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Mountain Rescue Casualty Care and the Undergraduate Medical Elective

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Many UK medical curricula lack dedicated prehospital education other than first aid courses and basic life support training. In contrast, nonmedical mountain rescue team members receive advanced prehospital training addressing scene management and various clinical interventions. This paper reports a condensed mountain rescue casualty care course designed for medical students by a mountain rescue team. The course was offered as part of a student selected module during year three at the University of Sheffield Medical School. Also within the module students learned the relevant biomedical sciences and clinical skills to construct their knowledge of mountain rescue casualty care.

Keywords

First Aid, Medical Student, Prehospital, Teaching, Trauma, Wilderness.

Introduction

Within the United Kingdom (UK), voluntary teams provide organized mountain rescue services [1,2]. Data from England and Wales for 2017 records 2,115 mountain rescue deployments with 73 fatalities [3]; of these, Edale mountain rescue team responded to 107 incidents including 1 fatality. At a national level, Mountain Rescue (England and Wales) serves as a coordinating body representing mountain rescue services to the government and statutory bodies. It also coordinates national casualty care training, assessment and standards. For clarity throughout this article, casualty care is used to describe the care of patients in the prehospital setting. This is a mountain rescue term synonymous with wilderness first aid, wilderness medicine and prehospital emergency medicine.

Casualty care tuition is guided by the cabcde principles (treat catastrophic hemorrhage, then assess/treat airway, breathing, circulation, disability [head and spinal injuries]; protect from the environment). The training equips each team member to identify scene dangers, request further appropriate resources, perform a primary survey (discussed in [4,5]) and present a working diagnosis. This clinical assessment then influences strategies for patient packaging and evacuation. The course assessment comprises 60 single best answer questions requiring a pass mark of 70% and two practical scenarios (one medical and one trauma) requiring a pass grade of at least 20/30.

Holders of the nationally recognized casualty care qualification can perform various extended care skills (Table 1) and administer certain prescription medications, including opioid analgesia, not usually associated with standard first aid courses (Table 2; [2,4]). Remote incidents often present mountain rescue teams with context-specific challenges including difficulties accessing patients, limited resources and inclement conditions. Therefore team members must also be competent mountaineers.

Lack of formal training in prehospital care leaves medical students ill prepared to act in a prehospital emergency, where anything beyond BLS is required [6-13]. Therefore Sheffield medical students approached the local mountain rescue team (Edale), requesting an elective attachment to learn prehospital care skills. In response, the Edale mountain rescue team devised an elective placement focused upon casualty care provision and its associated challenges (Supplementary Information Table 1).

Placement design: The teaching group comprised serving members of Edale mountain rescue team including a medical school academic, as the module leader, responsible for the day-to-day educational organization of the program, three anesthetists (consultant and specialist registrar, both air ambulance physicians and one further specialist registrar), an emergency nurse practitioner with polar medicine expertise and a mountaineering instructor with broad Alpine and Himalayan guiding experience.

Student selection: Being comfortable in a mountaineering environment was important (mountaineer first, doctor second) and students enquiring about the module already engaged in remote-area hobbies (hiking, climbing etc.). We interviewed all prospective students stipulating placement requirements. Professional behaviors, including integrity and respecting patient confidentiality, were monitored as required by the University of Sheffield (Supplementary Information Table 2).

Table 1 - Primary survey skills	
Assessment	Skills taught
Scene safety, catastrophic hemorrhage	Prioritization of safety – self, team, casualty. Limit significant bleeding, use of hemostatic agents (Celox™) and direct pressure.
Airway	Jaw thrust, head tilt maneuvers. Nasopharyngeal airway placement. Oropharyngeal airway placement. Airway suction devices.
Breathing	Chest examination (skin-level). Look, listen, feel. Equal expansion. Twelve (trachea, wounds, emphysema, laryngeal trauma, vein distention, edema). Provision of supplemental oxygen via non-rebreathe masks. Pulse oximetry. Administration of nebulized salbutamol. Use of bag-valve-mask apparatus.
Circulation	Radial, carotid and femoral pulses. Examination (skin-level) to visualize wounds. Sites of internal hemorrhage (“blood on the floor and four places more”). Hemorrhage control; use of hemostatic agents. Direct pressure and use of pressure dressings. Application of Kendrick (femoral) traction splint and pelvic binders. Cardiac failure, basic life support and use of the automated external defibrillator. Administration of glyceryl trinitrate (GTN), aspirin, intramuscular epinephrine (0.5mg).
Disability	Neurological assessment: avpu (alert, responsive to voice, pain or unresponsive) and pupillary reflexes. Use of the Glasgow coma scale discussed. Signs and symptoms of basal skull fracture. Seizures and the use of rectal diazepam ¹ and intranasal midazolam. Risks of vomiting and airway compromise.
Exposure	Dealing with hypothermia. Prevention of further heat loss.

