

Clinical Guideline			
Title: Amputee Rehabilitation guidelines for Physiotherapists Version 7			
Document Author:	Responsible for review : Anne Holliday and Rachel Rowles, Physiotherapists responsible for Prosthetic walking training for Torbay and Southern Devon Health and Care Trust	Date	01.02.12
Ratified by:	Care and clinical policies group	Date:	28.11.12
Review date:	28.11.14		
Links to policies: Consent policy, Privacy and Dignity, Information Governance policy, Records management policy, Clinical record keeping policy, medicines reconciliation interim policy. South Devon Map of Medicine: falls in the elderly, Risk and enablement policy-choice and control			

Applicability: Management of Amputees by Physiotherapists

1. The Multi-disciplinary Team

A Physiotherapist with a special interest in amputee rehabilitation should be responsible for the management of physiotherapy care for amputees.

The Physiotherapists responsible for the management of amputees within Torbay and Southern Devon Health and Care NHS Trust should use the Therapists and Prosthetists at Exeter Mobility Centre or Plymouth Disability Service as their point of reference for advice and information pertaining to their patients, their prosthetic componentry and their management.

The ward Physiotherapist should ensure timely referral to the Exeter Mobility Centre or Plymouth Disability Service for prosthetic assessment.

The Physiotherapist should contribute to Multi-disciplinary team (MDT) audit research and education.

2. Prosthetic knowledge – The Physiotherapist should:

- 2.1** Understand the theory of prosthetic componentry and the effects of prosthetic rehabilitation on the remaining body systems.
- 2.2** Understand the principles of the physiological and prosthetic gait and the factors (both physical and bio-mechanical) that affect them in order to provide effective gait re-education.
- 2.3** Understand the effects of prosthetic alignment on pressure distribution within the socket.
- 2.4** Understand the management of residual limb volume changes in relation to socket fit.

- 2.5 Understand the pressure tolerant and pressure sensitive areas of the residual limb in relation to prosthetic fit.
- 2.6 Understand the different methods of donning and doffing prostheses.
- 2.7 Check the prosthesis for correct and comfortable fit prior to each treatment until the patient is able to do this for him / herself.
- 2.8 Examine the residual limb before and after prosthetic use, until the patient is able to do this for him / herself. Once able, the patient should be encouraged to examine the residual limb before and after prosthetic use.
- 2.9 Contribute to the decision making process regarding prosthetic prescription.
- 2.10 Ensure the prosthetic centre is contacted if there is malfunction of any componentry or if the socket requires adjustment in order to achieve a correct and comfortable fit.

3. **Assessment**

- 3.1 A full assessment should be completed in line with the organisations' records management policy and clinical record keeping policy. Information on medication should be obtained from a reliable and up to date source, see the Medicines reconciliation interim policy for guidance :
<http://www.torbaycaretrust.nhs.uk/publications/TSDHC/Medicines%20Reconciliation%20Interim%20Policy.pdf>
- 3.2 There should be written evidence of a full physical examination and assessment of previous and present function.
- 3.3 The patients' social situation, psychological status, goals and expectations should be documented.
- 3.4 Relevant pathology including diabetes, impaired cognition and hemiplegia should be noted.
- 3.5 The Physiotherapist should record the prosthetic componentry, type of socket and method of suspension.

4. **The Prosthetic Rehabilitation Programme**

- 4.1 Prosthetic rehabilitation should aim to establish an energy efficient gait based on normal physiological walking patterns.
- 4.2 The Physiotherapist should be aware that level of amputation, pre-existing medical conditions and social environment will affect rehabilitation.
- 4.3 During rehabilitation the Physiotherapist should take into account that prosthetic gait demands higher energy expenditure than physiological gait.
- 4.4 The Physiotherapist should teach efficient control of the prosthesis through postural control, weight transference, use of proprioception and specific muscle strengthening and stretching exercises to prevent and correct gait deviations.
- 4.5 Prosthetic rehabilitation should begin within a maximum of 5 working days after receipt of the prosthesis.
- 4.6 During prosthetic rehabilitation patients should receive physiotherapy as often as their need and circumstances dictate.
- 4.7 The prosthesis should be worn for short periods of time initially, increasing in use as exercise and skin tolerance allows.
- 4.8 Gait re-education should commence within the parallel bars.
- 4.9 Gait re-education should progress through walking within the hospital environment to walking within the home environment.
- 4.10 Walking aids should be provided to ensure that prosthetic users, where possible progress to being fully weight bearing through their prosthesis.
- 4.11 Functional skills progressing in complexity should be taught within the patients' limits.
- 4.12 Rehabilitation should be functional and integrated with activities of daily living.

