Final Report
to
New Zealand Artificial Limb Board

Design and Implementation of Interdisciplinary Care Guidelines for Hospital Management of Amputees in Christchurch

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Final Report to NZALB on Design and Implementation of Interdisciplinary Care Guidelines for Hospital Management of Amputees in Christchurch

1. Executive Summary

This project, supported and funded by the New Zealand Artificial Limb Board (NZALB) and part of the New Zealand Positive Ageing Strategy, sought to examine and improve current procedures in the treatment and rehabilitation of predominantly older amputee patients in Christchurch hospitals. The vision of this project was to develop a comprehensive, seamless and timely approach to amputee management in Christchurch hospitals so that:

amputee patients and their family/whanau were well informed at the time of the operation;
staff working with amputee patients were trained and knowledgeable in amputee management;
the amputee patient's physical, psychological and cultural needs were best met.

With a great deal of support and enthusiasm from the interested parties dealing with amputee patients, both within and outside of Christchurch Public Hospital (CPH) and The Princess Margaret Hospital (TPMH), many guidelines were reviewed, updated or introduced. New resources were created and new procedures set up. All of these aspects contributed to achieving the vision of this project.

Some of the most notable improvements achieved were:

The routine application of Rigid Removable Dressings (RRDs) to vascular amputees at the time of amputation by theatre nurses and vascular surgeons (RRDs provide optimal control of swelling and provide protection to the stump during healing).
The development and issuing of information packs to all new amputees which contain:

- information booklets for new amputees from the NZALB and the Amputee Federation of New Zealand
- information about joining the Amputee Society of Canterbury and Westland
- information about the purpose of RRDs
- leg strengthening exercises
- an information booklet detailing the rehabilitation process and expected timeline after amputation

All older amputee patients having the opportunity for rehabilitation, regardless of whether or not they usually resided in a rest home or private hospital setting
More consistent involvement from the Amputee Society for providing a visiting service to new amputees by amputees

Routine input from Social Workers for addressing any grief and loss issues with the amputee patient and their family/whanau

A Vascular Consultation referral process established for reviewing patients at TPMH

Optimal pain relief, including the use of entonox gas, being provided if fabrication of a RRD is required on the ward post operatively

Vascular surgeons made aware that a very high proportion of older amputee patients do have a prosthesis made for them in Christchurch

An amputee interdisciplinary care checklist developed for use at both CPH and TPMH

This project has been a starting point for optimizing amputee management within Christchurch hospitals. It is anticipated that through its achievements, amputee patients face a much less daunting prospect for their future after an amputation operation.

While this project has focused in depth on older patients, *all* amputee patients in Christchurch hospitals could enjoy similar benefits. The next step is to ensure that hospital staff and interested parties continue to carry out the guidelines and procedures suggested, and to make further improvements to the rehabilitation process for amputee patients of all ages.

2. Introduction

Through my experience of working as a physiotherapist from 1994 - 2003 in a rehabilitation ward at TPMH, I became aware that amputees did not know what the rehabilitation process meant, what it entailed, or what their future held. The lack of information was worrying, as it is widely acknowledged that if patients understand what happens after such major event, it assists with their recovery.

In addition, there was no cohesive and coordinated approach to amputee management in the Christchurch hospital system. Contributing to this were the frequent changes of medical personnel in key areas and a lack of knowledge from staff about aspects of amputee rehabilitation.

At a conference in 2003, I raised the subject with Natalie Lavery, then Manager of the Senior Citizens Unit of the Ministry of Social Development. Natalie encouraged and assisted me to prepare a project proposal to present to the New Zealand Artificial Limb Board (NZALB). The NZALB subsequently accepted and funded the project, which also contributed to the New Zealand Positive Ageing Strategy.

The objectives of the project were primarily to provide a comprehensive, seamless and timely approach to amputee management in hospitals so that amputees were well informed at the time of their operation and had their physical, psychological and cultural needs best met. Part of this was that staff who worked with amputee patients should be trained and knowledgeable in amputee management.

Current Process for Amputees. Patients in the Canterbury District Health Board (CDHB) area with vascular problems who require an amputation have this operation performed at CPH. In most cases the patients are cared for in ward 15 at CPH, which predominantly comprises vascular patients.

All patients over 65 years of age are then referred through Older Persons Health to TPMH for further rehabilitation. TPMH specializes in older persons' health.

Younger amputees are referred to Burwood Hospital for continued rehabilitation if they have not been discharged home directly from CPH.

Provided there are no complications, older amputee patients are usually transferred to the TPMH within a week of the operation and then spend approximately three weeks at TPMH before going home. They then continue their rehabilitation, which may include getting a prosthesis/artificial limb as an outpatient.

The majority of new amputee patients who transfer from CPH are admitted to ward 1A at TPMH. This has been the usual practice for the past 15 years at least, and has enabled the staff of ward 1A to become very familiar with treating amputee patients.

While Christchurch does not have a specific amputee rehabilitation unit, ward 1A is the closest Christchurch has to a unit for the rehabilitation of older amputee patients.

Similarly, ward 15 at CPH performs most of the amputations due to vascular problems for patients of all ages. It is therefore highly desirable for staff of both hospitals to have a very adequate knowledge of amputee rehabilitation methods, as they are involved in the immediate pre-operative and post-operative care of this particular group of patients.

3. Objectives

The objectives of the project were:

to produce and implement Interdisciplinary Care Guidelines for the hospital management of amputees in Christchurch
to provide a comprehensive, seamless and timely approach to amputee management in hospitals so that:

- amputees were well informed at the time of their amputation
- staff working with amputees were trained and knowledgeable in amputee management
- the amputee's physical, psychological and cultural needs were best met
- there was buy-in from all interested parties

4. Approvals

A variety of approvals was required in order to carry out the project. They included:

- NZALB

- Canterbury District Health Board – Chief Executive Officer, Chief Medical Officer, Vascular Surgeons, Physiotherapy Professional Leaders and Physiotherapy staff of CPH and TPMH, Vascular Nurse Specialist, Vascular and Rehabilitation ward nursing staff, Occupational Therapists, Consultant Physicians at TPMH, Social workers, Clinical Charge Nurses of ward 15 CPH & ward 1A TPMH

- The Christchurch Artificial Limb Centre

- The Amputee Society of Canterbury/Westland

5. Methodology

Phase One - Data Collection

Data was collected from local, national and international sources[1]:

- guidelines for management of amputees from selected New Zealand and overseas hospitals
- information booklets, pamphlets and CD's from New Zealand and overseas hospitals
- research and resource articles from the internet about aspects of best practice in amputee rehabilitation.

Phase Two - Stakeholder Consultation

Telephone and email conversations and interviews were conducted with a wide range of interested parties in the health sector, both in NZ and overseas with regard to their views and current practice in amputee management.
Interviews were held with

Amputee patients and their families
Vascular surgeons CPH (Christchurch Public Hospital)
Clinical Charge Nurses Ward 15 CPH & 1A TPMH
Ward and Community Occupational Therapists,TPMH
Dieticians TPMH
Social Workers CPH & TPMH

[1] See Appendix 1 for list of resource data.

Physiotherapists CPH & TPMH
Vascular Nurse Specialists CPH
Nursing staff CPH & TPMH
Heather Curtis (Physiotherapist, Melbourne)
Fiona Barnett (Prosthetist, Australia)
Colin Auburn (Prosthetist, Australia)
Graham Flanagan (Prosthetist, Christchurch)
Rowan English (Orthotist, Australia)
Helen Sutton (Charge Nurse Vascular Ward, Waikato Hospital)
Sanjeev Nand (Physiotherapist, Waikato Hospital)
Amanda O'Sullivan (Physiotherapist, Auckland)
Vicky Thurkell (Physiotherapist, Wellington Hospital)
Jetje Bullion (Physiotherapist, ALC, Christchurch)

Phase Three - Design of Interdisciplinary Care Guidelines

The design of the Interdisciplinary Care Guidelines was subject to the following process, based on findings from the data collection and from stakeholder consultation:

- Collate and analyse findings
- Determine gaps
- Consult and draft guidelines and procedures.

The guidelines developed for particular aspects of the amputee rehabilitation process varied in their length, complexity and format. This was determined simply by what was best needed to address the deficiencies identified at a particular point in the rehabilitation process; deciding how the guideline could best be conveyed to the hospital staff; and enabling them to utilise the guidelines efficiently.

The Amputee Interdisciplinary Care Checklists developed for trialing on ward 15 at CPH and at TPMH were based on a similar format previously implemented in Whangarei Hospital. They were, in effect, a summary of most of the guidelines developed during this project.

Phase Four - User Testing of Draft Guidelines

Throughout the project, it was clear that educating the professionals involved with amputations and amputees was as important as producing the resources the staff would ultimately use. The stages of user testing evolved as follows:

- Education of users
- Trialling of draft guidelines
- Obtaining feedback
- Amendment of feedback into Guidelines

Phase Five - Implementation and Consolidation

The project was wider in scope than was initially anticipated and because it contained various discrete aspects, such as the information pack for amputees or training of particular staff such as theatre staff, implementation of some aspects occurred quite early on. Others, such as the checklist, occurred later.

A consolidation phase was required to address the rotation of some key staffing positions within the hospital. Two examples were the Vascular Registrar, whose position rotated every six months, and the physiotherapist on Ward 15, whose position rotated every four months. This meant embedding procedures so they would survive beyond the author's involvement with the project. Contingencies were developed for these two examples that are described in further detail on pp 15-16.

6. Findings

Findings from Data collection

With the exception of Waikato Hospital and Whangarei Hospital, the existing guidelines for amputee management in hospitals surveyed appeared to be obsolete or seldom adhered to.

All guidelines within NZ were written by physiotherapists for physiotherapists, with the exception of Whangarei Hospital and the Auckland region, where the guidelines have been written by an IDT (Inter-disciplinary team).

All literature reviewed emphasized the need for more education and psychological support for amputee patients preceding and following amputation, to aid their recovery from amputation.

Application of RRDs in theatre was desirable as it was painless for the patient at the time of application and provided optimal control of swelling.

Findings from Stakeholder Consultation in:

A. Acute Inpatient Ward at CPH

i) Pre-Operative Management

The patient and family lacked information about what happened after the amputation. This caused uncertainty and apprehension. Having appropriate information about the amputation and rehabilitation that followed was clearly a priority for amputees and their families.

Many health professionals were not aware of the rehabilitation process following amputation. Increased knowledge of staff members would help answer patients'

questions and reassure them, as well as making care of this group of patients more meaningful for the staff involved

ii) Intra-Operative Management

Soft dressings only were applied to residual limb in theatre. These did not prevent swelling occurring and did not provide protection to the residual limb. Working towards having RRD's applied in theatre was highly desirable as it would be pain-free for the amputee.

Referral to a physiotherapist about a new patient was not formalized or consistent. This led to unnecessary delays in ordering a wheelchair and commencing the post operative rehabilitation treatment.

iii) Immediate Post-Op Management

RRD (Rigid Removable Dressing) were usually applied to the residual limb on the second day after amputation. Pain relief administered to assist with making of RRDs was found to be inadequate.

Clear guidelines regarding amputee management were required for the physiotherapist working on the Vascular Ward at CPH as the physiotherapist changed every four months due to the rotational staffing system employed. This made consistent amputee rehabilitation challenging, especially if an RRD was required to be applied on the ward post-operatively, if for some reason it had not been made in theatre.

There was a lack of knowledge from many health professionals about the most desirable method of transferring a new amputee patient. This created difficulty for the new amputee to develop independence and confidence with transfers.

The physiotherapy Pathway of Care for the amputee patients at CPH required revision as new concepts and focus points were desirable.

A transfer checklist would be highly desirable for relaying information between CPH, TPMH and ALC (Artificial Limb Centre) so all staff know what has been actioned. This would save therapists wasting time checking to see if things have been actioned.

Designating a nurse with a special interest in amputee management to be an amputee resource nurse on the vascular ward at CPH would be of great benefit

B. Inpatient Rehabilitation at TPMH

No formal interdisciplinary guidelines for care of amputee patients in the rehabilitation wards at TPMH were in place. This could lead to important aspects of rehabilitation being overlooked. It also created challenges for new staff members if they had not had experience in amputee management, not helped by the fact that occupational therapists and physiotherapists did not learn about amputee management during training.

There was no formal system of referral to the CPH Vascular Service for vascular patients who required review at TPMH.

No current provision was made for arranging an amputee visitor through the Amputee Society. Having fellow amputees to converse with is one of the most helpful rehabilitation tools for the new amputee. Amputee visitors from the Amputee Society were keen to restart this service and were also keen to be educated about current rehabilitation processes and timelines

C. Outpatient Rehabilitation

Improved liaison was required between the inpatient rehabilitation ward, ALC and RDH (Riley Day Hospital) so both patients and staff members at ALC and RDH know what plan is in place for continued rehabilitation once patient is discharged from "Rehabilitation. Hospital".

7. Design of Interdisciplinary Care Guidelines

The guidelines comprised a combination of written guidelines, an illustrated manual, two posters, and also included procedures requiring practical demonstration. Where guidelines already existed, they were revised and updated. Two separate interdisciplinary care checklists were developed that maximized the use of existing and new procedures and material.[2]

The checklists were suggested, designed and formatted for use in the Christchurch Hospitals with several key points in mind. The checklists were:

- structured to follow the needs of the amputee patient in a logical order through the various stages of rehabilitation
- designed so that newer staff especially could easily identify the most important aspects to cover with regard to care and rehabilitation of the amputee patient
- designed to minimise documentation by staff

[2] See Appendix 2

comprehensive, as they contained some explanation of procedures as well as bullet point reminders. The checklists are also comprehensive as they make reference to supplementary guidelines which sit outside the checklist
easy to follow
contained discipline-specific tasks (eg social worker, physiotherapist, nursing staff) related to amputee rehabilitation only
organized to keep all of the information regarding the rehabilitation process for the amputee patient consolidated in one document for ease of scrutiny and to assist with discharge planning
provided to assist with providing a more thorough consistent and timely practice for the rehabilitation of amputee patients.

RRD Manual [3] In addition to the checklist and other written guidelines, a manual was produced showing step by step instructions for making RRDs in theatre. This was designed so that the theatre staff could make an RRD without having anyone present who wa experienced in the process. After consulting with the charge theatre nurse, the manual format was adopted to provide a tool that was easily portable for use in different operation theatres.

Copies of this manual were also made for the physiotherapy staff at CPH, Burwood Hospital and TPMH, as although the ideal is to have all RRDs initially made in theatre, replacements sometimes need to be made on the wards. The manuals should be of great assistance for a physiotherapist who is not familiar with the technique of making RRDs.

Two posters[4] were also produced showing optimal transferring techniques for both a bilateral below knee amputee and a unilateral below knee amputee. An amputee patient agreed to be the model for this poster. It was felt that a poster on the wall of the wards would have a higher profile for staff and therefore be more readily utilised compared to a manual of transferring techniques that was kept on a shelf.

