To have knowledge and skill when moving and handling patients with orthopaedic conditions/injuries, in accordance with Health and Safety Executive (HSE) guidelines (2012) and local policy.

Key words:

- Pain and comfort assessment.
- Pain and comfort management.
- Moving and handling.

**Evidence:** Tutton and Seers (2004), Drozd et al (2007), Hogan (2011); Hartling et al (2016), Kolcaba & DiMarco (2005), Health and Safety Executive (2012); Clarke and Santy-Tomlinson (2014); National Institute for Health and Clinical Excellence (NICE) (2010a); NICE (2014).

## Domain 2: Comfort Enhancer Framework

Links with following areas of NMC Code (2018) – Prioritise People and Preserve Safety

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Skills and behaviours	Assists with the essential care which takes into account the patient's pain and comfort levels under the <b>direct</b> supervision of a registered nurse. Assists the registered nurse with positioning a patient's trunk/limbs/joints to reduce pain and enhance comfort. Assists the registered nurse or therapist with safely rolling/moving a patient with a spinal injury. Have up to date patient Moving and Handling training as per HSE Guidelines (2012).	+ Assists with the essential care which takes into account the patient's pain and comfort levels under the <b>indirect</b> supervision of a registered nurse.	+ To assess and record pain levels using recognised scales. To inform registered nurse of outcome of pain assessment for the implementation and administration of pain medication as needed. Can utilise distraction techniques for adults/children. Can perform simple positioning techniques to provide comfort/pain relief to patients with T&O/MSK injuries/conditions under the indirect supervision of the registered nurse.	+ Assess, plans, implements and evaluates care in order to meet the patient's anxiety, distress, pain and comfort needs. Monitors nursing care against current local/national policies and improve standards where possible. Positions a patient's trunk/limbs/joints in order to reduce pain and enhance comfort. Utilises adjuncts such as pillows and other devices, eg. Braun frame, traction, splints, collars etc. in order to maintain comfort and reduce pain. Can safely move/turn/roll a spinal injured patient in accordance with local/national guidelines Adheres to local health and safety guidelines and policies in relation to T&O/MSK injuries/conditions.	+ Assesses plans, delivers and evaluates care for patients with complex comfort and pain management needs. Provides guidance/teaching to junior staff members in regard to T&O/MSK conditions/injuries.	+ Actively seeks to improve practice in the assessment and management of pain and comfort for patients.	+ Prescribes, implements, monitors and evaluates pain management regimens – both pharmacological and non-pharmacological. Contributes to development of local guidelines and policies for T&O patients.

## Domain 2: Comfort Enhancer Framework (continued)

Links with following areas of NMC Code (2018) – Prioritise People and Preserve Safety

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Knowledge and understanding	<p>Has basic knowledge and understanding of:</p> <ul style="list-style-type: none"> <li>different moving and handling techniques that can be used:                             <ul style="list-style-type: none"> <li>- when assisting patients to change position when in a cast, traction, etc.</li> <li>- when assisting patients to safely stand when non-weight bearing on one side (see Domain 4 technician - mobility and transfer)</li> </ul> </li> <li>safe techniques of moving/rolling/turning spinal injured patients</li> <li>different adjuncts that can be used to maintain comfort and reduce pain in patients</li> <li>local health and safety guidelines/policies in relation to moving and handling of patients.</li> </ul>	<p>+ As band 2.</p>	<p>+ Has knowledge and understanding of:</p> <ul style="list-style-type: none"> <li>different pain assessment tools</li> <li>importance of accurate record keeping</li> <li>different communication methods.</li> </ul>	<p>+ Has knowledge and understanding of:</p> <ul style="list-style-type: none"> <li>non-pharmaceutical strategies to maintain comfort/ reduce pain</li> <li>different types of analgesia; their dosages, routes, side effects and contra-indications</li> <li>different devices for administering analgesia</li> <li>local and national health and safety guidelines in relation to moving and handling patients, including spinal injured patients.</li> </ul>	<p>+ As band 5.</p>	<p>+ As band 5.</p>	<p>+ Knowledge and understanding of guideline/policy development in relation to T&amp;O patients' comfort enhancement.</p>

**Learning Contract:** Use a learning contract to facilitate and guide your development (see appendix 2).

## Domain 3: Risk Manager

Orthopaedic practitioners need to safely assess and manage the delivery of evidence-based, person-centred orthopaedic and trauma care. One of the central aspects is the prompt identification and management of risk to patient safety and well-being. Risks are both speciality specific and general. MSK conditions and injuries

bring inherent risk and furthermore orthopaedic treatment modalities such as surgery also carry associated risks.

Table 3 illustrates examples of both MSK specific and general/associated risks posed to trauma and orthopaedic patients. These examples are not meant to be exhaustive; but provide an overview of the most common risks and complications.

**Table 3: Complications and risks**

Complications and risks associated with MSK Conditions and Injuries	General/associated complications and risks
Neurovascular compromise	Risk of falls
Compartment syndrome	Malnutrition
Venous thrombo embolism (VTE): Deep venous thrombosis and pulmonary embolism	Dehydration/AKI
Fat embolism	Acute Delirium
Joint arthroplasty dislocation	Sepsis
Primary and secondary wound infection	Chest infection
Osteomyelitis	Urinary tract infection
Fracture blisters	Constipation
Pin site infection	Urinary retention
Complex regional pain syndrome	Psychological e.g. depression, post-traumatic stress disorder Pressure ulcers Loss of independent mobility

All patients regardless of age are at potential risk of speciality and/or general/associated complications. Certain groups of people may be at increased risk due to an inability, or reduced ability, to communicate symptoms which would indicate the onset of a complication and this includes people with special needs, learning/intellectual disabilities, language barriers, acute delirium and /or cognitive impairment. An example is the risk of ‘diagnostic overshadowing’ where the symptom a patient presents with may be overlooked or seen as related to the cognitive impairment, rather than the MSK condition or injury. Orthopaedic practitioners must work with these patients and their families to ensure that their concerns and needs are addressed through use of appropriate communication and assessment aids, family/carer partnership and liaison with specialist services for dementia and learning disability.

