Retrieval Critical Care Practitioner (Nurse/Paramedic)

Job Description

ScotSTAR
1. **Job Identification**

<table>
<thead>
<tr>
<th>Job Title:</th>
<th>Retrieval Critical Care Practitioner (CCP)</th>
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<tbody>
<tr>
<td>Department:</td>
<td>ScotSTAR base Glasgow</td>
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<tr>
<td>Line Manager:</td>
<td>Lead ACCP EMRS</td>
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</table>

2. **Job purpose**

Critical Care Practitioners (CCPs) form an integral part of ScotSTAR and Emergency Medical Retrieval Service (EMRS) clinical team delivering advanced resuscitation, stabilisation and transfer of critically ill patients. The CCPs work as part of a consultant led team of two.

In addition to their clinical roles the CCPs have management, training, trauma team tasking, special operations and academic roles in the following areas:

- Training of rural doctors, nurses and paramedics
- Education and training within EMRS and in conjunction with SAS
- Audit and research leading to peer reviewed publications and presentations
- Equipment management
- Service development
- Clinical governance, safety and safe system development
- Continuous quality improvement
- Extrication, search and rescue and aeromedical skills

The post is open to suitably experienced nurses and paramedics.
3. Organisational Position

![Organisational Diagram]

4. Scope and Range

The Emergency Medical Retrieval Service (EMRS), forms part of the national Specialist Transport and Retrieval service, ScotSTAR. ScotSTAR incorporates the Scottish Neonatal Transport Service, the Transport of Critically Ill and Injured Children Service and EMRS. ScotSTAR is hosted by the Scottish Ambulance Service and undertakes 2200 transfers per year.

The EMRS has two main clinical roles:

**Secondary retrieval** of critically ill and injured patients from remote and rural hospitals. The service supports 24 rural hospitals and GP facilities by delivering a critical care retrieval service by helicopter, plane and by road. The acuity of illness in these patients is very high. 90% are high dependency or intensive care level patients. 40% are ventilated. The patient group is a mix of major trauma and single and multi-organ failure medical patients.

**Primary retrieval** of patients with major trauma in the South and West of Scotland. This includes delivery of critical care and life saving procedures at the pre-hospital site of the patients’ injury. These retrievals are undertaken by response car and by helicopter.

In addition to these clinical roles the service has a role in supporting rural health care in Scotland through its telephone advice service and through rural practitioner training.
5. **Main Responsibilities and Duties**

**Clinical roles and responsibilities**

**Independently:**

- Assess the critically ill secondary retrieval patient and reach a diagnosis
- Communicate findings and prioritise treatment and formulate a patient care plan face to face, by telephone or by radio
- Assess, manage and prioritise patients during primary retrievals
- Independently assess, manage and transfer acute coronary syndrome patients during secondary rural retrievals that are receiving nitrates by continuous intravenous infusion
- Insert arterial line catheters
- Commence non-invasive ventilation
- Commence intermittent positive pressure ventilation
- Commence external cardiac pacing
- Urinary catheterisation
- Safely and effectively package critically ill patients for air transfer
- Lead the group loading and unloading the patient and equipment on to civilian and military helicopters and planes
- Sample arterial blood gases
- Interpret results of arterial blood gases
- Use near patient monitoring equipment for blood analysis and interpretation
- Adjust ventilation strategies in response to arterial blood gas results
- Adjust inotropic infusion rates in response to invasive blood pressure
- Administer ketamine analgesia during primary retrievals
- Safely administer blood products following medical prescription
- Perform surgical thoracostomy procedures during primary retrievals
- Insert intra-osseous needles, apply Kendrick traction devices and pelvic splints
- Prepare the following equipment: invasive pressure monitoring equipment, Oxylog 3000 ventilator, Oxylog 1000 ventilator, syringe drivers, external cardiac pacing equipment, non-invasive ventilation equipment, EMMA capnograph, i-Stat near patient blood analysis device
- Prepare for the following procedures: emergency anaesthesia, sedation, central venous line insertion, arterial line insertion, chest drainage, cardioversion, and video laryngoscopy
- Prepare the following intravenous infusions: nitrate, propofol, insulin, adrenaline, noradrenaline, amiodarone, beriplex, magnesium, phenytoin, salbutamol, tranexamic acid, aminophylline and syntocinon
- Communicate with referring centre, Ambulance Control Centre and receiving critical care unit regarding highly complex patients and transfer plans
- Construct a thorough and appropriate handover of relevant patient history, condition and treatment to receiving hospital staff and senior clinicians
- Competent in major incident management
• Understanding of physiology and pathophysiology related to critical care retrieval
• Assess the most appropriate method of transferring patients using the relevant knowledge, equipment and moving and handling techniques
• Care for hospital emergency department patients, including resuscitation room patients, as part of critical care training
• Have immediate knowledge of location of all equipment within the equipment packs
• CCPs can prescribe and supply medications under patient group directions
• Record findings, decisions and treatments administered independently in service clinical records