¹ Midazolam is now replacing rectal diazepam

Drug	Indication
Glucogel (buccal; sublingual)	Hypoglycaemia; exhaustion hypothermia.
Aspirin (soluble; oral)	Myocardial infarction; frostbite.
Paracetamol (oral)	Low-grade pain.
Ibuprofen (oral)	Moderate pain.
Glyceryl trinitrate (GTN) spray	Angina.
Salbutamol (nebulized)	Severe acute asthma.
Adrenaline (intramuscular)	Anaphylaxis (and asthma as last resort).
Midazolam (nasal)	Fitting.
Entonox	Moderate pain.
Oxygen	Hemoglobin saturations of <94%.
Fentanyl (sublingual)	Moderate-severe pain (defined using the verbal numeric rating score; vnrs; >6 trauma; >4 cardiac pain).
Naloxone (intramuscular)	Opioid antagonist.
Cyclizine (oral)	Anti-emetic.
Buccastem (Prochlorperazine; oral)	Anti-emetic.

Insurance: The UK mountain rescue service always operates under delegated authority of the police with team members being covered by the appropriate regional police service's personal accident insurance policy. This policy extended to civilians, including medical students, training with the team. The University of Sheffield always provides comprehensive travel and personal liability insurance for its students undertaking placements away from the main campus and students were advised to use this (Supplementary Information Table 3). Given these provisions, Edale mountain rescue team did not need to implement a specific health or personal liability policy for students. In this placement, although students would not be providing clinical care, all had medical malpractice insurance. Medical students were also required to complete a health and safety questionnaire to ensure the placement provider had appropriate governance procedures (Supplementary Information Table 3).

Module delivery and engagement: Students received two full days per working week of contact time with various instructors over a six week period. This provided focused tuition in the clinical aspects of mountain rescue casualty care. Within the remaining three days students completed self-directed learning to develop their critical analysis skills through journal clubs, production of pre-hospital literature reviews and data collection for audit or research [14]. We also introduced the 3

min thesis presentation (detailed further in [15]). Essentially in this presentation format, one needs to translate experimental data into a jargon-free lay narrative and present that in 3 min. An example study was the advanced trauma life support classification of hypovolemic shock [16]. All instructors provided regular feedback to students to facilitate their learning. Table 3 lists the placement learning objectives which were delivered in three overarching themes:

Table 3: Phase 3A student selected component placement learning objectives

1. To gain practical experience of search and rescue skills utilised by mountain rescue.
2. To demonstrate competency in the assessment and management of patients in a remote setting.
3. To assess the critically injured patient.
4. To describe and apply the pharmacology of the drugs administered by Edale mountain rescue team.
5. To gain experience in using mountain rescue casualty care equipment.
6. To appreciate the limitations of practice - keep it simple and keep it safe.
7. To engage with the literature and understand the core principles of modern prehospital emergency care.
8. To gain an understanding of the variety of services where prehospital physicians are active.

1) Scene management and safety: The module commenced by focusing on the principle that rescuer safety must be the primary consideration emphasizing that one should not become the next casualty. This tenet was constantly reinforced by all instructors..

2) Primary survey and AMPLE history: The primary survey is the initial casualty examination using a systematic approach, cabcde, to identify time-critical patients needing urgent medical interventions whilst allowing the medic to recognize, but not be distracted by, non-life-threatening injuries. Students were also introduced to the importance of obtaining details of the patient's allergies, medications, past medical history, last mealtime, and event history (the AMPLE history) as part of this process. Instructors prioritized teaching the primary survey and AMPLE history because students will use these principles clinically as junior doctors. The main teaching objective of this stage was to ensure students appreciated that any problem identified on primary survey defined the casualty as time-critical with incident control urgently requiring such information.

Teaching on each aspect of the primary survey examination covered the relevant biomedical sciences and clinical considerations. This tuition was reinforced with practical demonstrations of various skills, for example airway maneuvers or preparing bag-valve masks. The pharmacology of the drugs listed in Table 2 was also introduced at this stage giving students an opportunity to develop their knowledge of these common medications and appreciate the clinical manifestations of potential adverse effects of such drugs. Presentations focusing on common medical illnesses seen by mountain rescue teams, including severe acute asthma and chest pain, were also delivered.

The senior prehospital clinicians and emergency nurse practitioner were keen to provide an overview of more advanced interventions including prehospital sedation and anesthesia (including the use of ketamine for limb fracture reduction) as well as cold-induced injuries and polar medicine. Students enjoyed learning the theory around these extended clinical skills.

