G12	Standard	Dentistry – moving & handling (M&H)

Systems are in place to cover all reasonably foreseeable handling situations in the **dental service**.

Justification

Rationale

Some patients and service users requiring dental treatment will need assistance in order to effect such procedures. There must be awareness of the risk of static posture to dentists, dental nurses and hygienists, and of ways to avoid it during dental treatment.

Authorising Evidence

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

Links to other published standards & guidance

HOP5 (2005); HOP6 (2011); NBE (2008); NBE (2010); Ruszala et al (2010)

Cross reference to other standards in this document

B; C4; G3; H2; K

Appendices

9, 11, 12-14; 16; 25, 28

Verification Evidence

- requirements for compliance to achieve and maintain this standard

- An agreed approach, informed by evidence-based best practice, documented in the M&H policy, disseminated to all staff and embedded within the department/ service
- Risk assessments (for M&H) that are 'suitable and sufficient', robust and balanced
- Safe systems of work and standard operating procedures
- Individual person assessments where necessary – readily accessible and regularly reviewed
- Ergonomics is integral
- Information and communication systems – including documentation
- Competent, healthy staff, in sufficient numbers
- Training (theoretical and practical) and supervision
- An environment conducive to good care (space, layout, etc.)
- Handling and other equipment that is suitable (fit for purpose) and readily available
- Investigation of and learning from adverse events, using root cause analysis to locate the cause and prevent a recurrence SFAIRP
- Monitoring, audit and review of the verification evidence
- Points learnt from audit, and accident/ incident investigations and reports are disseminated and discussed with staff, with subsequent learning
- Reporting of the status (level of compliance) to the organisation
- Action plans to correct any lack of compliance
- The culture is one of learning rather than 'blame and shame'
- Staff work within protocols and record as necessary

G12 Protocol – dentistry (M&H)

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1. Introduction and back ground

Musculoskeletal injuries and back and neck pain have affected the majority of dental practitioners, dental hygienists and dental nurses at some time in their careers due to repeated unnatural, deviated or inadequate working postures resulting in muscular imbalance and neuromuscular inhibition (Andrews & Vigoren, 2002; Basset, 1983; Dental Survey, 1965; Diakow & Cassidy, 1984; Hope-Ross & Corcoran, 1985; Powell & Eccles, 1970; Rucker & Sunell, 2002; Valachi & Valachi, 2003; Willie 1967; Yamalik (2007). Between 30% and 88% of dentists and a similar number of hygienists complained of back pain (Basset, 1983; Dental Survey, 1965; Diakow & Cassidy, 1984; Powell & Eccles, 1970; Willie, 1967). In the past, standing for 40% of their working time caused musculoskeletal problems but seated dentistry is now the norm, although this too brings with it poor working postures (Ellis, 1981; Ross & Corcoran, 1985). Dentistry is now one of the most sedentary occupations with dentists and hygienists often adopting hunched working positions. Few dental staff need to take time off due to musculoskeletal pain (Basset, 1983) and with an increase in awareness of the hazards of unnatural postural stances and the development of ergonomically designed work areas and patient seating, the incidence of injury has been reduced. Implementing the recommended health & safety measures can enable a long and healthy career (Andrews & Vigoren, 2002; Jones & Forsythe, (2005). Adequate exercise may condition the body and reduce the risk of musculoskeletal injury (Marklin & Cherney, 2005; Jones & Forsythe, 2005).

2. Management, Organisation, Supervision and Support

The management of the dental treatment is the responsibility of the dental professional. The management of the manual handling of the patients with special needs and restricted mobility is the responsibility of the manager of the unit or practice, with the co operation of the dental practitioners (MHSWR, 2000; MHOR, 2004).

3. Staffing levels

The number of staff required for handling a patient for dental treatment varies from patient to patient depending on their physical and other special needs. It is the responsibility of the patient's referrer to inform the dental practice or unit of the patient's particular needs. Two staff, or the help of a relative, might be recommended for the use of hoisting depending on the assessed needs of the patient (Alexander, 2005; Orchard, 2005). A patient with particular psychological needs may benefit from having a well-known carer with them during treatment. This may include small children attending a dental treatment session. Patients with no special needs or mobility difficulties could be treated by one member of staff depending on the particular dental procedure although some patients may require the presence of a chaperone.

4. Staffing competences (After Benner, as cited in Ruszala et al, 2010)

Novice – Newly qualified staff with no training in manual handling tasks and assessment, or unqualified staff and family members with little or no experience of working in a dental environment who are not trained in manual handling tasks and assessment.
Advanced beginner - Newly qualified with some training in manual handling tasks and assessment, unqualified staff and family members with some previous experience of manual handling.
Competent – Staff who have worked in a dental practice or unit who have received manual handing training, including risk assessment, and have been supervised and assessed as competent.
Proficient – The manual handling key worker who has received additional education, training, supervision and assessment.

