G7	Standard	Moving and handling (M&H) in a renal unit

Systems are in place to cover all reasonably foreseeable M&H situations in the **renal unit.**

Justification

Rationale

Renal units may have a renal outpatient department, inpatient ward, haemodialysis and peritoneal dialysis areas as well as dialysis satellite units and a transplant ward. Patients may need acute general medical care, dialysis support or management of the inter-current illness as well as rehabilitation or surgical care when undergoing dialysis access surgery. Some patients will need high dependency care particularly after a transplant. The need for patient handling depends on the patient's medical condition.
The main handling issues/ causes for musculoskeletal disorders (MSDs) are:

1. The tendency for patients to experience sudden changes in BP requiring rapid response handling at times
2. MSDs arising from staff working postures
3. Handling of inanimate loads such as haemodialysis concentrate solutions/ waste and equipment

Authorising Evidence

HSWA (1974); MHSWR (2000); MHOR (2004)

Links to other published standards & guidance

British Renal Society (2002); CQC (2010); DH (2011); NPSA(2008); Ruszala et al (2010)

Cross reference to other standards in this document

A4; B8, 12, 13; D2, 12; F1; G2-4, 8, 14, 15, 17, 21-26, 32-34, 40

Appendices

1, 9-11, 13, 14, 25

Verification Evidence

- requirements for compliance to achieve and maintain this standard

Generic assessments are carried out and developed into protocols that include:

- Movements of beds/ couches / dialysis machines and transfers or repositioning of patients for procedures or for activities of daily living
- Taking bloods and handling of dialysis fluid (dialysate)/ waste and other consumables
- Decontamination of dialysis equipment/ machines

Department specific induction checklist that includes awareness of:

- Postural hazards including sustained static postures
- Reporting of musculoskeletal discomfort

Observational evidence;

- Posture during procedures and good M&H techniques

Systems to share concerns and promote problem solving:

- Renal unit specific M&H training records
- Team meeting notes

G7 - Protocol for renal unit (M&H)

Author: Amanda Hart

Other contributors: David Couzens-Howard ; Joan Gabbett ; Eila Mohey; Maggie Williams

1. Introduction and background

Renal units have evolved over recent decades to become vital treatment areas for patients with diseases resulting in renal failure, either chronic or acute. Without these units most patients would die, and the increasing numbers of patients who survive renal failure puts high demands on the staff looking after them (sometimes for many years). The units vary in size and in the way they are organized.
Generally, however, the following will be included:-

- Renal outpatient department
- Renal in-patient ward(s) for
  - patients with acute/ temporary kidney failure who are having investigations or special care and need admission
  - patients who are admitted for surgery to have a catheter, arteriovenous (AV) fistula or AV graft inserted before commencing dialysis (process of removing waste products and excess fluids from the body when the kidneys have stopped working either through an artificial or a natural membrane [National kidney patients' helpline, reviewed 2012).
  - dialysis or transplant patients who are unwell and need assessment.

- Haemodialysis (HD) unit, where patients with acute/ chronic kidney failure are dialysed. The dialyser (dialysis machine) acts as an artificial kidney. Before the HD can begin, the patient needs to have a 'vascular access point' - either an 'arteriovenous' (AV) fistula/ graft created (takes time to form) or a central venous catheter inserted, this can be used while a permanent access develops.
  The AV fistula is a surgically modified blood vessel created by connecting an artery to a vein - sometimes an internal graft, synthetic or bovine, is used to connect the artery to the vein - just under the skin in the patient's wrist or upper arm. This makes the vein swell and later on allows two needles to be inserted and removed after each treatment (NHS choices, reviewed 2011). An intravenous line - connected to one needle - takes blood from the body. The blood is filtered and returned to the patient's bloodstream via the second needle (NHS choices, reviewed 2011). Waste products and fluids are removed through a semipermeable membrane in the dialyser.

