BACPAR

BRITISH ASSOCIATION OF CHARTERED PHYSIOTHERAPISTS IN AMPUTEE REHABILITATION

The Journal

Issue 34, Spring 2011

BACPAR Membership 2011 news

There is a **new membership category for support workers** this year. It is available to support workers, assistants and technical instructors. Support worker members will not be entitled to vote at the BACPAR AGM or hold a seat on the executive committee.

The cost will be £15 as opposed to the £35 for full membership. Of course those that are CSP associate members are still welcome to join as full members of BACPAR if they want to.

Please do encourage your support worker colleagues to take advantage of this reduced rate.

In order to modernise and simplify the membership renewal we have made some changes to the membership process. When you renew in 2011 you will find that we have set up a membership form to email to me which will make it a lot easier to update the database. We were hoping to also enable you to pay by PayPal but this was not possible at this time – maybe some form of electronic payment system in the future, watch this space.

In the mean time we ask for payment by cheque still but please put your name and address on the back of the cheque so that I can match it with your application form (not everyone uses the same name as on their cheques)!

Membership is due on the 1st March. If you have any problems with the new form or questions please do not hesitate to contact me at

Contents

Welcome

Thanks to Sue Flute (Journal Editor) and fellow contributors to this Journal for another excellent edition.

At the time of my writing this letter, the Committee are planning for the next Executive meeting on the 1st March. By the time this journal comes through your letterbox, planning of BACPAR's activities for 2011 will be underway. This will of course include the 2011 conference.

The 2010 Conference was very well received by all delegates in terms of the presentations, its value for money and the location, and the evaluation forms again generated some excellent ideas for future topics.

At the 2010 AGM members approved plans for establishing a membership category for Support Workers and online access to papers relating to Amputee Rehabilitation for BACPAR members. The latter, we hope, will develop into a form of "Journal Club" but is dependant upon the development of a members' only section of the BACPAR website. A project that BACPAR is currently working on with the Chartered Society of Physiotherapy (CSP).

The new membership year commences on the 1st March, so please encourage the Assistants, TIs, and Assistant Practitioners that work alongside you, who are not currently BACPAR members, to join up (£15). Membership fees have been held at 2010 levels, in recognition of the current financial difficulties.

There are changes afoot for Clinical Interest Groups – now called Professional Networks, and how they interact with each other and the CSP. BACPAR should see stronger associations with some other Professional networks; it is hoped, to the benefit of our patients and the BACPAR membership. The changes will be in place by the beginning of 2012 and may require us to change the names of our membership categories for the 2012 membership year.

There are a number of consultations that BACPAR has contributed to in respect of the management of individuals who have undergone amputation or related conditions, but not always by invitation. So if you are aware of any consultations happening on a national or regional basis alert BACPAR to them, please do not assume that we have been asked. Contact me at Louise.Tisdale@wolvespct.nhs.uk to let me know.

Following consultation with others, the guidance document Risks to the Contra-lateral Foot of Unilateral Lower Limb Amputees was finalised and presented by some of the authors at the 2010 Conference and has since been made available on the Amputee Rehabilitation iCSP site. Thanks to Fiona Brett, Clare Burton, Mary Duguid, Maria Brown, Tim Randell, Karen Clark and Maria Brown for this excellent piece of work as part of their Post Graduate Certificate in Amputee Rehabilitation at Bradford University.

It is hoped that the updated Evidence Based Clinical Guidelines for the Physiotherapy Management of Adults with Lower Limb Prostheses will shortly be available.

We will update you of any further plans for 2011 as soon as they have been finalised. If you feel strongly about BACPAR's involvement in anything in particular please do not hesitate to contact me on the email address previously highlighted.

Best Wishes for 2011.

Louise Tisdale - BACPAR Chair 2011

Thanks to all the contributors and advertisers who made this journal happen.