Within the primary survey teaching, students were sometimes challenged by apparently conflicting medical needs. This was reinforced by the evidence for casualty care interventions often being based on consensus expert opinion [17-19] rather than empirical experimental data. Consequently, students were encouraged to appraise the risks and benefits of interventions and come to a balanced decision using suitable case studies. This is illustrated in the case of an unconscious patient with a potentially unstable cervical spine injury and the concomitant need to secure the airway [20]. Care was taken to emphasize two salient points: 1) the need to open the airway as a priority whilst giving consideration to spinal care and 2) that spinal care should not take priority over the airway. This approach was in keeping with the appropriate prehospital consensus statements [17-19] and helped students address uncertainty in their own clinical decision making.

Casualty care skills are best taught in the appropriate wilderness environment [21] and in keeping with this notion, once students were comfortable completing an “indoor” primary survey, practical teaching was extended to remote moorland areas regardless of the prevailing weather conditions. This was important for students’ learning: undertaking a primary survey in a warm dry hospital environment is in stark contrast to completing the same examination at a remote location, be it training (Figs. 1A-1C) or at a live incident (Fig. 1D) where poor site access and inclement weather can compound the casualty’s condition and affect equipment functionality. For example, pulse oximetry may be ineffective in a cold patient due to peripheral vasoconstriction. Importantly, if students attended a live call-out, a full post-incident debrief assessed their wellbeing and identified learning points they wished to discuss.

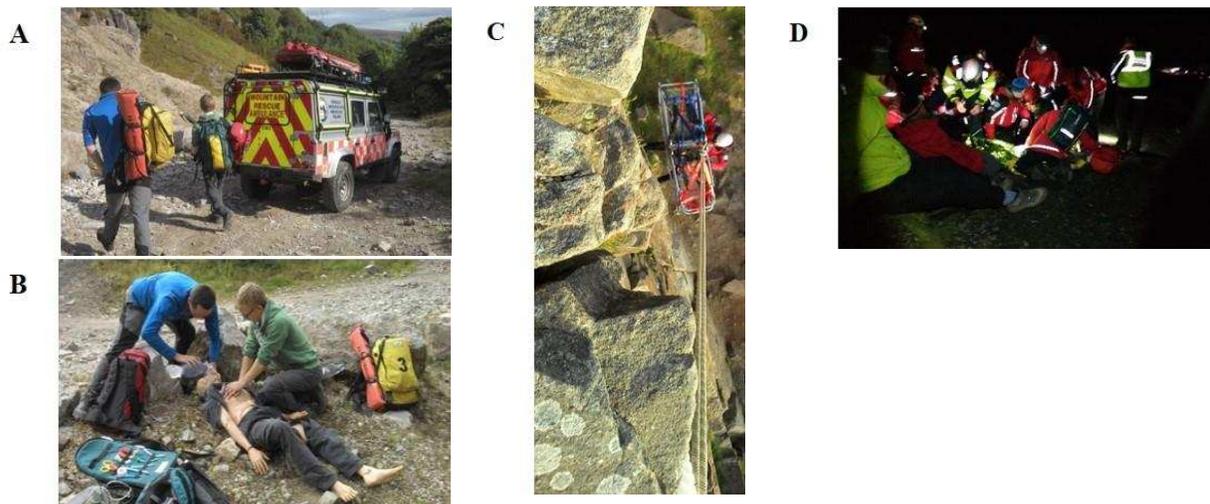


Fig. 1: Medical students undertaking an elective placement with Edale mountain rescue team. Students learning to complete a prehospital primary survey – these skills can be readily employed in many acute clinical settings (A-B). Team training - learning vertical rescue and stretcher handling techniques (C). Members of Edale mountain rescue team reducing a fractured lower limb to re-establish neurovascular function. Those seated members are preventing the storm from blowing equipment away (D).

3) Rescue equipment and patient transport: Deficiencies in junior doctors’ knowledge of emergency care equipment, including airway adjuncts, oxygen delivery and monitoring equipment have been reported [22]. Consequently, students were introduced to the equipment employed by Edale mountain rescue team (Fig. 2A-2D; [14]) and encouraged to practice with such devices (Fig.

2A-2B) as well as more specialized kit including the Bell mountain rescue stretcher, traction and vacuum splints and thermal casualty bags (Fig. 2C-2D; [14]). Students were also taught the considerations needed for a secondary survey of the patient including wound management and suitable methods of splinting and patient packaging for evacuation. The need for constant patient monitoring as part of the evacuation was emphasized to ensure early recognition of a deteriorating casualty.