In many HD units a single "station" may have to support three patients a day each requiring 3-4 hours of dialysis. The design of the HD machine enables the patient to sit or lie next to it.
Some patients, particularly those living far away from a renal/ satellite unit, may have HD at home.

- Peritoneal dialysis (PD) unit may be separate from the HD unit. Patients usually carry out PD at home, but they would stay in the unit whilst being taught the procedure and some patients may receive dialysis sessions as inpatients.
  As a preparation for the PD, a soft catheter, with two-way access, is surgically inserted into the patient's abdominal cavity through the abdominal wall. The abdominal cavity is lined by the peritoneum, which acts as an artificial kidney. The catheter allows the drainage of the dialysis solution into and out of the peritoneal cavity.
  There are two different types of PD. In a so called CAPD (continuous ambulatory peritoneal dialysis) a bag of dialysis fluid (dialysate) is drained into the patient's peritoneal cavity. The fluid is left in the body for 4 to 6 hours, while it absorbs the waste products from the blood, through the peritoneum. The fluid is then drained out over 20 to 30 minutes, the cycle is repeated four times a day. During the 4 to 6 hours between exchanges the bag is disconnected leaving the patient with only a capped-off, short, rubber tube allowing those patient who are able to be mobile.
  An alternative PD is CCPD (continuous [cycler-assisted] cycling peritoneal dialysis, sometimes also called automated peritoneal dialysis [APD] as a cycler machine is used to perform the exchanges). As the patient goes to bed, s/he is attached to a machine loaded with dialysate solution. The machine performs a number of cycles over 8-10 hours. The waste fluid is drained into a large bag for disposal.

  All PD units have an "on-call" system which also operates at night - therefore there is always someone available to help patients who have problems or difficulties at home.

2. Management, organisation, supervision and support

Managers/ administrators must be aware that there is a demand in many renal units to treat as many patients as possible. Emergency patients, patients with problems with home dialysis, patients waiting for transplants or with failed transplants may increase numbers unexpectedly, putting extra stress on the nursing staff.
Managers must ensure that:-

- Staff are supported if they are under pressure due to the fluctuations in the demand and/ or due to the conditions of renal patients, who could be feeling very low, depressed, angry or physically ill
- Sufficient staff of the appropriate skill levels are rostered to each shift (CQC, 2010) to cover all eventualities
- All M&H tasks are risk assessed and translated into SOPs

Administrators need to register patients when they arrive at/ leave the unit, and ensure that an appropriate system of supply and delivery of consumables and fluids is in place.

3. Staffing levels

Sufficient staff of the appropriate skill levels should be employed and rostered to each shift (CQC, 2010).

In the HD units there are different shifts of patients each day - one in the morning, afternoon, evening, and perhaps a night shift, therefore all shifts must be covered with an appropriate number of staff.

Staffing levels should be adequate for the complexity of needs relating to the status of patients, their dependency levels and mobility issues.

Often renal patients have associated comorbidities. All patients with mobility problems will need assessment and assistance with ADLs. Being "attached" to a dialysis machine will mean that the patient will need help with supplies of food and drink, administration of intravenous fluids, drugs etc.

M&H risk assessments, properly carried out and translated into SOPs, will indicate/ specify the number of handlers required for each M&H intervention (repositioning/ transfer manoeuvre or to help the patient before, during and after dialysis), as well as their predicted frequencies, and this too will inform the planning of staffing levels.
Patients may be in a critical state and staff skilled in the use of resuscitation equipment should be on hand for emergency.

Patients with renal disease require the integrated management and support of many different healthcare professionals and social service agencies throughout their renal 'journey'. These may include the following skill mix:-

- doctors, radiologists, scientists and transplant co-ordinators
- social workers and clinical psychologists
- dietitians and pharmacists
- nurses (senior and intermediate registered practitioners or newly qualified) and healthcare assistants for HD, PD or ward based nursing
- occupational therapists and physiotherapists
- teachers and play specialist for paediatric renal units

(Note: This list is not exhaustive)

The British Renal Society (2002) issued some figures about various staffing levels for acute renal wards and dialysis units including the ratio of qualified and unqualified nursing staff, who are most likely to carry out most M&H/ patient handling tasks.