Increasingly patients are being treated and cared for across different settings including primary, secondary, community, their own homes and independent care settings. Enhanced recovery pathways, hospital admission prevention and early discharge schemes mean that most of the patient’s care is often not delivered within the specialist orthopaedic setting. Trauma and orthopaedic (T&O) practitioners are key in the prevention, recognition, assessment and management of specific complications and risks associated with MSK conditions/injuries and treatments, for example patients who develop an acute delirium resulting in significant upset and distress to the patient and their family (Belleli 2014). T&O trained practitioners can reduce the severity of complications by detecting signs and symptoms early. Therefore, partnership working with patients and their families and health care/specialist service teams is essential to ensure that these risks continue to be assessed for, prevented

and/or managed effectively. Lack of recognition of complications will lead to increased length of stay, morbidity and mortality.

### **Risk Manager Competencies:**

**Competence 1:** To recognise potential risks and complications associated with MSK conditions, injuries and treatment interventions. (See table 3)

**Competence 2:** To have knowledge and skill to assess potential risk to individuals and populations using valid and reliable tools and methods.

**Competence 3:** To have knowledge and skill in risk management strategies in order to optimise patient safety and wellbeing.

**Competence 4:** To have knowledge and skill to enable prompt recognition when complications occur and to instigate evidence-based or best practice interventions in order to minimise harm to the patient.

**Competence 5:** To have knowledge and skill in order to communicate potential T&O risks and complications to senior nurses and medical teams and to the patients and their families in a manner that reflects their individual needs.

Key words:

- Risk assessment
- Risk management
- Complications
- Orthopaedic and trauma practitioner knowledge
- Discharge planning.

**Evidence:** Belleli et al (2014); Drozd and Clinch (2016); Limbert and Santy-Tomlinson (2017); NICE (2010b); NICE (2013); NICE (2015); NICE (2016), RCN (2004), RCN (2014), Ali, Santy-Tomlinson and Watson (2014), Healthcare Quality Improvement Partnership (2015), Shaikh (2009), Lyons (2015), Sanders and Mauffrey (2013), National Major Trauma Nursing Group (2017), Votrubic and Thong (2013); Healthcare Improvement Scotland (2014), NICE (2010), Docherty and Mounsey (2016), MacLulich, Ryan and Cash (2014), NHS England (2015), Healthcare Quality Improvement Partnership (2017), Hertz and Santy-Tomlinson 2018.

### Domain 3: Risk Manager Competency Framework

Links with following areas of NMC Code (2018) – Practise Effectively and Preserve Safety

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Skills and behaviours	Assists the Registered Nurse (RN) with the risk assessment of patients and reports suspected risk/complications promptly to a senior practitioner.	+ Educates patients, families and carers regarding potential risks and complications under the <b>direct</b> supervision of a RN.	+ Conducts risk assessment of patients under <b>indirect</b> supervision of a RN at a frequency and breadth determined by the RN. e.g. Recognises early warning signs of acute delirium and records and reports findings to RN e.g using NEWS2.	+ Conducts risk assessment of patients at a frequency and breadth appropriate to the individuals condition and stage of recovery. Uses valid and reliable tools as part of the risk assessment process, for example: <ul style="list-style-type: none"> <li>• Peripheral Neurovascular Observations (RCN)</li> <li>• Falls – Multifactorial risk assessment</li> <li>• 4AT delirium</li> <li>• NEWS2.</li> </ul> Initiates the management of suspected or actual complications. Educates patients, families, carers and other members of staff (including students) regarding potential risks/ complications and how to assess for them.	+ Initiates further investigations to establish or confirm complications.	+ Leads analysis and monitoring of prevalence of complications. Managing human and fiscal resources to optimise risk free care environments.	+ Appraisal of tools to assess risk and make recommendation for policy and practice and development at local and national level.

### Domain 3: Risk Manager Competency Framework (continued)

Links with following areas of NMC Code (2018) – Practise Effectively and Preserve Safety

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Knowledge and understanding	Has a basic knowledge and understanding of common complications and their signs and symptoms related to MSK conditions and injuries, e.g. early and frequent mobilisation and movement to minimise risk of VTE.	+ Basic knowledge and understanding of how to educate patients and their families.	+ Knowledge and understanding of the assessment tools used to identify risk of complications and deterioration.	+ Has core T & O knowledge and understanding of evidence-based assessment, examination procedures and clinical investigations to facilitate detection of complications.  Core T & O knowledge and understanding of methods to accurately communicate actual and potential complications, both speciality and associated.  Knowledge and understanding of complications associated with specific musculoskeletal conditions and injuries (see table 3).  Knowledge and understanding of individual patient factors that would increase their risk of T & O and associated complications, for example: <ul style="list-style-type: none"> <li>patients with communication and/or special needs and/or cognitive difficulties,</li> <li>patients with a past medical history of falls, DVT; morbidly obese patients</li> </ul> Knowledge and understanding of evidence-based T & O risk management strategies and interventions.	+ Has specialist T & O knowledge and understanding of: <ul style="list-style-type: none"> <li>resource utilisation and skill mix to facilitate effective minimisation and management of speciality and associated complication risks to individual patients and groups of patients.</li> </ul>	+ Specialist T & O knowledge of innovation and development related to risk management strategies at a local and national level.	+ Advanced T & O knowledge of innovation and development related to risk management strategies at a local and national level. Influences local & national policy and practice on evidence based practice which includes identifying areas requiring further research.