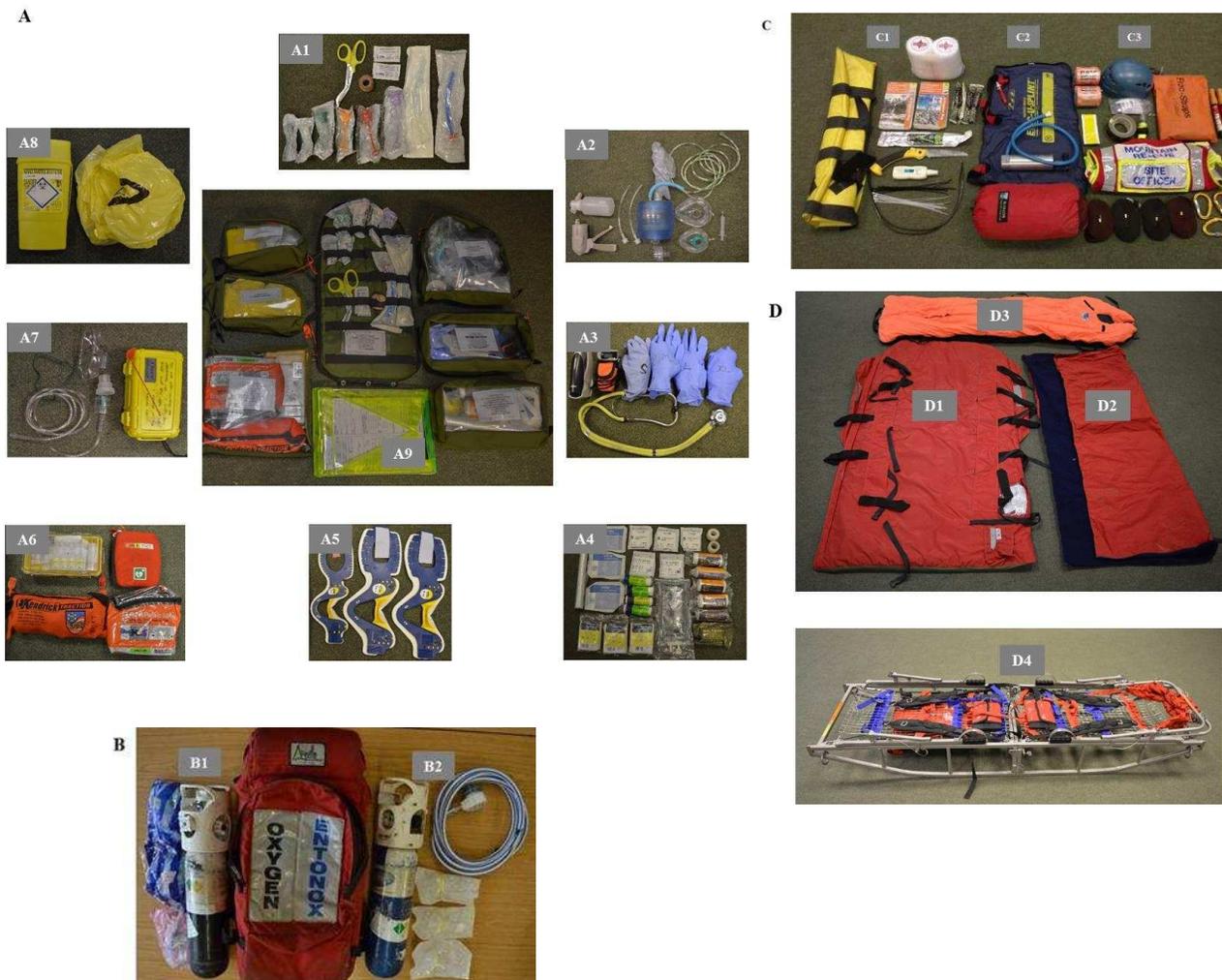


Fig. 2: Equipment used by Edale mountain rescue team. Team medical bag and contents – nasopharyngeal and oropharyngeal airway adjuncts (A1); bag valve mask and suction device (A2); pulse oximeter and gloves (A3); sterile dressings including Celox™ hemostatic agent and cling film (for burns) (A4); cervical collars (A5); automated external defibrillator, pelvic binder, femoral (Kendrick) traction splint, advanced life support drugs (A6); nebulizer mask and other team drugs (A7 and Table 2); sharps bin and biohazard bags (A8); patient record forms (A9). The team also carries oxygen and delivery masks (B1) and analgesia (Entonox) with patient demand valve giving set (B2). Various tools, disposable head blocks, glow sticks and maps (C1); vacuum splints, malleable (SAM) splints and shelter tent (C2) along with a helmet, fracture straps, smoke flares, tape, site vest, slings and HMS karabiners are carried (C3). The vacuum mattress (D1) and Pertex™ blanket (D2) provide adequate patient insulation for most seasons being supplemented in winter with the Wiggy bag™ (D3 and reference [14]). Patient transport is by the Bell mountain rescue stretcher (D4).

Discussion:

This module commenced in 2008 as a response to increasing requests by Sheffield medical students for training in mountain rescue casualty care. This was in keeping with an increased interest in undergraduate teaching of prehospital emergency care [7-13]. Despite demand from students from surrounding areas, only 8 students were taken per year. It was found the elective was most affordable and accessible for Sheffield students who already lived locally, approximately 25 min from Edale mountain rescue team headquarters. This was an important financial consideration.