4. Staffing competency (after Benner, as cited in Ruszala et al, 2010)

Novice

New HCAs/ nursing and transport staff. Students passing through the renal departments who, whilst supernumerary, must be adequately supervised and instructed on M&H in these settings, as must any staff new to the renal department.

Advanced Beginner

Trainee transport staff coached by a mentor who is experienced in M&H and conversion students with renal experience who have attended relevant local M&H induction training and some practical instruction in the unit, but are not yet certificated as competent, and may lack some experience particularly in how to avoid static working postures whilst attending to the patient.

Competent

Staff with minimum of 2-3 years' experience in renal work, aware of environmental/ social/ health issues which may affect the renal patient. Able to assess and plan M&H activities and reduce risk of injury both to the patient and to themselves. They have received relevant training, instruction and have been assessed as competent in M&H and are expected to supervise others.

Proficient

Understands M&H problems and takes a holistic approach. For example a senior renal nurse practitioner or a unit's MH link worker.

Expert

A person with a wealth of experience in M&H in the renal unit who has intuition, and is able to recognise a problem without necessarily going through the process of analysis. For example Manual Handling Adviser with renal experience.

An advanced beginner level of competency in MH is required for renal unit staff as a minimum. Regular relevant training should enable staff to select appropriate safer postures/ positions/ equipment to facilitate their work. Possible rapid deterioration in the patient's medical condition could mean that staff have to move quickly to reposition the patient in order to avoid haemostatic compromise; therefore staff need to be well versed in M&H techniques so that

they do not put themselves at risk. If tasks are undertaken by staff who have not practised any emergency handling, and do not adopt good practice as second nature, the risk of patient and staff injury will be increased.

5. Environment

Space is paramount and must be considered when a renal unit is planned. Staff must have clear access to patients/ facilities and any equipment that may be required ('Space for Health', DH, 2011).

The 'Space for Health' guidance includes the following:-

- separate entrance to the renal waiting area, including appropriate parking for ambulances/ relatives cars ('dropping-off points')
- reception area/ office for the administrators of renal services
- renal outpatients department
- renal inpatients – the renal ward
- haemodialysis area, including an area for training patients who would like to undertake independent HD in their own homes
- peritoneal dialysis area, with enough room for inpatient dialysis and for teaching patients/ carers to perform PD at home
- room for the maintenance and repair of HD/ PD machines
- toilets - separate for patients and staff
- staff room
- storage for fluids
- storage area for clean/ sterile supplies
- storage area for waste - clinical and non-clinical
- cleaners room

Ideally the renal unit should be situated on the ground floor, with easy access to other hospital departments. If lifts are required, these must be sufficiently large to accommodate beds etc.

PATIENT ENTRANCE: There should be a separate, dedicated entrance for renal patients and their escorts/carers as this would make life easier for the group of patients who already have much disruption to their lives, and would help to prevent overcrowding of the main hospital entrance, especially at patient changeover times. The entrance should be covered, to prevent patients transferring from a vehicle into the unit from being exposed to the weather; wide enough to allow access by disabled patients in wheelchairs, or using walking aids. To facilitate patient access, the entrance to the main renal unit should, where possible, be located near public transport routes.

DROPPING-OFF POINTS for ambulances, taxis and carers' transport should also be provided. The dropping-off point for ambulances should be large enough to accommodate several ambulances, as the ambulance staff will have to leave their vehicles while transporting/ escorting patients to their destination within the renal unit.

WAITING AREA should comfortably accommodate a peak of patient/staff flows at dialysis-shift and working-shift changeovers. Seating should be appropriate for older/ frail people who may have difficulty in rising to standing (see section 12). Refreshment facilities should be available for patients, particularly if their transport is delayed.