**Learning Contract:** Use a learning contract to facilitate and guide your development (see appendix 2).

## Domain 4: Technician

This domain encompasses the highly technical nature of orthopaedic and trauma practice; for example, the knowledge, understanding and skill required to provide care for patients with specialised devices and equipment used to either treat orthopaedic conditions and injuries, or to protect patients from complications.

The trauma and orthopaedic practitioner, therefore, needs to be competent in managing and using such treatment modalities.

These technical aspects of care carry their own risk of complications and are, therefore, linked to the risk management domain.

Many of these technical aspects of trauma and orthopaedic care are highly specialised, requiring advanced nursing skills. Maintaining expert specialist skills through regular training, education and practice is imperative for the provision of evidenced based safe and effective orthopaedic and trauma care.

### Technician competencies

Competence 1: To have knowledge of the different treatment modalities for the care of patients with MSK conditions/injuries.

For examples see Table 4.

Table 4 Technician Competencies	
Traction	Hamilton Russell • Gallows/Bryants • skeletal • slings and springs
Casts	Upper and lower body • spinal jackets • hip spicas. Full casts and plaster slabs
External fixators	Ilizarov • Taylor spatial frames • monolateral • Hoffman
Appliances	Braces • slings • splints • cervical collars
Orthotics/prosthetics	Artificial limbs, shoe modifications
Mobility/transfer aids	Elbow/gutter crutches • walking sticks • walking frames • wheelchairs • hoists and slings • sit-to-stand transfer aids • transfer boards

Competence 2: To have knowledge and skill in the safe assessment and management of the patient to include: application and management of equipment (excluding the application of external fixators), management of complications and holistic care of the patient.

- In traction
- With a cast
- With an external fixator
- Using/wearing an orthopaedic appliance
- Using mobility/transfer aids.

Competence 3: To have knowledge and skill in the provision of person centred care across the lifespan:

- Knowledge of the MSK condition, relating co-morbidities, the management aims and purpose of treatment

- Communication and education of the patient and family/carer (see domain 1 and 2)
- Pain management (see domain 2)
- Risk management of complications specific to treatment modality (see domain 3)
- Timely and accurate documentation of actions and reporting of nursing care concerns
- Collaborative working with the MDT in all settings (see domain 1)
- Education and training of practitioners in specific treatment modalities e.g. disseminates evidence-based best practice. Audits further practice.

**Evidence:** BAPA (2013), Beck et al (2003), Bertrand et al (2017), Blanchard & Brittain (2016), British Orthopaedic Association (2007),

British Orthopaedic Association (2015), British Red Cross (2015), Chan et al (2013), Clarke and Santy-Tomlinson (2014), Dandy and Edwards (2009), Ferreiro Peteiro (2015), Judd (2008), Lethaby et al (2011), MASCIP (2008), National Major trauma Nursing Group (2017), Newton-Triggs et al (2011), NICE (2011), NICE Spinal injury assessment NG41 (2016), NICE 2016, Patterson 2006, RCN (2004), RCN (2013), RCN (2014), RCN (2015), Saithna (2011), Salminen (2009), Santy-Tomlinson et al (2011), SIGN (2009): Timms et al (2010).

### Domain 4: Technician competencies

Links with following areas of NMC Code (2018) – Prioritise People, Practise Effectively, Preserve Safety and Promote Professionalism and Trust.

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Skills and behaviours	Assists with care throughout the patient's journey with a specialist orthopaedic device under the <b>direct</b> supervision of a registered nurse or occupational therapist.	Assists with care throughout the patient's journey with a specialist orthopaedic device under <b>indirect</b> supervision of a registered nurse or a physiotherapist/occupational therapist. And includes: Specifics: Re-applies simple splints/ skin traction under direction of senior practitioner. Removes a backslab under instruction.	Facilitates holistic care in the patient's journey with a specialist orthopaedic device under <b>indirect</b> supervision of a registered nurse or a physiotherapist/occupational therapist. And includes: Specifics: • Performs pin site care. • Measures for mobility aids.	Utilises evidenced based resources/ guidelines, and actively manages co-morbidities. Promotes evidence-based care delivery for the patient and family on their journey with a specialist orthopaedic device Delegates nursing care appropriately. And includes: Specifics: • Applies/removes complex traction/appliances e.g. Thomas splint • Trim/bi-valve/window/split/ • remove a cast • Implements use of appropriate mobility aid.	Co-ordinates and guides patients and families on their journey with a specialist orthopaedic device. Utilises evidence-based resources/ guidelines to teach and instruct other health professionals in specific treatment modalities. And includes: Specifics: • Measures and fits a cervical collar • Wedge a cast after medical instruction.	Actively develops the practice of others in patient and carer education and support on their journey with a specialist orthopaedic device. And includes: Specifics: • Alters an external fixator including strut changes and frame adjustments • Prescribes different appliances/cast.	Leads strategic planning and policy/guideline development in relation to the treatment modalities used in the patient's journey with a specialist orthopaedic device. And includes: Specifics: • Advises on appropriate specialist orthopaedic device for the patient's management.