It was important to manage student expectations of the module because some students initially believed mountain rescue was “all blue lights and helicopters”. Without any clear explanation, the reality could prove disappointing and it was important to emphasize that students would not attend callouts unless an instructor was present; students accepted this openly and those that did observe a live rescue evolve found it a valuable learning exercise.

All UK mountain rescue teams are charities and, with the exception of those in Scotland, do not receive central government funding. Consequently, many weekends and evenings are spent fundraising and undertaking public engagement work so students were included in those activities. Equally, mountain rescue team training typically occurs during evening hours and at weekends and student schedules needed to accommodate this. The training students engaged in varied depending on placement timing but examples included vertical rescue techniques (Fig.1C) and “bodying” (essentially hide-and-seek with a dog on the hillside) to train the search dogs and their handlers [23, 24]. This combined package of activities complimented the clinical training, giving students a more realistic view of mountain rescue work and an appreciation of the significant time commitment required to be a member of a voluntary rescue service.

Good communication skills are vital for clinical jobs and the students valued learning to give a good 3 min thesis presentation because it developed their ability to translate complex terminology into a concise lay narrative. The small group teaching with academic staff also facilitated this because students more willing to ask questions and highlight their own uncertainty with particular topics.

Assisting at a mountain rescue emergency is challenging even for professional responders [20]. The mountain rescue casualty care skills taught in this module are immediately transferable to any environment, urban or otherwise [5] and, coupled with knowledge of how mountain rescue teams function, they will provide a strong foundation for students wishing to follow a career in emergency and wilderness medicine [25]. Therefore, we were keen to instill in our students that, as a specialty replete with shades-of-grey, mountain rescue casualty care has few axioms - a pragmatic approach is essential - keep it simple, keep it safe.

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Author contributions: NC and CP devised the module and prepared the teaching objectives. JL prepared the initial teaching slides as part of her SSC work on this module, NC, CP, HB, NS, BC, CA, ML and CW provided teaching for this SSC. NC prepared the manuscript. All listed authors read and provided critical comment on the final version. The authors' opinions expressed in this manuscript may not reflect those held by the Trustees of Edale mountain rescue team.

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Disclosures: None

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Edale Mountain Rescue Team

Phase 3A Student Selected Component Mountain Rescue Casualty Care

Location: Edale MRT Headquarters, various venues in Sheffield and the Peak District.

Available Dates: Various; please enquire to Dr. Neil Chapman – n.r.chapman@sheffield.ac.uk

Maximum number of students: 1-2 per session

Outline of attachment: Based with Edale Mountain Rescue Team, the primary goal of the attachment is for the candidate to become familiar with the work of Search and Rescue Services in the UK. The team is one of the busiest Mountain Rescue Teams in the U.K. and responds, on average, to 120 callouts/annum. Consequently, this placement provides an exciting opportunity for both theoretical and practical training in pre-hospital medical care; specifically becoming competent with assessment and emergency management of trauma and acute medical patients in the mountain rescue environment.

Good team work is central to the function of a mountain rescue team. Therefore, attendance at team exercises/training sessions, including an introduction to search dog training, will also be scheduled into the attachment to ensure the candidate has a broad understanding of how search and rescue teams function, and the level of commitment required to run a busy voluntary emergency medical service. The nature of such training opportunities with the Team are dependent on when the SSC occurs but will be specified at the time the SSC starts. There will also be opportunities to become familiar with team equipment/vehicles.

The timetable will be flexible to a degree. We usually provide two days a week contact time. A weekly journal club and literature review will also be included. In addition, and as stated above, students will be expected to fully engage with non-medical training and other team activities including fundraising and visiting local groups to provide talks. We cannot, for operational reasons, take students on live incidents. All MRT members are unpaid volunteers offering their time freely. It is, therefore, important that students fully respect this and behave professionally at all times.

These skills will be of immense value to the candidate for the remainder of their undergraduate training and into their professional life. Interested candidates should, however, be aware that many team activities take place in the evening and at weekends (regardless of adverse weather). As such, potential students should have some experience of walking and navigation in the hills and have access to appropriate hill-going kit including waterproof coat/trousers, boots, hat, gloves, rucksac, head-torch, maps and compass etc. Access to a car would make the placement easier but it would be possible without.

Method of Assessment:

The SSC is assessed in a number of ways. We will expect you to:

- Lead a weekly journal club and critique relevant papers relating to pre-hospital care.
- Produce a 3,000 word critical review on an aspect of pre-hospital care relevant to the placement.
- Present a journal article to the SSC supervisors as a three-minute seminar.