8. User Testing of Draft Guidelines

Once a draft copy of a particular guideline was produced, education on its purpose and how it was to be used was delivered to the relevant staff. This education on a new guideline or procedure was delivered in one of several ways depending on what was required -

to individuals, eg:

- to each consultant at TPMH re the Vascular Consult Referral Form[5]
- to the physiotherapist on ward 15 CPH re the Amputee Transfer Summary[6] and Amputee Interdisciplinary Care Checklist

[3] See Appendix 2
[4] See Appendix 2
[5] See Appendix 2

- to the Vascular Surgeons re the application of Rigid Removable Dressings (RRDs) in theatre

as in-service education to a group of staff, eg:

- to the whole of the CPH physiotherapy staff to explain and demonstrate the use of Entonox gas[7] in the making of Rigid Removable Dressings if required to be made on the ward
- to the interdisciplinary teams of three separate wards at TPMH to introduce the Amputee Interdisciplinary Care Checklist

as a practical demonstration to a group of staff, eg:

- showing the nursing staff of ward 15 CPH the optimal methods of transferring an amputee patient. This was demonstrated by using a bilateral below knee amputee patient as a model
- demonstrating how to apply a RRD to a selected group of theatre nurses using an amputee patient as a model
- demonstrating to the theatre nurses in the operating theatre the application of a RRD to a patient who had just had an amputation.

Once the education was delivered, the guideline or procedure was trialed in the relevant area. In some instances guidelines were required to go through the Quality Office of the relevant hospital for formatting as per CDHB requirements, and they also required sign off by the Clinical Director. This was particularly so for the Amputee Interdisciplinary Care Checklists as they are to become official hospital documents to be filed in the clinical notes of the patient concerned.

Feedback was sought from the users during the trialing of the various guidelines and procedures. This was done either through questioning the users or through observing written documentation pertaining to the guidelines in the clinical notes. This provided valuable information on how the trialing of the guidelines was progressing.

In addition, a visual check for shape and application on each of the RRDs that had been applied in theatre by the theatre nurses and vascular surgeon was carried out so that feedback could be given to the staff making them.

After discussing feedback with the user, it was then reflected back into the guideline, after making alterations if required. The guideline was then retrialed in its altered format, and further feedback was sought after another period of trialing.

During the user testing phase, some of the guidelines required minor alterations only and then no further attention.

For some guidelines, it required obtaining feedback from the sender and recipient of the guideline to ensure the guideline was achieving its desired outcome eg:

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[6] See Appendix 2
[7] See Appendix 2

-for the amputee transfer summary
-for the referral for arranging an amputee visitor

Examples of Guidelines Trialed and Amendments Made During User Testing of Draft Guidelines

Description of Guideline Trialed	Amendments	Results
Amputee information folder compiled and routinely given to all amputee patients on Ward 15 CPH.[8]	Stamped envelopes now supplied by the Amputee Society. This enables the physiotherapist to send away the form immediately through the ward's outgoing mail. The writing of the booklet "What Happens After an Amputation and How Long Does it Take" gives patients, families/whanau and staff a clear idea of the rehabilitation process and timeline. Previously there was no such specific information.	All patients and their families now have information available to them about what happens after their amputation, including why the RRD is applied With the physiotherapist completing and mailing the membership form to the Amputee Society (with the patient's consent), it has resulted in increased membership.
Amputee transfer summary developed for use between CPH and TPMH (completed by physiotherapist at CPH).	● Initially only used for transfers to TPMH. Now used for transfers to Burwood Hospital also	Information clearly and easily obtained by TPMH staff about the aspects of rehabilitation covered at CPH, including referral to ALC.
Daily update on patient progress initiated between clinical charge nurse and physiotherapist on Ward 15.	● Physiotherapist initially met CCN in person, but now telephones by 10am if unable to meet in person	Physiotherapist getting referrals for amputee patients in a more timely and consistent manner.
RRD applied in theatre.	Change in practice from applying RRD dry to applying it wet. This makes application easier.	To date this has occurred only once. Outcome for the patient was excellent, wound healing, and no pain through having the RRD made while still anaesthetised. Vascular surgeons given feedback throughout this patient's admission to both CPH and TPMH.

[8] See Appendix 2

Description of Guideline Trialed	Amendments	Results
Use of optimal pain relief if RRD does have to be made on ward	● Patient was receiving only oral pain relief to supplement Entonox. Now has intravenous (IV) pain relief administered along with Entonox, as IV pain relief far more effective	Nursing and physiotherapy staff more aware of need for adequate pain relief. This requires utilization of the patient's regular pain relief, as well as morphine and entonox gas.
Implementation of referral system from TPMH to CPH for vascular patients needing review.	Initially the Vascular Registrar visited TPMH every Tuesday afternoon. Now Vascular Services respond on an as-required basis	Patients requiring vascular review now get seen at TPMH. Greatly improved communication between TPMH staff and CPH vascular services. Vascular Nurse Specialist reviews patients if appropriate.
Initial ALC appointment made while patient is still an inpatient at TPMH[9]	Clarification gained that the physiotherapist will arrange for the patient to be seen at ALC while still on the Ward, even if the wound is not healed. This ensures that the amputee is "in the system" at ALC and will not be left to initiate the first ALC appointment themselves.	Ensures that patient has the first contact with ALC early on in their rehabilitation.
Development of a transfer summary for more complex vascular patients transferring from CPH to TPMH.[10]	TPMH medical staff need to be alerted when the transfer form is used by CPH staff as the first time it was used it was not noticed by the admitting doctor at TPMH and therefore the information was not utilised. Now the CPH nurse who completes the form contacts the ward clerk of TPMH ward patient transferring to so the ward clerk can give form to the admitting doctor.	Medical staff at TPMH informed about what treatment has been undertaken at CPH and what the expected outcomes for that patient are.

[9] See Appendix 2
[10] See Appendix 2

9. Implementation and Consolidation

Successful implementation of the guidelines, both in draft and final form, was dependent on staff acknowledging a need for improvement in various aspects of the rehabilitation process for amputees and being prepared to try out the new recommendations.

It was also dependent on the author's providing optimal training, feedback, encouragement, thanks and praise to the staff involved in testing the guidelines.

During the project, staff were generally very receptive to the author facilitating meetings and designing guidelines after discussion with relevant staff, and then presenting the final guideline ready for implementation.

Some of the guidelines developed required very little effort to develop and implement as they were based on existing guidelines, which only required slight modifications. An example was the referral of amputee patients from ward 15 CPH to older persons' health at TPMH.

Other guidelines required an enormous amount of implementation time, as a great deal of research, discussion, education, development and formatting of the guidelines and practical demonstration were required to persuade and encourage staff to trial and continue with the proposed guidelines.

Examples of guidelines that required a large number of hours to finally implement were the use of Entonox gas for pain relief if RRDs needed to be made on the ward, the Amputee Interdisciplinary Care Checklists and the application of RRDs in theatre.

Many steps were required to be undertaken before the implementation of the guideline of making RRDs in the operating theatre could be carried out. These steps included:

> seeking approval from the vascular surgeons to introduce this technique during the operation. Previously all RRDS were made by the ward physiotherapist two or three days after the amputation operation. Research was sought from within New Zealand and overseas to present to the vascular surgeons to encourage them to trial this new method. I met with surgeons individually and collectively.
>
> the theatre nurses were identified as the ideal staff to assist with applying the RRDs in theatre as they remain constant in their job. This compares with the vascular registrar, who performs most of the amputation operations, and rotate from her/his position every six months, so there is little continuity. Discussion was held with the Manager of the operating theatres and the Charge Theatre Nurse about the project itself, the desire for the application of RRDs in theatre and the possible involvement of the Theatre Nurse with this process

after approval was received from the Manager and the Charge Theatre Nurse, a series of education sessions were delivered to the Theatre Nurses about the project and application of RRDs in theatre. Practical sessions where interested staff could practice making RRDS were arranged. Jetje Bullion, the Physiotherapist at the Christchurch Artificial Limb Centre, kindly assisted with the practical sessions

all the components required for making the RRDs were obtained and a container was provided so that the "RRD Making Kit" could be kept in one of the operating theatre's storerooms for easy access when required

the Charge Theatre Nurse was provided with information about who to contact to replenish supplies in the RRD Making Kit

practical assistance and instruction for applying RRDS was given to theatre staff on four occasions by the author during amputation operations, at times that the author was able to attend. One occurred on a Sunday, one late in the evening on a Friday, and two after 5 pm on weekdays. It was important that the author was available on an on-call basis when permission was first given by the vascular surgeons to trial making the RRDs in theatre so that we could get the trial underway in the most successful way possible.

Providing feedback to the Vascular Surgeons, the Vascular Registrar and the theatre nurses regarding the performance of the RRDs they applied in theatre

Making the manual on how to apply RRDs in theatre. This required many hours in itself, comprised of:

- getting approval for the manuals to be funded. This was approved by the Business Manager for Vascular and General Surgery
- arranging an amputee patient to be model for the photographs
- arranging for Jetje Bullion, Physiotherapist at the Christchurch Artificial Limb Centre, to assist with demonstrating the making of the RRDD using the amputee patient
- arranging with Medical Illustrations at CPH to take the photographs
- editing the photographs and writing the text to explain each photograph
- liaising with Medical Illustrations regarding the layout of the manual.

Once the manual was completed, another in-service time was arranged to show the theatre nurses the manual, especially since the nurses and the surgeons would be asked to make the RRDs without any outside assistance

Similarly, for physiotherapists, a considerable number of steps were involved:

Reviewing the physiotherapy guidelines for amputee management at CPH to ensure they were relevant, thorough, easily interpreted and highly accessible

Producing a poster demonstrating optimal methods for transferring amputee patients. This served as an adjunct to the written physiotherapy guidelines and was displayed in Ward 15 to benefit both the physiotherapist and the nursing staff of that ward

Ensuring that the physiotherapist rotating onto Ward 15 received a comprehensive orientation to the requirements of treating amputee patients from the current physiotherapist

Artificial Limb Centre staff, when available, assisting the newly rotated physiotherapist to make a RRD on the ward, if for some reason the RRD wasn't made in theatre.

10. Results

The overall results of the project are summarized in terms of the project objectives. The tabular presentation at the conclusion of this section describes all of the guidelines developed in this project, summarizing the situations before and after intervention at each of the stages of the amputee's hospitalisation.

Objective: To Produce and Implement Interdisciplinary Care Guidelines for the Hospital Management of Amputees in Christchurch

The project produced a number of guidelines that ultimately have assisted in achieving the following objectives. These guidelines are summarized in the table at the end of this section, and have also been referenced throughout this report to Appendix 2.

Objective: To Provide a Comprehensive, Seamless and Timely Approach

The comprehensiveness of the project has been demonstrated through encompassing all stages in the amputation and rehabilitation process. This not only relates to the amputee patient and their family/whanau, but also to the wide variety of hospital staff involved in their care, and to other main players sitting outside of the hospital setting such as the Artificial Limb Centre and the Amputee Society.

The seamlessness has been addressed within the hospital settings through the introduction of Interdisciplinary Care Checklists, and between hospitals through the use of the Amputee Transfer Summary.

The timeliness of the approach to amputee management has been improved through interventions such as clarifying the referral process for amputee patients from CPH to TPMH, and to Burwood Hospital for younger patients; through the Social Worker on ward 1A at TPMH assessing for grief and loss issues, referring to the Amputee Society

for an amputee visitor while the patient is still on the ward and initiating the process for obtaining mobility vouchers if required; through all patients making their first visit to the ALC while still an inpatient at TPMH and through improved communication and planning between inpatient and outpatient physiotherapists.

Objective: Amputees are well informed at the time of their amputation

Patients are now far better informed at the time of their amputation with the compilation of information folders, which contain a booklet written by the author titled "What Happens Next and How Long Does it Take?"- Information for Amputee Patients and Their Family/ Whanau/ Carer. This booklet is directed at older patients who have an amputation as it explains the process of rehabilitation at TPMH, whereas younger patients (under 65) tend to transfer to Burwood Hospital for rehabilitation.

Even though the NZALB and the Amputee Federation of New Zealand had supplied their own information booklets to CPH for distribution, they weren't routinely being given to amputee patients. Now every vascular amputee patient receives the information folder before the operation if possible, and the ward 15 nursing staff have been asked to make the patient's family/whanau/carer aware of the folder also. These support people to the amputee patient can reinforce the rehabilitation process to the patient.

It is also anticipated that having the Information folders available for use in the Vascular Clinics will assist with patients being better informed if they are faced with the prospect of an amputation after consulting with the Vascular Surgeons as an outpatient. In addition, providing the Vascular Clinics with contacts for the Amputee Society (for their visiting service) and for the Artificial Limb Centre (for the limb fitting process and subsequent rehabilitation) should also greatly assist patients to be better informed.

Objective: Staff Working with Amputees are Trained and Knowledgeable

Many staff working with amputee patients are now more knowledgeable about amputee management than they were before this project began.

Individual education sessions, practical demonstration and in-service education have been delivered to a wide variety of health professionals who come in contact with amputees at CPH and TPMH. This education has covered all aspects of amputee management and rehabilitation. It was deemed necessary because of the lack of knowledge that proved apparent with regard to the specifics of amputee rehabilitation, and can be explained somewhat through the fact that nursing, occupational and physiotherapy students learn nothing about amputation or the rehabilitation of amputees in their training.

The education aspect has required a much larger focus of attention and therefore time than I anticipated because of the across-the-board lack of knowledge regarding amputee rehabilitation.

It has, however, been time very well spent as, without exception, all health professionals involved have responded with enthusiasm and interest. They now have an appreciation of how they can contribute to the best possible outcome for the amputee patient.

Unfortunately it was impossible to cover every relevant staff member who dealt with amputee patients because of shift work and ever changing staff.

Objective: The Amputee's Physical, Psychological, Cultural Needs are Best Met

The objective of the amputee's physical, psychological and cultural needs being best met realized some of the most satisfying aspects of this project. Contributing to this objective being met was the increased Social Worker input at TPMH for amputee patients and their family/whanau with regard to counseling for possible grief, loss and adjustment issues, as well as the regular facilitation of an amputee visitor for this group of patients. These two areas are acknowledged to be of extreme importance in the optimal rehabilitation of amputee patients.

The other important aspect of realizing this objective was to ensure that Maori amputee patients were referred to the Kaiawhina-Kaumatua (Maori Health Needs Assessment Service Coordinator). This referral will come from the Social Worker involved with the amputee patient at TPMH and from the nursing staff at CPH.

It is relevant to mention under this same objective the most challenging yet satisfying guideline to be introduced – namely the application of RRDs in theatre. This guideline required more research and discussion with the relevant staff than all the other guidelines, and many more hours to design and implement than others.

Objective: To Get Buy In From All Interested Parties

Buy in from all interested parties for this project was not difficult, as all staff coming in contact with amputee patients were keen to see improvements made in the delivery of care for these patients, as well as improving their own knowledge of the important aspects of amputee rehabilitation.

Summary of Results in Tabular Form

The table below summarises the situation at various stages of the rehabilitation process before the project's intervention, and depicts the current situation after the introduction of guidelines and procedures established through the project.