**Domain 4: Technician competencies (continued)**

Links with following areas of NMC Code (2018) – Prioritise People, Practise Effectively, Preserve Safety and Promote Professionalism and Trust.

	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Knowledge and understanding	Has a basic knowledge of common MSK conditions/injuries to inform holistic patient care.	+ As band 2.	+ Has knowledge of the impact (short/medium/long term) of MSK condition/injuries on the individual and their family for specific treatment modalities. And includes: Specifics: <ul style="list-style-type: none"> <li>• Importance of neurovascular observations and prompt reporting of concerns</li> <li>• Recognises and reports problems – pin site infection.</li> </ul>	+ Knowledge of evidence-based literature relating to specialist orthopaedic/ MSK management and care of patients, and of MDT resources to support the individual and/or their families . Knowledge of managing co-morbidities (see risk manager domain). And includes: Specifics : <ul style="list-style-type: none"> <li>• Identifying potential and actual problems – plaster sores, impending compartment syndrome</li> <li>• DVT, skin allergies</li> <li>• Extended use of a hard-cervical collar</li> <li>• Log rolling procedure.</li> </ul>	+ Knowledge of specialist orthopaedic/MSK devices used in the management and care of patients with complex MSK conditions/injuries. Knowledge of strategies to support the patient and family and of the impact of co-morbidities.	+ Knowledge of evidence-based national guidelines to prevent and manage co-morbidities.	+ Advanced knowledge and facilitates the adoption of new evidence-based guidance relating to specialist orthopaedic/MSK devices.

**Learning Contract:** Use a learning contract to facilitate and guide your development (see appendix 2).

## 4. References

- Ali PA, Santy-Tomlinson J and Watson R (2014) Assessment and diagnosis of acute limb compartment syndrome: a literature review, *International Journal of Orthopaedic and Trauma Nursing*, 18(4) pp.180-190.
- Versus Arthritis (2018) *State of Musculoskeletal Health*. Available at: [www.arthritisresearchuk.org/arthritis-information/data-and-statistics/state-of-musculoskeletal-health.aspx](http://www.arthritisresearchuk.org/arthritis-information/data-and-statistics/state-of-musculoskeletal-health.aspx) Accessed 14/12/2018.
- Blanchard C and Brittain A (2016) *The crises facing our independent living service users: research, evaluation and impact*, Red Cross: London. Available from: [www.scie-socialcareonline.org.uk/the-crises-facing-our-independent-living-service-users-research-evaluation-and-impact/r/a11G00000MIkPwIAL](http://www.scie-socialcareonline.org.uk/the-crises-facing-our-independent-living-service-users-research-evaluation-and-impact/r/a11G00000MIkPwIAL) Accessed 14/12/2018.
- Beck A, Krischak G and Sorg T (2003) Influence of Diclofenac (group of nonsteroidal anti-inflammatory drugs) on fracture healing, *Archives of Orthopaedic and Trauma Surgery* 123, pp.327-332.
- Belleli G, Morandi A, Davis DH, Mazzola P, Turco R, Gentile S, Ryan T, Cash H, Guerini F, Torpillesi T, Del Santo F, Trabucchi M, Annoni G, MacLulich AM (2014) Validation of the 4AT, a new instrument for rapid delirium screening: a study in 234 hospitalised older people, *Age Ageing*, Jul 43(4), pp.496-502.
- Benner P (1984) *From novice to expert, excellence and power in clinical nursing practice*, Menlo Park: Addison Wesley Publishing Company.
- Bertrand K, Raymond MH, Miller WC, Martin Ginis, KA and Demers L (2017) Walking Aids for Enabling Activity and Participation: A Systematic Review, *Am J Phys Med Rehabil*, 96 (12), pp.894-903.
- British Association of Prosthetics and Orthotics (BAPO) (2018) *Standards for Best Practice*, BAPO: Paisley. Available at: <http://bapo2.axiadigital.uk/wp-content/uploads/2018/01/Standards-for-Best-Practice-FINAL-.pdf> Accessed 14/12/2018.
- British Orthopaedic Association (BOA) (2007) *The Care of Patients with Fragility Fracture 'The Blue Book'*. Available at: [www.bgs.org.uk/resources/care-of-patients-with-fragility-fracture-blue-book](http://www.bgs.org.uk/resources/care-of-patients-with-fragility-fracture-blue-book) Accessed on 14/12/2018.
- British Orthopaedic Association (BOA) (2015) *British Casting Standards*. Available at: [www.boa.ac.uk/training-education/casting-standards](http://www.boa.ac.uk/training-education/casting-standards) Accessed 14/12/2018.
- British Red Cross Red Cross Mobility Aids [www.redcross.org.uk/mobilityaids](http://www.redcross.org.uk/mobilityaids) Accessed 14/12/2018.
- Chan M, Al-Buali W, Charyk Stewart T, Singh RN, Kornecki A, Seabrook JA, Fraser DD (2013) Cervical spine injuries and collar complications in severely injured paediatric trauma patients *Spinal Cord*, V5, pp.1360-364. <https://www.nature.com/articles/sc20136> Accessed 14/12/2018.
- Clarke S and Santy-Tomlinson J (2014) *Orthopaedic and Trauma Nursing: An Evidence-based Approach to Musculoskeletal Care*, Oxford: Wiley-Blackwell.
- Dandy D and Edwards D (2009) *Essential Orthopaedics and Trauma (5th ed)*, Churchill and Livingstone: London.
- Department of Health (2004) *The Knowledge and Skills Framework*, DH. Available at: [www.dh.gov.uk](http://www.dh.gov.uk). Accessed 14/12/18.
- Docherty E and Mounsey C (2016) *Delirium: suspect it, spot it, stop it*. <https://search.proquest.com/docview/1844341995/fulltextPDF/A0042AD7B2CC4302PQ/1?accountid=48521> Accessed 5/2/2018.
- Drozd M and Clinch C (2016) The experiences of orthopaedic and trauma nurses who have cared for adults with a learning disability, *International Journal of Orthopaedic and Trauma Nursing*, 22, pp.13-23.
- Drozd M, Jester R, Santy J (2007) The inherent components of the orthopaedic nursing role: an exploratory study, *Journal of Orthopaedic Nursing* 11(1), pp.43-52.
- Ferreiro Peteiro M (2015) *Level 2 Health & Social Care Diploma Evidence Guide*, Hachette UK.