**Working under supervision:**

• Work closely as part of a team with an EMRS consultant in the resuscitation, stabilisation and transfer of critically ill patients
• Contribute to EMRS activation decision and rural clinician patient management advice
• Intubation during emergency anaesthesia
• Insert chest drains using an open surgical technique
• Assist with the following surgical procedures: thoracotomy, limb amputation, and surgical airway
• Contribution to patient triage decision-making
• Blood transfusion
• Radiological interpretation of x-rays and CT scans
• Participation in paediatric critical care retrievals. Must be familiar with all paediatric critical care equipment and drugs carried by EMRS and familiar with paediatric assessment and critical care interventions

**Academic roles:**

• Independently audit the clinical outcomes of patients cared for by EMRS by reviewing hospital case notes
• Maintain the electronic EMRS patient database
• Feedback deficiencies in patient records to the relevant consultant staff
• Understanding of biochemical, haematological and microbiological results
• Understanding of radiological investigation findings
• Effectively make use of the Scottish Intensive Care Society patient information database
• Contribute to the organisation of the annual UK retrieval conference
• Independently organise educational paramedic and nurse seminars and conferences
• Chair sessions at the national UK retrieval conference
• Speak at national and international conferences following invitations from event organisers
• Conduct research and audit
• Write up research and audit findings for submission to peer reviewed journals and academic conferences
• Publication of research articles in peer reviewed journals is expected
• Lecturing on university courses including Glasgow University MSc in critical care and Glasgow Caledonian University Clinical Advisor courses
• Postgraduate study is encouraged
• Effectively use high fidelity medical simulation equipment for training

Education:

• Deliver education to rural doctors, nurses and paramedics relating to the assessment and management of critically ill and injured patients during EMRS outreach courses
• Educate ambulance service staff about patient transfer and critical care interventions
• Educate nurses about clinical governance and safe systems as part of the University of Glasgow MSc in critical care course
• Educate ambulance service clinical advisors about critical care transfer and the role of critical care trauma teams in pre-hospital care.
• Medical student education
• Training of senior trainee doctors in emergency medicine and anaesthesia about pre-hospital care and safe transfer
• Teaching and assessing senior trainee doctors completing specialist training in Pre-hospital Emergency Medicine
• Educating ambulance service paramedics completing HEMS crewmember courses about critical care interventions and critical care transfer
• Educating military search and rescue paramedics
• Instructing on hospital Emergency Anaesthetics Assistant’s course
• Contributing to and leading daily simulation training and case based discussions
• Writing clinical simulation scenarios
• Instructing on external courses such as Advanced Life Support and BASICS pre-hospital care courses is expected

Management responsibilities:

All CCPs have responsibility for service standard operating procedure (SOP) review and writing new SOPs in light of service development.

Individual management responsibilities are rotated between the CCP group on an annual basis. Each CCP will be expected to spend 12 months on each of the roles described below.

Each role requires leadership and management of the team of EMRS doctors and CCPs. These individual roles include:
Audit and research

- Lead, develop and promote CCP audit and research projects
- Assist in the development and implementation of service database project
- Lead the development and maintenance of effective systems for case note review and scoring by the CCP team
- Coordination of ordering and access to notes in conjunction with the service administrator
- Assessment, communication and management of performance
- Leading on maintenance of systems for data protection
- Ensure the service clinical database is clean and complete
- Calculate injury severity scores for patients retrieved
- Analyse information and produce detailed reports at the request of senior colleagues including key performance indicator performance audit in conjunction with the service administrator

