



NAEP Clinical & Prescriber Support Special Interest Group

24 HOUR POSTURAL MANAGEMENT

Part 1

ALL ABOUT SEATING

Issue 1: June 2015

The Clinical and Prescriber Support Special Interest Group (SIG)

The group membership includes qualified Occupational Therapists, Physiotherapists and Nurses from across the UK who have specialist knowledge of community equipment and experience of working closely with the Community Equipment Services.

Using professional expertise and research, the group supports clinicians, prescribers and providers of community equipment services to facilitate best practice in equipment provision to the end user.

The group aims to provide guidance on selection, provision and use of equipment and the development of clinical services.

All aspects of health and safety, design, training, maintenance and clinical need are taken into account.

Introduction

The Clinical and Prescriber Support Special Interest Group (SIG) recognise through their experience that seating provision and funding is fragmented throughout the UK. This guide focuses on seating as one element of 24 hour postural management for adults, part 2 will focus on bed / lying positioning.

24 hour postural management can be defined as, 'that body attitude which facilitates maximum performance for minimum energy consumption and without causing damage to the body system' (Pope, 1996)

Fiona Collins (2012) stated, "very few chairs are available quickly from a loan store stock, other than a standard high seat chair" and gave the example that she had just been to see someone who had received their chair after a year of waiting. "Not having access to a suitable piece of equipment is not an excuse for developing a pressure risk". (NAEP, 2012 Blackpool)

The purpose of this document is to outline what is beneficial to know in order to enhance existing provision, create a seating service or writing a business case. It is not designed as a step-by-step guide to clinical assessment skills for prescription of seating.

The group acknowledges that each organisation will have or will develop its own processes, procedures and templates which should be used.

Professional and national quality standards and published research to use as evidence have been included.

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Section 1

1.1 Desired Outcomes of Seating Provision for Postural Health

Aims

- Maximise function and wellbeing
- Minimise avoidable harm from secondary health complications

Goals

By meeting the goals below there will be benefits to the person and cost efficiency savings for organisations.

- Support postural alignment
- Provide adequate base of support for balance
- Prevent or reduce avoidable asymmetric deformity
- Accommodate fixed deformity / contractures
- Control tone
 - Hypertonic – decrease or inhibit excessive tone as appropriate
 - Hypotonic – compensate for decreased tone
- Promote tissue viability
 - Prevent skin damage and the development of pressure ulcers
 - Maximise healing potential from extrinsic factors such as pressure distribution
- Manage lower limb oedema
- Facilitate function and potential for participation in activities of daily living
- Promote dignity
- Maintain and promote physiological functions
 - Respiration
 - Digestion
 - Cardiovascular
- Management of continence e.g. being able user riser to stand to get to the toilet
- Promote Communication and social interaction
- Maximise Comfort
- Manage pain
- Reduce medication
- Reduce nursing input
- Reduce falls
- Reduce hospital admissions

1.2 Implications of Non-Provision

Where a clinical need has been identified, non provision will have detrimental effects on the health and well-being of the person for example:

- Tissue viability issues (development or poor healing of pressure ulcers and/or moisture lesions)
- Risk of infection (commonly respiratory and/or urinary tract)
- Complex manual handling (inserting and removing slings, assisted standing)
- Mental health and well being (resulting in isolation, depression, loss of roles)
- Reduction of function / independence (loss of mobility and confidence)
- Continence (urinary and / or faecal due to urgency, poor mobility)
- Musculoskeletal from extrinsic factors (development of avoidable contractures, asymmetric posture)

The above may also significantly impact on the ability of the person to effectively manage pain and fatigue. Poor sitting posture will also affect a person's ability to remain hydrated, maintain adequate nutritional intake and for normal cell activity such as re-oxygenation of tissues.

Family members and carers may also be affected where seating provision is required. The person could require increased nursing, medical or carer support.

All of the above have cost implications to services provided by health, local authorities and to person / person's family.

1.3 Considerations for developing or creating a seating service

Network nationally to learn from colleagues experience e.g. via National Association of Equipment Providers (NAEP).

- Eligibility criteria for seating provision
- Business case (using local templates)
- Stakeholders who need to be involved (commissioners/senior management/end users/providers/clinicians)
- Use of case studies:
 - Including before and after photos to clearly illustrate benefits of provision
 - Cost benefit analysis, i.e. demonstrate cost savings
- Training needs and competencies
- Assessment tools/form
- Product selection - identify required features and benefits
- Procurement (purchase/contract agreements)
- Selection of a range of seating depending on the existing or proposed contract e.g. if chair needs to be re-usable as part of a community equipment loan service
- Stock management - i.e. Community Equipment Service (storage /recycle/decontamination safe systems of work - H&S /M&H/ Delivery /Maintenance and Repairs/ Training for fitters/technicians/cleaners)
- Service reviews and audits
- Ensure service has capacity to be updated in line with research and guidelines

1.4 The Team – what could it look like?

Best practise should involve a Multi-Disciplinary Team (MDT) approach. Collaborative working and diverse clinical skills will ensure optimum outcomes for patients. The service may be formed within an existing health/social care team from clinicians with a special interest or as a separate service entirely. A consensus of expert clinical opinion recommends that the following roles are crucial in the success of a seating service:

Team lead clinician

- Expert level of knowledge and experience of clinical application in the area of Posture management and seating
- Excellent leadership skills
- Protected time within job role to undertake:
 - Personal professional development e.g. link with researchers and experts in the field
 - Training of staff
 - Service development
- Skills to manage change and service development

- Knowledge of relevant products and ability to critique and evaluate
- Develop/review eligibility criteria for provision of seating locally
- Oversee review and audit processes providing robust evidence of outcomes
- Development of a referral pathway
- Raising awareness and promoting the service within acute and community hospitals and care home settings.
- Network of specialists in seating and manufacturers of chairs

Link clinician/s

- Need to be trained to an appropriate level as identified by team lead clinician
- Personal interest in seating
- Regular opportunity to apply clinical skills in relevant situations
- Point of contact for other staff
- Know when to ask for help

Administration support

- Collect and review data e.g. cost analysis
- Organising and publicising training programmes
- Placing and tracking equipment orders

1.5 Training and Resources

It is the individual clinicians' responsibility to work within their competency and be proactive in meeting their training needs.

Examples:

- In house training and joint working with clinicians with relevant experience and expertise
- Conferences and exhibitions
- Professional seating and posture courses
- Post graduate study
- Self-directed learning
- Company CPD accredited training
- Web based information

1.6 Seating Assessment Considerations

- Seating assessment is one part of 24 hour posture management and should not be completed in isolation. There may be a need to request input from other disciplines.
- An holistic approach should always be taken.
- It is important to know your level of competence and to joint work when support is required
- Assessments should be used in conjunction with other relevant assessment tools, i.e pressure ulcer risk assessment.
- Consideration of patient weight, body shape and weight distribution (Appendix 1)
- Ongoing review will form part of the assessment process.
- Identify outcomes from assessment

Assessment Form

- The complexity of the person and their individual needs should dictate the assessment form used.
- There are numerous examples of assessment forms available (both commercial and NHS/Local Authority) which can be adapted for local requirements (permission may be needed).
- Guidance regarding important dimensions can be found at <http://www.livingmadeeasy.org.uk/scenario.php?csid=150>
- For examples of assessment forms see Appendix 3:
Norfolk Community Health and Care,
Nuffield Centre for Enablement-Nuffield Orthopaedic Centre, (NOC) Oxford

1.7 Considerations for prescription

There is a potential to cause harm should incorrect prescription be made.