BACPAR Conference 2010

The physios, prosthetists and occupational therapists, solicitors and clinical psychologists who attended BACPAR's latest conference got an early Christmas present – two days packed with thought-provoking and practice-changing presentations, several posters outlining new ideas in the care of amputees, and the goody-laden stalls of the event's various sponsors

The conference started promptly at 9am on Monday 15th November. After introductions by the chair of BACPAR, Louise Tisdale and brief housekeeping announcements, it was straight down to business, with a presentation on "adaptations and quality of life in unilateral transtibial amputees during rehabilitation" by two physios from Hull and East Yorkshire NHS Trust and a lecturer from Nottingham Trent University. This research aimed to establish if there was any difference on outcome between the use of the PPAM aid or the AMA. This was followed by a detailed presentation on "the amputee with poly-traumatic injuries by physios from Headley Court and Queen Elizabeth Hospital in Birmingham. Given the amount of press (and patient) interest in servicemen returning with injuries from Afghanistan, this was a timely reminder. Many of these patients will be finding their way into NHS care over the coming years, and it was good to be given an overview of what care they had experienced in the months after their injuries.
After the first of the coffee breaks, Anne Marie van Es, an occupational therapist at Oxford Disablement Services Centre gave a presentation on "How to engage children in therapy", including an interesting film clip showing a child learning use of a myo-electric prosthesis.

Before lunch Katherine Atkin outlined work on "to Wii or not to Wii", timely given the explosion of interest and use of Wii Fit since last year's conference. The take home message was – it's a useful tool, but not a silver bullet.

After lunch Alison Richardson gave a presentation titled "Gait lab analysis and observational amputee gait score," looking at the relative merits of instrumental gait analysis and the development of a "prosthetic observational gait score" Ms Richardson concluded that inter-operator reliability was "at best moderate" but that the tool "may be of use in clinical settings to aid observer evaluation." The documentation has since been disseminated on iCSP and she is keen for feedback from delegates experience of trialling the tool.

This was followed by a presentation on "Knee prescription for primary patients: SAKL or free knee" by Wolverhampton DSC's prosthetist Rachel Neilson. This sparked one of the most vigorous and prolonged question and answer sessions, since many amputee physios and doctors are wrestling with the question of what prescription best meets the needs of transfemoral patients, especially in an age of (expected and arrived) austerity. Doubtless this will be a discussion continued both online and at future BACPAR conferences.

The final formal presentation, on "prosthetic developments" was an hour long run through, "prosthetic developments" by Dom Hannett of Opcare (with helpful hecklin.., sorry, "input" from some of his fellow company reps).

Regional reps from many areas of the country then met together with Vanessa Davies MBE regional rep lead.
On Monday night, many of the conference's attendees went for a Chinese 'all you can eat' buffet.

Tuesday also saw an early start, opening with a nurse from Leeds Teaching Hospital, Christine Middleton, giving an overview of "Wound healing, the diabetic limb and care of the remaining limb."
This was followed by a full and frank assessment of the joys and perils of guideline production as part of the Post Graduate certificate at Bradford

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PERSONAL INJURY AWARDS 2010
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(in this instance for The Care of the Remaining Foot) , by three members of the guideline development group who had obviously been through quite a journey, and had lots of tips they wanted to pass on!

Physiotherapist Amy Jones gave a presentation on "The prosthetic treatment of unhealed wounds – Southwark PCT's experience", which was inspired by work done on the "Early Mobilisation Protocol" at Manchester DSC. This was (yet) another presentation that many attendees will have been thinking "hmm, we should do that at our centre". This was accompanied by a short presentation on two transfemoral amputees who were mobilised and cast before full healing, with no observable ill-effects.

BACPAR stalwarts Mary Jane Cole and Lynn Hirst gave presentations on the service development of increasing the input from Physiotherapists into the management of Upper Limb Amputees at Roehampton and subsequent audit and the development of a DVD to instruct Physiotherapists re the use of the Femurett. The short DVD, copies of which were in every pack, was produced with the support of Ossur.

Vicky Robinson, of RSL Steeper, gave a short presentation on "A randomised controlled trial of the relax night care sock to study its effect on phantom limb pain at night in lower limb amputees", another topic that many physios would like more information on.

Next up, for members of BACPAR, was the Annual General Meeting of BACPAR, minutes of which are in this journal and published on iCSP..

After lunch Matt Rogers, the Great Britain sitting volleyball team leader spoke of the opportunities available to Physiotherapists and amputees alike in joining the GB sitting volleyball team.