RECEPTION AREA should be located at the entrance to the unit, adjacent to the waiting room, for receiving/ registering patients on arrival. It should be accessible for people in wheelchairs, and staff should be able visually to check patients' entrance to the unit.

ACCESS FROM THE RENAL UNIT TO THE MAIN HOSPITAL should permit patients to transfer on a bed. If the renal unit is not attached to the main hospital, any corridor used should be roofed.

TOILETS with appropriately placed grab rails need to be accessible to wheelchair users.

PATIENTS' CHANGING AREA/ LOCKER ROOM should be provided for outdoor clothing. Patients should be able to change into comfortable clothing before dialysis.

OTHER FACILITIES should include an area for parking wheelchairs, buggies and pushchairs; nappy changing and baby/ infant feeding facilities; public telephones.

IN-PATIENT ACCOMMODATION in a renal ward should follow the standard design and building guidance– see 'Adult in-patient accommodation' (DH, 2011). This document gives details of rooms, bed clusters and space requirements. Patients who require a higher level of care will be treated in critical care areas of the renal ward or in the HDU/ITU. For the planning and design of such facilities see DH, 2011[2].

In DIALYSING AREAS, once the patient is on the HD machine, the nurse will have to work around the leads, electrical wires and other equipment required. The unit may contain beds or reclining chairs or a mixture of both. Many patients want to watch television or listen to music so personal devices may reduce the amount of space around the patient.

FLUID STORES should be large, with plenty of racking (height and positioning of racking should be in accordance with current health and safety/ MH advice) as

dialysis fluid is consumed in high quantities and needs to be moved around on trolleys and pallets, as it is packaged in large quantities.

GENERAL STORAGE AREAS for sterile supplies, such as bulk dressing packs, syringes and needles, should be large enough to allow easy access and retrieval.

WASTE STORAGE AREAS should have adequate facilities for clinical and non-clinical waste disposal. A separate exit for waste disposal is required as renal units use considerable amounts of consumables and need to dispose of large volumes of waste daily (possibly more than any other hospital department).

CLEANERS' ROOM with enough space to park and manoeuvre cleaning machines and cleaners' trolleys.

FLOORING in renal units must have an impervious finish as spillages of body fluids will occur and a number of renal patients may have blood born infections.

6. Communication and information systems

Information will be required if the patient is transferred to the unit from another ward/ hospital. If the patient is coming from home, staff should be aware that the health of the patient can be variable and mobility could be affected. Nurses will need to review each patient's MH risk assessment (RA) and be prepared to carry out a dynamic RA before treatment begins.

The necessity of providing mobility information must be known to all referring staff as well as disseminated to those inside the unit, to allow for the immediate implementation of the relevant method of assistance when transferring/ repositioning patients. Transport staff need to be alerted if there is deterioration in mobility following treatment particularly if the patient is fatigued.

7. Treatment planning – goals

Many patients will have an oral fluid restriction, as too much fluid can "overload" the system. Therefore, the patient will need to be weighed to assess how much fluid should be removed during treatment. This is done at the start of each treatment, therefore the MH needs of weighing the patient must be considered particularly with those who may be bed/ wheelchair bound.
Blood tests are done to analyse blood chemistry and the length of time a patient will require dialysis will be planned using the results.
The amount of MH will increase with the dependency of the patient. An immobile, medically unstable patient may need turning and repositioning in bed.

8. Moving and handling tasks

MH of potentially heavy loads, such as dialysis fluids when bags/ bottles of fluid concentrate run out and need changing, and waste bags need empting, will put staff at risk. Careful thought must go into the storage of items used for dialysis, which must be easily accessible.
Staff need to be aware of static postures whilst attaching the lines to the patient and the machine, or emptying waste, and should avoid stooping and overreaching where possible.
Manual dexterity is required to place the lines and artificial kidney on the machine and add the intravenous fluids, infusion pumps etc.