Acute Inpatient Management at CPH

Previous Situation	Current Situation
Information: Patients pre or post amputation received no information about life after amputation, including the likely rehabilitation timeframe No information given on what a RRD is, why it is made or instructions for its use	Vascular ward physiotherapist provides every amputee patient with a folder (provided by the Amputee Society of Canterbury/Westland). This contains:- -NZALB book "Kia Kaha - Coping with Amputation -NZ Amputee Federation book "A New Challenge" -An information booklet describing the rehabilitation process -Information on free membership to the Amputee Society for the current financial year, plus a membership application form -A stamped addressed envelope to the Amputee Society -An information sheet on RRDs The physiotherapist or nurse also contacts a family member to ensure they, too, are aware of the information pack
Amputee Society Information: No information given on Amputee Society. No system in place for arranging an amputee visitor preoperatively, if required, to assist patient with making the decision to proceed with an amputation	The ward physiotherapist, with patient consent, fills in the Amputee Society membership application form when patients receive the information pack and posts it on their behalf Social Worker on Ward 15 to refer to Amputee Society for a visitor preoperatively if required
Staff Knowledge: Gaps in knowledge of staff about amputee rehabilitation and what it entails	In-service education delivered to Ward 15 staff including practical demonstrations of transferring techniques using an amputee patient as a model Facilitation of the purchase of a "banana" glide board for Ward 15 to assist with the transferring of patients Production and placement in Ward 15 of two posters demonstrating transferring techniques for a unilateral and a bilateral below knee amputee Recruitment of a Ward 15 staff nurse with a special interest in amputee rehabilitation to act as an "amputee resource nurse" for the ward

Previous Situation	Current Situation
Pain Relief During Application of Rigid Removable Dressing (RRD): Inadequate pain relief during application of RRD Four monthly physiotherapy staff changes on Ward 15, making consistent RRD application challenging	Improved pain relief during application of RRDs on the ward, if RRD not made in theatre. Includes use of Entonox gas and IV pain relief New physiotherapist to the ward to contact ALC staff member to assist with RRD fabrication
Physiotherapy Guidelines: CPH physiotherapy guidelines for amputee management out of date	Physiotherapy guidelines updated, training provided and implementation complete[11]
Amputee Transfer Summary: No amputee specific inter hospital transfer documentation to ensure relevant patient information passed on to the physiotherapist in the rehabilitation ward	Amputee transfer summary developed for use by ward 15 physiotherapist. It also acts as a checklist of tasks to be performed. Provides a concise, thorough summary of tasks completed during acute inpatient admission, which is helpful for the physiotherapist continuing the patient's rehabilitation An important task in this transfer summary is the referral of every vascular amputee patient to the Artificial Limb Centre. It is unknown if every vascular amputee patient was being referred to the ALC prior to the introduction of this guideline
Referral of New Patients to Physiotherapist: No formal method of referral for new amputee patients to ward 15 physiotherapist	Physiotherapist contacts Ward 15 Clinical Charge Nurse by 10am each day to receive new referrals and patient updates
Referral to Older Persons Health: Patients admitted for amputation, who usually reside in rest homes or private hospitals, were frequently returned there direct from Ward 15, thereby having no opportunity for rehabilitation. Lack of clarity for Ward 15 staff regarding where to send referral to at TPMH for older patients needing to be reviewed by TPMH Consultant	All patients, including those residing in rest homes and private hospitals, now get referred to TPMH for the opportunity for rehabilitation. All referrals to Older Persons Health get sent to the Admissions Coordinator at TPMH, who promptly acknowledges receipt of the referral back to ward 15.
Amputee Interdisciplinary Checklist: No interdisciplinary document identifying important tasks to be considered and completed during the acute phase of amputee management	An Amputee Interdisciplinary Care Checklist developed for Ward 15. It includes many of the guidelines developed. It sits in the clinical notes and is therefore viewed by the staff in the rehabilitation ward when the patient transfers to the rehabilitation hospital

[11] See Appendix 2

Complex Vascular Patient Transfer Form: No satisfactory method of communication between Ward 15 and TPMH regarding patients who transferred to TPMH with complex vascular conditions. This meant TPMH staff were not aware of the treatment that had been attempted at CPH and the expected outcomes for that patient	After discussion between the Clinical Charge Nurses of Ward 15 CPH and Ward 1A TPMH, a transfer form was developed for complex vascular patients. This summarises all the treatment that has been performed at CPH, explains what the expected outcome is for the patient, suggests a pain relief regime and indicates that the expected outcome has been discussed with the patient and family/whanau

Intra-Operative Management at CPH

Previous Situation	Current Situation
In Theatre: Soft dressings only applied to residual limb in theatre. These do not prevent swelling occurring, nor offer protection for the residual limb. It also means the patient has to endure a potentially very painful procedure if the RRD is applied post operatively on the ward. No approval from vascular surgeons for any change to this practice e.g. applying RRDs in theatre	Acceptance of recommended procedures for application of RRDs in theatre by vascular surgeons and theatre nurses. Now RRDs are applied in theatre, whenever possible, to all vascular below knee amputee patients. If not applied, it is because of a specific reason for the particular patient involved. An illustrated manual showing step by step instructions for making RRDs was produced to assist the theatre nurses and Vascular Surgeons with the fabrication of RRDs An RRD Making Kit was compiled, encased in a suitable container, to ensure all materials for making RRDs were available to theatre staff. This kit is kept in the storeroom of the operating theatre that has most of the amputation operations performed in it The Charge Theatre Nurse was provided with information regarding who to contact to replenish supplies for the RRD kit

Inpatient Rehabilitation at TPMH

Previous Situation	Current Situation
Referral System: No satisfactory referral system from TPMH to Christchurch Public Hospital (CPH) for vascular patients needing review	Clear referral system developed and established whereby patients are reviewed by a member of the Vascular Team at TPMH. This system is particularly beneficial as the patient does not need to be transported to CPH and the patients nurse can be present during the consultation
Amputee Interdisciplinary Care Checklist: No interdisciplinary document identifying important tasks to be considered and completed during the rehabilitation phase of amputee management	Amputee Interdisciplinary Care Checklist developed for use on rehabilitation wards
Grief and Loss Counselling: Previously not routinely addressed with amputee patients	Social Worker routinely sees all amputee patients, and their family/whanau, if required, to address grief and loss issues they might be experiencing
Amputee Society Visitor: No regular referral to Amputee Society for arranging a visitor	Social Worker discusses amputee visiting service with each amputee patient, then contacts Amputee Society to arrange this[12] Amputee Society acknowledges referral and arranges to visit patient on the ward[13]
Mobility Vouchers: Amputee patients arranged mobility for mobility vouchers themselves after discharge from hospital	If mobility vouchers are desired by the amputee patient, the Social Worker now contacts the Amputee Society to arrange for vouchers while patient is still in hospital. The ward doctor can complete the relevant section on the application form, which saves a trip to their GP for the patient, and means they can access the vouchers sooner
Initial Visit to Artificial Limb Centre: No set guideline for when patient first visits ALC after the amputation operation	Guideline introduced whereby all amputee patients visit the ALC while still an inpatient at TPMH, regardless of how well healed their wound is.[14] This ensures the patient has early contact with the ALC so they get to meet the staff and possibly other amputees as well. If the patient's wound is not healed sufficiently to proceed with casting for a prosthesis at the first ALC visit, a further appointment is made for the patient. With earlier visiting to the ALC arranged, if the patient's wound is healed it may mean earlier casting for a prosthesis, and subsequently an earlier opportunity for the patient to walk

[12] See Appendix 2
[13] See Appendix 2
[14] See Appendix 2

Outpatient Rehabilitation

Previous Situation	Current Situation
Outpatient Treatment: Lack of clear communication to patient regarding where and when outpatient treatment to be undertaken	Improved liaison between rehabilitation ward at TPMH, Riley Day Hospital, TPMH (where outpatient treatment occurs) and ALC staff to ensure timeliness of outpatient treatment. Now if a patient has to wait for admission to the Riley Day Hospital, it may be possible for the physiotherapist at the ALC to continue with rehabilitation until the patient gets admission to the Riley Day Hospital programme
Vascular Department Outcomes: Vascular Department at CPH had no information regarding the outcomes of the amputation operations they performed	Artificial Limb Centre regularly sends outcomes of amputee patients' treatment, in the form of copies of clinic notes, to the Vascular Department at CPH

11. Recommendations

In order to provide ongoing benefit to amputee patients, this project has given rise to the recommendations that follow.

It is recommended that:

1. the CDHB confirm and consolidate the new guidelines and resources implemented as accepted standard hospital practice for amputees of all ages

2. CPH evaluates the success of this model after at least one year of implementation, and amends the model if necessary

3. in order to continue the benefits achieved by the project for amputees in Christchurch hospitals, ongoing training and education of hospital staff in amputee management be undertaken

4. the CDHB consider the appointment of an amputee coordinator to consolidate and further develop the guidelines, and also to encompass orthopaedic amputee patients and the staff who work with them

5. New Zealand surgeons undertaking lower limb amputations be encouraged to have RRDs applied, if possible, in theatre, as it is less painful for patients

6. the wider application of the interdisciplinary care guidelines be promoted

7. if not currently doing so, all Artificial Limb Centres adopt the practice, whenever possible, of applying RRDs for lower limb amputee patients who have not had them applied in hospital

8. a module related to early care of amputees be introduced into the training of doctors, nurses, physiotherapists and occupational therapists

12. Acknowledgements

With a project of this magnitude there are many people to thank for their assistance. In particular, the author wishes to acknowledge the following:

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Pamela Gordon- Clinical Charge Nurse Ward 15 CPH

Margaret Mossop- Vascular Nurse CPH

Ann Marie Mullen- Registered Nurse Ward 15 CPH

Mr John Mercer- Vascular Surgeon CPH (Retired)

Professor Justin Roake- Vascular Surgeon CPH

Mr Malcolm Gordon- Vascular Surgeon CPH

Mr David Lewis- Vascular Surgeon CPH

Dr Steve Kelly- Registrar CPH

Dr Christopher Wakeman- Registrar CPH

Dr Julian Speight-Registrar CPH

Haley Evans- Physiotherapist CPH

Claire Hargest- Physiotherapist CPH

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Jenni Nielson- Occupational Therapist 1A TPMH

The Nursing Staff of Ward 1A TPMH

Committee of Amputee Society of Canterbury and Westland

Jetje Bullion- Physiotherapist Christchurch Artificial Limb Centre

The Nursing Staff of Ward 15 CPH

Deidre Krause- Operating Theatre Nurse Manager CPH

Jean Turner- Office Administrator Christchurch Artificial Limb Centre

Harry Hatton- Amputee model for RRD manual and Transferring Posters

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Sarah Byers- Quality Team TPMH

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Jan Neeson- Secretary to Quality Team Medical and Surgical Services Division

Evelyn Barr - Adept Secretarial Services Ltd

LaToya Ahkuoi - Adept Secretarial Services Ltd

Alicia Graham - Adept Secretarial Services Ltd

Appendix 1 Data Collected

a) Guidelines for Management of Amputees. Received from:-

Waikato Hospital
Christchurch Public Hospital
The Princess Margaret Hospital
Wellington Hospital
Auckland Region
Caulfield General Medical Centre, Melbourne
Chartered Society of Physiotherapists, England

b) Information Booklets and Pamphlets. Received from:-

Waikato Hospital Vascular Ward – "About Amputation"
NZALB – "Kia Kaha- Be Strong. Coping With Amputation"
NZ Amputee Federation – "A New Challenge"
Caulfield General Medical Centre – "Amputation Education Booklet"
Christchurch Public Hospital – "After Amputation"
Amputee Society of Canterbury and Westland – Membership Application Form

c) Compact Discs. Received from:-

Iceland – Ossur SMART Programme
Bendigo, Australia – "Best Practice in Amputee Rehabilitation"

d) Research and Resource Articles. Including:-

"Amputation- The First Year" (OandP.Com March 2003)
"Coping with Loss: Surgery and Loss of Body Parts" (British Medical Journal 1998)
"Amputation Education: A Crucial Factor" (OandP.Com March 2003)
"Post Operative Dressing and Management Strategies for Transtibial Amputations: A Critical Review" (Journal of Rehabilitation, Research and Development May 2003
"Preventing Falls and Stump Injuries in Lower Limb Amputees During Inpatient Rehabilitation: Completion of the Audit Cycle" (Clinical Rehabilitation Vol 18 2004)
"Psychological Issues in the Field of Prosthetics and Orthotics" (Journal of Prosthetics and Orthotics Vol 14 2002)
"Rehabilitation of the Older Lower Limb Amputee: A Brief Review" (Journal of American Geriatrics Society Vol 44 1996)
"Functional Outcome Following Amputation" (Topics in Geriatric Rehabilitation Vol 20 2004)
"Body Image: The Lower Limb Amputee" (Journal of Prosthetics and Orthotics Vol 9 1997)

Appendix 2

Guidelines and Resources Developed are placed in the following order:

1. Amputee Interdisciplinary Care Checklist Ward 15 CPH
2. Amputee Interdisciplinary Care Checklist TPMH
3. Manual- How to Apply RRDs in Theatre for Below Knee Amputees
4. Vascular Consult Referral
5. Amputee Transfer Summary
6. Entonox Administration
7. Transfer Summary for Complex Vascular Patients
8. CPH Physiotherapy Guidelines for Amputee Management
9. Procedure for Arranging an Amputee Visitor and Mobility Vouchers
10. Procedure for Amputee Society to Arrange a Visitor for TPMH
11. Outcomes Sent from Artificial Limb Centre to Vascular Department CPH
12. Posters demonstrating Transferring Techniques for Unilateral and Bilateral Amputees
13. Amputee Information Folder and Contents

Canterbury District Health Board
Te Poari Hauora ō Waitaha

Patient Label

Ward 15
Christchurch Hospital

Amputee Inter-Disciplinary Care Check List

AMPUTEE INTERDISCIPLINARY CHECKLIST C24119T

Inter-Disciplinary Care Team Members *(print name)*	
Doctor:	Maori Health Worker:
Social Worker:	Physiotherapist:
Key Nurse:	

PRE-OP Key Tasks	✓ or N/A	Date Completed	Signature
NURSING			
• Adequate pain relief administered.	☐		
• Early referral to PT – verbally at PT/Nurse Report or beep PT.	☐		
• Information folder given to patient and family.	☐		
• Transfer using ½ standing pivot transfer if unable to walk.	☐		
PHYSIOTHERAPY			
• Check patient has information folder.	☐		
• Order wheelchair with anti tips and stump rest. Order narrowest chair pt can fit, e.g. 16" rather than 18" if possible.	☐		
• Assess respiratory status and educate as appropriate.	☐		
• Teach transfers if time allows.	☐		

INTRA-OP Key Tasks	✓ or N/A	Date Completed	Signature
MEDICAL / NURSING			
• Rigid removable dressing (RRD) applied in theatre.	☐		

Comment (if required): ……..

……

……

POST-OP Key Tasks	✓ or N/A	Date Completed	Signature
NURSING			
• Referral to physio immediately if not possible pre-op (beep physio).	☐		
• Ensure **adequate regular** and PRN pain relief taken by patient.	☐		
• Rigid Removable Dressing (RRD) and wound dressings left in situ for 48 hours or until specified by surgeons, unless concerns about residual limb.	☐		

Continued over…..