Hartling L, Samina A, Dryden DM, Chordiya P, Johnson DW, Plint AC, Stang A, McGrath PJ and Drendel AL (2016) How Safe Are Common Analgesics for the Treatment of Acute Pain for Children? *A Systematic Review, Pain Research and Management*. Available at: <http://dx.doi.org/10.1155/2016/5346819> Accessed 14/12/18.

Health and Safety Executive (2012) *Manual Handling at Work. A brief guide*. Available at: [www.hse.gov.uk/pubns/indg143.pdf](http://www.hse.gov.uk/pubns/indg143.pdf) Accessed 14/12/18.

Healthcare Improvement Scotland (2014) *Improving the care for older people: Delirium toolkit (2014) A range of tools and resources for healthcare professionals to help improve identification and immediate management of delirium in clinical settings*. Available at: <http://ihub.scot/delirium-toolkit/> Accessed 14/12/18.

Healthcare Quality Improvement Partnership (2015) *National Audit of Inpatient Falls audit report 2015*. London: Royal College of Physicians and Falls and Fragility Fracture Audit Programme. Available at: [www.rcplondon.ac.uk/projects/outputs/naif-audit-report-2015](http://www.rcplondon.ac.uk/projects/outputs/naif-audit-report-2015) Accessed 14/12/2018.

Healthcare Quality Improvement Partnership (2017) *The Learning Disabilities Mortality Review Annual Report 2017*. Available at: [www.hqip.org.uk/resource/the-learning-disabilities-mortality-review-annual-report-2017](http://www.hqip.org.uk/resource/the-learning-disabilities-mortality-review-annual-report-2017) Accessed 14/12/18.

Hertz K and Santy-Tomlinson J (2018) *Fragility Fracture Nursing. Holistic care and management of the orthogeriatric patient*. Available at: [www.springer.com/gp/book/9783319766805](http://www.springer.com/gp/book/9783319766805) Accessed 14/12/18.

Heslop P, Blair P, Fleming P, Houghton M, Marriott A and Russ L (2013) *Confidential Inquiry into premature deaths of people with learning disabilities (CIPOLD) Final report*. University of Bristol. Available at: [www.bristol.ac.uk/media-library/sites/cipold/migrated/documents/fullfinalreport.pdf](http://www.bristol.ac.uk/media-library/sites/cipold/migrated/documents/fullfinalreport.pdf) Accessed 14/12/2018.

Hogan CJ (2011) *Pain Control in Trauma Patients*. Available at: <https://search.proquest.com/docview/883389513?accountid=48521> Accessed 14/12/18.

Jester R, Santy J and Rogers J (2011) *Oxford Handbook of Orthopaedic and Trauma Nursing*. Chapter 5 Complications pp.185-217. Oxford: Oxford University Press.

Judd J (2008) Application and Care of Traction. In: Kelsey J and McEwing G. eds. *Clinical Skills in Child Health Practice*. Churchill Livingstone Elsevier: Edinburgh.

Kolcaba A. and DiMarco MA (2005) Comfort Theory and Its Application to Pediatric Nursing, *Pediatric Nursing* (13)3, pp.187-194.

Lethaby A, Temple J and Santy J (2011) *Pin Site Care for Preventing Infections Associated With External Bone Fixators and Pins*. Cochrane Database of Systematic Reviews 12 (Art. No.:CD004551). DOI: 10.1002/14651858.CD004551.pub3.

Limbert E and Santy-Tomlinson J (2017) Acute Limb Compartment Syndrome in the lower leg following trauma: assessment in the intensive care unit. *Nursing Standard* 31(34) 61-71.

Lyons R (2015) *Acute limping in a young child: Evaluation and management review*. Available at: <https://search.proquest.com/docview/1731829368/D7795B72409844CAP/Q/11?accountid=48521> Accessed 14/12/18.

MacLulich A, Ryan T and Cash H (2014) *4AT Rapid Clinical Test for Delirium*. Available at: [www.the4at.com](http://www.the4at.com) Accessed 14/12/18.

Multidisciplinary Association of Spinal Cord Injury Professionals (MASCIP) (2008) *Moving and handling patients with actual or suspected spinal cord injuries (sci)*. Available at: [www.mascip.co.uk/wp-content/uploads/2015/02/MASCIP-SIA-Guidelines-for-MH-Trainers.pdf](http://www.mascip.co.uk/wp-content/uploads/2015/02/MASCIP-SIA-Guidelines-for-MH-Trainers.pdf) Accessed 14/12/18.

National Institute for Health and Clinical Excellence (NICE) (2010a) *Delirium: prevention, diagnosis and management*. Available at: [www.nice.org.uk/guidance/CG103](http://www.nice.org.uk/guidance/CG103) Accessed 26/1/2018.

