

A user guide for
**Occupational
Therapy Students**
on placement in
Critical Care

Welcome to Critical Care, we hope that this document will give you some background information about Critical Care and the Occupational Therapy role within this speciality.

Critical Care, also known as Intensive Care or High Dependency Care, looks after the sickest patients within the hospital. This population of patients require specialist care with a higher nurse-to-patient ratio to ensure their highly complex care needs are met.

The abbreviations commonly used: CCU, ICU and HDU.

The Critical Care Unit is often divided into:












Intensive Care (ICU) patients are those that may require sedation and the support of medical machines to help their bodies recover from major illness or surgery. These are sometimes called 'level 3' patients and will be looked after by one qualified nurse to each patient.

High Dependency (HDU) patients are those that require more close supervision than general ward patients, either because they are at risk of deteriorating, or they are recovering from being an ICU patient. These patients are sometimes called 'level 2' patients and can be looked after by one qualified nurse to two HDU patients.

There are also units that will specialise in an area of medical expertise, for example a Neurological Intensive Care Unit, a Cardiac Intensive Care unit, a Paediatric Intensive Care Unit or Neonatal Intensive Care Unit.

ICU Level	Support needs
3	Require advanced respiratory support alone or monitoring and support for two or more organ systems.
2	Requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those stepping down from higher levels of care.
1	At risk of deconditioning, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team.

Types of conditions patients have that means they will be admitted to Critical Care

	Patients with serious infections such as sepsis or pneumonia.
	Surgical patients requiring extra monitoring or experience post-operative complications.
	Trauma – patients who have had a serious accident such as a road accident, fall, or severe head injury. This cohort of patients would also include spinal injury patients.
	Patients who have had a serious acute condition such as a cardiac arrest or a stroke.
	Neurosurgical patients who require close monitoring and safe management of the airway, weaning off ventilator support, and circulatory control, amongst other medical and care needs.
	Need for monitoring during a specific type of therapy, (e.g. patient who is on inotropic support - a group of medications to increase/maintain your blood pressure).
	Renal failure is a common condition seen in the critical care setting. Predominantly, it is acute renal failure that can evolve into chronic renal failure.
	Patients with significant burn injuries are cared for in specialist burn centres/ burn intensive care units.
	Medically unstable patients who require close monitoring and frequent adjustments of medical therapy.
	Those requiring higher levels of respiratory support.
	Patients who have a lower level of consciousness.

Your wellbeing



You may experience some distressing things during your time on placement, such as death, organ donation, and procedures that you may not have witnessed before. It can feel difficult, and you may feel overwhelmed by these things. You will be supported by your practice educator and it is important to highlight any concerns you have, or emotions you experience, at any point during your placement.

Learning opportunities

This will be the only critical care placement that you will have during your time at University. There will be a number of transferable skills that you will develop during your time on placement. These will be valuable during other placements and your career as an Occupational Therapist.

Potential professional developmental areas:

- Medical condition awareness related to escalation to the Critical Care Unit.
- Infection control policy that influences your assessment and treatments.
- Staff wellbeing resources and self-help.
- Working and supporting relatives.
- Working as part of a large multi-disciplinary team (MDT).
- Manual handling techniques.
- The ability to care for and respond to needs of acutely unwell patients and complete appropriate assessments.
- Providing rehabilitation of critically unwell patients.
- Observation of follow up clinics and patient outcomes.
- The opportunity to evidence, review and apply research to practise.
- Understand the deteriorating patient.

The OT Role in Critical Care

The Occupational Therapist works in collaboration with the whole MDT, keeping patients at the centre of their care. They provide specialist assessments and treatments to optimise quality of life and functional independence. This includes providing physical, cognitive, psychological, and functional assessments, creating goals and devising rehabilitation plans.

Examples of what the OT will do include:

- Supporting with delirium management
- Early identification of previous level of function
- Stretches and bed positioning
- Splinting
- Seating
- Early mobilisation and identifying a safe transfer method
- Graded functional activities
- Identifying activities of importance
- Establishment of routine and sleep patterns
- Functional and cognitive assessments
- Treatment planning and goal setting
- Recognition of emotional or behavioural changes
- Education of fatigue management
- Screening psychological need
- Formalising upper limb rehabilitation plans
- Screening neurological response levels in patients with a lower level of consciousness
- Following patients up in clinic/in the community.

Don't be alarmed!