5. Environment

Space should be allowed for the adequate movement of staff around the dental chair and surgery without obstruction. Where hoisting is to be used for the transfer of the patient with restricted mobility, space must be allowed for adequate movement. The work surfaces for the preparation of solutions and making adjustments to appliances should be at a height which prevents long periods of stooping and excessive repeated reaching by the technician or dental assistant. Dental instruments should be placed within easy reach of each practitioner during the treatment process which eliminates the frequent need to twist the torso and neck. The dentist and hygienist may be required to work in static postures during treatment and where possible the arms and torso should be supported to reduce the stress on the back, neck and shoulder joints. Yamalik N (2007). If the dentist is requested to work regularly in an unsuitable environment such as a patient's home, they should make arrangements for the patient to attend the surgery instead, if this is possible (see also section 8). It is sometimes not possible for the patient to leave the home to attend a clinic or surgery. If the surgery has been modified with a fixed point central treatment area it may not be suitable for treating patients with restricted mobility due to the difficulty of access to the treatment chair. If this is the case an alternative treatment environment must be found.

6. Communication and information systems regarding initial referral

It is important that any manual handling needs are made clear at the time of the referral of the patient requiring dental treatment. All manual handling tasks would need to be discussed with the patient, staff involved in the treatment process and the patient's carers where this is relevant.

7. Treatment Planning

It is important for the dental practitioners to be aware of the patient's physical and psychological needs before scheduling the treatment programme, so that sufficient time is allowed for satisfactory preparation to be made to enable successful dental procedures to take place. The patient's tolerance of the treatment programme needs to be assessed, also the demands this may make on the dental practitioner. The condition of some patients may mean that they are more receptive to treatment at

certain times of the day or to certain members of staff. In a busy practice this may put pressure on other appointments and dental colleagues but patients' specific needs and the welfare of dental practitioners are paramount.

8. Moving and handling tasks

The moving & handling tasks will vary from patient to patient and the environment in which the dental professional is working. All of these tasks will need to be assessed before dental work begins (MHOR, 2004). Some tasks are frequently repeated and it would not be necessary to assess these with individual patients who have no mobility restrictions or other special needs. Where a dentist is required to work in a patient's own home it is necessary to identify all the manual handling tasks involved. These tasks will include moving heavy equipment, transporting this to the patient's home, moving furniture to allow access to the patient, providing adequate lighting, and moving the patient into a position where the dental work can be carried out.
Many dental procedures require a similar posture by the dentist and hygienist but the dental nurse or assistant will be required to carry out a variety of tasks including mixing solutions, handing instruments to the dentist, preparing the surgery for use by each patient, cleaning the treatment chair and working surfaces and assisting the patient to and from the treatment chair or plinth.

Where the patient has severe mobility difficulties it may be necessary to hoist them from their wheelchair to the dental chair so that their treatment can be carried out satisfactorily and the dentist or hygienist is at least risk of injury. If the dental unit is based in a special needs unit or hospital, ceiling/overhead hoisting would offer the most satisfactory solution although mobile hoisting could be used where access is adequate. Each patient would need to be supplied with a personal sling after a full risk assessment (Alexander P, 2005).
Some of the activities requiring repeated forceful hand movements, holding the hand in static position over long periods can lead to the complication of carpal tunnel syndrome (Bauer, 1985).

9. Manual handling assessment

This is essential in compliance with the Health & Safety at Work etc Act (1974), the Management of Health & Safety at Work Regulations (2000) and the Manual Handling Operations Regulations (2004).

An ergonomics risk assessment such as TILE should be completed for dental patients who require assistance to transfer into the treatment chair or treatment table. If equipment is required an assessment needs to be carried out on its suitability for the task and the patient's reaction to its use. A specialist manual handling adviser should be consulted if necessary. This assessment would need to be available for reference by all members of the dental unit or practice involved in the treatment of the patient.

10. Methods, techniques and approaches

The starting point with any handling of dental patients, especially those with special needs, must be the manual handling risk assessment (MHOR, 2004).

Managing a safer environment by the practice manager or unit head is important, as this can maintain good health and good working relationships with the dental practitioners which results in higher standards of dental care. Good communication is vital as this can ensure the full co-operation of the patient and gain their confidence. It is also important to maintain the moving and handling skills of all the dental practitioners and to refer any special issues to the key worker or manual handling adviser if one is available.

Patients with mobility problems should be encouraged to bring their own mobility equipment where they are able to transport it (for example a walking frame, slide board or their own hoist sling).

11. Handling equipment to reduce risks of musculoskeletal injury to dental practitioners

Where possible generic terms have been used for equipment, but in some cases specific equipment that has been found to be effective is mentioned. The inclusion of specific manufacturers or suppliers does not represent an endorsement by the authors. Other companies may make similar or better products.

- Adjustable height and angle dental chairs (Ellis 1981; Turner et al (2002).