POST-OP	Key Tasks	✓ or N/A	Date Completed	Signature
	NURSING (continued)			
•	To reduce the risk of swelling, only remove RRD to view wound dressing and to remove drain as the vascular team arrives at bedside. Reapply RRD as soon as possible after viewing wound.	☐		
•	Contact physio immediately if you are unable to reapply RRD after wound viewing because of increased swelling.	☐		
•	Use occlusive dressings (e.g. post op op site) over mefix tape to prevent any leakage of wound exudates onto sock and RRD.	☐		
•	Assist physio with delivery of entonox to patient if required.	☐		
•	Educate patient and family about rehabilitation process – refer to handout "What Happens After Amputation and How Long Does It Take" in amputee information folder.	☐		
•	Shower patient with RRD in situ – cover with plastic bag.	☐		
•	For below knee amputees, use ½ standing pivot transfer for bed to chair to bed (refer to photos in ward). Use banana board if necessary.	☐		
•	For bilateral amputees, use forwards and backwards transfer (refer to photos). Use banana board to bridge gap between bed and chair.	☐		
	PHYSIOTHERAPY			
•	Ensure patient has amputee information folder.	☐		
•	Commence tasks identified on Physiotherapy Amputee Transfer Summary.	☐		
•	Make RRD two or three days post-op, if not made in theatre. Use entonox and adequate pain relief. Ask patient's nurse to administer entonox – this needs to be breathed continuously for at least two minutes prior to making RRD to allow gas to get to where it is needed in the body.	☐		
•	Practise bed to chair to bed transfers, using ½ standing pivot transfer for below knee amputee (BKA). Use banana board if necessary. (Refer to photos in ward).	☐		
•	Begin anti-contracture exercises.	☐		
•	If patient limited by pain, liaise with nurse and doctor about most effective pain relief regime.	☐		
•	For bilateral amputee, practise forward and backwards transfers using banana board if necessary to bridge gap between bed and chair. (Refer to photos in ward).	☐		
•	If RRD unable to be fitted onto residual limb after wound inspection, use blue line bandaging for a few hours to reduce oedema, then attempt to refit RRD.	☐		
•	If patient already has a below knee prosthesis for the other leg, ensure patient wears it for transfers.	☐		
•	Complete Amputee Transfer Summary and fax to destination.	☐		
	SOCIAL WORK			
•	Liaise with ward physiotherapist, Amputee Society, and Artificial Limb Centre if patient requires information to be able to make more informed decision about proceeding with amputation.	☐		

Canterbury District Health Board
Te Poari Hauora o Waitaha
The Princess Margaret Hospital

Patient Label

AMPUTEE INTER-DISCIPLINARY CARE CHECK LIST - Older Persons Health Service Inpatient Wards

Inter-Disciplinary Team Members (print name)

Dietitian:	**Maori Health Worker:**
Occupational Therapist:	**Primary Nurse:**
Social Worker:	**Service Co-ordinator:**
Physiotherapist:	

Key Tasks	✓ or N/A*	Date Completed*	Signature
DIETETICS			
Poor appetite	☐		
Poorly controlled diabetes	☐		
Slowly healing wound	☐		
NASC			
Identifying funding stream on admission/discharge	☐		
Link into other funding streams as required	☐		
Ensure appropriate paperwork completed	☐		
Identify discharge needs including transport costs/reimbursement to Artificial Limb Centre	☐		
NURSING			
Rigid Removable Dressing (RRD) in situ 24 hours, apart from wound inspection	☐		
Care of remaining foot/lower limb addressed, including advice to wear a shoe for protection	☐		
Adequate pain relief administered	☐		
Practice transfers from bed to chair, bed to commode, chair to toilet to promote early independence	☐		
Supervision of toileting e.g. transfers, clothing adjustment	☐		
Referral to Vascular Team if required for wound or limb review	☐		
Referral to Social Work if patient and/or family/whanau/carers have grief and loss issues identified	☐		
Reinforce rehabilitation process to patient/family/whanau/carers (use information folder patient given at Christchurch Hospital)	☐		
OCCUPATIONAL THERAPY			
Administration of standardised ADL assessment - Activities of Daily Living Index	☐		
Administration of IADL assessment relevant to roles and environment - IADL Scale	☐		
Assessment of functional transfers and mobility in the context of discharge requirements	☐		
Assessment of cognition and/or perception/sensation as appropriate	☐		
Identification of potential barriers to home environment and early home visit if possible (within week 1 or 2)	☐		
Early referral to Community Therapy Services for complex housing and equipment issues (with request for joint home visit) within week 1 or 2	☐		
Education provided to patient/family/whanau/carer regarding Enable funding criteria, timeframes, realistic expectations	☐		

*** No check indicates not completed or considered**

Key Tasks	✓ or N/A*	Date Completed*	Signature
OCCUPATIONAL THERAPY (continued)			
Incorporation of oedema, skin, contracture and pain management principles into all ADL and IADL activities	☐		
Education/training provided to patient/family/whanau/carers on safe and independent ADL/IADL in the home environment	☐		
Discussion held about driving and alternative transport options	☐		
PHYSIOTHERAPY			
Amputee Transfer Check List from Christchurch Hospital sighted	☐		
Oedema management programme in place immediately - Rigid Removal Dressing (RRD) in situ, elevation of residual limb while on bed and wheelchair	☐		
Transfer ability assessed and documented - bed to chair to bed, chair to toilet to chair	☐		
Anti-contracture management addressed through quads and hip extension exercises/adequate pain relief/use of stump rest on wheelchair	☐		
Early self-management of RRD (Rigid Removable Dressing) and socks	☐		
Exercise programme reviewed	☐		
Commence Pneumatic Post-Amputation Mobility Aid (PPAM) walking if appropriate	☐		
Car transfers practiced	☐		
Long-term wheelchair prescribed if eligible	☐		
Clinic appointment with Artificial Limb Centre (ALC) made (whilst an inpatient) and transport arranged	☐		
ALC Clinical appointment Date: …….. Time: ……	☐		
Getting up off floor if possible - independently or with carer	☐		
Stump shrinker ordered for above knee amputee	☐		
SOCIAL WORK			
Assessment of grief and loss issues with patient and family/whanau/carers	☐		
Liaison with Amputee Society for volunteer amputee visitor	☐		
Counselling with individual/family/whanau/carers commenced	☐		
COMBINED DISCHARGE PLANNING			
Equipment organised short-term/long-term ……	☐		
Trial overnight/weekend leave arranged. Date ……..	☐		
Safe access to home arranged (Specify)	☐		
Liaison Meeting arranged if required. Date ……	☐		
Self-management of RRD and socks (patient and/or family/whanau/carer)	☐		
Provision of home exercise programme	☐		
Family/whanau/carer education completed	☐		

REFERRALS INITIATED (and date)

☐ **Community Therapy Service:**_____
- ☐ Dietitian
- ☐ Driving Assessment
- ☐ Occupational Therapist
- Physiotherapist
- ☐ Social Worker

☐ **Riley Day Hospital:**_____
- ☐ Occupational Therapist
- ☐ Physiotherapist
- ☐ Social Worker
- ☐ Nurse

☐ **District Nurse:** _____

☐ **Artificial Limb Centre:** _____ ☐ **Facilitated Early Discharge Nurse:** _____

☐ **Facilitated Early Discharge Occupational Therapist:** _____

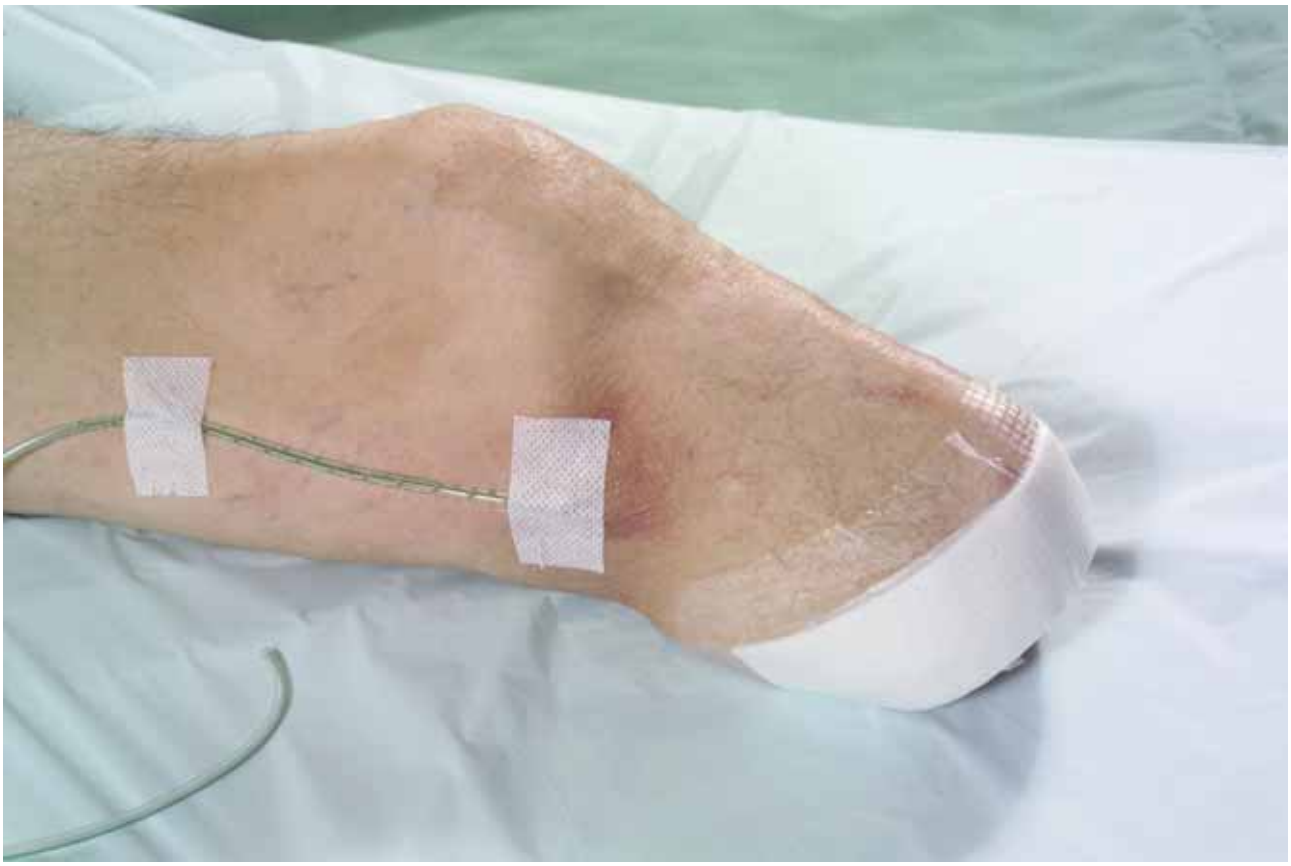
☐ **Other** _____

_____

*** No check indicates not completed or considered**

How To Apply Rigid Removable Dressings (RRDs) In Theatre For Below Knee Amputees.

1



Drain needs to exit proximally instead of distally. The Rigid Removable Dressing (RRD) gets applied over the drain - it dosen't affect it at all).

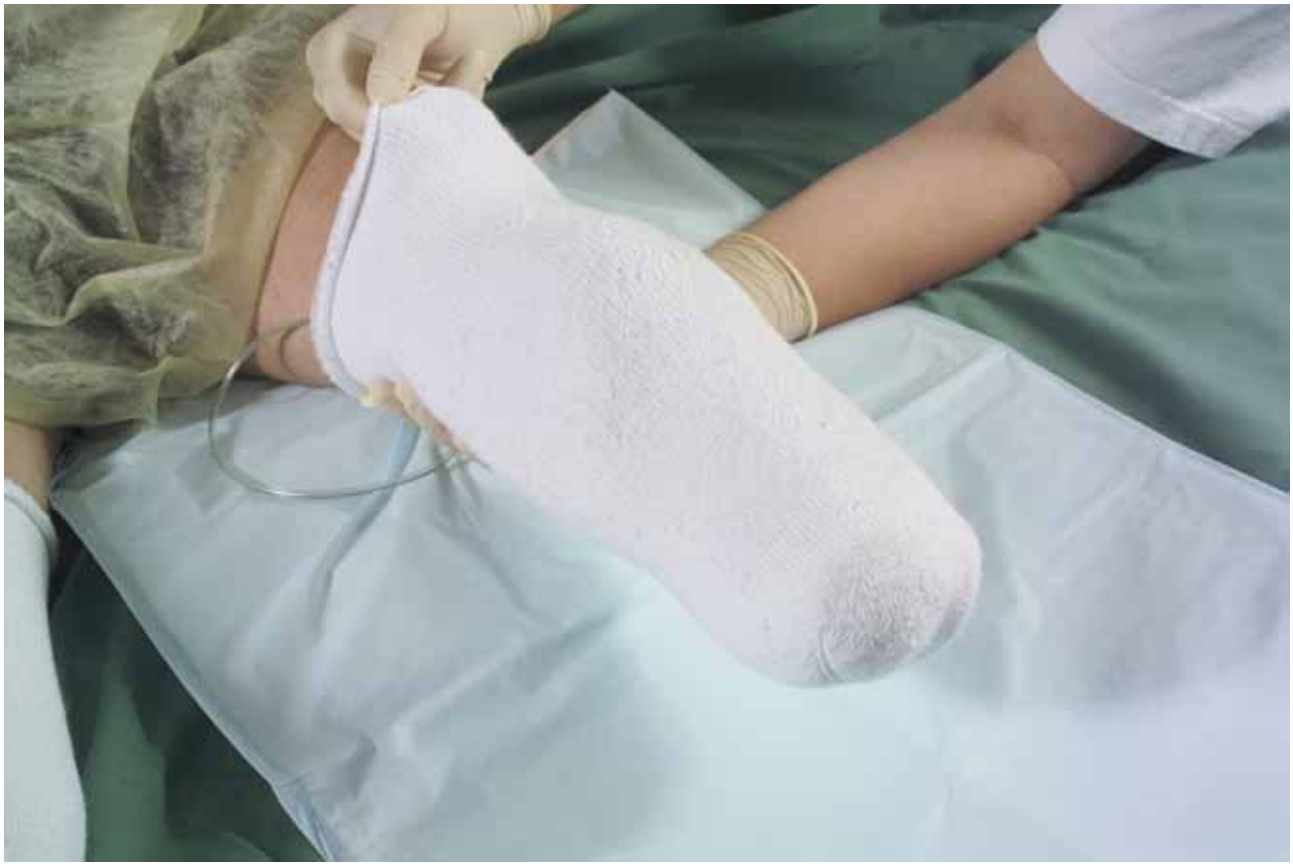
2

Mefix over suture line, then Post Op Op Sites cover whole suture line so no blood or exudate can leak through onto stump sock.
Use 2x Post Op Op Sites and overlap them. Also need small Op Site over Mefix at drain exit point, to prevent leakage onto sock.

