

**DISCHARGE CRITERIA GUIDELINES: discharge from recovery to a surgical ward** (Not the Intensive Care Unit, or the High Dependency Unit)

The nurse responsible for the patient's care should make the following assessment before discharge. These guidelines are to assist nursing staff working in recovery to make appropriate and safe decisions.

**Conscious level:** The patient should be alert, or responding briskly to verbal stimulation. The patient should be able to move all four limbs "on command" (in both instances, providing this was the case pre-operatively). The patient should also be able to cough when asked. The patient should be easily roused, i.e. by voice alone, if sedated from analgesia.

**Respiration:** The patient should have an adequate gas exchange. This is assessed clinically in the majority of patients who are expected to return to a surgical ward, however, some patients may have an arterial line that can be used for blood gas sampling, if there is cause for concern. Before discharge you must establish that the patient can maintain his own airway and can cough and deep breathe. The respiratory rate should be between 8-20 breaths (in adults) per minute, with no increased work of breathing evident. The SpO<sub>2</sub> should be >93% on air (unless the patient has pre-existing lung disease) and 94%-100% on appropriate oxygen therapy. {NB. Baseline oxygen saturations are rarely assessed preoperatively. Professional judgement in individual cases is required, but if in any doubt, seeks medical advice}. All patients on epidural or opiate PCA have supplemental oxygen and need to return to the ward with this. Some patients may have oxygen prescribed on the drug chart: check this and administer.

**Circulation:** The patient should have adequate perfusion of all vital organs. This is assessed in most patients by measuring the blood pressure, the urine output, monitoring the heart rate and ECG, and clinically by observation of skin colour and temperature, particularly the hands and feet. The mean arterial pressure (MAP) is the average arterial blood pressure throughout the cardiac cycle and represents the mean pressure available for perfusing vital organs.

Some patients who return to the ward may have a central venous pressure line, which will also help you in your assessment of the patient's circulatory status. (NB: Check with the anaesthetist that the central should remain in situ, prior to discharge. Arterial lines should be removed in **all** patients before discharge to a surgical ward). Use the MEWS score for systolic BP as a guide: >100 & ≤180. The heart rate should be 51-100 (in adults) beats per minute. Urine output should be 0.5ml-1ml/kg/hr. If any of these measurements are outside these parameters, seek advice. The patient's skin should be warm and dry, not mottled, pale, clammy, or cool.

**Pain control:** Pain should be controlled to the patient's satisfaction, as far as is possible, and the level of sedation should be such that the patient can respond to verbal stimulation alone. Ensure that you ascertain the location of the pain – patients may complain that is not related to the operation site! Also ask about the intensity and nature of the pain: sharp, dull, stabbing, continuous spasmodic, etc. Simple pain scores are a quick and easy way of assessing pain. Ideally, the APS should be <3 but no more than 6 (See APRS parameters). It is important to assess, document and treat any side effects, such as sedation, respiratory depression and nausea. Multi-modal analgesia is commonly used intra-operatively. In the recovery room please ensure that the patient has received regularly prescribed paracetamol if receiving epidural or IV opiate therapy. This has an opiate sparing effect. The patient should be able to deep breathe and cough without severe pain. Ensure that adequate and appropriate analgesia is prescribed before the patient is discharged. (Check for drug sensitivities/allergies and any contraindications). All patients with an epidural should be able to maintain a systolic blood pressure of 100mmHg. The respiratory rate (for all patients) should be 8 breaths per minute or more, and if sedated, be easily roused. All patients who are receiving opiate therapy should return to the ward with oxygen.

The epidural sensory level should be at or below T4. The spinal sensory level should be regressing and the patient cardiovascularly stable, especially if sat up. Patients who have had spinal anaesthesia are especially susceptible to postural hypertension due to vasodilation.

**Patients with an epidural should not be discharged with a complete motor block.** A complete motor block (Grade 3) is a neurological emergency. If it persists in recovery, a consultant anaesthetist must be made aware of it before the patient is discharged.

**Nausea and vomiting:** The patient should not return to the ward if they are persistently retching or vomiting, and any feelings of nausea should have passed. If this is a problem in the recovery room, remember that there are several types of anti-emetic drug that can be administered, and as they work in different ways, they are safe to use together. Seek advice from senior nursing colleagues or anaesthetic medical staff if PONV is difficult to control. Consider requesting fluid, if not in-situ. Remember that nausea can be caused by a low blood pressure, so check this. Patients should be transferred sitting up, but not bolt upright, and facing forward. Ensure anti-emetic therapy is prescribed.

**IVT: Fluid balance:** Fluid loss and replacement should be accurately documented on the recovery chart. The anaesthetist should give precise instructions for fluid replacement, but this may need to be reviewed in recovery if there is continued bleeding. No patient who requires ongoing fluid boluses should be discharged from recovery, but should require maintenance fluid only for at least 30 minutes before discharge. A haemoglobin level, using the 'Hamocue' is a quick method of determining the patient's Hb, which will help in the management of fluid replacement, but ideally the sample should be taken directly from the vein, or arterial line. Blood is given to replace red cells and not volume. Hypovolaemia due to blood loss is treated with crystalloid and colloid fluid.