Additional information

All appropriate professional behaviours will be monitored during this placement. Students embarking upon this module are reminded that all Edale MRT personnel are volunteers who give their time freely. The nature of our operational environment means safety is of paramount importance. Any behaviour which threatens this will not be tolerated. Those interested will need to provide some brief information about their interest in this field highlighting relevant previous outdoor experience. This will allow us to tailor the placement to the individual. Informal enquires can be directed to the module leader, Dr. Neil Chapman in the first instance: n.r.chapman@sheffield.ac.uk

Primary supervisors: Dr. Neil Chapman and Dr. Chris Press.



The
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School

**PHASE 3a MBChB
Student Selected Component (SSC)
SELF DESIGN FORM**

Student's Name

Date of SSC	Group (A-F)
Registration No	
E-mail address (University email address only)	
Signed Student	

Please complete and return this form to Phase 3A Administrator at the Medical School Office, Beech Hill Road, Sheffield S10 2RX

Title of SSC	
Proposed Outline	
Aims and Objectives	
Location of SSC	
Method of Assessment in addition to Powerpoint and Abstract	
Ethical Approval Obtained	YES NO NOT APPLICABLE (Please circle)
Name & Address of Supervisor (Block letters)	
Signature of Supervisor	
Date	

Please note that this form will not receive consideration unless the Health & Safety Checklist for Students Visiting External Institutions form has been completed and handed in

- ✓ I AM A MEMBER OF A MEDICAL INSURANCE PROVIDER (I.E. MDU, MPS, WESLEYAN) AND HAVE OBTAINED AN INDEMNITY CERTIFICATE OF SUFFICIENT VALUE TO COVER THIS SSC MODULE. (student to complete information in boxes below)

CERTIFICATE NUMBER	MEMBERSHIP NUMBER	NAME OF COMPANY

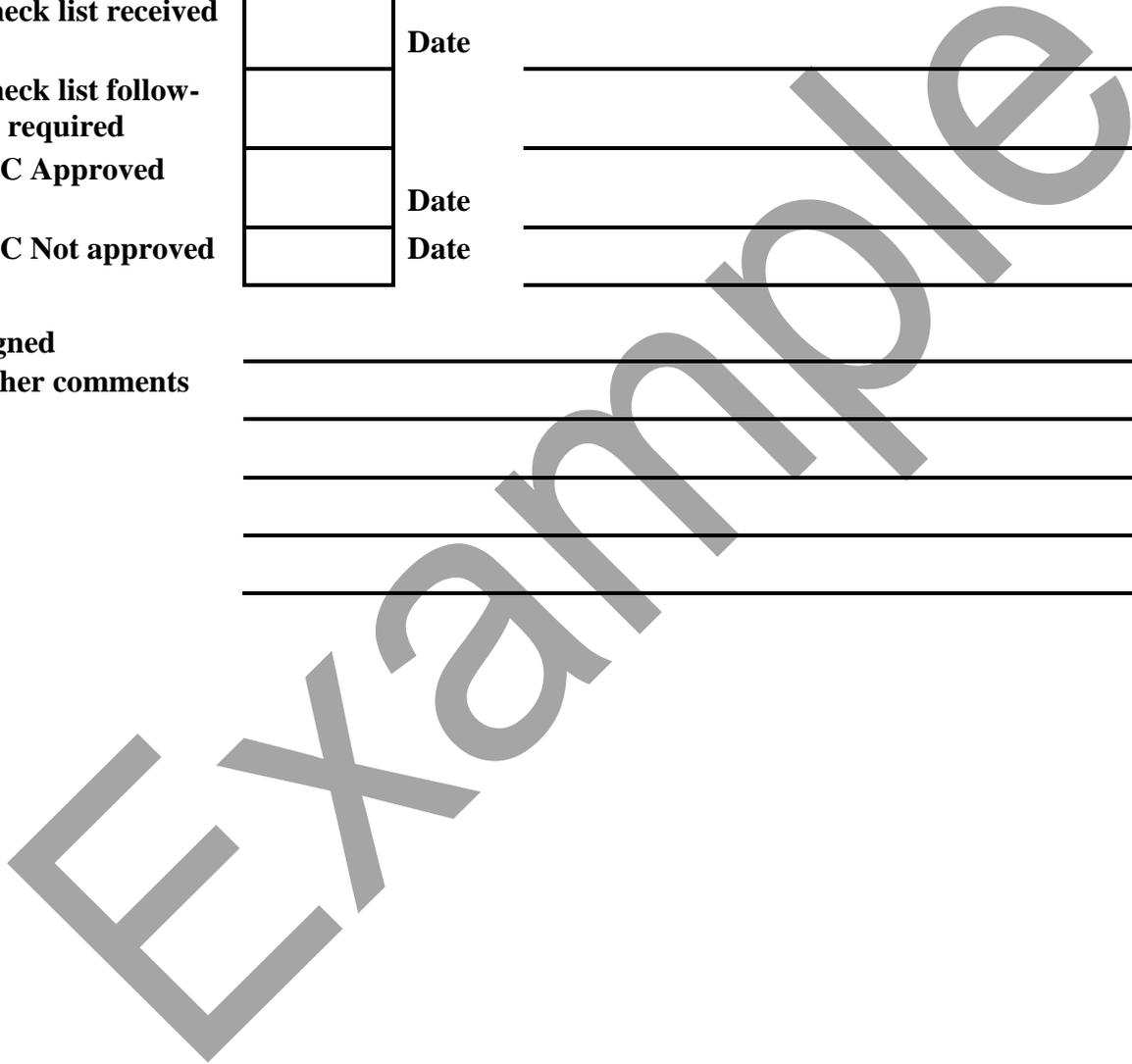
✓ I HAVE TAKEN OUT A COMPREHENSIVE INSURANCE POLICY WITH..... THIS INSURANCE COVERS TRAVEL TICKETS, LUGGAGE, AND ACCOMMODATION AND HAS SUFFICIENT HEALTH COVER TO AIRLIFT ME BACK TO THE UK IF NECESSARY. EVIDENCE OF THIS INSURANCE IS PROVIDED.

