GUIDELINES

Rehabilitation after critical illness: summary of NICE guidance

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This is one of a series of *BMJ* summaries of new guidelines, which are based on the best available evidence; they highlight important recommendations for clinical practice, especially where uncertainty or controversy exists. Members of the Guideline Development Group, the supporting evidence statements, and further information about the guidance are in the full version on bmj.com.

Why read this summary?

More than 110 000 people are admitted to critical care units in England and Wales each year,[1] of whom 75% survive to be discharged home. Many of these people experience considerable and persistent problems with physical, non-physical, and social functioning after discharge from critical care. This article summarises the most recent recommendations from the National Institute for Health and Clinical Excellence (NICE) on rehabilitation after critical illness for adult general critical care patients.[2]

Recommendations

NICE recommendations are based on systematic reviews of best available evidence. When minimal evidence is available, recommendations are based on the Guideline Development Group's experience and opinion of what constitutes good practice and, in this guidance, also from lessons that can be derived from other clinically relevant fields of patient care. Evidence levels for the recommendations are in the full version of this article on bmj.com.

Key principles of care

To ensure continuity of care, healthcare professionals with the appropriate competencies should coordinate the patient's rehabilitation care pathway. The healthcare professionals may be from intensive care or other services (including specialist rehabilitation medicine services) that have access to referral pathways and medical support (if not medically qualified). Key objectives of the coordination are:

- To ensure that rehabilitation goals are reviewed, agreed, and updated throughout the patient's rehabilitation care pathway
- To ensure delivery and support of the structured and supported self directed rehabilitation manual (a specific type of rehabilitation programme),[3] when applicable
- To ensure that information, including documentation, is communicated to other relevant hospitals and to other rehabilitation services and primary care services
- To ensure that patients have the contact details of the coordinating healthcare professional(s) on discharge from critical care and again on discharge from hospital.

During the critical care stay

Perform a short clinical assessment to determine the patient's risk of developing specific prolonged physical and non-physical morbidity associated with their underlying illness and their stay in the critical care unit (box 1).

For patients at risk:

- Perform a comprehensive clinical assessment to identify their current rehabilitation needs
- Agree short and medium term rehabilitation goals, documenting these in the patient's records
- Start an individualised, structured rehabilitation programme as early as possible; this should include introducing measures to prevent avoidable physical and non-physical morbidity and reviewing nutritional support,[4] with frequent follow-up.

Before discharge from critical care

For patients previously identified as being at low risk, perform a short clinical assessment to determine their risk of developing prolonged physical and non-physical morbidity (box 1).

For patients newly identified as being at risk and for patients who have already started individualised, structured rehabilitation in critical care:

- Perform a comprehensive clinical reassessment to identify current rehabilitation needs, paying particular attention to physical, sensory, and communication problems and to pre-existing or current psychological or psychiatric distress (box 2)
- On the basis of this reassessment, agree or review and update the rehabilitation goals.

Ensure that the transfer of patients and the formal structured handover of their care are in line with the NICE recommendations for caring for acutely ill patients in hospital.[5]

During ward based care

For patients previously identified as being at low risk before discharge from critical care, perform a short clinical assessment to determine their risk of prolonged physical and non-physical morbidity (box 1).

For patients at risk:

- Perform a comprehensive clinical reassessment to identify their current rehabilitation needs
- Offer an individualised, structured rehabilitation programme (delivered and supported by members of a multidisciplinary team) and incorporate the rehabilitation goals that had been set before discharge from critical care
- Consider offering a structured self directed rehabilitation manual[3] when the patient's physical and cognitive capacity allows, and support this for at least six weeks after discharge from critical care, coordinated by an appropriately skilled healthcare professional.

For patients with symptoms of stress related to traumatic incidents and/or memories, refer to the NICE guideline on post-traumatic stress disorder.[6]

Before discharge to home or community care

Before discharging patients who are receiving individualised, structured rehabilitation during ward based care:

- Perform a functional assessment that includes physical and non-physical dimensions (box 2)
- Assess the impact of any impairment on activities of daily living and participation
- Review, agree, and update the rehabilitation goals with the patient.