- 4.13** The Physiotherapist should instruct the patient in a range of functional tasks relevant to the goals set with that individual. These may include:
- Getting on and off the floor
 - Getting in and out of a car
 - Going up and down stairs, kerbs, ramps and slopes
 - Walking in a crowded environment
 - Carrying an object whilst walking
 - Walking over uneven ground outdoors
 - Changing speed and direction
 - Picking up objects from the floor
 - Opening and closing a door
 - The use of public transport
 - The use of escalators
- 4.14** Prosthetic users should be encouraged and assisted to resume hobbies, sports, social activities, driving and return to work.
- 4.15** The Physiotherapist, alongside other professionals, should contribute to the care of wounds, during rehabilitation.
- 4.16** The Physiotherapist, alongside other professionals, should treat scar problems when these occur during rehabilitation.
- 4.17** The Physiotherapist should contribute to the management of residual limb pain.
- 4.18** The Physiotherapist should contribute to the management of phantom sensation / pain.
- 4.19** When a prosthesis is provided for transfers or cosmetic purposes only, instruction and advice on its safe use should be given.

5. Patient education in conjunction with Exeter Mobility Centre

5.1 Use of the prosthesis

- 5.1.1** Patients / carers should have access to information about the prosthesis, its functions and limitations.
- 5.1.2** Patients / carers should have access to information regarding the care of their prosthesis.
- 5.1.3** Patients / carers should have access to instruction on achieving correct socket fit, considering pressure tolerant and pressure sensitive areas of their residual limb.
- 5.1.4** Fluctuations in residual limb volume and its management should be explained.
- 5.1.5** Guidance should be given on the length of time the prosthesis should be worn and how this should be increased.
- 5.1.6** An explanation should be given on how changing footwear may alter prosthetic alignment and the distribution of pressure within the socket.
- 5.1.7** The patient / carer should receive instruction on the use and care of a prosthetic sock.
- 5.1.8** Instruction should be given in the correct use of the type of suspension used.

5.2 Care of the Residual Limb

- 5.2.1** Techniques for the self-management of phantom limb pain / sensation should be taught.
- 5.2.2** Advice should be given to the patient / carer on the factors influencing wound healing.
- 5.2.3** Instruction should be given to the patient / carer on methods to prevent and treat adhesion of scars.
- 5.2.4** Information should be given on skin care of the residual limb and the potential problems related to poor hygiene, inadequate or overzealous skin care.
- 5.2.5** Patients / carers should be informed that sockets that no longer fit correctly, for whatever reason, can cause skin problems.

5.3 Care of the Remaining Limb

- 5.3.1** The patient should be taught to monitor the condition of the remaining limb.

5.3.2 Physiotherapists should ensure that all known diabetics are referred to Podiatry and establish links with their local podiatry services to ensure that information and education given to patients / carers is consistent.

5.3.3 Vascular and diabetes patients / carers should be made aware of the risks to their remaining foot and educated on how to reduce them.

5.4 Informed goal setting

5.4.1 Patients / carers should be made aware that concurrent pathologies and previous mobility affects realistic goal setting and final outcomes of rehabilitation.

5.4.2 Patients / carers should be made aware that the level of amputation affects the expected level of function and mobility.

5.4.3 Patients / carers should be made aware that they will experience lower levels of function than bipedal subjects.

5.4.4 Patients / carers should be informed that the energy cost of prosthetic walking is related to the amputation level.

5.5 Coping strategies following falls

5.5.1 All parties involved with the patient should be made aware that the risk of falling is increased following lower limb amputation.

5.5.2 Rehabilitation programmes should include education on preventing falls and coping strategies should a fall occur.

5.5.3 Staff are advised to refer to the South Devon Map of Medicine: Falls in the Elderly for the information on the management of falls and the Trust Physiotherapy Guidelines for the management of falls.

5.5.4 Instructions should be given on how to get up from the floor and methods practiced where possible.

5.5.5 Contingency plan and advice should be given in the event that the patient is unable to rise from the floor.

5.6 Further information

5.6.1 Patients / carers should be made aware of the possible psychological effects following amputation and how and where to seek advice and support.

5.6.2 Patients / carers should be educated in how to prevent secondary disabilities that may occur as a result of prosthetic use.

5.6.3 Patient information should be available in a format suitable to that individual.

5.6.4 All advice / information given to the patient should be recorded.

5.6.5 Information on the following should be made available:

- National and local amputee support and user groups
- Health promotion
- Sporting and leisure activities
- Driving after amputation
- Employment / training.

6. Discharge and maintenance

6.1 A summary of the patient's function and mobility at transfer or discharge from active rehabilitation should be documented in the notes, including their SIGAM grade (Special Interest group in Amputee Rehabilitation).