Patient handling tasks:

1. Assisting with sit to stand
2. Assistance with walking into the unit and onto the couches/ beds or seating provided
3. Pushing wheelchairs/ beds
4. Assisting a patient to transfer on and off the toilet
5. Weighing patients
6. Positioning a patient for a treatment/ procedure, for example for an insertion of a central line (so that the doctor/ practitioner is not impeded in any way whilst the line is passed along the blood vessel)
7. Assisting with bed moves
8. Dealing with a falling/ fallen patient
9. Repositioning a patient in an emergency in order to avoid haemostatic compromise

Inanimate handling tasks:

1. Changing fluid bags/ bottles
2. Emptying/ changing bags of waste
3. Moving dialysis machines and other equipment
4. Retrieving consumables - clean supplies
5. Handling clinical waste

Postural tasks:

1. Taking blood (venepuncture)
2. Connecting/ disconnecting a patient to the dialysis machine - connecting/ disconnecting to/ from the shunt/ catheters/ drains
3. Inserting a central line/ dialysis access
4. Use of VDU workstation

9. Moving and handling assessment

All the M&H tasks listed above must be assessed using the TILE format (MHOR, 2004). This can be done generically in connection with the drawing-up of SOPs, or individually.

In emergency situations assessments will need to be made rapidly, but not so fast that safety is compromised. Forward planning for every reasonably foreseeable eventuality, such as falls and emergency evacuation, will minimise the occurrence of true emergency handling - managing falls (see NPSA, 2011; G22-26).

An ergonomics audit will identify postural problems for staff in this setting and must recognise the difficulty of avoiding static postures (Adams, 1998; Leggett, 1998) as well as the moving of potentially heavy loads, such as fluids.

Therefore assessments should be made of each postural/ MH/ patient handling task, such as inserting lines/ handling dialysis fluids/ waste and use of equipment. Tools such as REBA and RULA (Hignett S & McAtamney L, 2000 & 2006) / OWAS (Karhu et al, 1977) can be used to assess postural tasks; whilst TILE (HSE, 2004) is used for M&H tasks, and MAC (HSE, 2003) to assess inanimate load handling.
Generic MH assessments may be adequate for many patients, but some may require an individual MH plan.

All home visits should be planned, therefore there should be sufficient time to make RAs and devise methods of risk reduction bearing in mind that the patient will need advice/ guidance about their home situation.

Environmental assessments, including VDU work stations, need to be carried out to ensure staff have clear access to all work stations and equipment. These assessments should also identify any slip and trip hazards in order to reduce the risk of falls.

10. Methods, techniques and approaches

Patients should be encouraged to be as independent as possible, and equipment such as walking aids/ slide sheets/ transfer aids/ hoists, should be used where appropriate. Training in the use of equipment provided should be based in the unit.
Staff should be provided with height adjustable equipment where available, in order that 'poor posture' such as stooping, overreaching or twisting can be avoided as far as possible.

11. Handling equipment

There should be access to adequate patient handling equipment to assist with transfers, e.g. slide boards, handling belts, turners, hoists and slings (preferably

patient specific), chair weighing scales and commodes as required. Staff must be familiar with strategies to assist mobility impaired people, including the use of equipment to assist in their transfers/ repositioning. All equipment must be maintained according to the requirements of LOLER (1998) and PUWER (1998).

12. Other equipment/furniture

Patients should be provided with height-adjustable reclining chairs/ couches or beds, to facilitate access and egress, whilst ensuring that staff are working safely. The SWL of these items must be ascertained. Tissue viability needs must be considered (MDA/2010/002).

Seating in the waiting area should be variable height and all chairs should have arms to assist patients with mobility problems.

Staff must also be supplied with suitable height-adjustable seats when attending to patients or using VDU workstations, and may need advice from the BCA team on these.

Trolleys must be provided for the movement of oxygen cylinders, fluids and other consumables. Small height-adjustable platform trolleys are available for use when dialysis waste bags are removed from the machines.

Safety ladders/ step ladders/ steps should be provided, and used when necessary.