Equipment management

- Innovation and sourcing of new equipment
- Contributing to the evaluation and audit of new equipment
- Implementing systems for new equipment introduction including training, SOPs and checking systems
- Auditing quality of equipment management
- Responding to equipment issues that may affect patient safety
- Liaising with medical physics, equipment manufacturers, pharmacy and blood transfusion
- Ensuring equipment is serviced according to manufacturers guidelines
- Maintaining the service’s equipment database
- Developing business cases for the procurement of new equipment
- Day to day equipment checks, calibration and maintenance
- Maintenance of adequate consumable stocks
- Ensuring safe systems for equipment use are in place including regular SOP review

Training/education/outreach

- Coordination and innovation of base daily training programme
- Developing and maintaining training equipment at the EMRS base
- Creating an annual plan of rural visits to 24 referring hospitals
- Liaising with local clinicians to agree course programmes, equipment, travel, accommodation, venues and course candidates
- Organising EMRS team to deliver training for the 24 courses per year
- Assessing and responding to post course feedback
- Producing bespoke reports for each referral centre regarding cases retrieved, patient outcomes and significant events
- Developing, coordinating and promoting training opportunities for the CCPs and wider team
Primary retrieval/response vehicles

- Developing and maintaining safe systems and SOPs for service delivery of all aspects of pre-hospital care
- Promotion of the pre-hospital role of EMRS with operational ambulance service staff
- Developing and promoting pre-hospital training and education, working in conjunction with the CCP responsible for training/education/outreach
- Providing EMRS team training in pre-hospital moving and handling skills
- Responsible for vehicle selection, vehicle specification and vehicle procurement
- Responsible for SOPs relating to response driving
- Audit of driving safety
- Ensuring vehicles optimally equipped and prepared for driving conditions
- Ensure vehicles are safety checked and serviced

Major incident

- Developing all aspects of service response to major incidents occurring in both the urban and remote and rural environment
- Liaising with other agencies around the role of EMRS in relation to major incidents
- Developing and promoting major incident related training and education, working in conjunction with the CCP responsible for training/education/outreach
- Develop and maintain equipment relating to the service major incident response, working in conjunction with the CCP responsible for equipment
- Assist in the development and maintenance of SOPs relating to service major incident response

Trauma desk

- Liaise with and work in conjunction with SAS lead for trauma desk on all aspects of desk from a EMRS perspective
- Developing and maintaining safe systems for CCP team working on the trauma desk
- Developing robust orientation, training and systems for CCPs working on the trauma desk
- Provide training for Ambulance Control Centre (ACC) staff with regards to the EMRS pre-hospital role and response
- Provide feedback to ACC staff around the outcomes of pre-hospital medical team missions

CCPs also contribute to the recruitment, interview and selection of trainee doctors applying to work with the service.
All CCPs gain skills and contribute to clinical governance and patient safety through the following:

- SOP familiarisation and development
- EMRS iphone app use and contribution to development
- Significant incident reporting
- Significant incident investigation and root cause analysis
- Co-organising and presenting at regular clinical governance meetings
- Equipment and vehicle checks
- Team resource management training and utilisation
- Checklist use for high risk procedures
- Team briefings
- Team debriefs
- Case based discussions
- Simulation training
- Emergency drills

6. Systems and Equipment

CCPs must be competent to operate the following equipment without supervision:

- Oxylog 3000 ventilator
- Oxylog 1000 ventilator
- Phillips MRX monitor including external cardiac pacing and invasive pressure monitor functions
- EZ-IO equipment, Kendrick traction devices, pelvic splints, combat application tourniquets
- I-stat near patient monitoring equipment
- B-Braun syringe drivers and drug infusions
- Invasive pressure monitoring equipment
- Chest drainage equipment
- Iphone and ipad applications including all features of the EMRS app.
- IT packages – word, excel, access, PowerPoint,
- Clinical IT packages – PACS radiology system, clinical portal, Trakcare patient management system
- EMMA capnograph
- Auto-pulse compression device
- Airwave radio
- Mcgrath video laryngoscope
- Aircraft helmets
- Lifejackets (these are worn routinely)
- Personal locator beacons
- Short term air supply (used to facilitate escape from aircraft if it is underwater)
7. **Decision making and judgement**