6.2 Use of appropriate outcome measures such as those detailed in the BACPAR (British Association of Chartered Physiotherapists in Amputee Rehabilitation) Toolbox of Outcome measures should be used to evidence effectiveness of input.

6.3 The prosthetic user should be provided with the necessary contact details to seek help and advice when required.

6.4 A system should exist for the review of patients after discharge from physiotherapy.

- 6.5 There should be a process in place for the patient to self-refer to physiotherapy after initial rehabilitation.
- 6.6 Additional rehabilitation should be made available if an individual's circumstances change, i.e. medical, environmental, prosthetic, physical, return to work or sport.
- 6.7 If prosthetic use is dis-continued during the rehabilitation programme the reasons should be documented.

Training:

- 7.1 Physiotherapy staff regularly working with amputees will attend training courses and updates run by Exeter Mobility Centre or Plymouth Disability Centre and are encouraged to attend BACPAR courses. Attendance at these is agreed as part of individual personal development plans.
- 7.2 Staff experienced in the management of amputees will provide 1:1 support to less experienced staff, as required, both in the inpatient and community setting
- 7.2 Staff with more occasional input to Amputee Rehabilitation will receive updates via the Physiotherapy Rehabilitation Clinical Interest Group. Physiotherapy Team Leads review staff training needs to determine the training priorities and needs of the Trust Physiotherapy staff and amputee management forms part of this review. All training is circulated by email from the central Physiotherapy staff list and is available on icare at the Baywide Physiotherapy site

References:

Clinical Guidelines for the pre and post-operative physiotherapy management of adults with lower limb amputation BACPAR Chartered Society of Physiotherapy, London 2006.

Evidence based Clinical Guidelines for the Physiotherapy Management of Adults with Lower Limb Prostheses. BACPAR Chartered Society of Physiotherapy, London 2003.

BACPAR(British Association of Chartered Physiotherapists in Amputee Rehabilitation) Toolbox of Outcome measures

CSP Core standards of Physiotherapy Practice

Amendment History

Issue	Status	Date	Reason for Change	Authorised
4		11.10.07		Fiona Jenkins, Clinical Director of Therapies
5	Revised	04.06.09		Fiona Jenkins, Clinical Director of Therapies Vicki Sheen, Head of Physiotherapy for Torbay Care Trust
6	Revised	02.02.12	Update	Vicki Sheen, Head of Physiotherapy for Torbay Care Trust
7		19.09.12	Amendments to update	Vicki Sheen, Head of Physiotherapy for Torbay Care Trust

Appendix 1

Mobility Grades in Prosthetic Rehabilitation

The SIGAM scale is a simple yet fully validated scale of 'Disability Mobility Grades'

Grade	Disability	Definition
A	Non-limb user	Those who have abandoned the use of an artificial limb or use only non-functioning prostheses
B	Therapeutic	Wear prostheses ONLY in the following circumstances; for transfer, to assist nursing, walking with the physical aid of another OR during therapy.
C	Limited/restricted	Walks up to 50m on even ground with or without walking aids; a=frame, b=2crutches/sticks, c=1crutch/stick, d=no walking aids.
D	Impaired	Walks 50m or more on level ground in good weather with walking aids; a= 2 sticks/crutches, b= 1stick/crutch.
E	Independent	Walks 50m or more without walking aids expect to improve confidence in adverse terrain or weather.
F	Normal	Normal or near normal walking

Appendix 2

Physiotherapy Amputee Assessment

To be completed in conjunction with the organisation's initial / subjective assessment, eg background information contact (BICA) assessment or MDT subjective assessment

Patient's name:	NHS No.
Address:	Tel No. Next of Kin Name and contact No:
Date of Birth:	Ward/Team
Assessment date:	GP/Consultant
Prosthetist:	Current Mobility Grade (SIGAM) No of hours/day wearing prosthesis
Date of amputation	Level of amputation
Reason for amputation <input type="checkbox"/> Vascular <input type="checkbox"/> Trauma <input type="checkbox"/> Infection <input type="checkbox"/> Tumour <input type="checkbox"/> Other	Prosthesis details
Wheelchair details	
Consent to assessment: Yes/No (Please circle)	
Medical History	
Medication	