- The person and family should be actively involved in the assessment and prescription to ensure acceptance and use of the chair
- Features (specification) of the chair required to meet the desired outcomes - see 1.1 Aims and Goals
- Identify level of required pressure care which should be integral and interchangeable to ensure:
 - Changing needs of person is met
 - Cushion can be replaced when cushion reaches the end of its recommended life or is damaged

- Recyclability
- Arrange clinical trial (minimum 48 hours)
- Review Care Plan (e.g. when starting to sit a client out of bed- additional care visits)
- Ability of carers (to manage chair functions appropriately)
- Moving and handling implications e.g. hoist and sling access
- Cost effectiveness
- Environmental Issues (space available)

1.8 Chair Design

The assessor should have taken into account whether the existing chair could be adapted e.g. furniture raisers and/or other accessories prior to exploring provision of alternative seating.

Seating types –Intended purpose, contraindications and considerations

Rise-recliner with single motor

Simultaneous back rest recline and leg-rest elevation.

Intended purpose:

- Assists with sit to stand/stand to sit and may enable the person to stand more frequently
- Comfort, functional independence

Contraindications:

- Limited application to long term management of medical conditions
- Functions of the chair may cause forward sliding resulting in tissue damage from shear and friction
- The mechanical pattern of movement may not be suitable for the person
- Configuration of the chair limits pressure distribution
- Rarely suitable for use with additional pressure relieving cushions

Considerations:

- Simple to operate as there are only two button
- Correct measurement will always be required to avoid damaging postures
- Not intended for use as a sleeping system
- Environmental – room/space available Over-reliance on riser mechanism with a consequential negative impact on other transfers
- Over-reliance on riser mechanism may not encourage independent standing

Rise-recliner with dual motor

Back rest and leg-rest can be operated independently of each other

Intended purpose:

- Adjustable to alter position
- Assists with sit to stand/stand to sit and may enable the person to stand more frequently
- Comfort, functional independence

Contraindications:

- Limited application to long term management of medical conditions
- May contribute to poor or damaging posture e.g. sacral sitting potentially leading to pressure damage over time
- Functions of the chair may cause forward sliding resulting in tissue damage from shear and friction

Considerations:

- Correct measurement will always be required to avoid damaging postures
- Not intended for use as a sleeping system
- Environment – room/space available
- Over-reliance on riser mechanism may not encourage independent standing

Rise-recliner with tilt-in-space

Back rest, leg-rest, rise and tilt functions can be operated independently or simultaneously in varying combinations of each other depending on the number of motors. Tilt-in-space is where the seat and back angle remain the same in relation to each other when the user tilts.

Intended purpose:

- Adjustability to accommodate complex postures
- Adjustability to meet needs of those with deteriorating conditions
- Assists with sit to stand/stand to sit and may enable the person to stand more regularly
- Tilt-in-space to aid positioning and pressure redistribution (Casey &Gittins, 2013)
- Reduce risk of associated secondary medical complications
- Assist with regular sit to stand
- Management of lower limb oedema

Contraindications:

- Tilt-in-space not to be used as a form of restraint

Considerations:

- Pressure redistribution options available for contact surfaces
- Educational needs of the assessor/user/carer
- Skills of the assessor
- Bespoke options
- Manual/Electric combinations available
- Evidence of improved medical outcomes
- Environment – room/space available, appearance
- Level of care and ability of carer
- One aspect of 24 hour postural management

Tilt-in-space/Tilt-recline with additional postural support

Back rest, leg-rest and tilt functions can be operated independently or simultaneously in varying combinations of each other depending on the number of motors. Tilt-in-space is where the seat and back angle remain the same in relation to each other when the user tilts. This type of chair has bespoke postural support options available to manage those with more complex needs.

Intended purpose:

- Adjustability to accommodate complex postures
- Adjustability to meet needs of those with deteriorating conditions
- Tilt-in-space aids positioning and pressure redistribution
- Reduce risk of associated secondary medical complications
- Management of lower limb oedema

Contraindications:

- Tilt-in-space not to be used as a form of restraint

Considerations:

- Pressure redistribution options available for contact surfaces
- Manual/Electric combinations available
- Educational needs of the assessor/user/carer
- Skills of the assessor
- Bespoke options
- Environment – room/space available, appearance
- Evidence of improved health and wellbeing outcomes
- One aspect of 24 hour postural management
- Level of care and ability of carer

2.1 Professional codes of conduct

As members of Professional bodies the examples given below can be used as evidence to:

- Support a business case
- Justify your clinical decisions
- Formulate rationale for training needs

Nursing and Midwifery Council (NMC) -

The code: Standards of conduct, performance and ethics for nurses and midwives (2008)

4. You must act as an advocate for those in your care, helping them to access relevant health and social care, information and support.
28. You must make a referral to another practitioner when it is in the best interests of someone in your care.
35. You must deliver care based on the best available evidence or best practice.
36. You must ensure any advice you give is evidence-based if you are suggesting healthcare products or services.
39. You must recognise and work within the limits of your competence.

Health and Care Professionals Council (HCPC)

Standards of proficiency – Occupational Therapists (2013)

- 1.1 know the limits of their practice and when to seek advice or refer to another professional
- 4.1 Be able to assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem
- 9.4 Be able to contribute effectively to work undertaken as part of a multi-disciplinary team
- 13.3 Be able to understand and analyse activity and occupation and their relation to and effect on, health, wellbeing and function
- 13.5 Understand the need to identify and assess occupational, physical, psychological, cultural and environmental needs and problems of service users, their families and carers
- 13.11 Understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession
- 14.9 Be able to select and use standardised and non-standardised assessments appropriately to gather information about the service user's occupational performance, taking account of the environmental context
- 14.10 Be able to use observation to gather information about the functional abilities of service users

Health and Care Professionals Council (HCPC) Standards of proficiency – Physiotherapists (2013)

- 1.1 know the limits of their practice and when to seek advice or refer to another professional
- 4.1 Be able to assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem
- 9.4 Be able to contribute effectively to work undertaken as part of a multi-disciplinary team
- 13.4 Understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession
- 14.4 To be able to select and use appropriate assessment techniques
- 14.10 To be able to use research, reasoning and problem solving skills to determine appropriate actions

2.2 Governance and Standards

These will contain directives which should shape and determine service development. These are correct at the time of publication of this document but may be superseded in the future. Below are extracts from key documents hyper links are included to enable readers to access the full document.

Quality Standards for Health and Social Care (2006)

http://www.dhsspsni.gov.uk/qpi_quality_standards_for_health_social_care.pdf

National Service Frameworks (NSF)

Long Term Conditions 2005

Quality requirement 5: Community rehabilitation and support People with long term neurological conditions living at home are to have ongoing access to a comprehensive range of rehabilitation, advice and support to meet their continuing and changing needs, increase their independence and autonomy and help them to live as they wish.

Quality requirement 7: Providing equipment and accommodation People with long term neurological conditions are to receive timely, appropriate assistive technology/equipment and adaptations to accommodation to support them to live independently, help them with their care, maintain their health and improve their quality of life.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198114/National_Service_Framework_for_Long_Term_Conditions.pdf

Older People 2001

- 1.2 There are also some specific procedures and services which are particularly important for older people, for example, joint replacement, cataract surgery and community equipment.
- 1.7 Denying access to services on the basis of age alone is not acceptable.
- 2.3 Proper assessment of the range and complexity of older people's needs and prompt provision of care (including community equipment) can improve their ability to function independently; reduce the need for emergency hospital admission; and decrease the need for premature admission to a residential care setting
- 2.9 Control of painful and other distressing symptoms to anticipate, recognise and treat pain and distressing symptoms, and provide timely access to appropriate specialist teams, equipment or aids. There is evidence that older people are less likely to receive proper pain management 84 (A2)...
- 2.29 All older people should receive good assessment which is matched to their individual circumstances. Some older people will benefit from a fuller assessment across a number of areas or domains (as described in the box below), and some may need more detailed assessment of one, or a few, specialist areas
- 2.47 Community equipment services provide the majority of disability equipment needed by older people, but should also provide a well-informed gateway to other equipment services such as those provided by the NHS, councils and voluntary organisations
- 2.48 Services should take a preventive approach, recognising that effective equipment provision (including for people with moderate disabilities) is likely to:
 - help older people to maintain their independence and live at home
 - slow down deterioration in function and consequent loss of confidence and self-esteem
 - prevent accidents
 - prevent pressure sore damage
 - support and better protect the health of carers

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198033/National_Service_Framework_for_Older_People.pdf

Essence of Care Benchmarks for prevention and management of pressure ulcers (2010)

Factor 4:

- c. Equipment is available to enable correct moving, handling and positioning of *people*.
- d. *People* are positioned in a manner that is comfortable for them.
- e. Information for re-positioning is available for *people* and/or carers.