3

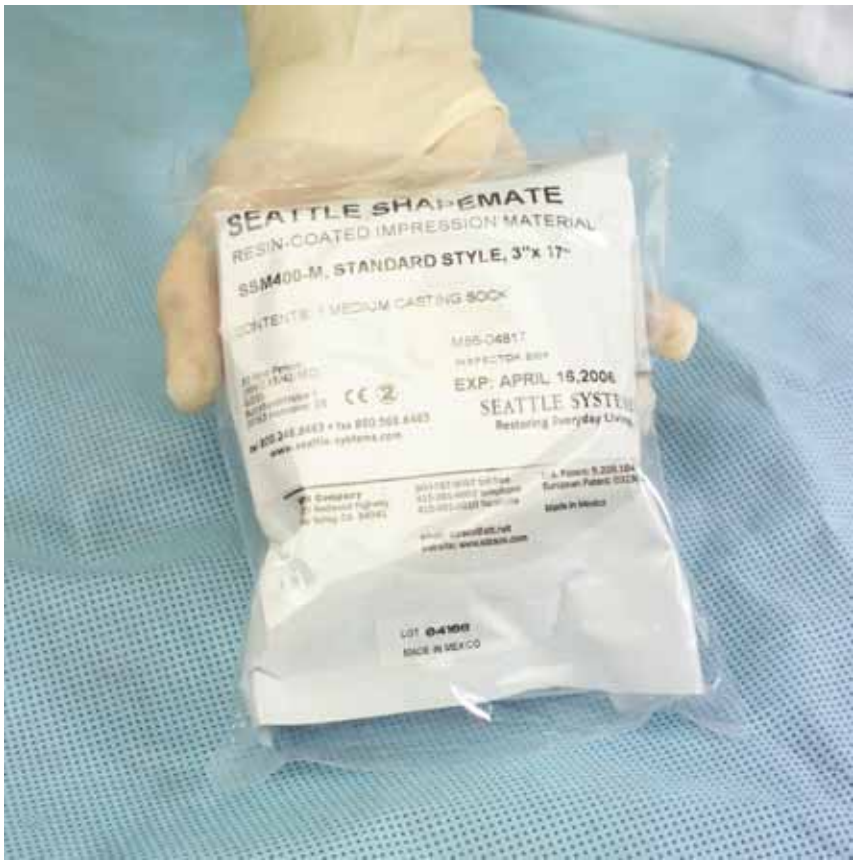
Shows residual limb (also known as ‘stump’) suture line covered completely, to prevent any leakage.

4



Pull thick white stump sock onto residual limb tightly so no wrinkles at end.

5

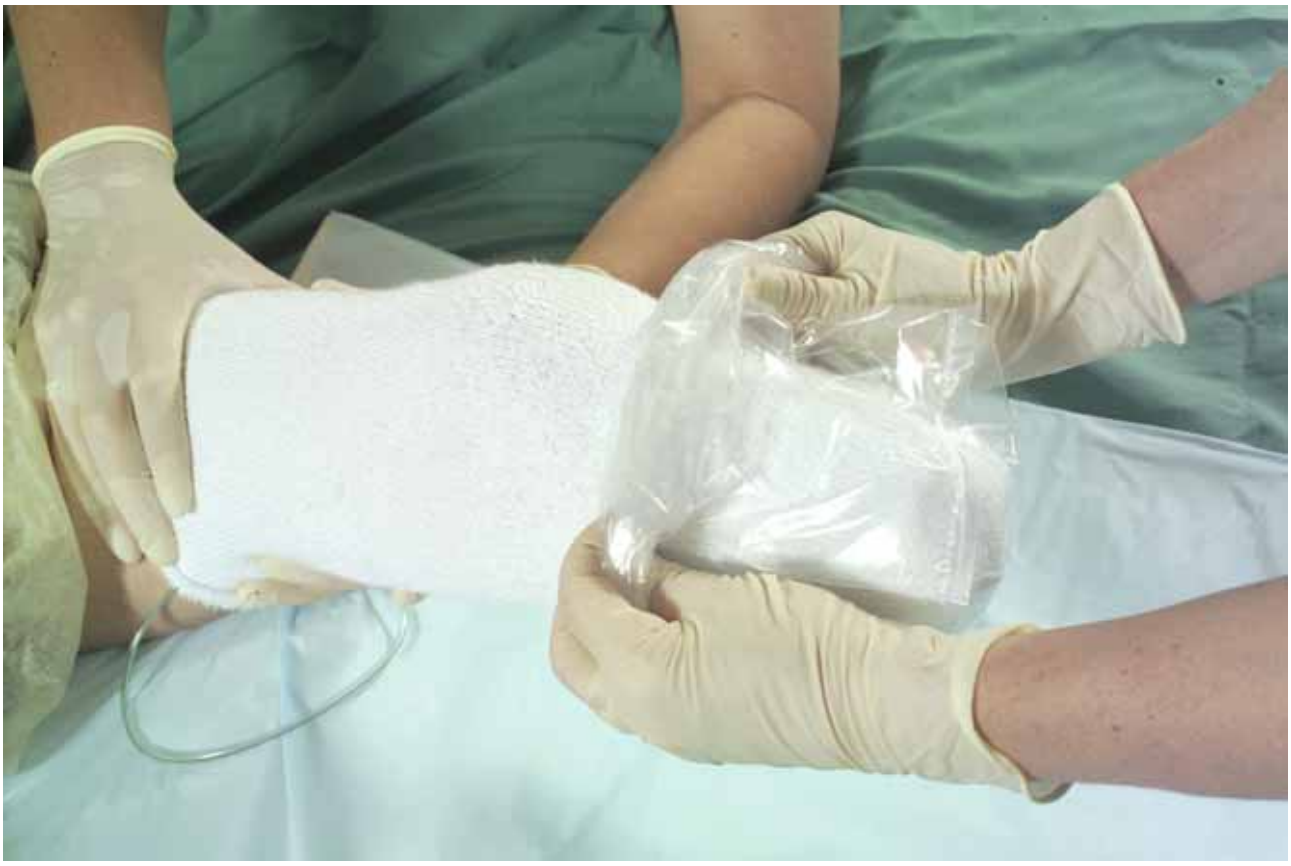


Open plastic bag containing RRD (says Seattle ShapeMate on the label). There is medium or large. More often than not you would use a medium.

6

Inside is a foil packet containing RRD, plus a plastic bag folded up inside the instruction sheet. Disregard instruction leaflet (seriously!).

7



Slide the plastic bag over the top of the stump sock.

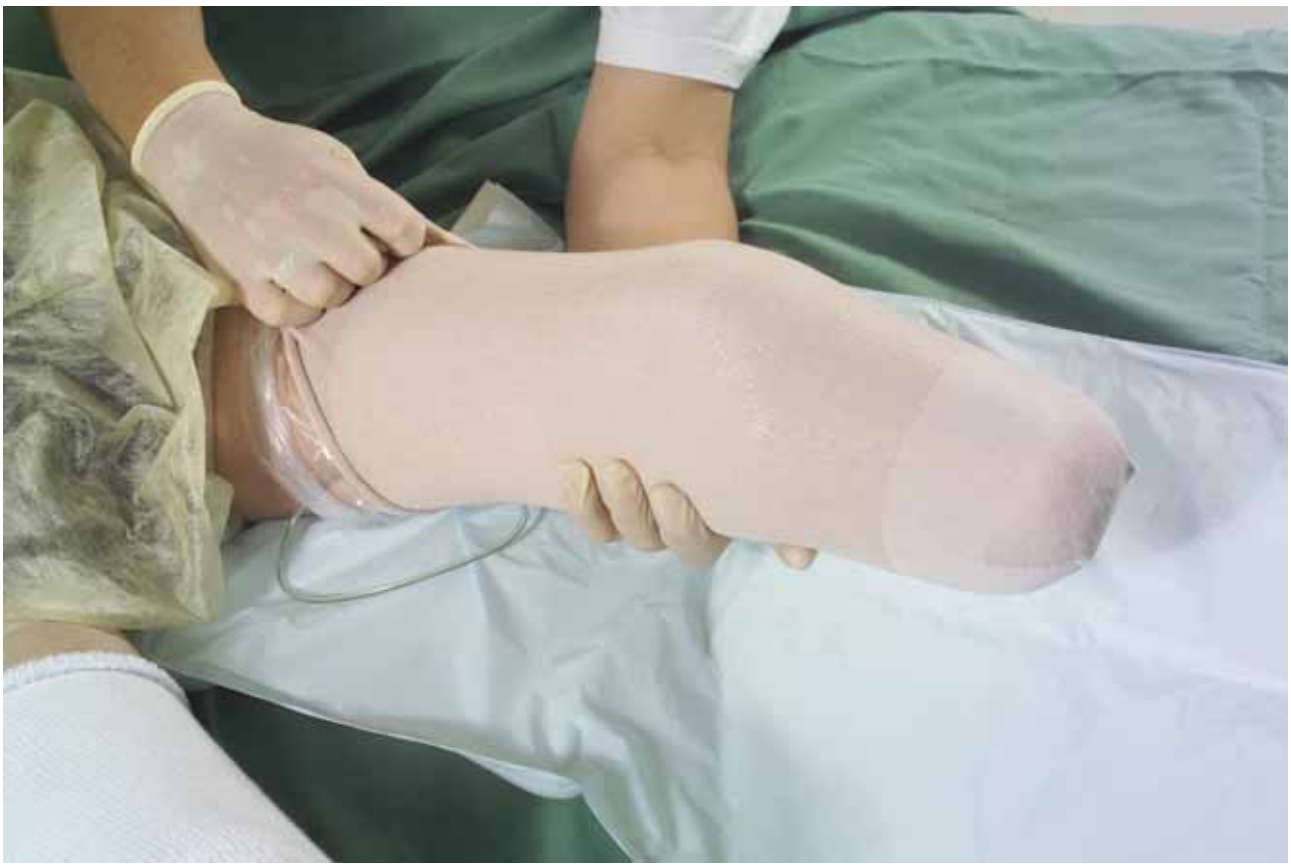
8

Pull the plastic bag up tight over the whole residual limb.

9

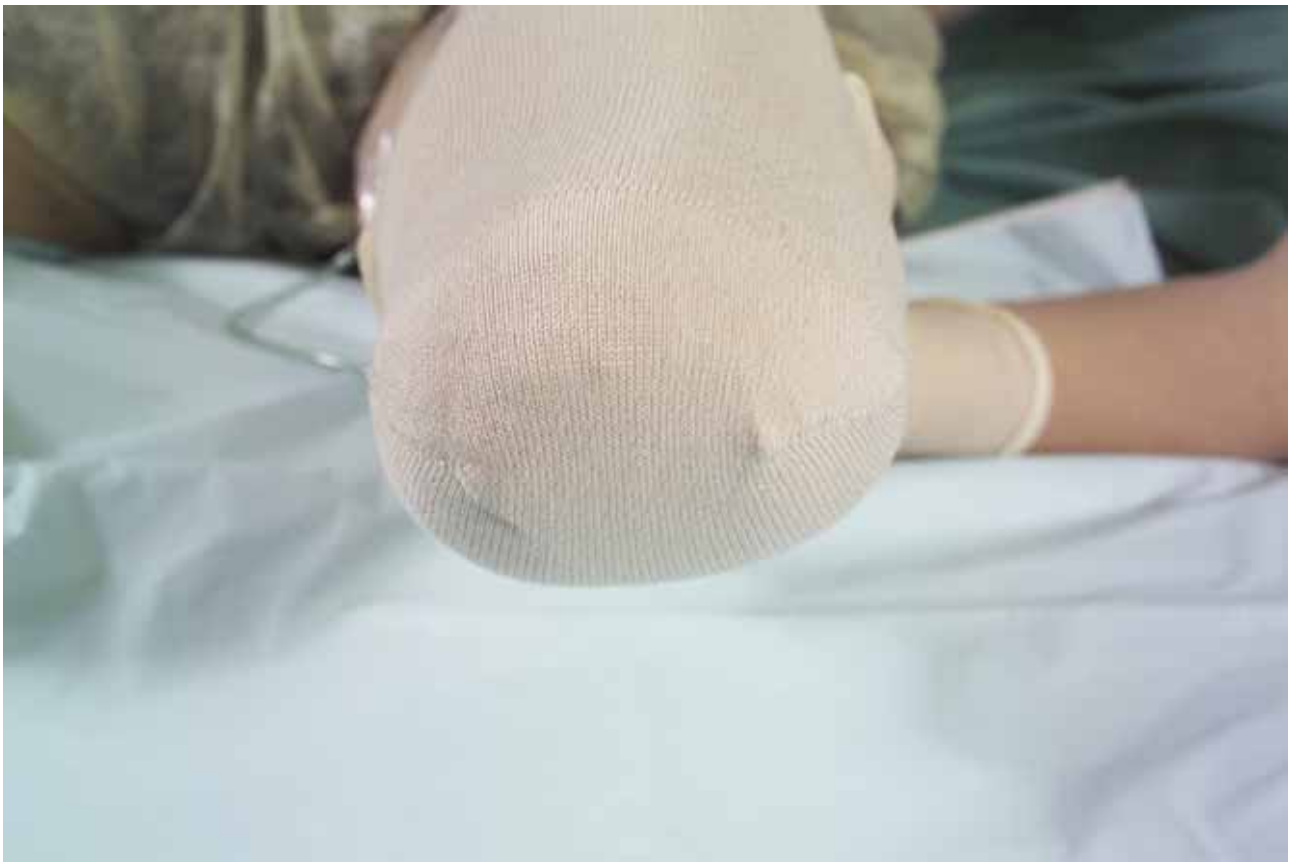
While an assistant supports the residual limb and pulls the plastic bag tight, apply a light brown thin stump sock, ensuring no wrinkles at the end. You may need to move the sock from side to side as you apply it to help get it on.

10



Pull sock up right over the knee and ensure no wrinkles at the bottom.

11



Showing no wrinkles on the bottom of the thin brown sock..

12

WEAR GLOVES! Cut open foil packet on 3 sides to reveal RRD.