National Institute for Health and Clinical Excellence (NICE) (2010b updated 2015) *Venous thromboembolism: reducing the risk for patients in hospital*. Clinical guideline [CG92] Available at: [www.nice.org.uk/Guidance/CG103](http://www.nice.org.uk/Guidance/CG103) Accessed 14/12/18.

- National Institute for Health and Clinical Excellence (NICE) (2011 updated 2017) *Hip fracture: the management of hip fracture in adults*, London: NICE. Available at: [www.nice.org.uk/guidance/cg124](http://www.nice.org.uk/guidance/cg124) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2013) *Acute kidney injury: prevention, detection and management*. Clinical guideline [CG169] Available at: [www.nice.org.uk/guidance/cg169](http://www.nice.org.uk/guidance/cg169) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2014) *Safe staffing for nursing in adult inpatient wards in acute hospital*. Safe staffing guideline [SG1]. Available at: [www.nice.org.uk/guidance/sg1](http://www.nice.org.uk/guidance/sg1) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2015) *Falls in older people*. Quality standard 86. Available at: [www.nice.org.uk/guidance/qs86](http://www.nice.org.uk/guidance/qs86) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2016 updated 2017) *Sepsis: recognition, diagnosis and early management*. NICE guideline [NG51]. Available at: [www.nice.org.uk/guidance/ng51/resources](http://www.nice.org.uk/guidance/ng51/resources) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2016) *Spinal Injury: Assessment and Initial Management* [NG4]. Available at: [www.nice.org.uk/guidance/ng41/evidence/full-guideline-2358425776](http://www.nice.org.uk/guidance/ng41/evidence/full-guideline-2358425776) Accessed 14/12/18.
- National Institute for Health and Clinical Excellence (NICE) (2016) *Fractures (non-complex): assessment and management*. Available at: [www.nice.org.uk/guidance/ng38](http://www.nice.org.uk/guidance/ng38) Accessed 14/12/18.
- National Major Trauma Nursing Group (2017) *Critical care National Competency Framework for Registered Nurses in Adult Critical Care. Trauma Speciality Competencies*. Available at: [www.nebula.wsimg.com](http://www.nebula.wsimg.com) Accessed 6/6/2018.
- Newton-Triggs L, Pugh H, Rogers J and Timms A (2014) Key Musculoskeletal Interventions In: Clarke S and Santy-Tomlinson J (2014) *Orthopaedic and Trauma Nursing: An Evidence-based Approach to Musculoskeletal Care*, Oxford: Wiley-Blackwell.
- NHS England (2015) *Guidance-Commissioning Excellent Nutrition and Hydration – 2015-2018*. Available at: [www.england.nhs.uk/wp-content/uploads/2015/10/nut-hyd-guid.pdf](http://www.england.nhs.uk/wp-content/uploads/2015/10/nut-hyd-guid.pdf) Accessed 14/12/18.
- Nursing and Midwifery Council (NMC) (2014) *Standards for competence for registered nurses*. Available at: [www.nmc.org.uk/standards/additional-standards-for-competence-for-registered-nurses](http://www.nmc.org.uk/standards/additional-standards-for-competence-for-registered-nurses) Accessed 14/12/2018.
- Nursing and Midwifery Council (2018) *The Code: Professional standards of practice and behaviour for nurses and midwives*, NMC: London. Available at: [www.nmc.org.uk/standards/code/read-the-code-online/](http://www.nmc.org.uk/standards/code/read-the-code-online/) Accessed 14/12/18.
- Nursing and Midwifery Council (2017) *Revalidation*, NMC: London. Available at: <http://revalidation.nmc.org.uk/> Accessed 14/12/18.
- O’Riordan S, Vasilakis N, Hussain L, Schoo R, Whitney J, Windsor J, Horton K and Marin F (2017) Measurement of lying and standing blood pressure in hospital, *Nursing Older People*, 29 (8), pp.20-26.
- Patterson M (2006) Impact of external fixation on adolescents: an integrative research review, *Orthopaedic Nursing*, 25(5), pp.300-308.
- Royal College of Nursing (2009) *Integrated core career and competence framework for registered nurses*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-003053](http://www.rcn.org.uk/professional-development/publications/pub-003053) Accessed 14/12/18.
- Royal College of Nursing (2010a) *Health Care Service Standards in Caring for Neonates, Children and Young people*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-004608](http://www.rcn.org.uk/professional-development/publications/pub-004608) Accessed on: 14/12/18.
- Royal College of Nursing (2010b) *Advanced Level Nursing: A Position Statement*, London: RCN. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/215935/dh\\_121738.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215935/dh_121738.pdf) Accessed on: 14/12/18.