Factor 5:

- c. People are offered and/or receive the appropriate pressure redistribution or their level of need such as seating, mattresses, specialist beds, bed frames, electric profiling bed frames, moving and handling hoists, footwear and insoles etc.
- d. People's comfort is assessed and maintained.

Factor 6:

- b. A range of resources and equipment appropriate to the area of practice is available, for example, pressure redistribution of support surface devices such as seating, mattresses, specialist beds, bed frames, electric profiling bed frames, moving and handling hoists, footwear and insoles etc
- c. Arrangements for the cleaning, maintenance and storage of equipment are in place
- d. Ordering, delivery and monitoring systems are in place for resources and equipment

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216699/dh_119979.pdf

Care Act 2014- Statutory Guidance for Implementation

Statutory guidance to support implementation of Part 1 of the Care Act 2014 by local authorities

<https://www.gov.uk/government/publications/care-act-014-statutory-guidance-for-implementation>

Commissioning for Quality and Innovation (CQUIN)

*Innovation Health and Wealth, Accelerating Adoption and Diffusion in the NHS*¹ set out that from April 2013 compliance with high impact innovations would become a prequalification requirement for CQUIN.

The key aim of the Commissioning for Quality and Innovation (CQUIN) framework for 2014/15 is to secure improvements in quality of services and better outcomes for patients, whilst also maintaining strong financial management

<http://www.england.nhs.uk/wp-content/uploads/2014/02/sc-cquin-guid.pdf>

NHS Continuing Healthcare- Revised 2012**Equipment**

172. Where individuals in receipt of NHS continuing healthcare require equipment to meet their care needs, there are several routes by which this may be provided:

a) If the individual is, or will be, supported in a care-home setting, the care home may be required to provide certain equipment as part of regulatory standards or as part of its contract with the CCG. Further details of the regulatory standards can be found on the Care Quality Commission's website at www.cqc.org.uk.

b) In accordance with the principles set out in paragraphs 113 - 117, individuals who are entitled to NHS continuing healthcare have an entitlement – on the same basis as other patients – to joint equipment services. CCGs should ensure that the availability to those in receipt of NHS continuing healthcare is taken into account in the planning, commissioning and funding arrangements for these services.

c) Some individuals will require bespoke equipment (or other non-bespoke equipment that is not available through routes (a) and (b) above) to meet specific assessed needs identified in their NHS continuing healthcare care plan. CCGs should make appropriate arrangements to meet these needs. CCGs should ensure that there is clarity about which of the above arrangements is applicable in each individual case.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213137/National-Framework-for-NHS-CHC-NHS-FNC-Nov-2012.pdf

European Pressure Ulcer Advisory Panel (EPUAP) September 2014

- Updated guidelines including definition of pressure ulcer
- Amalgamated quick reference guides to prevention and treatment of pressure ulcers
- Pressure Ulcer Classification (PUCLAS3)- Revised version of classifications

National Institute for Health and Care Excellence (NICE)

NICE Guidelines 2014 - The prevention and management of pressure ulcers in primary and secondary care

The extracts below have specific relevance to seating provision:

From Section 1.3:

1.3.2. Consider the seating needs of people at risk of developing a pressure ulcer who are sitting for prolonged periods.

From Section 1.4:

1.4.11. Consider the seating needs of adults who have a pressure ulcer who are sitting for prolonged periods.

<http://www.nice.org.uk/guidance>

2.3 Supporting Literature

See examples below.

- The effects of bed rest (**Nigam et al, 2009; Nursing Times**) are detrimental to musculoskeletal, skin, perception and immune systems.
- **Knight et al (2009)** have studied the effects of bed rest. They found deteriorations in various conditions such as cardiovascular, respiratory and renal. They have produced 3 key articles on this that are on the RCN website.
- Guidelines for seating in pressure ulcer prevention (**Clark, 2009**): appropriate assessment is needed. The assessment should take into account the person's vulnerability; inability, poor sensory perception, incontinence, current medical problems.
- An independent enquiry completed by **Sir Jonathan Michael (2008)** called "health care for all" found a link with death and postural complications. Due to a person's immobility and inactivity it will put people at increased risk of deformities that can cause death. e.g., chest infections, eating and swallowing problems, gastro oesophageal reflux.
- Flexion contractures (**Beldon, 2009; Wound Essentials**) will be prevented with correct postural support.
- **Stockton (2009 Nursing Times)** stated in an article 'Sitting and pressure ulcers 1:risk factors, self-repositioning and other interventions' that vulnerable people who need to spend large parts of every day in a sitting position in inadequate seating positions are vulnerable to development of pressure ulcers, increased spasm, spasticity and pain. It can also result in fixed deformities such as scoliosis of the spine. She also states that poor seating can result in sustained shear and pressure forces cause tissues deformation, ischemia and hypoxia, interfering with blood flow and lymphatic drainage, resulting in a necrotic deep tissue injury
- **Massery (2006)** stated "breathing is an integral part of multisystem interactions and consequences that simultaneously support respiration and postural control for all motor tasks"

Fiona Collins NAEP 2012 Conference– Blackpool

Hands on pressure care

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- Fiona Collins delivered a hands-on workshop which outlined her philosophy when it comes to the treatment of pressure injuries. It also carried a number of interesting messages for suppliers of seating products and views on who should be assessing and the training that they should be given.

"Why is seating the 'Cinderella' of pressure relieving equipment provision?" Fiona asked. "If preventing pressure injuries is truly a 24 hour responsibility, then why is it not considered mandatory to provide a suitable armchair with pressure relieving cushion?" It was very much about her personal experiences of dealing with pressure care issues and she explained to delegates that she tended to prescribe the higher risk cushions right from the word go for most clients, on the basis that the time and cost of re-assessing a client would be more than the extra cost of the higher end cushion. She did recognise that not everyone would like this approach with the potential impact on budgets.

According to Fiona's figures, of those patients who develop a pressure injury, 90% die within four months. The mortality rate of patients who develop pressure ulcers is 22-37% as opposed to 4% of those who develop leg ulcers and 7% of those who develop foot ulcers.

She said that she saw some people with a fantastic bed, sitting on a low grade cushion in a chair beside the bed. "People do not do assessments properly. The equipment has to be matched to the risk."

She talked about the provision of chairs and that fact that, in her opinion, many chairs were too big for the client. "They are either too wide or too tall" she commented. "We are not really designed to sit still. No-one can sit upright for very long. Even a healthy person cannot sit upright for more than about 10 minutes and people who sit each day spend a lot of energy just sitting up properly. I am always looking at including some sort of tilt mechanism in the seating."

And in a plea to manufacturers she said: "We haven't cottoned on to the fact that we have longer people and sitting people with a longer lower leg is a big issue. I would like manufacturers to take a look at that, we need more options for different sizes. We seem to be able to make chairs wider but not taller for some reason. Manufacturers need to get out to the coalface to see what we are dealing with."