If continuing rehabilitation needs are identified ensure that before discharge:

- Discharge arrangements, including appropriate referrals for the necessary continuing care, are in place
- All discharge documents are completed and forwarded to the appropriate post-discharge services, primary care, and the patient.

Two to three months after discharge from critical care

Review patients with previously identified rehabilitation needs two to three months after their discharge from critical care. Undertake a functional reassessment face to face in the community or in hospital; this should be performed by one or more appropriately skilled healthcare professionals familiar with the patient's rehabilitation care pathway.

On the basis of the functional reassessment:

- Refer the patient to the appropriate rehabilitation or specialist services if recovery seems slower than anticipated or if unanticipated physical and/or non-physical morbidity has developed
- Give support if the patient is not recovering as quickly as they anticipated
- If anxiety, depression, or post-traumatic stress disorder is suspected, follow the stepped care models recommended in the relevant NICE clinical guidelines.[6-8]

Information and support

Provide support and information throughout rehabilitation as follows, sharing this information with the family and/or carer with the patient's consent (or where the patient lacks capacity to give consent, involving the family and/or carer).

During the critical care stay

- Provide information on their illness, treatments, equipment used, any possible short term and/or long term physical and non-physical problems. Give them the information more than once.

Before discharge from critical care

- Explain the rehabilitation care pathway.
- Explain the differences between critical care and ward based care and that the clinical responsibility will transfer to a different medical team.
- Provide information on difficulties in sleeping, episodes of nightmares and hallucinations, and the readjustment to ward based care.

Box 1 Definitions of physical and non-physical morbidity and examples from the short clinical assessment that may indicate the patient is at risk of developing physical and non-physical morbidity*

Physical and non-physical morbidity

- *Physical morbidity*—Problems such as muscle loss, muscle weakness, musculoskeletal problems including contractures, respiratory problems, sensory problems, pain, and swallowing and communication problems
- *Non-physical morbidity*—Psychological, emotional and psychiatric problems, and cognitive dysfunction

Examples that may indicate the patient is at risk

- *Physical morbidity*—Unable to get out of bed independently; anticipated long duration of critical care stay; obvious considerable physical or neurological injury; lack of cognitive functioning to continue exercise independently; unable to self ventilate on 35% of oxygen or less; presence of premorbid respiratory or mobility problems; unable to move about independently over short distances
- *Non-physical morbidity*—Recurrent nightmares, particularly when patients report trying to stay awake to avoid nightmares; intrusive memories of traumatic events that have occurred before admission (for example, road traffic accidents) or during their critical care stay (for example, delusional experiences or flashbacks); new and recurrent anxiety or panic attacks; expressing the wish not to talk about their illness or changing the subject quickly

*This list is not exhaustive, and healthcare professionals should use their clinical judgment

Box 2 Symptoms from the functional assessment that may indicate the presence of physical and non-physical morbidity

Physical dimensions

- *Physical problems*—Weakness; inability or partial ability to sit, rise to standing, or walk; fatigue; pain; breathlessness; swallowing difficulties; incontinence; inability or partial ability to look after oneself
- *Sensory problems*—Changes in vision or hearing; pain; altered sensation
- *Communication problems*—Difficulties in speaking or using language to communicate; difficulties in writing
- *Social care or equipment needs*—Mobility aids; transport; housing; benefits; employment; leisure

Non-physical dimensions

- *Anxiety, depression, and symptoms related to post-traumatic stress*—New or recurrent somatic symptoms, including palpitations, irritability, and sweating; symptoms of derealisation and depersonalisation; avoidance behaviour; depressive symptoms, including tearfulness and withdrawal; nightmares; delusions; hallucinations; and flashbacks
- *Behavioural and cognitive problems*—Loss of memory; attention deficits; sequencing problems; deficits in organisational skills; confusion; apathy; disinhibition; compromised insight
- *Other psychological or psychosocial problems*—Low self esteem; poor or low self image and/or body image concerns; relationship difficulties, including those with the family and/or carer

Before discharge to home or community

- Provide information on physical recovery (based on the goals set) and how to manage activities of daily living.
- Provide information on driving, returning to work, housing, and benefits, if applicable.
- Provide information on local statutory and non-statutory support services.
- Give the patient his or her own copy of the critical care discharge summary and rehabilitation plan.
- Provide general guidance, especially to the family and/or carer, on what to expect and how to support the patient at home.