- Royal College of Nursing (2012a) *A competence framework for orthopaedic and trauma practitioners*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-004316](http://www.rcn.org.uk/professional-development/publications/pub-004316) Accessed 14/12/18.
- Royal College of Nursing (2012b) *National Curriculum and Competency Framework. Emergency Nursing (Level 2)*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-005923](http://www.rcn.org.uk/professional-development/publications/pub-005923) Accessed 14/12/18.
- Royal College of Nursing (2012c) *Core competencies for nursing children and young people*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-004202](http://www.rcn.org.uk/professional-development/publications/pub-004202) Accessed 14/12/18.
- Royal College of Nursing (2013) *Benchmarks for 'Children's orthopaedic nursing care': RCN guidance*, London: RCN. Available at: [www.rcn.org.uk/professional-development/publications/pub-003209](http://www.rcn.org.uk/professional-development/publications/pub-003209) Accessed 14/12/18.
- Royal College of Nursing (2015) *Traction: principles and application*, London: RCN. Available at: [https://my.rcn.org.uk/\\_\\_data/assets/pdf\\_file/0004/608971/RCNguidance\\_traction\\_WEB\\_2.pdf](https://my.rcn.org.uk/__data/assets/pdf_file/0004/608971/RCNguidance_traction_WEB_2.pdf) Accessed 14/12/18.
- Royal College of Nursing (2018) *Credentialing for Advanced Level Nursing Practice. Handbook for applicants*. Available at: [www.rcn.org.uk/professional-development/professional-services/credentialing](http://www.rcn.org.uk/professional-development/professional-services/credentialing) Accessed 14/12/18.
- Royal College of Nursing and British Orthopaedic Association (BOA) (2014) *Peripheral neurovascular observations for acute limb compartment syndrome*. Available at: <https://scadmin.rcn.org.uk/-/media/royal-college-of-nursing/documents/publications/2014/september/pub-004685.pdf> Accessed 14/12/18.
- Saithna A (2010) The influence of hydroxyapatite coating of external fixator pins on pin loosening and pin track infection: a systematic review, *Injury*, 41(2), pp.128-132.
- Salminen AL, Brandt A, Samuelsson K, Töytäri O and Malmivaara A (2009) Mobility devices to promote activity and participation: a systematic review, *J Rehabil Med*, 41 (9), pp.697-706.
- Sanders J and Mauffrey C (2013) *Long Bone Osteomyelitis in Adults: Fundamental Concepts and Current Techniques*. Available at: <https://search.proquest.com/docview/1350556534/fulltextPDF/9BD0F1CF3A14698PQ/18?accountid=48521> Accessed 14/12/18.
- Santy J (2001) An investigation of the reality of nursing work with orthopaedic patients, *Journal of Orthopaedic Nursing*, 5, pp.22-29.
- Santy-Tomlinson J, Vincent M, Glossop N, Jomeen J and Pearcey P (2011) Calm, irritated or infected? The experience of the inflammatory states and symptoms of pin site infection and irritation during external fixation. A grounded theory study, *Journal of Clinical Nursing*, 20 (21/22), pp.3163-3173.
- Scottish Government (2017) *Transforming Nursing, Midwifery and Health Professions' (NMaHP) Roles: pushing the boundaries to meet health and social care needs in Scotland: Paper 2 – Advanced nursing practice*. CNOD. Available at: [www.gov.scot/Publications/2017/12/6658/1](http://www.gov.scot/Publications/2017/12/6658/1) Accessed 14/12/18.
- Scottish Intercollegiate Guidelines Network (SIGN) (2009) *Management of hip fracture in older people*, Edinburgh: SIGN 111. Available at: [www.sign.ac.uk/assets/sign111.pdf](http://www.sign.ac.uk/assets/sign111.pdf) Accessed 14/12/18.
- Shaikh N (2009) *Emergency Management of Fat Embolism Syndrome*. Available at: [www.ncbi.nlm.nih.gov/pmc/articles/PMC2700578/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2700578/) Accessed 14/12/18.
- The UK Quality Code for Higher Education. Setting and Maintaining Academic Standards Part A (2014) *The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies*. Available at: [www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf?sfvrsn=170af781\\_14](http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf?sfvrsn=170af781_14) Accessed 14/12/18.
- Timms A, Sorkin T, Pugh H, Barry M and Goodier WD (2010) "No-one has ever asked for it back!" A survey assessing the fate of reusable external fixation equipment in mortuaries, *Injury*, 41(2), pp.141-143.

Timms A, Vincent M, Santy-Tomlinson J and Hertz K (2011) *RCN Guidance on pin site care. Report and recommendations from the 2010 Consensus Project on Pin Site Care*, RCN: London. 004 137. Available at: [https://my.rcn.org.uk/\\_\\_data/assets/pdf\\_file/0009/413982/004137.pdf](https://my.rcn.org.uk/__data/assets/pdf_file/0009/413982/004137.pdf) Accessed 14/12/18.

Tutton E and Seers K (2004) Comfort on a ward for older people, *Journal of Advanced Nursing*, 46(4), pp.380-389.

Votrubec M and Thong I (2013) Neuropathic pain: A management update, *Australian Family Physician*, 42(3), pp.92-7. Available at: <https://search.proquest.com/britishnursingindex/docview/1435378135/7CBC62DB8FD6482CPQ/1?accountid=48521> Accessed 14/12/18.

## 5. Websites

Acute Kidney Injury. Available at: [www.nhs.uk/conditions/acute-kidney-injury/](http://www.nhs.uk/conditions/acute-kidney-injury/)

Arthritis and musculoskeletal Alliance (ARMA). Available at: [www.arma.uk.net](http://www.arma.uk.net)

British Orthopaedic Association. Available at: [www.boa.ac.uk](http://www.boa.ac.uk)

National Early Warning Scores. Available at: [www.replondon.ac.uk/projects/outputs/national-early-warning-score-news](http://www.replondon.ac.uk/projects/outputs/national-early-warning-score-news)

National Institute for Health and Clinical Excellence (NICE) Guidelines. Available at: [www.nice.org.uk](http://www.nice.org.uk)

National Osteoporosis Society. Available at: [www.nos.org.uk](http://www.nos.org.uk) and <https://nos.org.uk/for-health-professionals/>

Nursing and Midwifery Council (NMC) Available at: [www.nmc.org.uk](http://www.nmc.org.uk)