The other big bug-bear she had with chairs was the use of different sized Allen keys on the same chair and non-interchangeable accessories.

She was also concerned that very few chairs are available quickly from a loan store stock, other than a standard high seat chair and gave the example that she had just been to see someone who had received their chair after a year of waiting. "Not having access to a suitable piece of equipment is not an excuse for developing a pressure risk" she said. "The one or two items of equipment options are not necessarily what we need. A person identified at being at risk of pressure injury should receive appropriate equipment within 24 hours of assessment. Commissioners need to understand the problem in order to commission the correct service and plan suitable funding."

Fiona explained that she doesn't believe that people should be in their chairs all day, every day. "There's a myth that sitting out of bed is better but people are far more at risk if they are in a chair than in bed and so people should try to get into bed in the afternoon as that will allow their skin to recover. I imagine that carers would be throwing up their hands in horror at that suggestion."

She also told the audience that the ordering process is sometimes flawed. "Some OTs can order chairs, but not cushions, bed frames but not mattresses and sometimes getting a complete order is tricky."

And, when equipment is ordered, Fiona believes that it is sometimes the wrong item. "Sometimes the cheapest product is not the most cost-effective" she said, "it's all about knowing the products."

"Catch the problem early and you can do something about it" she added. "The problem is that, on a number of occasions, by the time we get to see clients we are into managing the problem and not solving it. I am also concerned that people are out there doing assessments without proper training. Training should be multi-disciplinary. If nurses are able to give out cushions, then they should have proper training, you don't need to be a therapist to learn seating theory."

2.4 Evidence base for seating provision including references

Stockton et al. 2009 & Clark (2009) suggest that guidance relating to seating in particular for pressure ulcer prevention has to be pragmatic rather than fully informed by a wealth of available studies. A search of the available literature through CINAHL, Medline & AMED for the last five years (2008-2013) combined with an earlier search from (2001-2007) reveals a similar picture. It is suggested that these findings are not taken on face value or in isolation and that evaluation through critical appraisal and individualised holistic assessment of each patient should be undertaken.

The data bases for the earlier research were the same as listed below but the Cochrane database was also searched. The terms seating and /or pressure damage and/or posture were used to search for results. 12 articles were found with relevant information, the relevant being cited below.

Sitting is a dynamic activity (**Mayall and Desharnais 1995**) (cited in **F. Collins 2006**) and it has been found that those who are ill or disabled are less able to reposition themselves and are likely to develop complications as a result of this. **Fiona Collins (2001)** (cited in **F. Collins 2006**) The following studies are examples of these complications.

Lowry (2006) (cited in Anton. L 2006 p31.) found that unsuitable seating increases the incidence of pressure ulcers. An earlier study by **Dealey (1992) (cited in F. Collins 2006)** also found this to be the case. There is still a lack of appropriate seating and cushions being provided in static seating which means that pressure damage is still likely to occur (**Collins, 2006**)

Sprigle & Sonenblum (2011) assessed the evidence supporting the redistribution of pressure for pressure ulcer (PU) prevention suggesting that seated posture affects how loads are redistributed. They further conclude that “body posture and positioning have a direct relationship to loads on specific body sites, which is why posture must be considered when devising PU prevention strategies”.

These authors are supported by a later study by **Loerakker et al. (2011)** They looked at the effects of deformation, ischemia and reperfusion on the development of muscle damage during prolonged loading. Their findings suggest that deep tissue injury, a severe form of pressure ulcer, can be prevented by using appropriate cushioning to keep internal tissue deformations below the deformation threshold for damage. It is however suggested that for prolonged loading the period of ischemia should be limited through repositioning strategies.

Cochrane (2012) carried out a review to look at the evidence for repositioning for treatment of pressure ulcers and concluded that it was reasonable to reposition the patient in order for tissue oxygenation but that more evidence was needed to support repositioning regimes with regard to the healing rate of ulcers.

One repositioning strategy could be the use of tilt in space seating. (**Ann.H, 2007**) advises that Clinicians recommend that seated patients need a ‘lift’ or repositioning for several minutes every hour. Those who cannot reposition themselves are expected to have a ‘tilt in space system’. This study is later supported by **Casey & Gittins (2013)** who conducted a systematic review into the use of tilt-in-space (TIS) in seating systems for adults with physical disabilities. The findings indicate that TIS can be used to manage pressure and fatigue, prevent sliding, aid skin perfusion and facilitate user comfort. The authors however suggest that there is a potential compromise as regards size, weight and manoeuvrability of the seating system. It is also advised that health professionals need to become more confident in stating the angle of tilt they recommend for the chair occupant, its purpose and the duration and frequency of its use. This is to ensure TIS is used correctly and within an individualised goal orientated approach.

Studies were also found that looked at the use of seating for postural support.

Janice Clark et al (2004) concluded that a much improved posture can be achieved

and that it is possible to change the body alignment of young people in their seating. This journal also went on to state that the scientific evidence regarding the provision of seating and its benefits to those with neuromuscular disorders is limited.

Fiona Collins (2007) concluded in her journal article that many people can not sit in standard armchairs due to trunk instability or fixed postural changes. A tilt in space system offers increased support. Pressure damage is likely to result by continued sitting in an inappropriate posture. Tilt in space systems offer improved sitting tolerance and posture.

Jean L Minkel (2000) found that people with spinal cord injuries tend to adopt a kyphotic sitting position to compensate for a lack of sitting balance and in order to maintain functional ability. The provision of appropriate seating will counteract this tendency. This needs to be addressed due to the problems that will result in sitting in a kyphotic position. These are increased pressure on bony prominence, circulatory, breathing and digestive problems and an increase in chest infections)

In a 2009 paper by **Stockton et al**, which also forms the basis for **Michael Clark's** 2009 guidelines for seating in pressure ulcer prevention and management of common issues related to seating are discussed regardless of patient population. These include the importance of a correct seating posture that does not impede mobility or ability to carry out all activities or functions. The importance of correct assessment of seating dimensions and design in order to prevent pressure ulcer formation is also highlighted. Education on the use and maintenance of seating systems to maintain benefit as well as recommendation that other physiological/social/psychological factors will impact on the formation of pressure ulcers is also emphasised.

The above articles and studies show that the provision of appropriate seating will have many benefits to a disabled service user. This type of seating may prevent the development of pressure ulcers, contractures, chest infections and will increase a service user's functional and cognitive ability. Several articles state that more research into this area is needed to provide more evidence to support this.

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The information contained in this document is not exhaustive. The users of this information must apply their own clinical judgement, skills and experience when interpreting, adapting or adding to what is contained within.

Clinical and Prescriber Support Special Interest Working Group

March 2015

Appendix 1

From Moving and Handling of Plus Size People – An Illustrated Guide by Mary Muir, BSc Hons', Dip N Lon, Patient Handling Certificate, University of Northumbria, FAETC, SRN, Product Manager, ArjoHuntleigh **and Anita Rush** MSc (Health Ergonomics) Dip Health Care Studies RGN Clinical Nurse Specialist Equipment

Published in 2013 by the National Back Exchange

Key Points

- One size does not fit all and providing safe access to comfortable seating is an important aspect of bariatric care.
 - Appropriate seating and positioning can accommodate, correct and prevent the development of poor posture, enhance circulation, swallowing, interaction, sitting tolerance, integrity and transfers
 - Sitting is a dynamic activity and requires us to balance on our ischia tuberosity's and regularly reposition
 - To achieve optimum clinical outcomes assessment and education is pivotal
- Postural management will facilitate independent function, relaxation and activity and will reduce the risk of fatigue and slumping in the chair which could result in sacral tissue damage and respiratory compromise
 - As part of the seating assessment - identify and understand the importance and influences associated with skeletal alignment, weight distribution to achieve a stable sitting base to enhance independent function
- Body shape
 - Apple shape the weight is carried forward and high so the seating solution needs to consider tilt in space as this supports the trunk but moves the abdominal weight off the chest and takes the pressure off the sacrum and knees.
 - If an abdominal pannus is present they may have restricted lymphatic flow which can cause the legs to become oedematous, using slight tilt in space may support lymphatic flow and reduce the oedema, but this needs to be considered in conjunction with the individuals respiratory capability
 - An individual with an abdominal pannus will use a pendulum movement to exit the chair, so a riser recliner may support this sit to stand activity.
 - Pear shaped, the design of the chair will need to focus on the persons weight, leg weight, width, leg position and how they transfer their weight forward from sitting to standing
 - Bulbous gluteal, the chair would need to have sufficient depth to accommodate the protruding shelf without impeding the person to independently stand, but at the same time support the trunk as this is

often not in direct contact with the chair. Often extended padding on the chair, pillows and cushions will be used to maintain contact and truncal support. The truncal support offered will depend on the individual's muscular tone and medical condition.