- Specially designed cushions to be used in dental treatment chairs or on operating tables, such as Tumle dental cushions (Ellis, 1981, Turner et al, 2002).

- Ergonomically designed chairs for use by dental practitioners in order to adopt as near to a neutral posture as possible (which need to properly adjusted to the needs of the individual practitioner) e.g. Hag Capisco chair which can be used to support the practitioner in the forwards lean posture. This also has arm rests and a saddle seat (Yamalik, (2007).

- Dental chairs designed for very heavy patients such as the Bariatric dental chair made by Bariatric Ltd (0800 622 6892).

- Prismatic mirrors for viewing the inside of the mouth (Smith et al, 2002).

- Ceiling and overhead hoisting to assist handling of patients with special needs. There are many manufacturers of hoists and slings and it is important to assess the needs of the individual patient (Smith, J (ed), 2005 Disabled Living Centres, p323-326). The assessment should be carried out by a proficient risk assessor (Alexander, 2005; Orchard, 2005).

- Mobile hoist to assist in the handling of patients with special needs. There are many manufacturers of hoists and slings and it is important to assess the needs of the individual patient (Alexander, 2005; Orchard, 2005; Smith, J (ed), Disabled Living Centres, p323-326).

- Patient specific slings or patient's own sling if compatible, to be used with the hoist (Smith J (ed), 2005, p 323-326).

- Transfer boards for those patients able to make their own transfers from wheelchair to the treatment chair (Alexander, 2005; Smith J (ed), 2005, p323-326).

- Sliding sheets to assist the insertions of slings and to assist chair to chair transfers with a transfer board (Alexander 2005). Sliding sheets can also be useful when transferring patients from a stretcher to an operating plinth (Hall J, 2005; Smith J (ed,) 2005, p323-326).

- Handling belts can be useful when assisting the transfer of a weight bearing patient from their wheelchair to the treatment chair (Alexander, 2005; Smith J (ed), 2005, p323-326).

- Standing frames, turn tables or standing hoists can assist in the transfer of weight bearing patients with some restricted mobility (Alexander, 2005).

12. Other equipment and furniture

Waiting area chairs: There should be some chairs that are higher than the average settee and with arms extending to the front of the chair to enable patients with restricted mobility to stand up without assistance*. The use of settees should be avoided.*

13. Risk rating for each task

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 dentistry 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 Smith, J (ed), (2005)

Appendix 1 & 2 and the practical chapters for more information. Similarly Smith J (ed), (2011) Appendix 3.1, the relevant chapter evidence reviews; and the Moving and Handling Strategy document (2011) appendices 9 & 13 in CD1.

The most significant risk in dentistry are likely be those arising from postural strain. For assessing postural risks and those associated with tasks other tools are available, such as RULA (Hignett S & McAtamney L, 2006), REBA (Hignett S & McAtamney L, 2000) and OWAS (Karhu et al, 1977). These not only look at postures but forces.

14. Alerting the manual handling team

If it is known that there are complex needs, the MHP/BCA should be contacted for advice prior to the patient's appointment.

15. Referral to and involvement of other specialists

In exceptional cases where the patient has severe psychiatric or psychological issues, it may be necessary to consult a psychiatrist or an advisor on the PMVA.

16. Transport

A patient with restricted mobility will usually attend a treatment session in their own wheelchair or with their specific mobility aids. Some patients may need to be transported in a wheelchair after surgery, and those staff handling the patient would need to be assessed as competent to handle the patient (MHOR, 2004).

17. Discharge and transfer planning

N/A.

Post Script

The risk of musculoskeletal injury to dental practitioners is mainly due to the nature of their work and the resulting awkward working postures often required during the treatment process (Andrews & Vigoren, 2002; Basset, 1983; Dental Survey, 1965; Diakow & Cassidy, 1984; Hope, Ross & Corcoran, 1985; Powell & Eccles, 1970; Rucker & Sunell, 2002; Valachi & Valachi, 2003; Willie, 1967). Efforts have been made over the years to alleviate these by using adapted treatment chairs, better designs of surgery layout and education of dental staff in basic ergonomics (Andrews & Vigoren, 2002; Ellis, 1981; Jones & Forsythe, 1998; Valachi & Valachi, 2003; Yamalik, 2007). Patients with special needs demand extra manual handling skills which cannot be ignored if the needs of both patients and staff are to be respected.

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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 G12 is:**

Systems are in place to cover all reasonably foreseeable handling situations in the dental service.

- **Skilful M&H is key**

- **Special points for G12 are: -**
  - **Risk of injury to patient/ service users and staff is minimised by ensuring:**
    - **a dynamic ('on-the-spot') risk assessment carried out prior to any movement**
    - **correct techniques and equipment are used, particularly to avoid poor working postures**
    - **local supervision is provided**
    - **competent, healthy staff in sufficient numbers**
    - **an environment conducive to good care**