The conference closed with Carolyn Hirons and Toby Carlsson (of PACE Rehab) with the support of two amputees (Scott Richardson (TTA) and Martin Tweedie (TFA)), she presented useful ideas in both the theory of fitness training and the practical applications of this towards teaching amputees to run. Given the quality of the presentation, it will surprise no-one that Carolyn and Toby were the winners of the Louise White memorial award (against some very stiff opposition) – for the second year running.

The winner of the best poster award was Jenny Fraser and Dr David Henderson-Slater for their poster Socioeconomic Factors and Self Care Amongst Diabetic Amputees.

Thanks are due to the companies sponsoring the Annual Conference – in no particular order, Blatchfords, Ossur, OttoBock, RSLSteeper, Pace , Dorset Orthopaedic , Ortho Europe and Opcare – without whose support the event would be a lot more expensive to the delegate. Judging from the overwhelmingly positive comments on the feedback forms, returning once again to the scene of previous successful conferences the Wolverhampton Science Park was an excellent plan. Early preparations are already under way for next year's conference, which will almost certainly be held at a similar time of year, over two days. "Watch this space."

Marc Hudson

Transfemoral Fitting Predictor

Introduction

The Transfemoral Fitting Predictor (TFP) was developed initially in 2003 as an adjunct to assessment for prosthetic fitting in Dundee. It was discussed at a Scottish Physiotherapy Amputee Research Group (SPARG) meeting and members felt it should be evaluated and hence the research project was developed. A pilot study was undertaken with 10 patients using the initial 14 point scale. Results suggested that the measure was promising and warranted further evaluation. The current project was designed to measure the validity and reliability of the revised 9 point Transfemoral Fitting Predictor.

Background

A measure designed to assess rehabilitation potential in amputees - Amputee Mobility Predictor (AMPnoPRO) (9) already exists. The AMPnoPRO was validated using a retrospective study of a convenience sample of patients recruited from hospitals, rehab centres and support groups. The average time since amputation was 26 months.

Average age of patients in the reliability study was 68 (N=24) and in the validity group average age was 54 (N=167). Pathology of the majority of amputations in Scotland is PAD +/- diabetes and the age group is elderly – average age = 69.

However, the AMPnoPRO was not designed specifically for transfemoral amputees and a number of the tasks were not able to be completed by our elderly population of amputees prior to prosthetic fitting. It was clear that a new measure, appropriate for our population was required.

Aims of Study

- To test the validity and reliability of the TFP on a larger and statistically robust sample of patients
- To develop a novel, video-base method to assess inter-rater reliability
- To examine the potential of the video assessment method as a training tool for physiotherapists in the use of the TFP and as a telehealth approach to gaining specialist assessment of prosthetic potential at non-specialist centres

Methodology

The study was approved by the West of Scotland Research Ethics Committee as the lead NHS committee and the University of Strathclyde acted as sponsor.

Patients were recruited from 9 Scottish Hospitals who have clinical responsibility for amputee rehabilitation

- Ninewells Hospital
- Southern General Hospital, Glasgow
- Astley Ainslie, Edinburgh
- Ayr Hospital
- Aberdeen Royal Infirmary
- Glasgow Royal Infirmary
- Gartnavel Hospital
- Wishaw Hospital
- Raigmore Hospital

Inclusion criteria

- Unilateral transfemoral amputation
- Able to attend the gym
- No cognitive impairment

Patients were assessed using the TFP tool and the assessment was discontinued at whatever task they could not complete.

Consent

All participants were provided with information regarding the study and given at least 24 hours to consider their participation. Informed consent was taken by the senior physiotherapist for those amputees agreeing to take part. Participants were asked to consent to the assessment using the TFP and secondly, to having the assessment recorded on video.

Assessment tool

The assessment tool was developed from two earlier pilot studies: the second of these resulted in the 9 item scale used in this study. Each item consisted of a task that is a routine part of the rehabilitation of an amputee in Scotland e.g. transfer from bed to wheelchair and back

Items were scored using a 4 point scale and variation was noted in detailed guidance notes for scoring each question – broadly the responses were:

- 1=No
- 2= Yes with help
- 3= Yes with supervision
- 4= Yes independent

TRANSFEMORAL FITTING PREDICTOR

Answer each of the following questions by drawing a circle around the number of the response that best expresses your assessment of the patient.