Appendix 2.1 Example of basic assessment form

BASIC ASSESSMENT OF ARMCHAIR AND ALTERNATIVE SEATING NEEDS

NAME:

ADDRESS:

DOB: NHS NUMBER:

HEIGHT: WEIGHT:

SECTION ONE

Current Seating	Details
Type of chair Include style, type of armrests, general suitability and condition of chair	
Height, width and depth of seat Consider if this is appropriate for individual	
Nature of disability - short term - long term	
Transfers Can individual get out independently or need help? Would the individual be able to transfer from a standard upright armchair? Can individual get up out of other chairs e.g. dining chair	

<p>Adjustments</p> <p>Has the chair been modified, what adjustments have been considered.</p> <p>Planned adjustments.</p>	
<p>Transfer Technique</p> <p>Can the individual improve their technique?</p> <p>Advice given.</p>	

<p>Advice on purchasing</p> <p>Chair</p>	<p><i>List shops here</i></p>
<p>Continue to SECTION TWO if individual requires fuller assessment based on clinical need</p>	

SECTION TWO

<p>Clinical Details</p>	
<p>Medical Diagnosis</p>	
<p>Prognosis</p>	
<p>Individual's own view</p>	
<p>Carer's needs</p>	

<p>Mobility</p>	
<p>How does the individual mobilise?</p> <p>To include standing tolerance, mobility aids, indoor and outdoor mobility.</p>	

Transfers	
How does the individual transfer? <ul style="list-style-type: none"> - independent - with equipment (please specify) - assisted – how many people assist with transfers 	
Assisted transfers with hoist <ul style="list-style-type: none"> - type of hoist - span of hoist legs - height of hoist legs 	
How often does the individual transfer?	
Can they adjust their position once seated?	
Where does the individual sleep? If sleeping in armchair consider promoting use of bed through equipment / advice	

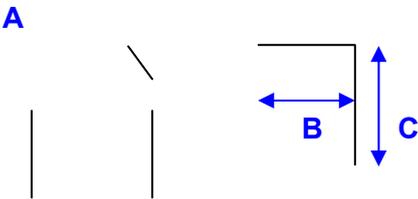
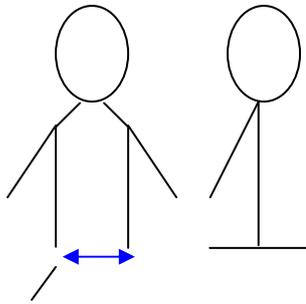
Pressure Care	
What medication is the individual taking?	
Is the individual continent?	
Waterlow score?	
Pressure care products currently used? i.e. wheelchair cushion and mattress	
Time spent in chair?	
Grade of pressure ulcer <ul style="list-style-type: none"> - Sacrum - Ischial tuberosity - Heels - Spinal processes 	
Seen by community nurse?	

Chair Use and Environment	
Where is the chair to be used?	
Floor surface?	
Are castors required?	
Are brakes required?	
Size of doorway(s) if chair is to be moved	
Height of existing furniture, i.e. tables?	
Other chairs in the home?	
Location of sockets for electric chairs?	

Mansfield Checklist for Postural Care		
	YES	NO
Does the body stay in a limited number of positions?		
Do the knees seem to be drawn usually: <ul style="list-style-type: none"> - to one side - inwards - outwards into a 'frog' position 		
Does the head seem to turn mainly to one side?		
Does the body tend to: <ul style="list-style-type: none"> - flex forward - extend backwards - or both 		
Is the body shape already asymmetric?		
Signpost to accredited seating assessor for specialist postural/seating assessment ...		

Why is a chair needed?	
Functional needs	
Clinical needs	

User Measurements



A = Measure user's hips at widest point and add on 2"

B = Measure length from the back of the buttocks to the back of the

Chair Dimensions for provision / advice to client for private purchase	
New chair / advice	
Seat height	
Seat depth	
Seat width	
Overall height of back support	
Height of arm rests	
Riser chair – horizontal or rise and tilt	
Recline or tilt in space	
Maximum overall dimensions of chair, consider for recliner chairs if it can be used in available space	
Pressure care, integral to chair or nest with pressure cushion	
Type of back – waterfall, straight or lateral support backrest	

Assessment Summary

Refer for more in-depth assessment? Health / Social Services / Joint

Funding:

*Complete and submit **Request Form for Special Equipment** to Clinical Equipment Sub-Group*

Date:

Name of Assessor:

Profession:

Other Professions Involved:

**MANAGEMENT OF PHYSICAL DISABILITY
24 – 7
(MPD 24-7)**

Part A

Medical and Social Profile

For the assessment of children and adults who have a neurological condition or injury of a complex nature, leading to global disability and consequent impairment of communication, function and mobility

PART A: MEDICAL AND SOCIAL PROFILE

CLIENT DETAILS

Name: Date of birth:

Address: Hospital Number:

Redwheel number:

Postcode: e-mail:.....

Telephone(Mobile): Telephone (Home):

Diagnosis:

Referred by:

Reason for referral:

Problems as identified by client/carer:

Assessment carried out by:

Name

Designation

Report to be completed by:

Name

Date

Date of assessment:

List all those who attended the assessment

Name

Designation

.....
.....
.....
.....
.....

.....
.....
.....
.....
.....

List all equipment currently in use

Wheelchair/s

.....
.....
.....

Static chair/s

.....
.....

Other chair/s

.....
.....

Standing frame

.....

Lift (though floor/car)

.....

Hoist

.....

Sling

.....

Lying supports

.....

Orthotic splints

.....

Prosthesis

.....

Orthopaedic footwear

.....

Other

.....
.....
.....

MEDICAL DETAILS

Describe current state of health (e.g. robust/frail)

Is there any condition that affects general health, for example, allergy/persistent infection/ diabetes?

.....

.....

RESPIRATORY STATUS

Effective cough reflex (can clear chest of secretions)

Ineffective cough reflex (cannot clear chest of secretions)

Has had no chest infections within the last 12 months

Has had one chest infection within the last 12 months

Has had multiple chest infections within the last 12 months (state number)

NUTRITION EATING DRINKING COMMUNICATION

WEIGHT

.....

Height

Can feed self independently

Needs some assistance to feed

Needs total assistance to feed

Normal diet, no preparation of food required

Normal diet but food must be chopped/mashed

Special diet, e.g. thickened fluids

PEG fed in part

PEG fed in total (include times feed given)

Method of communication (Please describe)

.....