Overcoming barriers

Rehabilitation pathways for critical care patients may be complex, vary from place to place, and involve various professional groups, inpatient and community settings, and the crossing of traditional organisational boundaries. Thus, a fixed model of service delivery is not possible or practical, and responsibility for coordinating and delivering rehabilitation lies at the level of the organisation (acute and primary care trusts), rather than individual treatment teams. Hospital trusts will need to identify local solutions to the challenges set by this guideline. Importantly, this guideline spans the interface between primary and secondary care, requiring local agreement to ensure the recommended activity and communication across this boundary.

Secondary and primary care trusts may choose very different models of implementation depending on their existing service configuration, available assets, and commissioning structure.

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2 National Institute for Health and Clinical Excellence. *Rehabilitation after critical illness*. 2009. (Clinical guideline 83.) www.nice.org.uk/CG83
3 Jones C, Skirrow P, Griffiths RD, Humphris GH, Ingleby S, Eddleston J, et al. Rehabilitation after critical illness: a randomized, controlled trial. *Crit Care Med* 2003;31:2456-61.
4 National Institute for Health and Clinical Excellence. *Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition*. 2006. (Clinical guideline 32.) www.nice.org.uk/CG32.
5 National Institute for Health and Clinical Excellence. *Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital*. 2007. (Clinical guideline 50.) www.nice.org.uk/CG50.
6 National Institute for Health and Clinical Excellence. *Post-traumatic stress disorder (PTSD): the management of PTSD in adults and children in primary and secondary care*. 2005. (Clinical guideline 26.) www.nice.org.uk/CG26.
7 National Institute for Health and Clinical Excellence. *Anxiety (amended): management of anxiety (panic disorder, with or without agoraphobia, and generalised anxiety disorder) in adults in primary, secondary and community care*. 2007. (Clinical guideline 22.) www.nice.org.uk/CG22.
8 National Institute for Health and Clinical Excellence. *Depression (amended): management of depression in primary and secondary care*. 2007. (Clinical guideline 23.) www.nice.org.uk/CG23.

TEACHING ROUNDS

Teaching on a ward round

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This series provides an update on practical teaching methods for busy clinicians who teach. The series advisers are Peter Cantillon, senior lecturer in the department of general practice at the National University of Ireland, Galway, Ireland, and Yvonne Steinert, professor of family medicine, associate dean for faculty development, and director of the Centre for Medical Education at McGill University, Montreal, Canada.

A deliberate and planned approach to bedside teaching will make learning more effective

Teaching on a ward round has been compared to walking a tightrope. A clinical teacher has to balance the differing needs of undergraduate and graduate learners while providing a comprehensive and safe clinical service. Teaching in the presence of patients is an additional tension because the patient plays a central role and also is the most attentive member of the audience. Ward round teaching remains a powerful teaching context in medicine as it provides an authentic experience of the complexity of patient care and professional practice.[1 2] The enduring value of the ward round lies in its potential to model professionalism, enhance clinical reasoning,[3] and demonstrate the cultural norms of medical practice.[4 5]

We have developed six questions that can routinely be used to plan and deliver effective bedside teaching on ward rounds (figure). The questions are derived from empirically based theories of experiential and situated learning.[6-8]

What is the plan (for teaching and learning)?

Most clinical teaching is done on the hoof, but ward based teaching is more effective if it is planned. This can be difficult on a busy ward. When the senior clinician arrives for a ward round, there is usually a brief conference with team members and then "off we go." However, taking five minutes at the start to think about the learners, the teaching opportunities, the teaching goals, and the tasks will increase the efficiency and effectiveness of teaching enormously.