Bedside tables/ lockers for patients' belongings should have wheels and visitors' chairs should be easy to move.

13. Risk rating

To carry out a 'suitable and sufficient' assessment, each task should be evaluated as part of the assessment process, so that the level of risk is quantified. Such assessments should be used, wherever possible, in the design of a safe system of work, and in highlighting any residual risks.

Various systems exist, but it is suggested that the NHS risk management 5x5 matrix, with 0-25 scale, is used for an overall evaluation of risk (NPSA, 2008) (see CD1, appendix 9 in folder 5). It is in common use, simple to use with 5 levels of risk, determined by a calculation of the likelihood or probability of an adverse event occurring multiplied by the severity of consequences or impact should it occur.

Likelihood/Probability (0-5) x Severity of Consequences or Impact (0-5) = 0-25

The values below are based on this system. Calculations lead to the following possible scores or ratings: -

1 – 6 = Low; 8 – 12 = Medium; 15 – 16 = High; 20 = Very High; 25 = Extreme

These ratings can then be used to alert staff, to prioritise action and justify any necessary expenditure to make the situation safer, on the basis of reasonable practicability. Options can be evaluated by considering risks, costs, and actions planned or taken, to reduce the level of risk to the lowest level that is reasonably practicable, which can thus be demonstrated.

The tasks involved in renal units are many and varied and it is not possible to identify all the risk ratings involved at this point. Each task should be identified and assessed after which appropriate action must be taken to reduce any risk of injury to the lowest level reasonably practicable. To rate a particular task refer to the Moving and Handling Strategy and Standards document (2011), appendices 9 & 13 in CD1; or to Smith, J (ed) (2005) and Smith J (ed) (2011) for more information.

For more detailed assessments a range of assessment systems is available. These are more sophisticated and are applicable in certain circumstances, for determining risks to handlers and clinicians from the postures they (are obliged to) adopt in the course of their work particularly when carrying out venepuncture or connecting shunt/ catheters/ drains.

Systems include: REBA and RULA (Hignett & McAtamney, 2000 & 2006); OWAS (Karhu et al, 1977)

14. Alerting the moving and handling team

M&H team should be involved in the planning of renal units especially when satellite units (for dialysis) are set up.

The M&H team should be alerted immediately if there is a MH problem.

M&H team may be contacted in the case of

- bariatric admission
- spinal injury
- where equipment required is not available
- where staff need to be trained for special competencies
- any other problem that requires specialist M&H / back care advice
- planned admissions, in advance

15. Referral to and involvement of other specialists

The ambulance service should be contacted for advice, particularly if the person requires medical support during the journey to other wards or places.

16. Transport

Liaison with the transport department, if relevant, will ensure patients are brought safely to the department and taken home safely. If unit staff are involved in collecting patients from home, they must be trained in escort duties.

All transport staff will need adequate training in handling techniques to ensure their own safety and the safety of their passengers. Training should also be given in making the patient secure in the vehicle. Assessment should take place to ascertain whether the patient requires an escort and what qualification the escort should have. The type of vehicle needed should be suitable for the mobility needs of the patient being transported.

17. Discharge and transfer planning

On discharge or transfer any mobility impairment should be communicated to the relevant persons. For discharge arrangements see G32.

18. References

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Summary/ Key Messages

- **The intention of the entire strategy and standards document is to contribute to the improvement of: -**
  - The quality of care - 'patient experience' (dignity, privacy and choice)
    - clinical outcomes
  - Patient/ person safety
  - Staff health, safety and wellbeing
  - Organisational performance – cost effectiveness and reputation, etc.

- **The standard for G7 is:**

Systems are in place to cover all reasonably foreseeable M&H situations in the renal unit.

- **Skilful M&H is key**

- **Special points for G7 are: -**
  - **Static working postures for staff**
  - **Patients needing rapid response handling if their B/P suddenly changes or they need repositioning for procedures**
  - **Moving of beds/ couches/ chairs or dialysis equipment**
  - **Handling containers of fluids**