Any problems with hearing? (Please describe)

Any problems with vision? (Please describe)

SKIN CONDITION (IDENTIFY THE SITE OF THE PROBLEM)

No problems. Skin healthy
Skin redness
Skin breakdown
Underlying tissue involvement
Sinus/bone infection

NEUROLOGICAL SIGNS AND/OR SYMPTOMS, E.G. RELEASE PHENOMENA/MUSCLE TONE/ PERSISTENT REFLEXES (DESCRIBE WHERE IN THE BODY AFFECTED AND ANY PROBLEMS CAUSED BY THE NEUROLOGICAL SIGNS/SYMPTOMS)

Spasm, Ataxia, Athetosis, Rigidity, Clonus
.....
Hypertonia, Hypertonia
.....
Asymmetric Tonic Neck Reflex (ATNR), Startle
.....

SENSATION

Describe any lack of sensation and/or altered sensation

Upper limbs
.....
Trunk
.....
Lower limbs
.....

ORTHOPAEDIC INTERVENTIONS

ORTHOPAEDIC ISSUES, E.G. SURGICAL PROCEDURES, FRACTURES, HIP JOINT STATUS, BOTULINUM TOXIN INJECTIONS

Date problem/surgery/intervention	Relevant details	Site of
.....
.....

MEDICATION

Type	Reason for prescription
.....
.....
.....

PRESENCE OF PAIN (STATE WHERE AND SEVERITY)

<i>Site of pain</i>	<i>Site of pain</i>
Mild	Mild
Moderate	Moderate
Severe	Severe
Intolerable	Intolerable

SOCIAL DETAILS

CARE NEEDS

Lives with

.....

Principal carers

.....

Any additional care. (Please describe)

.....

ENVIRONMENT: LIVING/WORKING/EDUCATIONAL

Lives In:

House

Bungalow

Flat

Residential establishment

Any problems with accessing any part of the above? (Please describe).

.....

Also attends:

School

Day centre

Respite care

Workplace

Any problems with accessing any part of the above? (Please describe)

.....

MOBILITY

Independently ambulant

.....

Ambulant, needing walking aid

.....

Wheelchair, attendant pushed

.....

Wheelchair, self propel

.....

Wheelchair, powered

.....

MODE OF TRANSPORT

Type of vehicle, e.g. bus/van

Public transport

.....

Car driver

.....

Driven, sits in car seat

.....

Driven, sits in wheelchair in vehicle

.....

ACTIVITIES OF DAILY LIVING

MODE OF TRANSFER

Type of assistance/hoist

Independent

Assisted stand (manual)

Assisted stand (standing hoist)

Dependent (hoisted)

.....
.....
.....
.....

PERSONAL CARE (Please describe assistance needed)

CONTINENT OR NOT?

TOILETING, BLADDER

TOILETING, BOWELS

DRESSING/UNDRESSING

GROOMING

SHOWERING/BATHING

HOUSEHOLD ACTIVITIES

.....
.....
.....
.....
.....
.....
.....

ENVIRONMENTAL CONTROL (PLEASE DESCRIBE THE TYPE USED AND FOR WHAT PURPOSE)

Environmental control in use

.....
.....

Planning to use environmental control

.....
.....

LEISURE INTERESTS/OCCUPATION

Describe any interests and/or occupation where the environment needs must be considered, e.g. to facilitate function, for example, computer use, gardening, outdoor pursuits, sporting activities

.....
.....
.....

MANAGEMENT OF PHYSICAL DISABILITY 24 – 7

(MPD 24-7)

Part B

Physical Profile

For the assessment of children and adults who have a condition or injury of a complex nature, leading to global disability and consequent impairment of communication, function and mobility

PART B: PHYSICAL PROFILE

CLIENT DETAILS

Name: Date of birth:

Address: Hospital Number:

Redwheel number:

Postcode: e-mail:

Telephone(Mobile): Telephone (Home):

Diagnosis:

Referred by:

Reason for referral:

Problems as identified by client/carer:

Assessment carried out by:

Name

Designation

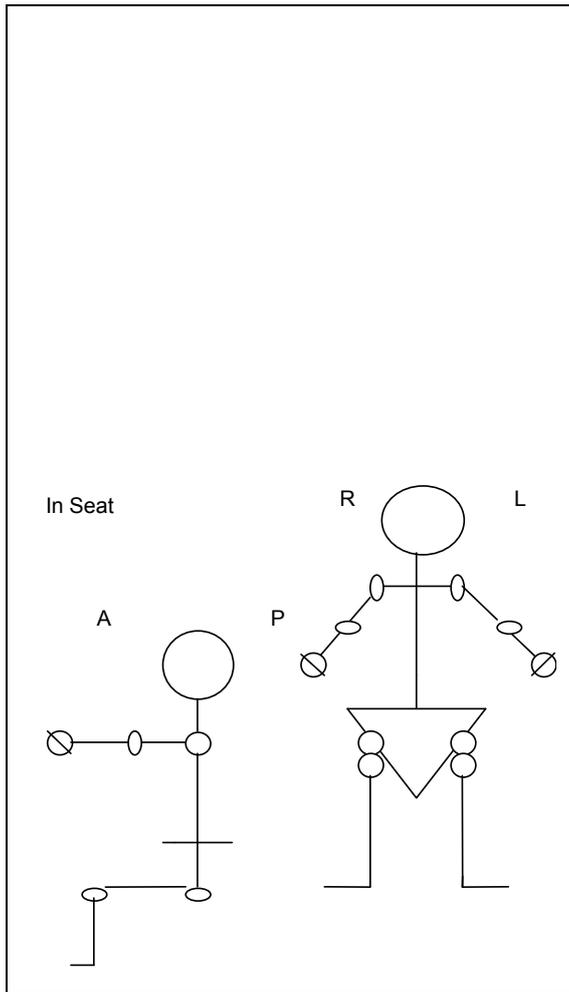
Report to be completed by:

Name

Date

Date of assessment

Presenting Posture (FIRST IN THE SEATING IN WHICH THE CLIENT ARRIVES AT THE ASSESSMENT, JUST AS THE CLIENT PRESENTS)



<p>Pelvis: Rotation (one ASIS forwards of the other, relative to the pelvis in neutral on the supporting surface)</p>	
<p>Pelvis: Obliquity (one ASIS higher than the other, relative to the pelvis in neutral on the supporting surface)</p>	
<p>Pelvis: Anterior/posterior tilt (relative to the pelvis in neutral on the supporting surface)</p>	
<p>Direction of lower limbs relative to line perpendicular to ASIS (abduction, adduction, internal rotation, external rotation)</p>	
<p>Attitude of hips/knees (left/right flexed, extended)</p>	

Shoulders: Obliquity (one shoulder higher than the other, relative to the shoulders in neutral)	
Lateral curvature of the trunk: Scoliosis	
Antero/posterior curvature of the trunk: lordosis/kyphosis/cervical extension	
Attitude of the arms e.g. flexed, extended, supporting, functional for ADL, random movement	
POSITION OF HEAD	
Weight distribution e.g. Sacral, ischial, other, (please specify), unequal through left or right	
Position of feet	

MOTOR PERFORMANCE IN CURRENT SEATING (SPECIFY SEATING)

0 = no movement

1 = can initiate but no significant movement

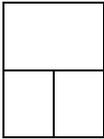
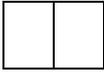
2 = can move into first half of range