School of Medicine use only

Check list received		Date	
Check list follow-up required		Date	
SSC Approved		Date	
SSC Not approved		Date	

Signed _____

Other comments





The
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Health and Safety Checklist for Students Visiting External Institutions

To be completed by the placement provider prior to acceptance of the placement.

Please note that placements cannot commence until the University of Sheffield has received a satisfactorily completed health and safety checklist accompanied by the relevant documentation as specified in the checklist below.

All students should receive a health and safety briefing on the first day of their placement.

Student name	
Phase & Registration number	
Location & address of placement	
Supervisor's name	

	Yes	No
Do you have a written health and safety policy, or a statement indicating how you manage health and safety in your organisation or business? If yes please provide a copy.		
Do you have a policy regarding health and safety training for people in your organisation, covering the safe use of vehicles, machinery, plant and equipment? Will you provide all necessary health and safety training for the placement worker? If yes please provide a copy of the policy.		
Is the organisation registered with the local health and safety enforcement agency or Local Authority? If yes please provide a copy of the registration.		
Insurance a) Do you hold adequate insurance to cover any liability incurred by a placement student as a result of his/her duties as an employee? If yes please provide a copy of relevant insurances. b) For UK placements please provide the following details: Employer's Liability insurance policy number : _____ Expiry Date _____ Value of Policy _____ Company with whom policy is held _____ Public Liability insurance policy number: _____ Expiry Date _____ Value of Policy _____ Company with whom policy is held _____		

<p>Identification & assessment of risks relating to activities.</p> <p>a) Have you carried out assessments of the risks to workers in your organisation, and others, resulting from your activities in order to identify those activities exposing workers to harm?</p> <p>b) Do you regularly review your activities to check that new risks have not arisen and that the assessments are still valid?</p> <p>c) Do you implement appropriate measures to control the risks identified exposing workers to harm? Please provide copies of 2 relevant assessments carried out</p>		
<p>Accidents and incidents</p> <p>a) Do you have a formal procedure for reporting and recording accidents and incidents whether or not this is required by local laws?</p> <p>b) Do you have emergency procedures to be followed in the event of serious or imminent danger by your workers?</p> <p>c) Do you have specific policies on the management of needlestick injuries? If yes please provide a copy.</p> <div data-bbox="150 779 1163 931" style="border: 1px solid black; padding: 5px;"> <p>For completion only in areas where HIV is endemic</p> <p>Do you have physicians specialised in the administration of Post Exposure Prophylaxis (PEP)?</p> </div> <p>d) Will you report to the University all accidents involving placement students?</p> <p>e) Will you report to the University any illness involving placement students that may be attributable to the work they are doing?</p>		

Contact personnel - please state the name of your nominated contact for implementing health and safety in your workplace

Name	
Position	
Tel/Fax	
Email	

The above statements are true to the best of my knowledge and belief.

Signed	
Date	
Position	

PHASE 3a THIS FORM SHOULD BE HANDED IN WITH OR BEFORE THE SELF DESIGN FROM.

Please return this form to:

Phase 3A Administrators, Medical School, University of Sheffield, Beech Hill Road, Sheffield S10 2RX UK

6-week SSC ASSESSMENT PROFORMA: Phase 3a 2018

To be completed by student: Student name _____

Student Registration No _____ Group _____ Dates of SSC _____

Supervisor/marker name _____

Supervisor/marker address _____

All Sections to be completed by the Supervisor/Marker

Please assess the student on the following criteria which are defined in more detail in the School's Outcome Objectives and those learning outcomes agreed for this SSC. Professional Behaviours should be considered separately from the generic and specific skills assessments.