It is important to consider what sort of ward round it is. For example, a ward round that follows a night when team members were on call (a post-take ward round) will be longer than usual but may offer more teaching opportunities. As a clinician you will be more focused on ensuring optimum patient care. Taking time in advance to think about how to share and distribute the teaching tasks would be well worth while.

Practical points

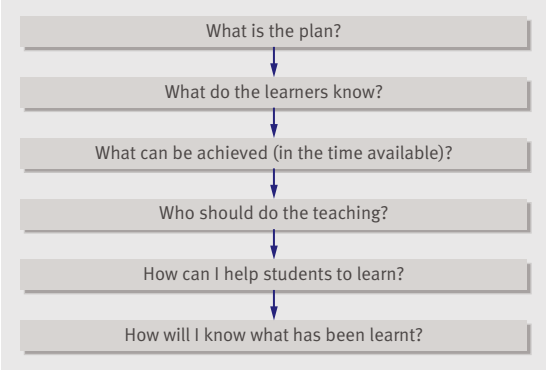
- Estimate the amount of time that you will need for listening to presentations, making decisions, and talking to patients. Then work out how much time you have for teaching. Remember that discussing the patients will usually take longer than you think.
- Speak to the on-call team before you start to identify patients for presentations that might allow focused teaching about history, physical examination, or patient management.
- Know who your learners are: use their names. This simple demonstration of respect from you will make a big difference to their self confidence.
- If time is short, send learners to assess a new admission ahead of the ward round team so that time can be spent on the detailed study of one patient's case rather than a superficial skim through many patients.
- Alternatively, ask the learner(s) to stay behind after the ward round has moved on to stay with a patient so that they can explore this patient's understanding of his or her condition and its management. Follow this up by offering to meet with the students at the end of the round to discuss the encounter.

What do the learners know?

Empirical educational theory has established that the quality of individuals' learning depends to a great extent on what they already know.[9 10] Learners make sense of new experiences by using their existing knowledge. Your role as a clinical teacher is to help learners build new understandings, elaborate their existing knowledge, and tackle misconceptions. Ward rounds provide opportunities for learners as apprentice practitioners to think about their knowledge in the context of patients.[11]

Practical points

- Identify learners' level of clinical experience and knowledge by asking them about their stage of training, clinical rotations completed, and logged clinical experiences.
- Ask learners to summarise one or two patients



Six questions for planning a teaching ward round

TEACHING POINTS

- Take time to plan what you are going to teach and how it is to be done
- Base your teaching on a clear understanding of the nature and content of learners' prior knowledge
- Be realistic about how much time there is for teaching on a ward round and plan accordingly.
- Share out teaching load among the team
- Ask learners to carry out tasks

from the last ward round they attended to get some sense of how sophisticated their understanding of patient care is.
- Ask learners if there are aspects of clinical practice that they find difficult to understand.

What can be achieved?

It is essential to agree in advance with learners what they need to learn. This provides a much needed focus to bedside teaching, which is often unpredictable. By using the learning needs that have been identified and taking cognisance of the learning opportunities that a ward round will offer, you can offer appropriate teaching for your learners.

Learning about team work

Ward rounds, whether conducted at the bedside or in the ward meeting room, provide opportunities for students to witness clinical teamwork and understand its value. Effective collaboration reduces hospital inpatient times and costs.[12]

Learning with and from documentation

Undergraduate students often have little understanding of how medical information is documented and stored. Preparing for and being involved in ward rounds gives them an opportunity to look through and understand healthcare records. You can ask students to write case notes based on their encounters with patients and give them feedback on the quality of their records.

Learning about safe decision making

Delivering care in a hospital setting has become more risky and complex in recent years.[13] Ward rounds provide a powerful opportunity to both model and explain the risk assessments associated with every major decision.[14]

Learning professional behaviours

Clinical teachers should be aware that they are acting as role models for undergraduates and doctors in training as they work.[15,16] Coaching, mentoring, and acting as a role model have been linked to error reduction and performance improvement within healthcare teams.[17]

Practical points

- Agree on the learning goals in advance. Aim to set a few, achievable goals, as less is more in clinical education.
- On the business ward round, set a theme to highlight, patient by patient. In this way, learning can be reinforced from patient to patient, maximising individuals' learning.