3 = can move into second half of range

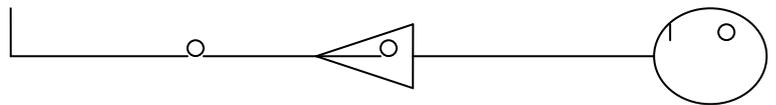
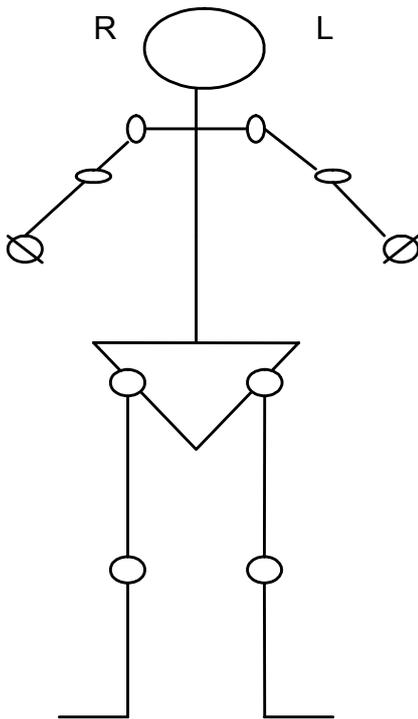
4 = can complete with effort

5 = can complete not normal

6 = normal

<p style="text-align: center;">R L</p> <p>Lift head upright</p> <p>Turn head</p> <div style="text-align: center;">  </div>	<p style="text-align: center;">R L</p> <p>Lift knee</p> <div style="text-align: center;">  </div>
<p style="text-align: center;">R L</p> <p>Touch chin with hand</p> <div style="text-align: center;">  </div>	<p style="text-align: center;">R L</p> <p>Extend lower leg from footrest</p> <div style="text-align: center;">  </div>
<p>Lean forwards to relieve pressure</p> <div style="text-align: center;">  </div>	<p>Take weight through feet</p> <div style="text-align: center;">  </div>
<p style="text-align: center;">R L</p> <p>Grip with hand</p> <div style="text-align: center;">  </div>	<p>Rise to standing</p> <div style="text-align: center;">  </div>

PRESENTING POSTURE IN LYING



Pelvis: Rotation (relative to the pelvis in neutral on the supporting surface)	
Pelvis: Obliquity (relative to the pelvis in neutral on the supporting surface)	
Pelvis: Anterior/posterior tilt (relative to the pelvis in neutral on the supporting surface)	
Direction of lower limbs relative to pelvis (i.e. line perpendicular to ASIS)	
Attitude of hips/knees (left/right flexed, extended)	
Shoulders: Rotation (relative to the shoulders in neutral on the supporting surface)	
Shoulders: Obliquity (relative to the shoulders in neutral on the supporting surface)	
Lateral curvature of trunk: scoliosis (state direction and level, e.g. concave right from sacrum to T8, convex left from T8 to occiput)	

Antero/posterior curvature of the trunk: lordosis/kyphosis/cervical extension (state levels)	
Attitude of arms (flexed, extended, rotated)	
Position of head	
Weight Distribution (Right upper trunk, left upper trunk, right lower trunk, left lower trunk)	

LEVEL OF LYING ABILITY (client in supine on a mat or plinth)

QUALITY OF LYING (client in supine on a mat or plinth)

Quantity		
LEVEL 1	Unplaceable in an aligned posture	
Level 2	Can be placed in anatomical alignment but needs support to maintain position	
Level 3	Able to maintain alignment when placed but unable to move	
Level 4	Able to initiate flexion of trunk, i.e. lift head and/or flex knees without extending the spine	
Level 5	Able to shift weight laterally, i.e. initiate rolling to the side without extending the spine	
Level 6	Able to roll over from supine to prone	
Level 7	Able to roll into prone and back again and to regain initial position in a controlled manner	

Quality (score 1 for yes, 0 for no)	
Trunk symmetrical	
Head midline	
Arms resting by side	
Legs straight	
Legs separated	
Weight evenly distributed	
Total	

The postural competence scale (sitting and lying) *modified from: Hallett, Hare Milner 1987*

Physiotherapy 73:5 Mulcahy et al 1988 Physiotherapy 74:7

SPINE (CLIENT IN SUPINE, THE TRUNK TO BE ALIGNED AND HELD IN THE MOST CORRECTED, SYMMETRICAL POSITION POSSIBLE)

Vertical (from the coracoid process to the ASIS on the same side)

Right cm

Left..... cm

Diagonal (from the coracoid process to the ASIS on the opposite side)

Right..... cm

Left..... cm

JOINT RANGE OF MOVEMENT (The method and the standard range for each joint is taken from Range of Motion – AO Neutral-0 Method (Ryf C, Weymann A. 1999. AO Publishing. Stuttgart, New York)

HIP JOINT

Hip flexion to extension, standard range **120/0/15** (client in side lying or, if preferred, in supine but not possible if knee extension is very limited)

Right

Left

--	--	--	--	--	--

HIP ABDUCTION TO ADDUCTION, STANDARD RANGE 40/0/30 (WITH THE HIP AT 0) (CLIENT SUPINE)

Right

Left

--	--	--	--	--	--

HIP JOINT / (CONTINUED)

Hip abduction to adduction, standard range **80/0/20** (with the hip flexed) (client supine)

Right

Left

--	--	--	--	--	--

Hip external rotation to internal rotation, standard range **45/0/35** (with the hip flexed) (client supine)

Right

Left

--	--	--	--	--	--

KNEE JOINT

Knee flexion to extension, standard range **130/30/0** (with the hip flexed as close to 90° as possible) (client supine)

Right

Left

--	--	--	--	--	--

KNEE FLEXION TO EXTENSION, STANDARD RANGE 130/0/5 (WITH THE HIP AT 0) (CLIENT IN SIDE LYING OR IN SUPINE DOWN THE PLINTH SO THAT BACK OF KNEES OVER EDGE OF PLINTH)

Right

Left

--	--	--	--	--	--

ANKLE JOINT

Ankle dorsiflexion to plantarflexion, standard range **30/0/40** (knee in flexion) (client in supine)

Right

Left

--	--	--	--	--	--

Ankle dorsiflexion to plantarflexion, standard range **10/0/40** (knee in extension) (client in supine)

Right

Left

--	--	--	--	--	--

SHOULDER JOINT

Shoulder extension to elevation, standard range **40/0/180** (client in side lying)

Right

Left

--	--	--	--	--	--

Shoulder external rotation to internal rotation, standard range **50/0/95** (client in supine) (with the elbow flexed at 90°)

Right

Left

--	--	--	--	--	--

SHOULDER JOINT (CONTINUED)

Shoulder adduction to abduction, standard range **40/0/180** (client in supine)

Right

Left

--	--	--	--	--	--

ELBOW JOINT

Elbow flexion to extension, standard range **150/0/10**

Right

Left

--	--	--	--	--	--

WRIST JOINT

Wrist flexion to extension, standard range **55/0/50**

Right

Left

--	--	--	--	--	--

CERVICAL SPINE

Rotation, standard range **70/0/70**, right to left

R

L

--	--	--

Flexion to extension, standard range **40/0/40**

--	--	--

Lateral flexion, standard range **45/0/45**, right to left

R

L

--	--	--

POSTURE IN UNSUPPORTED SITTING (CLIENT PLACED IN SITTING ON A BOX OR OVER THE EDGE OF A PLINTH, POSTURE ORIENTATED AS CLOSE TO SYMMETRICAL AS POSSIBLE)