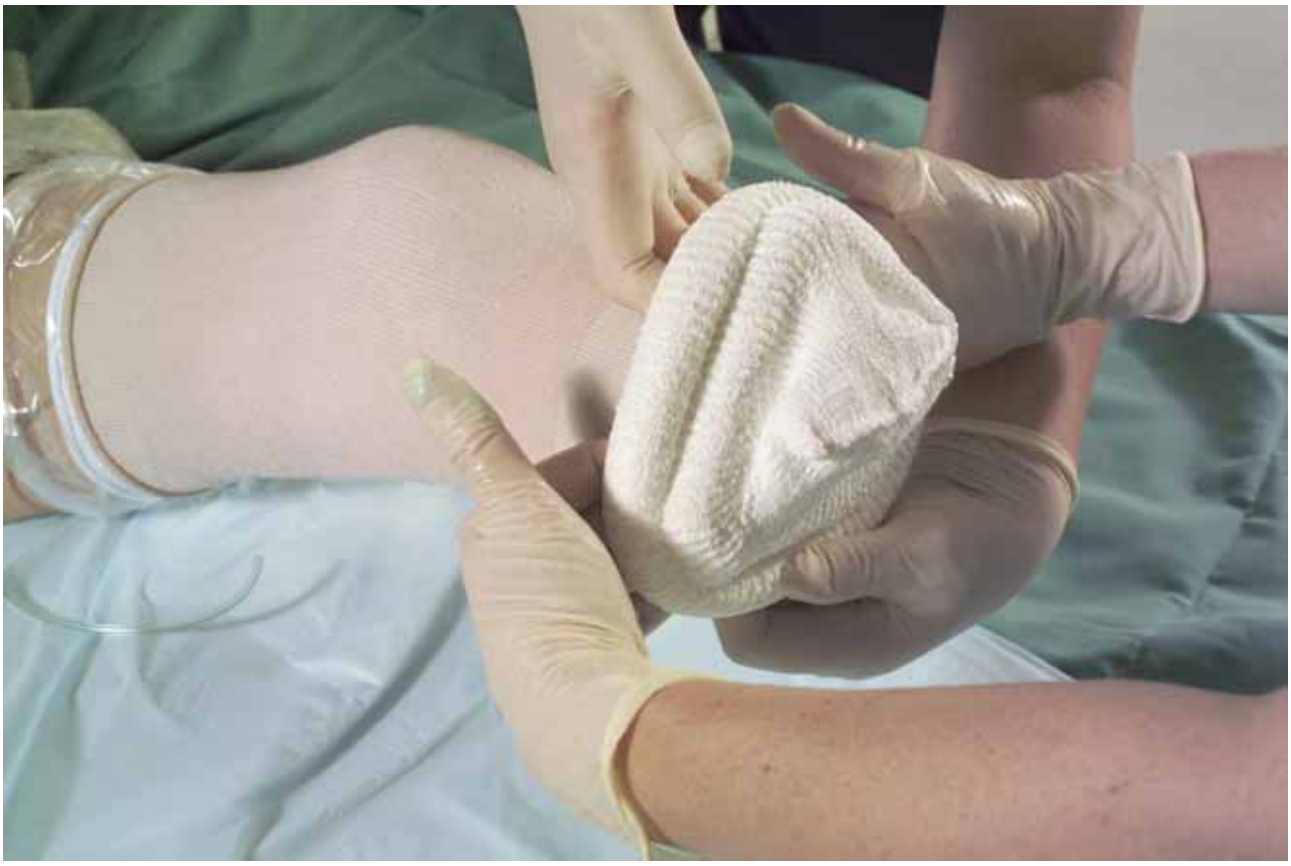
13

In tepid* water, dunk the RRD and work the water into the rolled up edges. Stretch the RRD a little in all directions and unroll it slightly as well, noting that the sewn up seam needs to be facing outwards when applied.
* Water temperature IS important = TEPID, not hot and not cold.

14

Once wet, and stretched a little, squeeze out excess moisture.

15



** Please read text for both of these photos Before applying the RRD.*
While an assistant supports the residual limb up off the bed (or use a wedge), roll the RRD onto the end of the residual limb, ensuring the seam at the bottom is on the outside. (If the residual limb is large you may need another pair of hands to help roll the RRD on).

16

Residual limb needs to be off the bed at all times so the RRD doesn't get flattened on the underside during application. It is easier to roll the RRD on if the socks and plastic bag are pulled up tight during application of the RRD. The seam of the RRD should be tight against the end of the residual limb - you don't want any space there if possible.

17

Roll RRD up over knee.

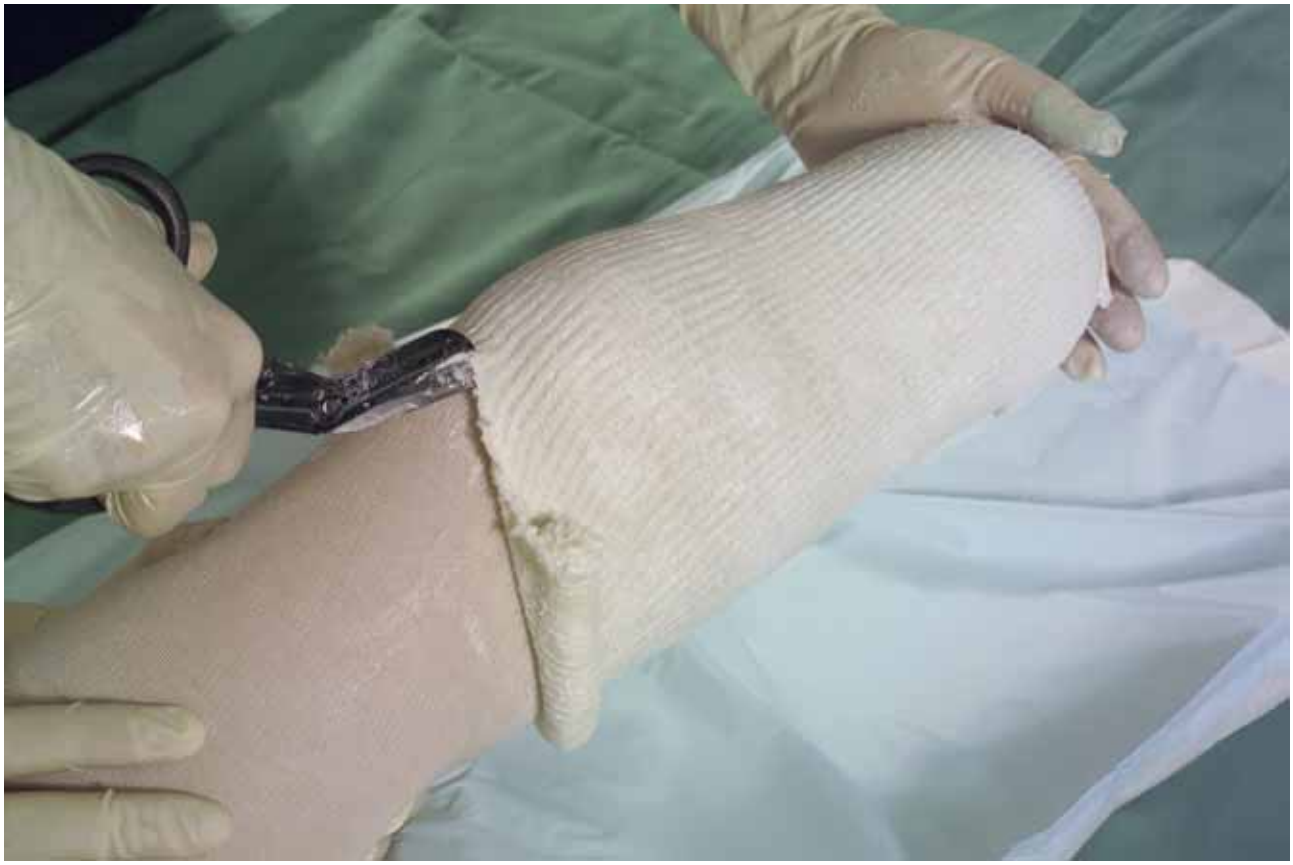
18

Identify where top of knee cap is. (Index finger indicating it in this photo). You can mark the point with a pencil.

19

Cut through the rolled up portion of the RRD without delay (see next photo & text). Don't cut through brown sock at this point.

20



Cut down to where the top of knee cap was identified. If you don't cut down far enough you will not be able to remove the RRD once it hardens up! *It sets like concrete.* Apply a little more water to the RRD and then smooth it all over with your hands, moulding the cast to the residual limb.

21

Try to flatten down any parts of protruding seam while the RRD is still moist.
The water sets off a chemical reaction to harden up the cast, so any moulding and smoothing down needs to be done soon after application of RRD.
The residual limb needs to be held clear of the table while RRD is hardening, otherwise it will dry in a squashed shape, which is no good.

22

While residual limb is being held clear of the table, place thumb and index finger on upper and lower edge of knee cap and mark inbetween (this is where you cut the RRD at the front).

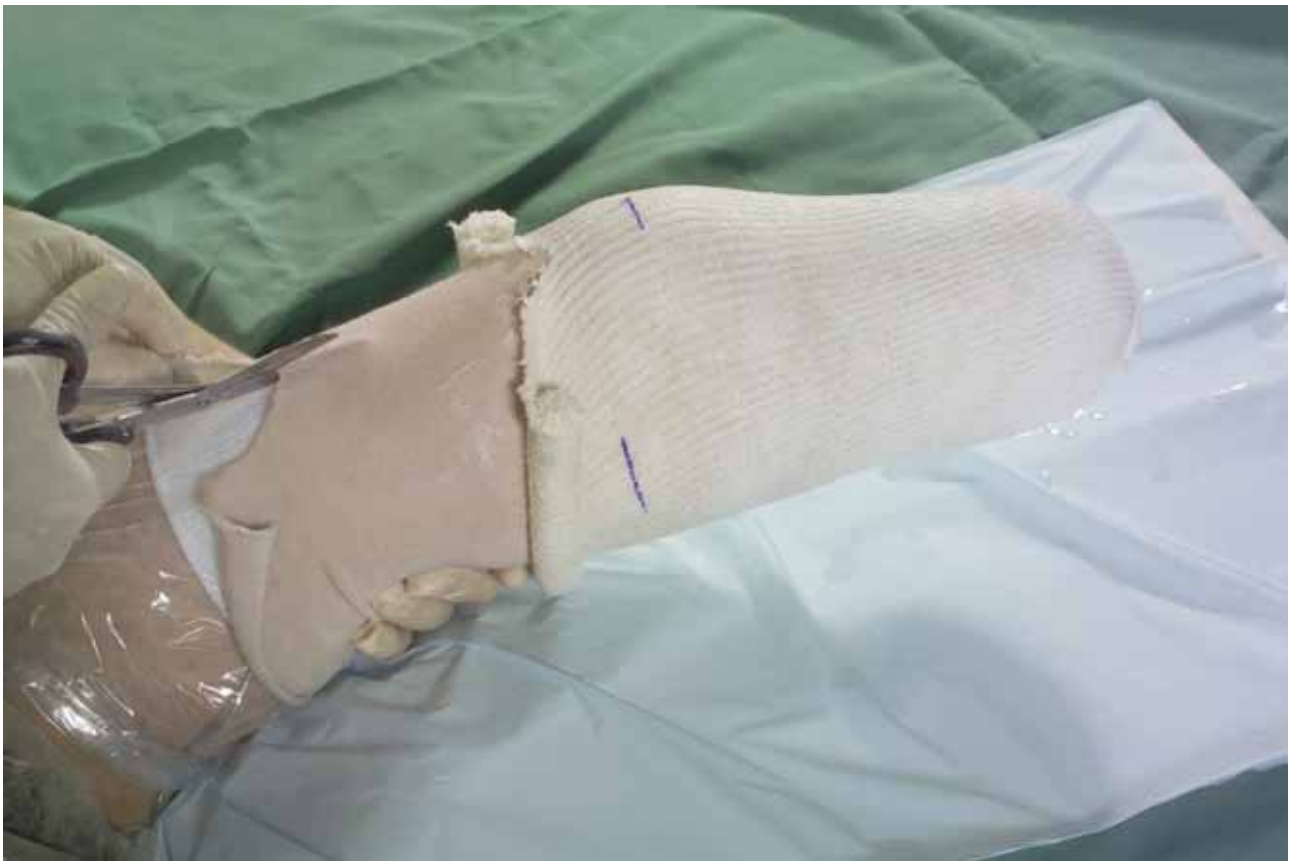
23

Mark the sides of the RRD level with the top of the kneecap (where the index finger is in this photo).

24

The back of the RRD is marked level with the lower edge of the kneecap (where index finger is in this photo).

25

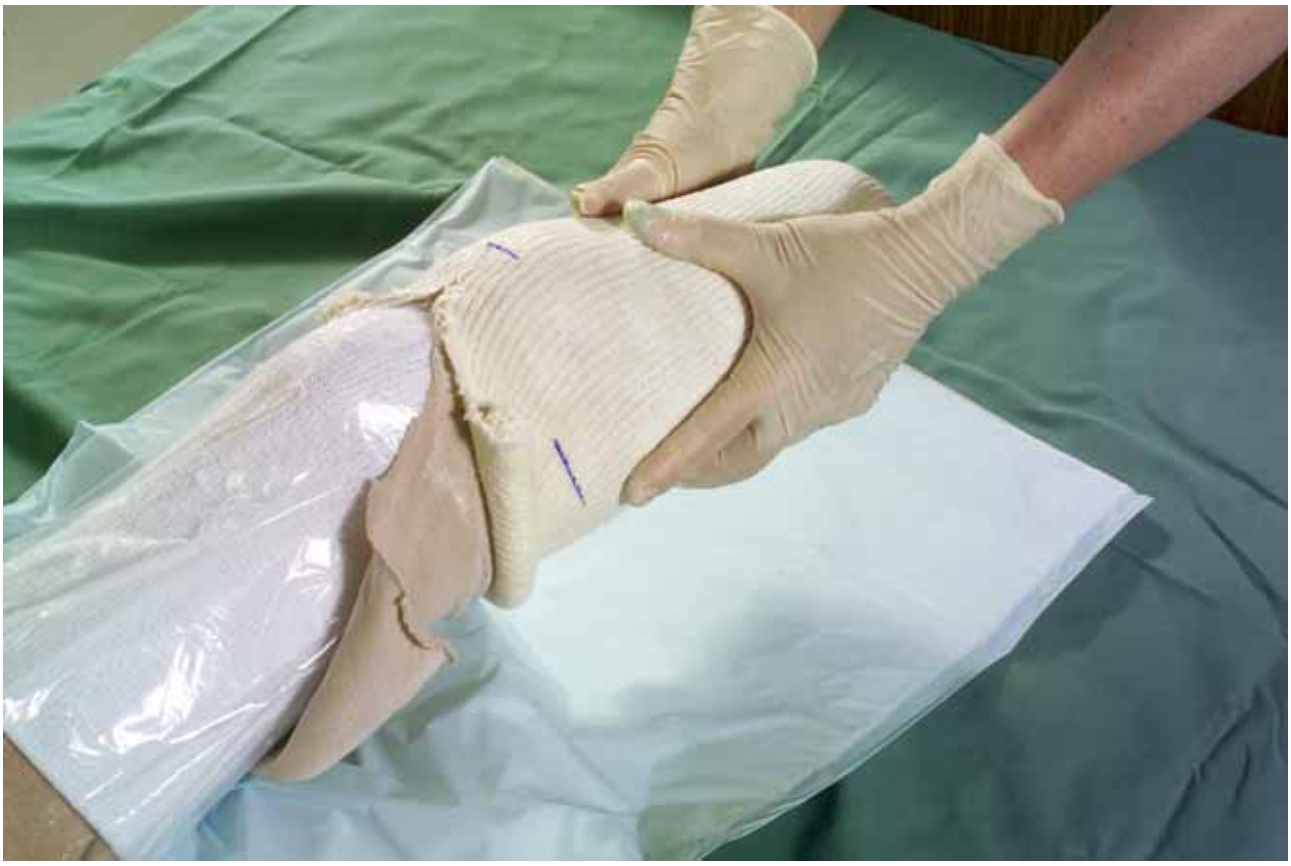


Once you have done the 4 markings, and the the RRD has had a few more minutes to harden up, cut through the brown sock (NOT the plastic bag or white sock).

26

Cut through brown sock and RRD towards the mark on kneecap.

27



Wait 3 or 4 minutes until the RRD is reasonably firm to touch, then slide the RRD off the residual limb.

28

Note the bottom sock is now incorporated into the cast.