Critical care can seem overwhelming and it is common to hear different alarms. These are from all the different pieces of equipment which help to monitor the patients safely. The patients will be attached to a series of tubes, wires and equipment, which may look alarming. Please see the pictorial diagram for examples.

Sounds
Alarms and beeps from the equipment help staff to monitor their patients.

Infusion pumps
Delivers fluids and some medicines into the vein.

Central venous catheter
Tube placed into a large central vein to enable medicines to be given, and for advanced monitoring.

Feeding pump
Liquid food is delivered to the stomach through a tube in the nose.

Breathing mask
A right fitting mask placed over the nose and mouth to deliver oxygen at varying pressures.

Ventilator
Supports breathing by getting oxygen into the lungs and removing carbon dioxide from the body.

Suction machine
Clears secretions from the airway when patients can't do this themselves by coughing.

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Tracheostomy
Placed into the windpipe to connect to a ventilator. Helps protect and clear secretions from the airway.

Extracorporeal membrane oxygenation (ECMO)
Provides temporary life-support to the heart and lungs.

Patient monitor
Shows vital information about the patients heart, breathing and blood pressure.

Infusion pumps
For medicines such as insulin, adrenaline, antibiotics and pain relievers.

Blood gas analyser
Measures oxygen, carbon dioxide and acid levels in the blood. Samples are taken regularly.

PCA pump (Patient Controlled Analgesia)
Delivers intravenous pain relief when patient presses a button.

Pneumatic compression device
Uses compression to help prevent blood clots.

Air filled mattress
To help prevent pressure sores.

Clinical information system
A computer system to record patients' observations, documentation and care interventions.

Intensive Care Unit (ICU) equipment

Intra aortic balloon pump (IABP)
A balloon in the aorta that inflates and deflates to help control blood pressure

Urinary catheter
A tube into the bladder to collect and measure the volume of urine produced by the kidneys.

Dialysis machine
A form of kidney dialysis to clear the blood of toxins when the kidneys have failed.

Preparation reading



Guidelines for the provision of intensive care services (GPICS V2) OT: p60 Rehab: p91 Follow up: p95 Patient + relative perspective: p98	https://ficm.ac.uk/sites/ficm/files/documents/2021-10/gpics-v2.pdf
NICE QS 158 : Rehabilitation after critical illness in adults.	https://www.nice.org.uk/guidance/QS158
NICE 83: Rehabilitation after critical illness in adults Clinical guideline [CG83]	https://www.nice.org.uk/Guidance/CG83
Occupational therapy for delirium management in elderly patients without mechanical ventilation in an intensive care unit: A pilot randomized clinical trial	https://www.sciencedirect.com/science/article/abs/pii/S0883944116304877
Exploration of therapists' views of practice within critical care	https://bmjopenrespres.bmj.com/content/8/1/e001086

Please note the information in this leaflet is just a guide.

Some intensive care units in the region will have different services, resources, skill mix, and severity of illnesses.

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ICU Patient Case Study

This case study is adapted from work by Finfer and Vincent (2013) and aims to explore the processes undertaken by Occupational Therapists (AOTA, 2020) facilitating recovery for a 77-year old male with severe sepsis and septic shock; he will be referred to as Mr J throughout.

Presenting condition:	Colon resection and formed colostomy via Hartmann's procedure.
Presenting condition History:	Tense and distended abdomen with hyperactive bowel sounds • NEWS 5: blood pressure of 75/50 mmHg, heart rate of 125 bpm. perforated sigmoid colon
Past Medical History:	Hypertension Hypercholesterolemia Excessive ETOH Mild cognitive impairment (under investigation by GP)