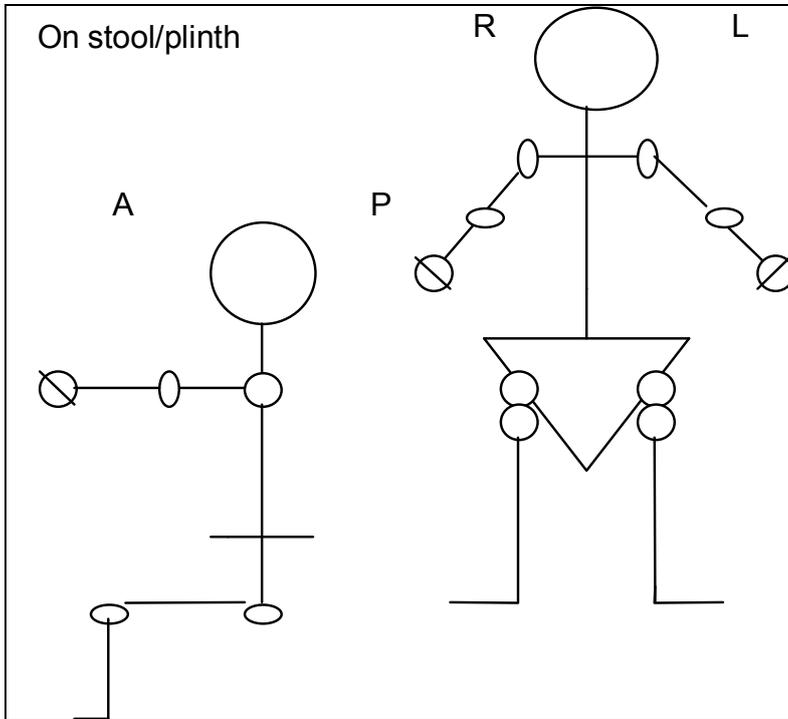
QUANTITY OF SITTING ABILITY (client placed in sitting on a box or over the edge of a plinth)

QUALITY OF SITTING (client placed in sitting on a box or over the edge of a plinth)

Quantity		
LEVEL 1	Unplaceable in an aligned posture	
Level 2	Can be placed in anatomical alignment but needs support to maintain position	
Level 3	Able to maintain position/balance if still but unable to move	
Level 4	Able to move forwards and backwards over base without arching spine	
Level 5	Able to move laterally over base, (i.e. from one buttock to another) and resume aligned position	
Level 6	Able to transfer weight onto feet	
Level 7	Able to stand erect with or without support and return to sitting position in a controlled manner	

Quality (score 1 for yes, 0 for no)	
Trunk symmetrical	
Head midline	
Arms resting by side	
Knees mid-position	
Feet flat on floor	
Weight evenly distributed	
Total	

Presenting Posture (CLIENT PLACED IN SITTING ON A BOX OR OVER THE EDGE OF A PLINTH, POSTURE ORIENTATED AS CLOSE TO SYMMETRICAL AS POSSIBLE)



NOTES AND DIAGRAMS

YOU HAVE ASSESSED THE UNCORRECTED PRESENTING POSTURE IN SITTING (USUALLY IN A WHEELCHAIR).

YOU HAVE ASSESSED THE UNCORRECTED PRESENTING POSTURE IN LYING (ON A BED OR PLINTH).

YOU HAVE ASSESSED JOINT RANGE AND KNOW WHERE THERE ARE RESTRICTIONS TO MOVEMENT.

Now sit the client over the edge of a plinth, the edge of a bed or on a box (supporting as necessary) and place in a posture as close to symmetrical as you can get by accommodating what is fixed.

Place 'spots' on the spinous processes.

Take photographs, posterior and left and right lateral views.

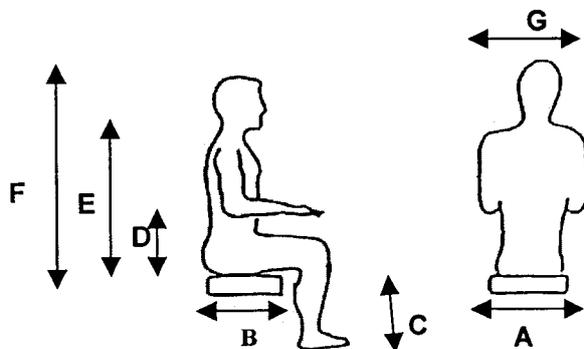
One assessor supports the spine at the apex of each curvature, one assessor firmly takes some of the weight in axial suspension and one assessor takes photographs, posterior and left and right lateral views.

Use the diagram above to indicate the optimal body configuration and the areas to be supported.

APPENDIX 1

BODY MEASUREMENTS AS A GUIDE TO PRESCRIPTION OF EQUIPMENT

A Width of hips	
B Hip to knee (popliteal crease)	
C Back of knee (popliteal crease) to floor	
D Seat to elbow	
E Seat to shoulder	
F Seat to head	
G Width of shoulders	
Recommended footplate height	



**MANAGEMENT OF PHYSICAL DISABILITY
24 – 7**

(MPD 24-7)

Part C

Posture Management Routine

Aims

Objectives

Recommendation

Prescription

For the assessment of children and adults who have a condition or injury of a complex nature, leading to global disability and consequent impairment of communication, function and mobility

24 HOUR PHYSICAL MANAGEMENT ROUTINE

TIME SPENT IN SITTING (PLEASE DESCRIBE TYPE OF SEATING)

1. SITTING IN WHAT?

.....

1. FROM WHEN TO WHEN?

.....

2. SITTING IN WHAT?

.....

2. FROM WHEN TO WHEN?

.....

Total hours spent sitting

.....

Comments

.....

COMFORT IN MAIN SEATING/WHEELCHAIR

Very comfortable

.....

Comfortable

.....

Mostly comfortable

.....

Uncomfortable but tolerable

.....

Intolerable

.....

Comments

.....

TIME SPENT IN LYING (PLEASE DESCRIBE TYPE OF MATTRESS/SLEEP SUPPORT)

1. LYING IN WHAT POSITION?

.....

1. FROM WHEN TO WHEN?

.....

2. LYING IN WHAT POSITION?

.....

2. FROM WHEN TO WHEN?

.....

Total hours spent lying

.....

Comments

.....

COMFORT IN LYING

Very comfortable

.....

Comfortable

.....

Mostly comfortable

.....

Uncomfortable but tolerable

.....

Intolerable

.....

Comments

.....

TIME SPENT IN STANDING (PLEASE DESCRIBE TYPE OF STANDING SUPPORT)

1. STANDING IN WHAT POSITION (PRONE/SUPINE/UPRIGHT)?

.....

1. FROM WHEN TO WHEN?

.....

2. STANDING IN WHAT POSITION (PRONE/SUPINE/UPRIGHT)?

.....

2. FROM WHEN TO WHEN?

.....

Total hours spent standing

.....

Comments

.....

COMFORT IN STANDING

Very comfortable

.....

Comfortable

.....

Mostly comfortable

.....

Uncomfortable but tolerable

.....

INTOLERABLE

.....

Comments

.....

PROBLEMS (ENVIRONMENTAL-SOCIAL-PHYSICAL- MEDICAL- PSYCHOLOGICAL) THAT ARE NOT FIXED/INTACTABLE AND, THEREFORE, CAN BE SOLVED

For example:

- a) uncomfortable /pain/reduced function – normally related to client aims
- b) Correction of pelvic obliquity
- c) What you are hoping to change?

PROBLEMS THAT ARE INTRACTABLE (ENVIRONMENTAL-SOCIAL- PHYSICAL- MEDICAL-PSYCHOLOGICAL) AND, THEREFORE, MUST BE ALLOWED FOR AND ACCOMMODATED IN THE SOLUTION

- a) Constrains – e.g. reduce pain but may be still present
- b) Fixed postures e.g. pelvis/spine
- c) Through floor lift
- d) What do you need to accommodate

CLIENT'S AIMS

CARER'S AIMS

HEALTH CARE PROFESSIONAL'S AIMS

AGREED OBJECTIVES

Agreed to change seating/bed positioning

RECOMMENDATIONS

Customised contoured seat, specifics about materials and accessories

RATIONALE FOR RECOMMENDATIONS

Why do it, what will happen if not, why not off the shelf and materials why materials,

Lynx v's foam

Split system v's whole

PLAN AND ACTION

Sent estimate, note things that happened at the time e.g. changed foot plates during assessment or advised not to use pommel

ASSESSOR

PRINT NAME

SIGNATURE

DATE