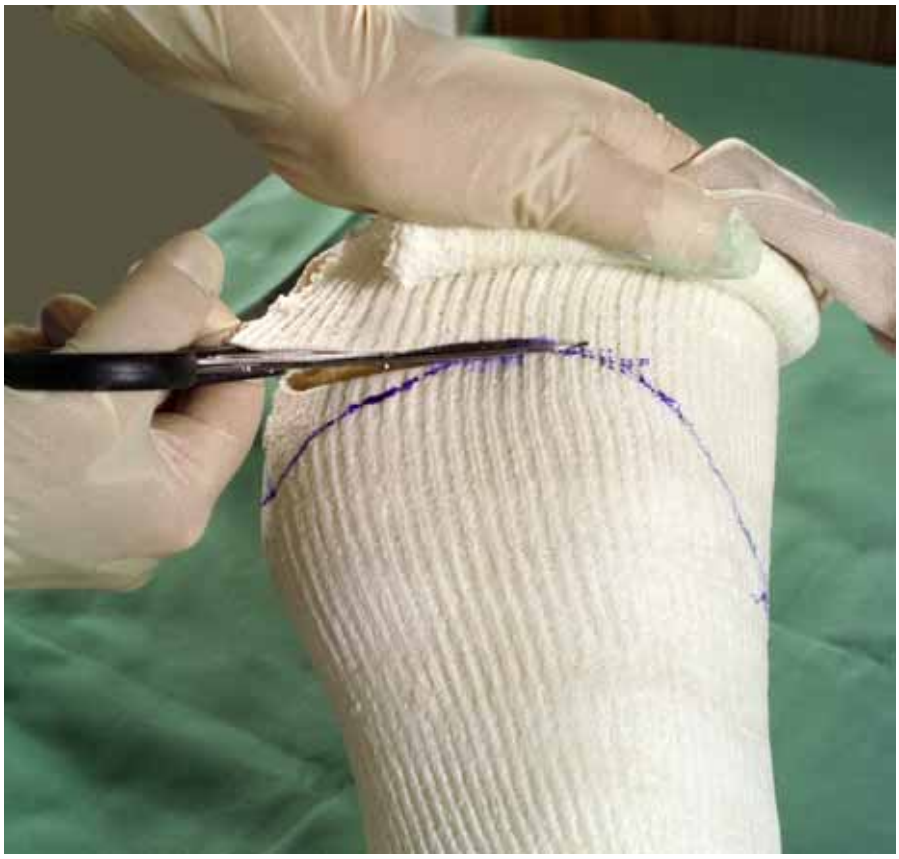
29

Take the plastic bag off and discard. Leave thick white sock in place. If the op sites have been placed correctly over the suture line and drain site you shouldn't see any ooze on the white sock. (If there is ooze, put on more Op Sites and replace the white sock with a new one).

30

Join the mark on the front to the mark on the sides and then to the back marking

31

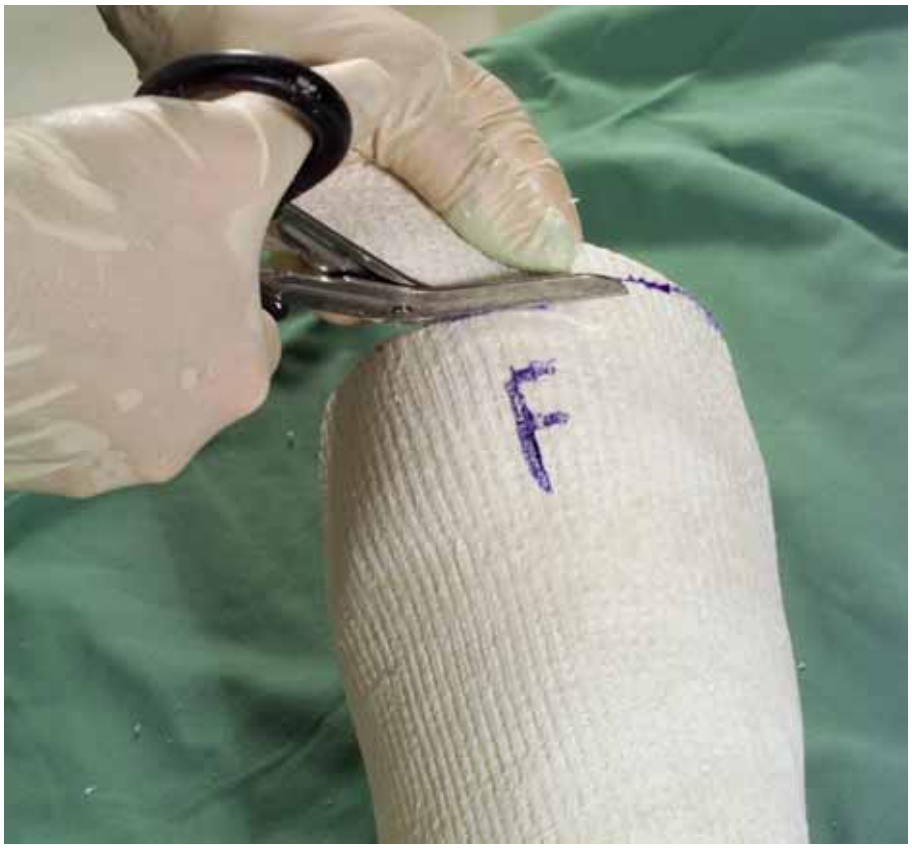


The line should be curved upwards at the sides and drop down quite a lot to the marking on the back (indicated on the right hand side of the RRD in this photo). * The back wall of the RRD needs to be quite a lot lower than the front so that the RRD doesn't compress the soft tissues at the back of the knee when the patient bends their knee. Once you have joined the lines, cut along them.

32

Shows cutting the front of the RRD.

33



Shows cutting across front of RRD (note that the front doesn't get cut down nearly as low back does). Mark the RRD with F (front) and B (back) so you know which way around to reapply it once you have cut out the RRD.

34

How the 'trimmed up' RRD should look - note the very rounded edges for ease of application and comfort!

35

While an assistant pulls the white sock quite tight, slip the RRD back on the residual limb. You may need to move RRD from side to side quite vigorously as you push it on to make applying it easier. Once it's back on it won't get removed for at least 48 hours.

36

How it should finish up on the residual limb. Don't worry if it's not as flash as this one... it will still serve the purpose just fine!

37

Pull tubigrip up over the RRD to about where the white sock extends up to. Tubigrip ensures the RRD stays in place firmly.

38

Put a plastic tie over the end of the cut off length of tubigrip.

et voila!

The patient thanks you very much, as it's far less painful than having an RRD applied 2 or 3 days post-op when they're awake!

Also the RRD applied intra-op will prevent as much swelling occurring which should assist with wound healing, and hopefully earlier fitting of an artificial limb.

Thank you very much for your efforts.

You are all stars !!!

Referral to Vascular Service for Consultation:

Please refer patients needing reviewing using the following procedure:

Write on usual yellow consult form. Any health professional can write the referral…preferably after some form of team discussion (ward round, IDT meeting, morning handover)

Specify if for **Vascular Nurse Specialist** input only(eg for. wound or wound product review, or for assessing suitability for compression bandaging)

OR

for **Vascular Team** input (eg for pale,pulseless,painful leg; for an amputee's residual limb(stump) that you may feel needs checking; for a diabetic foot…especially toes or heels which look compromised, or for any other vascularly compromised patient. The Vascular Registrar or Vascular Surgeon will review these patients

Write for "Vascular Nurse " or for "Vascular Team" on the line where it says "Opinion is requested from_____"

Ensure you PRINT your name and contact phone number at the bottom of the form

Write "FROM TPMH" on the line where it says _____ Hospital. This is important!!!

Give as much detail as possible which is relevant to your referral

Fax to: 80352

Please follow your written referral **IMMEDIATELY** with a phone call:-

- for **Vascular Nurse Specialist** enquiries, contact Margaret Mossop on ext 81827 or get CPH operator to page her on beep 926. If she is not immediately contactable, please leave a message on her voicemail on ext 81827
-
- for **general vascular referrals**, please page the **Vascular Registrar** through CPH operator.
  If the Registrar does not answer the pager after 2 attempts by the operator to page him/her, it will most likely mean that the vascular registrar is in theatre. In this case, please contact Margaret Mossop as described above, explain that you can't make contact with the registrar, and Margaret will action your referral.

  If for some reason neither the Registrar nor Margaret is contactable, please leave a message on Margaret's voicemail (ext 81827) and follow up with a phone call to one or both later

A date and time to review the patient will be discussed with the referrer by the Registrar or Margaret when you speak with them

If the Vascular Registrar is unable to see the patient in a timely manner, an alternative will be arranged. This may mean one of the Consultants or the Vascular Nurse Specialist visiting the patient. Every effort will be made for the patient to be seen at TPMH, but if there is no other option the patient may need to be transported to the

Emergency Dept at CPH, to be seen by the Vascular Team there

IMPORTANT:

In **EXTREMELY URGENT SITUATIONS**, where an answer or a consult is required immediately eg. a patient has woken up with a white, apparently bloodless leg, and NEITHER the Vascular Registrar nor Margaret Mossop are available to speak to, contact the Vascular CONSULTANT on call via the CPH operator.

Amputee Transfer Summary

Patient Label

To: _____

Date of Transfer: _____

Fax: _____

Amputation level: (circle) BKA AKA Side of amputation: Left Right

Due to:(circle) PVD Diabetes Other

Relevant Medical History: _____

_____

Lives: (circle) Alone Spouse Rest Home Other

Summary

Bed mobility: e.g. lie sit, sit lie

Assistance Supervision Independent

Transfers: e.g. bed wheelchair, wheelchair toilet

Assistance Supervision Independent

	Tick box	Comments
Mobility Services wheelchair & cushion supplied	☐	Wheelchair width: ___inches
Amputee info folder given to patient	☐	
Amputee Society membership form sent	☐	
Artificial Limb Centre referral faxed	☐	
Rigid removable dressing: info sheet explained and dressing made	☐	
Exercise programme started as per 'Exercises for Amputees' pamphlet	☐	
Initial explanation of rehab process	☐	

Additional Comments: e.g. re: Pain, info given to family, other

Physiotherapist: _____ Beep: _____

21.5 Entonox Administration

Introduction

Entonox is a 50% - 50% mix of Oxygen and Nitrous Oxide. The gas is stored in easily identifiable sylinders (blue body with white shoulders in a compressed form, which is stable at room temperature.
It is used a weak anaesthetic with both anaesthetic and analgesic properties and can be used for pain relief during procedures such as:

- Painful dressing changes.
- Minor orthopaedic manipulation.
- Labour.

The apparatus for administering the gas to the patient works on a demand valve principle. The demand valve allows the gas to flow only when the patient applies negative pressure by sucking; via a disposable mouth piece or mask.

Entonox must be prescribed on QMR0004.

Contraindications

- Altered level of consciousness
- Head injury
- Severe obstructive airways disease
- Severe bone marrow depression or similar haematological disorder
- Pneumothorax without effective chest pain
- The patient who is not able to hold the mask themselves
- Undiagnosed abdominal pain

Side effects

Associated with overbreathing or hyperventilation

- Tingling in fingers/face
- Dizzines
- Nausea/vomiting

Objectives

- To ensure Entonox is correctly administered
- To ensure that the procedure is fully explained to the patient/family

Personnel Authorised to Perform Procedure

- Registered Nurse (RN)
- Enrolled the supervision of a RN
- Agency/Casual RN after discussion with their ward (RN) 'buddy'.
- Medical Staff
- Anaesthetic Technicians

Associated documents

Patient Clinical record

Drug Treatment Sheet QMR0004

Acute Pain Management Service Manual

Equipment

- Entonox cylinder and gauge.
- Face mask and/or mouthpiece.

Step	Action	Rationale
1.	Verify the order with the clinical records.	To ensure the correct patient receives the correct treatment.
2.	The cylinder has a valve and as such is always on, gas will come out with patient inspiration.	
3.	If possible, shake the cylinder before use.	This ensures gases are mixed for better consistency.
4.	Examine the gauge to determine how much gas is in the cylinder.	To ensure there is an adequate supply of gas throughout the procedure.

Step	Action	Rationale
5.	Explain how to use the apparatus to the patient. a) Instruct them to hold the mask tightly over their face, or mouthpiece with lips forming a good seal. b) Explain that when they breathe in and out deeply a hissing noise will be hear which indicates the gas is being inhaled.	To ensure that the patient understands what to do and what to expect before the procedure begins.
6.	Encourage the patient to breathe the gas in and out for at for at least two minutes before commencing any painful procedure.	To allow sufficient time for an adequate circulatory level of Entonox to provide analgesia.
7.	In situations where the patient has difficulty breathing deeply, the nurse can offer a mask instead of a mouthpiece and assist with holding the apparatus.	
8.	The patient breathes the gas as required throughout the procedure.	
9.	Monitor the patient's respiratory status throughout the administration, reporting any abnormalities to Medical Staff.	Refer to Nursing Procedures, Volume 6B Observations, Respirations.
10.	At the end of the procedure observe the patient until the effects of the gas have worn off.	Some patients may feel a transient drowsiness or giddiness and should be discouraged from getting out of bed until these effects have worn off.
11.	Use and effect of the gas is documented in the patient's Clinical Record.	To provide a record of effectiveness for use in any subsequent procedures e.g. dressing changes.
12.	Mouth pieces and filters are once only appliances and must be disposed of after each patient.	
13.	In the event of an adverse reaction, discontinue usage immediately and notify a Doctor.	

TRANSFER SUMMARY FOR COMPLEX VASCULAR PATIENTS TO PRINCESS MARGARET HOSPITAL

PATIENT LABEL

…… 20……

DIAGNOSIS:

INVESTIGATIONS PERFORMED:

PROCEDURE AND/OR OPERATION:

ANKLE BRACHIAL PULSE INDEX (ABPI) **RT:** **LT:**

PLAN OF CARE:

WOUND CARE MANAGEMENT:

PAIN MANAGEMENT PLAN:

EXPECTED OUTCOMES:

Expected outcomes discussed with patient and family Y / N

For further surgical intervention Y / N

To have an appointment at Vascular Outpatients Y / N

GENERAL COMMENTS:

Treatment Delivery

Patient ideally seen prior to operation to explain post-operative intervention and commence early treatment .Following amputation the patient is seen on the ward or physiotherapy gym according to status, until discharge or most commonly transfer to another hospital.