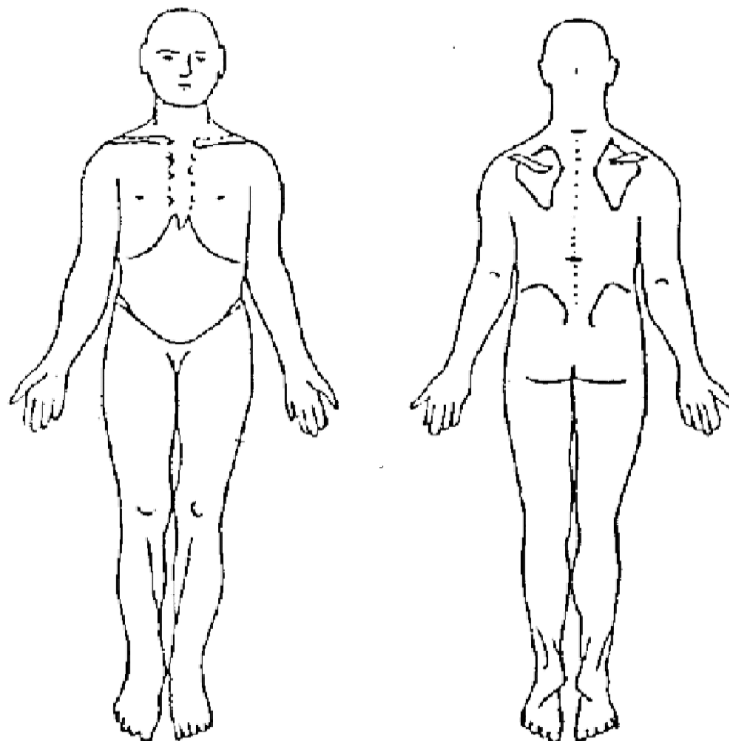
Therapists signature	Full name	Designation	Date
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Patient's name:	NHS No.
Team/Ward:	Date of Birth:

Social History (Include accommodation type, access)

Observations and posture:

Body Chart-Use to record: altered sensation, pain, wounds, fixed deformities, tone, leg length discrepancy



Name	Signature	Date
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Patient's name:	NHS No.
Team/Ward:	Date of Birth:

Eyesight	Hearing
Cognition	Mood

Condition of residual limb-(Wounds, phantom sensations, oedema, shape)

Condition of contra-lateral limb (Claudication, rest pain, skin condition, wounds)

Range of movement:	
Neck	
Trunk	
Right	Left
Shoulders	
Elbows	
Wrist/Hand	
Hip	
Knee	
Ankle	

Name	Signature	Date
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Patient's name:		NHS No.	
Team/Ward:		Date of Birth:	
Muscle Strength	Right		Left
Upper Limb			
Hand grip			
Hip			
Knee			
Ankle			
Sensation			
Co-ordination			
Proprioception			
Respiratory status Any resp problems/SOB?			
Movement Analysis-Include equipment used			
Sit=stand			
Toilet			
Bed			
Lying=sitting			
Bed mobility			
Car transfers			
Up and down to floor			
Move around floor			
Name	Signature	Date	

Patient's name:	NHS No.
Team/Ward:	Date of Birth:

Balance and gait	
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Sitting balance	
Standing balance	
Ability to dual task	
Gait-Include mobility aid used where appropriate	
Stairs/Steps	
Footwear	

Falls History	
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Falls over past 12 months	Reason for falls
Ability to get up from the floor	
Ability to summon help	

Outcome Measures			
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Measure used:			
	Date	Date	Date
Score			

Name	Signature	Date
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Patient's name:	NHS No.
Team/Ward:	Date of Birth:

Therapy Issues Identified	Plan

Patient Goals SMART

Short Term

Long Term

Name	Signature	Date
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Patient Name:	NHS. No.	Date of birth:
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Pre- operative Management	Yes	No	Signed	Date
Patient instructed in wheelchair use				
Exercise programme				
Bed mobility				
Transfer technique taught				
Respiratory: assessment treatment				
Referred to Prosthetic Centre				
If no to any of the above, reason:				

Post operative management	Yes	No	Signed	Date
Referred to prosthetic Centre (If not done pre-operatively)				
Treatment started first day post-op				
Respiratory assessment first day post-op				
Bed mobility taught first day post-op				
Pre prosthetic mobility is in a: Wheelchair Other-State reason				
Provision of wheelchair: <ul style="list-style-type: none"> • Own • Loaned • Stump board 				
Provision of shrinker where appropriate				
Exercise programme appropriate to patient goals:				
Patient provided with TCT Amputee leaflet: 'Physiotherapy following your amputation' and contents discussed with: <ul style="list-style-type: none"> • Patient • Carers (with Patient's consent) 				
Increased Falls risk explained				
Routine following fall; Demonstrated Practised				
Patient provided with TCT 'Prosthetic rehabilitation' leaflet, where appropriate and contents discussed				
Patient given opportunity to meet other adults with amputation				
Carer given opportunity to meet other adults with amputation (with Patient's consent)				
Early walking aid used: Comments				
On receipt of prosthesis gait training commenced within 5 days				
If no-reason				