PLEASE CIRCLE THE APPROPRIATE JUDGEMENT

Excellent Good Satisfactory Borderline Unsatisfactory

Generic Graduate Skills

[Includes skills in written communication, information gathering, organisation and self-management].

Feedback for all grades please

(Continue overleaf)

SSC Specific Skills

Excellent Good Satisfactory Borderline Unsatisfactory

Abstract

These are defined by the student and supervisor and should indicate clear aims, learning goals and of the appropriate assessment of the abstract

Feedback for all grades please

(Continue overleaf)

Poster/IT Skills

Excellent Good Satisfactory Borderline Unsatisfactory

Poster & abstract; [and other agreed assessment]. Appropriate software utilised for poster

Feedback for all grades please

(Continue overleaf)

Overall Competence

Excellent Good Satisfactory Borderline Unsatisfactory

Overall performance on generic and specific skills for stage of training

Feedback for all grades please

(Continue overleaf)

Professional Behaviours

Excellent Good Satisfactory Borderline Unsatisfactory

[Includes ensuring an ethical approach, avoiding plagiarism, & completion on time and as requested].

Feedback for all grades please

(Continue overleaf)

Signature of Supervisor/marker _____ Date _____

PLEASE RETURN THIS FORM TO

PHASE 3A ADMINISTRATOR, THE MEDICAL SCHOOL, BEECH HILL ROAD SHEFFIELD

The Sheffield Core Curriculum – Outcome Objectives for Undergraduate Medicine

Phase 3a 6-Week SSC

Generic Graduate Skills	<p>GS1 Adopts the principles of reflective practice and life-long learning</p> <p>GS2 Knows the limits of professional competence</p> <p>GS3 Presents information clearly in all formats</p> <p>GS4 Is an effective teacher/mentor</p> <p>GS5 Capable of self-management</p> <p>GS6 Applies research principles and audit and studies topics in depth</p> <p>GS7 Can deal with uncertainty</p> <p>GS8 Manages information retrieval, presentation and manipulation electronically</p>
Interpersonal Skills	<p>IS1 Can establish, build and maintain proper partnerships with patients, their family/friends/carers</p> <p>IS2 Communicates effectively</p> <p>IS3 Works effectively as a member of a multidisciplinary team</p> <p>IS4 Deals sensitively with patients, their family/friends/carers</p> <p>IS5 Identifies potential danger for self and others and takes appropriate action to limit impact</p>
Clinical Skills	<p>CS1 Contributes to cure of illness, recovery from sickness and the easing of suffering and discomfort in encounters with patients</p> <p>CS2 Participates in health promotion and in prevention of disease and disability in encounters with patients</p> <p>CS3 Gathers relevant patient history information systematically either from patient or third party</p> <p>CS4 Conducts complete mental state examination or selects appropriate components in a systematic and directed fashion</p> <p>CS5 Conducts complete physical examination or selects appropriate components in a systematic and directed fashion</p> <p>CS6 Makes accurate assessment of patient's problems & formulates differential diagnosis</p> <p>CS7 Selects & initiates appropriate investigations</p> <p>CS8 Interprets and evaluates data from history, physical examination and other findings to formulate diagnosis</p> <p>CS9 Formulates and implements management plan and monitors its effectiveness</p>
Practical Skills	<p>PS1 Ensures optimum patient comfort and privacy</p> <p>PS2 Prepares patient for, explains & conducts technical and practical procedures effectively</p> <p>PS3 Ensures patient consent is obtained in all aspects of investigation, treatment and management</p> <p>PS4 Can access relevant information and record information accurately</p> <p>PS5 Makes thorough and accurate observations, measurements and calculations</p> <p>PS6 Recognises, identifies and can describe abnormalities and symptoms</p> <p>PS7 Demonstrates effective decision making</p> <p>PS8 Manages life-threatening conditions</p>
Professional Behaviours	<p>PB1 Adopts a questioning approach to own work and that of others</p> <p>PB2 Works within limits of own knowledge and experience</p> <p>PB3 Maintains patient confidentiality</p> <p>PB4 Is responsive to changes in health care, policy and current science</p> <p>PB5 Maintains an ethical approach</p> <p>PB6 Complies with legal responsibilities and requirements and guidelines of regulatory bodies and the NHS</p> <p>PB7 Demonstrates respect for the role and function of all those involved in patient care</p> <p>PB8 Demonstrates a patient centred approach</p> <p>PB9 Recognises and takes advantage of opportunities to teach</p> <p>PB10 Fulfils professional responsibilities in contexts inside & outside work</p>
SSC Specific Outcomes	<p>Able to identify own learning needs and negotiate those with supervisor</p> <p>Fulfils learning needs</p> <p>Fulfils agreed assessment</p> <p>Produces a word-processed document which is formatted appropriately and uploaded to the e-portfolio</p>