**Heat conservation:** The patient may well be cold on admission to recovery. Note the peripheral and core temperature, which is measured with the tympanic monitor. Use warming devices (Bair Hugger) on patients who are cold. Remember that some patients who are 'shivering' may have an elevated temperature that may indicate infection. All patients should have their temperature checked: the temperature range in the MEWs score is between 35.1 and 37.5

**Wound site, drains and dressings:** Drains should be patent, and if appropriate, vacuumed. Dressing should be clear or minimally stained. Drains should have minimal drainage or some bleeding into drains, but not increasing. If you are uncertain about the significance of any bleeding from the wound or into the drains, seek advice.

Check for pulses in vascular and orthopaedic patients. Stryker drains should be marked with the time they were released: blood drained into these should be re-infused within 5 hours. Chest drains are a closed cavity. Any opening of the thoracic cavity (as in some spinal surgery involving thoracotomy) results in loss of negative pressure and the lungs collapse. Insertion of the chest drain allows the lung to re-expand. The underwater seal should not be breached (tube submerged deep enough) and drainage facilitated by gravity. The bottle should be secure and below the level of the drain. The tubing should not be clamped, unless the drain needs to be moved above the level of entry into the chest, or the drainage tube becomes separated from the bottle, therefore allowing air to enter the pleural cavity. Ensure that there is fluctuation 'swinging' of fluid in the drainage tube – this shows that there is communication between the pleural cavity and the drainage bottle.

**Documentation. Please ensure that the following are accurately documented and signed:**

Recovery chart  
Drug chart  
PCA / Epidural charts  
Audit sheet (if applicable)

## **Quick reference guidelines**

### **Conscious level**

- Alert/Responding to voice
- Moving all limbs "on command"
- Able to cough

### **Respiration**

- Adequate gas exchange (assessed clinically/ABG's if appropriate)
- Respiratory rate between 8-20 breaths per minute (adults)
- Spo2 >93% on room air Spo2 94-100% on appropriate oxygen therapy
- Additional oxygen, if prescribed or if receiving opiate epidural or opiate pca analgesia

### **Circulation**

- Adequate perfusion of vital organs (assessed clinically using the parameters & observations below)
- Use MEWS score parameters for systolic BP >100 ≤180
- Heart rate between 51-100 bpm (adults)
- Urine output 0.5ml-1ml/kg/hr
- Skin warm and dry, not mottled, clammy or cool

### **Pain control**

- Ascertain location of pain
- Use pain score to assess pain intensity: APS <3 or controlled with APS 3-6
- Use multi-modal analgesia
- BP>100 mmHg
- Respiratory rate >8pm
- Epidural sensory level ≤ T4
- Motor block (epidural) regressing: able to move feet (Persisting Grade 3 block is a neurological emergency. A consultant anaesthetist must be made aware)
- Adequate and appropriate analgesia prescribed
- Pain controlled to a level acceptable to the patient
- EPCA and PCA machines logged out
- Remember orange warning stickers on drug chart

**Nausea and vomiting**

- None or mild nausea and no persistent vomiting
- Use of several anti-emetics and ensure adequate prescription
- Check blood pressure
- Consider fluid

**IVT/Fluid balance**

- Maintenance fluids only for at least 30 minutes
- Further surgical/anaesthetic assessment if bleeding in recovery
- Fluid losses and replacement documented
- Check Hb if continuing bleeding, or significant intra-operative blood loss, or if clinical signs indicate possible anaemia

**Heat conservation**

- Measure temperature (Range 35.1-37.5)
- Use warming devices on cold patients
- 'Shivering' may be indicative of infection

**Wound site, drains and dressings**

- Drains are patent and if appropriate, vacuumed
- Dressings clear and minimally stained. Drains-minimal drainage, or some blood in drains, but not increasing
- Check for pulses in vascular and orthopaedic patients
- Stryker drains marked with release time (Blood drained to be re-infused within 5hrs)
- Chest drains secured, have an underwater seal, and hang below the level of the drainage tube. Tube not clamped, unless disconnected, or moved above the level of chest entry. Look for 'swinging' of fluid in the drainage tube

**References:**

1. The NHS Plan : a plan for investment a plan for reform / The Department of Health July 2000
2. Immediate postanaesthetic recovery / The Association of Anaesthetists of Great Britain and Ireland September 2002
3. The complete recovery room book – 3<sup>rd</sup> ed. / by Anthea Hatfield and Michael Tronson : OUP 2001
4. The Royal Marsden NHS Trust manual of clinical nursing procedures – 4<sup>th</sup> ed. / edited by Jane Mallet and Christopher Bailey : Blackwell Science 1996
5. Freeman Hospital Adult Postoperative Recovery Scoring Guide 2007