- The role involves work as an autonomous practitioner
- Expected to make autonomous decisions on a daily basis
- Be involved in independent and multidisciplinary team decisions about patient care including ceiling of care for individual patients
- Contribute to “end of life” decision making
- The post holder will respond to an unpredictable workload, as the majority of EMRS clinical activity is emergent in nature
- Expected to provide recommendations likely to have an effect on both clinical and budgetary elements of EMRS
- Flexibility and effective teamwork is essential
- Notwithstanding the above, decisions made will require evaluation of evidence to facilitate choice between different approaches along with interpretation based on professional and clinical judgement
- Recognition of life extinct and cessation of resuscitation
- To undertake a history, patient assessment, investigations, diagnosing and formulation of a management plan including prioritisation of interventions in critically ill EMRS cases, usually in conjunction with a Consultant and increasingly on a more autonomous basis
- Operate within scope of practice and clinical guidelines as laid out by EMRS and SAS
- Calculation and administration of P.O.M. preparation of intravenous infusions
- Has shared responsibility for the supervision, training and support of rural healthcare practitioners
- Will actively contribute to EMRS co-ordination and tasking
- Needs to make judgements from 999 call information regarding tasking critical care teams and air assets to potential major trauma cases

8. **Communication and relationships**

- Required to communicate effectively and concisely with other health and emergency service colleagues
- Required to deal with sensitive situations professionally, assertively and tactfully
- Required to respect patient confidentiality, religious beliefs and cultural differences and to communicate in emotional circumstances
- Required to work as part of multi-professional team with frequent interactions with other professions in stressful circumstances
- Contributes to EMRS clinical governance, critical incident reporting, teaching programmes
9. Physical, mental and emotional demands of the job

Transfer and retrieval
- Responding and attending to emergency calls in all kinds of weather. Calls are unpredictable in nature and duration. Frequently prolonged missions at unsocial hours. **Missions are up to 14 hours in length and may finish up to 12 hours after the end of a rostered shift**
- Moving and handling critically ill patients with relevant monitoring, ventilator and infusion pumps between land ambulances and various aircraft. Leading a varying team undertaking these patient transfers
- Responding to emergency calls and situations that require prolonged concentration
- Contact with aggressive patients requiring use of management of aggression skills
- Requires very high levels of flexibility in approach
- Emergency response driving for extended periods
- Considerable physical fitness is required for this role, especially in the pre-hospital environment. Carrying heavy equipment packs for long distances, moving at speed. Environments may necessitate climbing high fences, road barriers, ladders, working in overturned vehicles and sometimes in mountainous environments during joint mountain rescue operations

Critical care issues
- Must have a high level of hand eye co-ordination skills in order to carry out advanced clinical interventions e.g. performing surgical thoracostomies, intubation, arterial line insertion and suturing
- Dealing with death, especially distressing in cases of trauma (e.g. road traffic accidents etc). Dealing with patient’s relatives, other health professionals and members of the public in such situations. Contributing to the process of breaking bad news to relatives
- Exposure to, and contact with, body fluids
- Works autonomously making decisions about patients’ clinical conditions
- Works closely as part of EMRS team to ensure optimal patient care
- Carrying out advanced critical care resuscitation in austere and suboptimal surroundings
- Care of patients with varying disabilities and requirements

Aeromedical issues
- Space constraints, noisy, restricted aircraft environments with considerable vibration
- Determining optimal use of scarce resource requiring a thorough knowledge of practicalities surrounding resource availability, patient needs, optimal triage etc.
- Liaison with SAS Air Ambulance, ambulance control, pilots and the EMRS team to deliver consistently high standard of service
- Travel by military search and rescue helicopter in weather conditions exceeding civilian legal flying limits
- Reacting safely to delays and changes in transport plans due to weather, light, aircraft technical issues and competing priorities
10. **Most challenging aspects of the job**

- Assessment of a wide range of patient conditions in a variety of differing circumstances. In particular determining prioritisation of competing simultaneous demands on service
- Coping with emotional impact of exposure to traumatic and distressing incidents. These are particularly distressing when dealt with at the scene of accidents or at the patient’s home compared to similar incidents in the in-hospital environment
- Interacting with other healthcare professionals who may question treatment regime and priorities
- Need for flexibility in dealing with emergent critical care issues
- Frequently noisy and constrained working environment
- Playing a key role in the management of change within a multidisciplinary professional/agency context
- Motivate clinical colleagues to consider their own practice and ways of improving this
- Maintaining own knowledge base in a constantly changing service
- Required to exercise own judgement whilst balancing clinical and organisational risk, escalating issues appropriately based on these decisions
11. Knowledge, Training and Experience Required to do the Job