Who will do the teaching?

It is essential to view the ward round as a unique opportunity for different teachers from different professions to participate in teaching. For example, including a pharmacist on the post-take ward round has been shown to be effective in improving the management of patients' drugs.[18] Including other health professionals as tutors reinforces learners' sense of teamwork. By participating in this process, learners recognise the roles of different professional groups.

Practical points

- Before starting the ward round, agree to share your teaching role with other team members.

How can I help the students to learn?

The fifth question is deliberately worded to emphasise helping learners to learn, rather than the more traditional approach in which the teacher's job was to transmit knowledge ("what do I want to teach?").

Directed observation

Rather than expecting students to know what to observe, tell them what to look for in clinical encounters: "Watch the way that I take a history from the next patient and tell me afterwards what you noticed." Experience has shown that this approach is especially useful with novice learners, who are often daunted by the ward round experience and do not know where to focus their attention.[14,19]

Give learners tasks

Medical students often feel "in the way" in clinical settings. Giving learners tasks that benefit the team makes them feel involved and engages them in purposeful activity.

Goals for different grades of learner

Medical student

- Presentation and discussion of history
- Demonstration of physical examination skills
- Comparison of current patient to previous experience
- Formulating differential diagnosis
- Prescribing
- Interpretation of common investigations

Postgraduate trainees or residents

- Identification of salient points in history and examination
- Prioritising differential diagnosis
- Integration of clinical and investigative findings: clinical reasoning
- Treatment strategy
- Evidence for and against different management options
- Prognosis and follow-up strategies

Useful resources

Task based learning

Harden R, Crosby J, Davis MH, Howie PW, Struthers AD. Task-based learning: the answer to integration and problem-based learning in the clinical years. *Med Educ* 2000;34:391-7

Ward round checklists

Caldwell G. Real time assessment and feedback of junior doctors improves clinical performance. *Clin Teacher* 2006;3:185-8

Norgaard K, Ringsted C, Dolmans D. Validation of a checklist to assess ward round performance in internal medicine. *Med Educ* 2004;38:700-7

Organise dedicated teaching rounds

Most clinical teams organise dedicated teaching rounds for undergraduate and postgraduate learners. Dedicated teaching rounds can be enhanced if the goals of the teaching round are made explicit in advance; patients are carefully selected (or even invited to attend from home) to match the learning needs and abilities of different grades of learner; and the teacher observes and provides feedback on learners' performance.

Stop and summarise the learning

Learning opportunities on ward rounds can come thick and fast. Learners can become overwhelmed unless some effort is made to stop between patients to summarise what was learnt.

Practical points

- Always attempt to observe what the learner does and provide timely feedback either at the bedside or in a suitable location immediately after the ward round.
- Wait for learners to answer your questions (count slowly to 10 in your head). Silence can be an effective tool in enabling learners to think and contribute to a discussion.
- Use validated checklists (examples are given by Caldwell[14] and Norgaard et al[20]) to structure your evaluation of junior doctors' performance on ward rounds.

How will I know what learning has been achieved?

Checking what has been learnt is often the forgotten element of bedside teaching. It is vital to debrief learners after a ward round to highlight key points, uncover areas of uncertainty, and raise problems that could not be discussed at the bedside. It is also an important time to provide corrective feedback that might have been embarrassing to give in front of a patient.

Practical points

At the end of the ward round:

- Ensure that you or one of your fellow tutors reviews what has been learnt with each group of learners. Use the learning summaries as your basis.
- Plan with learners what they need to look at or do before the next clinical encounter.
- Encourage learners to keep track of what they are learning by using a logbook or portfolio.

Conclusion

Ward round teaching is here to stay, despite recent changes in doctors' working patterns and the increasingly rapid turnover of patients occupying hospital beds. A deliberate and planned approach to bedside teaching will make effective learning much more likely. The critical success factors include establishing a safe learning environment, observing what learners do, and providing feedback in a timely fashion. Teachers should view each teaching ward round as an opportunity for both their learners' and their own development.

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