Referrals

On ward 15 the physio should aim to speak with the Clinical Charge Nurse by 10am each day, either in person or by phone, to see if there are any new referrals. Pamela Gordon, the CCN, is keen to keep this system in place.
Physios on other wards will receive their referrals as they usually do

NB: The following is a suggested program as medical status allows eg if the patient is awaiting amputation and is in a great deal of pain, or is not understanding very well due to sepsis or large doses of pain relief, it may not be appropriate to attempt to practice transfers or explain about post op procedures

Pre-op

Assess chest status
Assess transfers if possible
Explain post-op mobilisation, strengthening exercises and Rigid Removable Dressing (RRD) if appropriate (BKA only).
Order wheelchair – measure appropriately and request anti-tip bars. For below knee amputees (BKA) request a stump rest
Order foam cross cut cushion 3" deep x width x 16" from orthotics - delivered to the department
Complete appropriate sections of Amputee Interdisciplinary Care Checklist (copies in filing cabinet on ward 15), and Amputee Transfer Summary. Keep both the Transfer Summary and the IDT Checklist in the clinical notes as this will save you documenting twice eg when you have ordered the cushion and wheelchair you only have to tick the boxes on the Transfer Summary which saves you writing it in the clinical notes as well
Ensure patient has Amputee Information Folder (copies in library and on Ward 15 in grey filing cabinet in office)

Ensure the folder contains:
1 x RRD Information sheet
1 x "Coping with Amputation" booklet – from NZALB

1 x "A New Challenge" booklet – from Amputee Federation
1 x exercises for amputees
1 x yellow leaflet - Amputee Society of Canterbury and Westland membership form, along with a stamped envelope
1 x copy of "What happens Next and How Long Does It Take" – information for amputees, family, whanau, carers

With the patients consent, fill out the Amputee Society form, put it in the envelope and in the outward mail basket on the ward. Explain to the patient that membership to the Amputee Society is free to the patient for the remainder of the financial year, and they can then decide if they wish to continue after that time. (Membership is $10 per year). The reason for encouraging patients to let you fill out the form is that the patient can receive information from the Amputee Society free for the remainder of the financial year which hopefully will assist them with realising they are not alone with regards to their amputation.

Day One

Complete any tasks from the pre op list that you weren't able to do
Chest assessment and treat as appropriate
Active movements – static quads, knee flexion, straight leg raise, hip extension, abduction, and adduction as per exercise sheet.
Bed mobility – Bridging, rolling, moving up and down, sitting up.
Transfer to wheelchair – pivot transfer with chair 90 to bed +/- use of transfer board *(kept on Wd15). Refer to poster showing transferring techniques on back of door by storecupboards in ward 15*
Contracture prevention – positioning (ie.No pillows under residual limb)
Sitting balance
Fax written referral *(forms in Wd15 folder)* to Artificial Limb Centre (ALC) for every amputee . No exceptions please- it is vital for statistical purposes for the ALC

Complete appropriate sections of IDT Care Checklist and Amputee Transfer Summary
For above knee amputees, measure for a stump shrinker. Measure circumference at top of thigh and at distal end of residual limb, and measure length of residual limb. Phone Graham at ALC (3830501) and give him measurements and he will send out the shrinker to you

Day Two

Strengthening exercises continued
Rigid Removable Dressing needs to be made if it wasn't made in theatre. May need to be made Day 3 depending on pain levels. Please

feel free to contact Jetje (pronounced Yetcha) or one of the prosthetists at the ALC for assistance with this as they are very happy to come over to CPH to show you if they have someone available. If they are unavailable there is a manual showing step by step instruction for making RRDs in the library of physio dept. You will need assistance of another to make the RRD.
Transfer to wheelchair daily and encourage patient to wheel themselves around ward.
Supine/side lie to encourage neutral hip position and extension if able
Stand with frame if appropriate to encourage neutral hip position and hip extension/abduction exercises.
Go through rehab process again.

Shape mate (Rigid Removable Dressing)

Made for below knee amputation
If not already applied in theatre, to be made within 48 hours of amputation or when requested by Consultant/Registrar. If patients wound is very unsatisfactory and/or painful, you may need to put off making the rigid removable dressing.
Artificial limb centre to demonstrate initial application to the physiotherapist in the area, *(contact no. in amputee folder)* following this supervision sought from a colleague with experience in making RRDs.
Equipment found in large cupboard in surgical write up area
Equipment required *(kit box to take to ward found in cupboard in library):*

2 plastic bags
1 woollen sock
1 thin sock
1 casting sock

scissors
tubigrip to cover RRD
If making RRD on ward ask House Surgeon or Registrar to chart entonox and order through orderlies. Ensure patient has adequate pain relief charted. This needs to be IV if possible, not just oral
As residual limb shrinks more socks may be required or RRD may need re – cast. Check daily for pressure areas.
Continue to complete relevant parts of IDT Care Checklist and Transfer Summary

Day Three

Strengthening exercises continued
Wheelchair skills and transfer practice.
supine/side lie as tolerated for hip alignment

Day Four

- Aim for independent wheelchair mobility and transfers
- Exercise session in rehabilitation gym, program dependent on age and capabilities of amputee, upper and lower limb strengthening. **This is particularly important for patients under 65 who are likely to transfer to Burwood Hospital for their rehab, as there may be a wait before they are transferred, unlike older patients who are transferring to TPMH who often get admitted to TPMH within a few days of their operation. Younger patients may wish to try using axillary crutches, and this is fine to try them with these. It is important that they are able to get out of the ward to continue their rehab as it may take some days for a bed to become available at Burwood. It will hopefully be possible for you to arrange a physio assistant to supervise the amputee in the gym once you have set them up with an exercise programme.**

Day Five onward

- Progress strengthening program as required
- Add exercises as appropriate
  sitting balance, pulley, standing at parallel bars or with frame on ward.

Discharge Planning

Transfer to another hospital
Complete transfer form, Fax to appropriate hospital/ward *(numbers found in amputee folder),* Attention Physiotherapist. File the original in the clinical notes

Home
Ensure adequate wheelchair skills and access to house.
Ensure pt. can transfer independently or safely with carer
Patient manages RRD independently or with carer

Procedure for Arranging Amputee Visitors for TPMH

After receiving a call from the Social Worker (SW) at TPMH requesting a visitor, please:-

1. leave a message on the SW phone acknowledging receipt of the request for a visitor. If you are able to do this ASAP after receiving the message (preferably the same day or day after), at least the SW knows you have got the request, even if it then takes some days to arrange the visitor

2. once you are able to arrange a visitor, please phone the ward and let either the ward clerk or the patient's nurse know the date and time of the visit. Please ask whoever you speak to to write the date and time up on the "board"…the "board" is in the ward office and is where the patients' appointments are noted

3. please then leave one further message on the SW phone stating the date and time of the visit. This will ensure the SW knows when it is happening so she/he can follow up with the amputee patient after the visit

4. on the day of visiting, please ask the visitor to get the ward clerk to find the patient's nurse so that the nurse can introduce the visitor to the patient.

5. could you also remind the visitor to ask the nurse to document that the visit has taken place in the patients notes.

On behalf of the amputee patients and TPMH staff, thank you for your time and effort in providing this voluntary service

Procedure for Arranging an Amputee Visitor

1. Please contact Heather Plows, who arranges the visiting for the Amputee Society, on 342 7233. Leave details of patient's name, age, whether the patient has had a below or above knee amputation and the ward. If you are able to let Heather know the extension number for the ward that would be helpful.

2. Heather will in turn acknowledge receipt of your call ASAP, and after she has arranged the visit will leave you a further message with the date and time, just so you know when it is happening.

3. Heather will liaise directly with the ward clerk or the patient's nurse re the time and date of the visit so the ward clerk can write the appointment up on the board in the office.

4. I have also asked Heather to get the visitor to remind the patient's nurse to document in the notes that the visit has taken place, just so all the work of arranging the visit doesn't go undocumented

Procedure for Arranging Mobility Vouchers for Amputees

1. Please contact Liz Rogers, Secretary of Amputee Society, on 322 4025. Leave details of patient's name and your name, contact number and mailing address, and that you are requesting an application form for mobility vouchers.

2. Liz will check that she has received a membership application form for the Amputee Society for the patient and then send you the relevant application form for mobility vouchers. If Liz hasn't received a membership application she will include this with the mobility voucher application form that she sends to you. The amputee patient must belong to the Amputee Society to be eligible for mobility vouchers.

3. Membership to the Amputee Society is free to the new amputee for the remainder of that current financial year, so if Liz does send a membership application form could you please fill it out with the patient's consent and mail it away as soon as possible. There is no obligation for the amputee to join the Amputee Society once their

“free” membership expires, but the patient, as previously mentioned, must be a member to continue to be eligible for mobility vouchers.

Thanks for doing these important tasks!

FAX

ARTIFICIAL LIMB CENTRE
330 BURWOOD ROAD
CHRISTCHURCH
Ph 03 383 0501 Fax 03 383 3566
EMAIL. jean.turner@nzalb.govt.nz
Office Administrator

To: Margaret Mossop

Vascular Nurse Specialist,

CHCH Hospital

Fax: 364 1584

From: Jean Turner

Re: Clinical notes

Date: 22/02/05 **Page** 1 of 8

Dear Margaret,

Copies of our Clinical notes for Vascular Dept Outcomes.

Following are notes on

Kind regards

Jean Turner

Office Administrator

Christchurch ALC

Email jean.turner@nzalb.govt.nz

PAT_R02A - Patient Detail Report

Note leg was dropped in today to be placed onto a permanent adaptor. I have changed over from a sleeve to a cuff as his weight loss means the sleeve no longer fits and we have no smaller sleeve. Will pick up at 4 today.

Date 9 February 2005 **Author** **Role** Prosthetist

Subject check fit

Note Saw today. He is going well. Has an area of redness around lat condyle. I have ground this area and also planterflexed the foot to get his toe down. Still on 1 derma and one thin ptb. Useing 2 crutches but tires very easy due to his failing health.Will finish the leg next week without a cover to reduce any weight.

Date 2 February 2005 **Author** **Role** Prosthetist

Subject fitting

Note Fit today on new limb. flexion contracture of around 30 degrees is making walking a little difficult but he is coping quite well. We have managed to use a sleeve although due to his very slim nature we nay have to revert to a cuff.On one derma seal and one thin sock due to his very small bony stump.

Date 27 January 2005 **Author** **Role** Prosthetist

Subject new limb

Note wife has cancelled his appointment for tomorrow due to his admission to hospital and very ill health overall. She feels he may not be well enough to ever wear a limb so we will put the leg aside for a few weeks then review the situation. We understand he has been diagnosed with liver cancer which will not be treated.

Date 25 January 2005 **Author** **Role** Prosthetist

Subject cast

Note Cast today for primary ptb

Date 24 January 2005 **Author** **Role** Surgeon

Subject Clinical - Cast for primary BK limb

Note Area on medial side of right popliteal area now pretty soundly healed. Proceed with casting for primary BK limb.

Date 10 January 2005 **Author** **Role** Surgeon

Subject Clinical - 2nd assessment

PAT_R02A - Patient Detail Report

Note Considerable improvement in linear wound which has more or less over medial hamstrings at right knee and consequently with flexion of the knee there is movement of the overlying skin and soft tissue. He says he has never been able to straighten his right knee since football injuries years ago and in fact the same applies to his left knee. Has quite good flexion at right knee. Plan is to continue with dressings as appropriate at home and review again in two weeks when we anticipate that his right BK stump should be ready for casting or very soon after. He is keen to get back to work and also golf.

Date 13 December 2004 **Author** **Role** Surgeon

Subject Clinical - Primary Assessment

Note Right BK amputation Christchurch Hospital, 23/11/04 for effects of PVD and in fact several failed arterial bypass procedures in that limb. Bypass procedure left leg about 2000 and says the circulation in that leg is satisfactory. is a fitter and turner and keen to get back to work as soon as possible with his primary limb.
Unfortunately the distal end of bypass wound in popliteal area, postro-medial aspect of right knee is not healed but granulating. From what we are told today, this is improving reasonably quickly, although I can't be absolutely sure of that. Has a good stump. 15 degree knee flexion contracture. ShapeMate for protection rather than shape. Not yet ready for casting but see again first clinic in New Year i.e. 10 January for review and proceed with casting if unhealed area in postro-medial popliteal fossa has healed.

End of Report

Transferring a Bilateral Amputee Patient

This method can be used for any bilateral amputee patients, although bilateral ABOVE KNEE amputees may initially require use of a hoist if their strength and balance is not sufficient to manage a glide board transfer.

Use this method for transfers to wheelchairs or toilet/shower chair.

1. Get wheelchair right next to bed before you start the transfer. Assist patient into a sitting position. Don't leave patient unattended while in a sitting position. Use the banana glide board to bridge the gap between the bed and wheelchair.

2. Patient needs to position themselves with back towards wheelchair. Will need *CLOSE SUPERVISION* at this point as they could lose balance backwards.

3. Position wheelchair square on to bed and as close as possible. Brakes on! Position glide board to bridge any gap between bed and chair. Be aware of patient's sitting balance-encourage them to bend forward at their hips if they have trouble maintaining their balance.

4. Hold glideboard in place until patient has their weight through it.
Ask patient to push down through their arms and lift or "walk" their bottom backwards onto the glide board. They can push through their legs to assist the movement. Get them to bend forward at hips rather than lean backwards as they move. If needed, get assistance from another to help patient move backwards.

5. Get patient to put their hands on arms of wheelchair/toilet chair when they have backed up far enough to be able to reach them comfortably. You may need to assist patient with their balance as shown.

6. Patient pushes down through arms, pushes through legs on the bed and slides backwards into chair. Get another person to steady wheelchair if required so you can assist patient with their balance.

7. Once safely in wheelchair/toilet chair, remove the glideboard.

8. Chair to bed.
Patient pushes through arms and "walk" legs and bottom forward onto bed.

9. Chair to bed.
Patient needs to move well forward onto the bed. Support the glideboard if necessary to prevent it moving. Keep in close contact with patient in case they lose their balance while transferring.

10. Back onto the bed safely.

Medical Illustration Christchurch Hospital, Christchurch, New Zealand Ph: 364 0520. Fax: 364 0757 . Email: medill@cdhb.govt.nz

Transferring a Unilateral Amputee Patient

*These photos show use of a banana glide board which is very helpful for those patients initially lacking in strength and/or confidence.
The transfers can of course be done without the glideboard, using exactly the same technique. Use this method for transfers to wheelchair or toilet/shower chair.

The MOST IMPORTANT ASPECT of the transfers is the “3 points of contact” described in the photos below:

1. Bed to Chair

Position wheelchair as close as possible to bed. IT DOESN’T MATTER WHETHER PATIENT TRANSFERS TO AFFECTED OR UNAFFECTED SIDE. Remove arm of chair. Place glideboard under one buttock so that it forms a bridge between the bed and chair. Be aware of patient’s balance at all times.

2. Bed to Chair

Get patient to keep 3 points of contact – foot firmly on floor, “one hand where coming from”, “one hand where going to”.

3. Bed to Chair

Get patient to lift their bottom or slide themselves across to the chair, aiming to get as far back in wheelchair as possible. They need to bend forwards at the hips and push through the leg and foot on the floor to help move themselves across.
Assist the patient as required.

4. Bed to Chair

Successfully in chair – still demonstrating the 3 points of contact.
Get patient to raise leg closest to bed to help remove glideboard.

5. Chair to Bed

Get patient to attempt a half standing pivot transfer, even though the board is in place. Get them to push through arms and legs to get movement. If patient not strong enough to lift their bottom off chair they can just slide on the board.

6. Chair to Bed

Safely back onto the bed, still with the 3 points of contact. Glideboard is acting as the bridge.

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Amputee Information Folder – List of Contents

- NZALB book "Kia Kaha- Coping with Amputation"
- NZ Amputee Federation book " A New Challenge"
- CDHB booklet "Information for Patients, Family, Whanau and Caregivers About What Happens After an Amputation and How Long it Takes"
- Information on joining the Canterbury/Westland Amputee Society, and a membership application form
- A stamped, addressed envelope to the Amputee Society
- An information sheet on Rigid Removable Dressings
- An pamphlet showing amputee exercises