Occupational Therapy Process	Details relating to the patient recovery process.	
Referral/ reason for contact	Dysfunction post - operation and illness.	
Information gathering	Liaison with family, determine functional baseline, provided the family with psycho-education regarding delirium, obtain an occupational history to ensure therapy interventions purposeful.	
Initial assessment	-Retired 9 years ago as a train engineer, enjoys golf, walking football, looking after his grandchildren. -Mr J lives with his wife in a level access bungalow, able to walk independently/ unaided, 2 falls in the last 12 months. -He is usually independent with ADLs, requires verbal or visual prompting to take prescribed medication and complete grocery shopping.	
Reason for intervention/ needs identification/ problem formulation.	1) Delirium -CAM-ICU positive with poor orientation to time and place, inattention, and disorganised thinking current RASS -1. 2) ICU acquired weakness/ reduction in functional reach and grasp/reduction in participation in functional activity. <i>Assessment of upper and lower limb strength and range of motion graded via the Oxford Muscle Scale, indicating globally reduced strength with particular proximal deficit. Kapandji score 4 bilaterally. A4 hoist bed to plinth. Max A2 sit on the edge of the plinth – full postural assessment. Hoisted into a supportive tilt in space seating. Sitting out in chair 3x daily with progression timetable to guide nurses.</i>	
Goal setting	1) I want to be able to consume a cup of tea and bowl of cereal that I made myself. 2) I want to be able to walk to the toilet from my bed independently with a stick. 3) I want to be able to shower and dress myself standing. All goals set in a goal attainment framework to offer Mr J a guide to his ongoing performance.	
Action planning	To complete an ACE 2 (76/100 with deficits memory and fluency noted). To complete an IPAT (11/20 disorientation, disturbed sleep, and reduced ability to communicate needs = referred to ICU psychologist). To work on his set goals.	
Actions	Orientation board with family photos	Vestibular rehabilitation
	Adaptation of sensory environment to align with historic preferences - music, changes to lighting, and items brought to the unit from home with tactile and olfactory affordances	Opportunities to explore environments away from the unit including a hospital garden and café
	Postural rehabilitation including use of a mirror and parallel bars	Postural supports

	Standing and mobility practice with various stand aids	Personalised upper and lower limb exercise programme
	Cognitive rehabilitation exercises related to golf, trains, and football	Washing and dressing practice at bedside and in shower using preferred products/ clothing items from home
	Psycho-education regarding delirium to patient and family.	Feeding practice and provision of aids i.e. adapted cutlery
	MDT education to ensure P.I.N.C.H.M.E. is optimised.	
Ongoing assessment and revision of action	Mr J was able to plot his progress in relation to his goal performance by using the goal attainment scale (GAS). 4 weeks post - admission he was moved onto a ward for ongoing medical and therapies input.	
Outcome and outcome measurement	<p>Manchester Mobility Score at discharge from ICU.</p> <p>LOS of stay in ICU scored.</p> <p>Muscle charting of upper limbs including Kapandji scoring at discharge.</p> <p>Outcomes of inpatient goals.</p> <p>Discharge location: Mr J went back to his home with the provision of basic aids including a wheeled walking frame, grab rails, and a shower chair.</p> <p>External support: He went home with his wife and children providing support to meet care needs and an onward referral to community OT/ physiotherapy for a home environment assessment and ongoing rehabilitation to support long term goals.</p> <ol style="list-style-type: none"> 1) returning to walking football 2) to cook his wife a meal <p>Bartel scored at discharge from hospital.</p> <p>Follow up</p> <p>At 6 weeks post-acute hospital discharge, Mr J was invited to a post ICU follow up clinic where his cognition was rescored, a timeline of his inpatient stay was discussed, and further information regarding ICU recovery was issued.</p> <p>Function: Bartel rescored. Ongoing recommendations and goals set from the outcome measure.</p> <p>Cognition: Mr J required recommendation for referral to the memory clinic given the recorded changes to executive function and memory prior to admission.</p> <p>Psychology: PQH 2 and GAD2 scored and ref to psychology for outpatient appointments for anxiety management.</p>	
End of intervention or discharge	<p>Discharge from post ICU follow up clinic.</p> <p>Letter with overview sent to patient with recommendations copied to GP</p>	

Case study References

American Occupational Therapy Association (2020) Occupational Therapy Practice Framework: Domain and Process, Fourth Edition. The American Journal of Occupational Therapy. 74(2). pp. 1-87

Bittencourt E. S., Moreira, P. S., Mirande de Paixão, G., Cardoso, M. M. (2021) The Role of the Occupational Therapist in the Intensive Care Unit: A Systematic Review. Cadernos Brasileiros de Terapia Ocupacional. Vol 29. 1-22

Finfer, S., Vincent, J-L. (2013) Critical Care Challenge: Severe Sepsis and Septic Shock. The New England Journal of Medicine. Available from: <https://www.nejm.org/doi/story/10.1056/feature.2013.08.14.12> [Accessed on 11/10/2023]

Trogrlić Z., Van der Jagt, M., Bakker, J., Balas, M. C., Ely, E. W., Van der Voort, P. H. J., Ista, E.
(2015) A Systematic Review of the Implementation Strategies for Assessment, Prevention, and
Management of ICI Delirium and their Effect on Clinical Outcomes. *Critical Care*. Vol 19. pp. 1-17