Royal College of Nursing Society of Orthopaedic and Trauma Nursing. Available at [www.rcn.org.uk/get-involved/forums/society-of-orthopaedics-and-trauma-nursing](http://www.rcn.org.uk/get-involved/forums/society-of-orthopaedics-and-trauma-nursing)

Sepsis. Available at: [www.nhs.uk/conditions/sepsis/](http://www.nhs.uk/conditions/sepsis/)

# Appendix 1: Practitioners' comments

## RCN Congress Belfast 2018

### Society of Orthopaedic and Trauma Nursing Forum Fringe – a Competence Framework for Orthopaedic and Trauma Practitioners

The primary aim of this event was to discuss the RCN Society of Orthopaedic and Trauma Nursing (SOTN) forum's latest project. The 'fringe' was targeted at all orthopaedic and trauma nurses (bands 2-8) and nurse managers. The 2018 orthopaedic competencies have been revised and regenerated by a team of experts working across the lifespan within orthopaedic and trauma academia and practice. It was a four country approach of expert nurses and one physiotherapist. The updated competencies have been designed to guide a practitioner to either confirm their level of competence, or work toward new competencies. Essential skills and knowledge for competence in domains of orthopaedic practice are given for each NHS band of nurse. These can be utilised in practice, facilitated with a learning contract, or become an integral part of the appraisal process or contribute to the NMC revalidation process.

This fringe event aimed to:

1. Raise awareness of the new competencies to guide orthopaedic practitioners
2. Present an overview of the developing new competencies
3. Seek delegate views of the new competencies
4. Seek suggestions on how to produce a final working publication for practice

Outcome of fringe event:

1. Delegates did welcome the new competencies
2. Delegates were informed of the pending new competencies
3. Consultation achieved with a range of T&O practitioners.

## Feedback from nurses on different pay bands regarding the document

Pay bands	Format	Application	User friendliness	Learning contract
<b>2</b>	Clear identification of all banding levels.	Shows individual progress from band 2 to 3. Can be used to determine correct banding for experience.	Can apply to practice.	Good application for staff development.
<b>3</b>	Easy to read. Some columns lengthy	Useful for appraisal	Made sense. Easy to use	Good idea.
<b>4</b>	Understood format. Knew what was being asked as a practitioner	Ideal for appraisal. Good for new members of staff. Demonstrates managers expectations.	Facilitates working towards competency	Useful tool.
<b>5</b>	Felt it was sometimes hard to follow the columns.	Useful tool as part of ongoing appraisal programme.	Demonstration of evidence to meet competency was nebulous.	Can be used to prove learning of particular competence.
<b>6</b>	Relevant to practice.	Very helpful for revalidation.	Might be beneficial to print learning contracts for portfolio	Really liked inclusion of a learning contract.
<b>7</b>	Easy to read. Clear format linked to NMC code of practice.	Useful for identifying staff members individual strengths and weaknesses. Can be used to identify staff development needs.	Straightforward and easy to use.	Like learning contracts - will be useful when working towards future development. Can be used as proof of progression.
<b>8</b>	Very good. Concise.	Good resource for assessment of practice. Can be included into personal portfolio for revalidation.	Easy to follow.	Recognised evidence based tool.

# Appendix 2: Exemplar Learning Contract

Name of Practitioner:

Role of Practitioner and place of work: e.g. Band 5 Staff Nurse – trauma ward

Name of Manager/Mentor:

Domain/competence	Detail of competence and level being addressed	Skill/knowledge deficit identified	Learning activities planned to address skill/knowledge deficit.	Summary of evidence to support achievement of learning. Please cross reference to portfolio of evidence and NMC code of practice.	Verification by Manager/mentor. Short commentary on learning of practitioner.	Date of achievement and signature of practitioner and manager/mentor.
<p><b>Risk Manager</b></p> <p>Competence 1: To recognise potential risks and complications associated with (MSK) conditions, injuries and treatment interventions.</p>	<p>Band 5</p> <p>Conducts risk assessment of patients at a frequency and breadth appropriate to the individuals condition and stage of recovery.</p> <p>Uses valid and reliable tools as part of the risk assessment process.</p>	<p>Need to increase knowledge of evidence based approaches to assessing patient's risk of falling.</p>	<p>Self-directed learning to review:</p> <p>Healthcare Quality Improvement Partnership (2015) <i>National Audit of Inpatient Falls audit report 2015</i>. London. Royal College of Physicians and Falls and Fragility Fracture Audit Programme.</p> <p>NICE (2015 updated 2017) <i>Falls in older people</i>. Quality standard 86. Available at: <a href="http://www.nice.org.uk/guidance/qs86">www.nice.org.uk/guidance/qs86</a> Accessed 12.12.17.</p> <p>Hertz, K and Santy-Tomlinson, J (2018) <i>Fragility Fracture Nursing. Holistic care and management of the orthogeriatric patient</i>. Visit to Specialist Falls Clinic.</p>	<p>A written summary of key learning from self-directed reading and visit to specialist falls clinic and action plan for how this could be implemented into practice.</p>	<p>Review written summary of learning with Manager.</p>	

Name of Practitioner:

Role of Practitioner and place of work:

Name of Manager/Mentor:

Domain/ competence	Detail of competence and level being addressed	Skill/knowledge deficit identified	Learning activities planned to address skill/knowledge deficit.	Summary of evidence to support achievement of learning. Please cross reference to portfolio of evidence and NMC code of practice.	Verification by Manager/mentor. Short commentary on learning of practitioner.	Date of achievement and signature of practitioner and manager/mentor.

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