- Preparation for the Royal College of Surgeons of Edinburgh Diploma in retrieval and transfer medicine and diploma in immediate medical care is expected
- When the RCSEd diploma in retrieval medicine has been attained, CCPs are expected to become members of the exam faculty, contributing to exam setting and examining
- Competence in gathering information to calculate the following scoring systems: injury severity score, SAPS, APACHE, TRISS and therapeutic intervention score. Management skills required for these roles:

Specialist aeromedical, rescue, incident and extrication skills

- Must have completed full familiarisation training with local search and rescue helicopter unit
- SAR helicopter winch competent to access patients in difficult terrain
- Mountain rescue operations and equipment familiarity
- Advanced vehicle extrication training at Strathclyde Fire and Rescue training college completed
- Must be able to safely and efficiently work in and around the EC135 Bond helicopter
- Must be able to safely and effectively work in and around the GAMA Aviation King Air aircraft
- Must be able to safely and effectively work in and around the Sea King search and rescue helicopter
- Must be able to safely and effectively work in and around the Coast Guard S92 search and rescue helicopter
- Helicopter underwater escape and survival equipment training
- Helicopter medical passenger course completion is mandatory

The EMRS provides the major incident site medical team for incidents in Greater Glasgow and remote and rural areas served. All EMRS CCPs must be familiar with the principles of mass casualty major incident management and must be competent to lead the ambulance response to a major incident if necessary until an ambulance officer is on site to take on this role.

Management Skills

- Project management
- Time management
- Meeting chairing skills
- Presentation skills
- Change management
- Working with and effecting change with partner organisations
- Negotiation skills and dealing with conflict
- Team management
• Effective team communication
• Development of safe and effective operational systems
• Performance management
• Recruitment and interview skills
• Risk management
• Complaint handling
• Business case development
• Report writing and data presentation

Future service developments

CCPs must be flexible with regard to likely future service developments. They must be capable of adapting to changing roles and increasing responsibility.

CCPs are key stakeholders in the development of EMRS and ScotSTAR. They play active roles in decision-making about service development through regular EMRS meetings and development processes. They also play active roles on ScotSTAR service development committees.

These developments include:

• Increased independent CCP high dependency retrievals
• Emergency head injury urban inter-hospital transfers
• ECMO transfers
• Land ambulance urban inter-hospital transfers
• CCP only pre-hospital responses for cardiac arrest following the success of the “TOPCAT” project in Edinburgh
• Integration with neonatal and paediatric services as part of ScotSTAR
• Changes to major trauma care in light of the major trauma review
• Increased use of telemedicine
# 16. Person specification

<table>
<thead>
<tr>
<th>Qualifications Experience</th>
<th>Essential</th>
<th>Desirable</th>
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<tbody>
<tr>
<td>Registered nurse or paramedic with 5 years post registration experience</td>
<td>Life support course instructor status</td>
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<tr>
<td>Three years experience in emergency or intensive care (Nurse)</td>
<td>ATLS course completed Paediatric resuscitation course completed</td>
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<tr>
<td>Advanced life support course successfully completed</td>
<td>Higher degree</td>
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<tr>
<td>Teaching experience</td>
<td>Experience of pre-hospital care</td>
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<tr>
<td>Experience of critical care transfer</td>
<td>Qualifications relating to critical care</td>
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<tr>
<td>Evidence of leading improvements in the delivery of clinical care</td>
<td>Attendance at conferences and courses relating to retrieval medicine</td>
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<tr>
<th>Skills, Abilities Knowledge</th>
<th>Essential</th>
<th>Desirable</th>
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<tbody>
<tr>
<td>Computer literate</td>
<td>Published research</td>
<td></td>
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<tr>
<td>Ability to work autonomously on a day-to-day basis</td>
<td>Completed ECDL</td>
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<tr>
<td>Excellent communication and organisational skills</td>
<td>Presentations at academic meetings</td>
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<tr>
<td>Experience of research</td>
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<tr>
<th>Other</th>
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<tbody>
<tr>
<td>Able to perform with sustained concentration and significant mental effort in maintaining and manipulating clinical data</td>
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<tr>
<td>Able to work flexible and unpredictable hours</td>
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<td>Must be able to arrive at Glasgow heliport within 30 minutes when on call</td>
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<tr>
<td>Must be willing to complete helicopter underwater escape training and blue light driver training</td>
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<tr>
<td><strong>Category C1 driving license must held</strong></td>
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