	Is the patient able to:	(1)	(2)	(3)	(4)
1	Move from supine to sitting over the side of the bed?	1	2	3	4
2	Transfer from bed to wheelchair and back?	1	2	3	4
3	Transfer from wheelchair to a chair with arms?	1	2	3	4
4	Both apply the brakes and move the footplates on their wheelchair while sitting in it? [Must be able to do both]	1	2	3	4
5	Stand on the remaining limb for 5 seconds without holding onto the parallel bars?	1	2	3	4
6	Get from sitting to standing in the parallel bars, with or without an Early Walking Aid in situ, by pushing up from the arms of the wheelchair?	1	2	3	4
7	Stand with the Early Walking Aid in situ, for 30 seconds, with no upper limb support?	1	2	3	4
8	Walk to the end of the parallel bars using the Early Walking Aid, turn and walk back?	1	2	3	4
9	Walk, using appropriate walking aids, out of the parallel bars for 10 metres?	1	2	3	4

Training

A training video was developed at Ninewells Hospital in Dundee. The use of the TFP assessment tool was filmed with the consent of a patient. Training videos were then sent to all participating senior physiotherapists involved in the study. A training pack was also distributed to all participating centres, including:

- guidance notes, written instructions of exact wording of questions, assessment tool, log sheet, consent forms, information regarding the project

Procedure

Consenting amputees were assessed by a physiotherapist, who was not connected to the study, in the 9 tasks of the assessment tool. The paper version of the TFP tool was completed and if the patient had consented to video this assessment was recorded. Videos were given an identifiable number (SPARG number) and were kept in a locked box until transported to the National Centre for analysis in Oct 2009. Videos were all analysed by a team of 3-4 experts without discussion and each scored using the paper TFP assessment tool.

Demographics

There was no significant difference between those who did and did not consent to take part in the study. The data below is that for consenting amputees:

Average age	68.8 years	Range +/- 10.6 years
Gender	Male = 54%	Female = 46%
Aetiology	PAD	61%
	Diabetes	26%
	Other	13%
Deprivation code	Very deprived	23%
	Deprived	20%
	Average	24%
	Little deprived	18%
	Least deprived	15%

Results

93 of the possible 125 potential participants approached took part in the paper assessment and 75 of those agreed to their assessment being videod.

Internal consistency (Cronbach's alpha) was very good = 0.92

Step-wise discriminant analysis determined that tasks 7 (stand with an early walking aid (EWA) in situ for 30 secs) and task 8 (walk in the parallel bars using an EWA, turn & walk back) discriminated best between those who eventually received a prosthesis.

Construct validity showed 2 distinct constructs – tasks 1, 2, 3, 4, 6 and 5, 7, 8, 9 therefore if the order of 5 & 6 were changed, the tool could be split into basic / advanced tasks

Inter-rater reliability – ICC > 0.8 indicated high levels of reliability with tasks 2 & 6 the weaker (bed to WC & back / sit to stand) – all others had a value of ICC > 0.9.

Conclusions

The Transfemoral Fitting Predictor is a simple, valid and reliable measure of prosthetic potential for transfemoral amputees. The tool has now been amended to switch the order of the tasks 5 & 6 to allow the tool to be split into basic and advanced tasks. Therefore, if a patient is unable to complete tasks 1-5 then they are extremely unlikely to manage the advanced tasks.

Future

We plan to further investigate the predictive validity of the TFP using LCI-5, Functional Co-morbidities Index and prosthetic abandonment rate data. At present, the predictive validity of individual items of the TFP have been tested (items 7 & 8 strongly predict whether a patient is fitted with a prosthesis) but not the total score. We are therefore planning to determine what range of total scores are predictive of successful fitting with a prosthesis.

In the meantime, the TFP tool will be made available to physiotherapists specialising in amputee assessment and rehabilitation. Until the next stage of validation is complete the TFP is to be used as an adjunct to assessment only and is

no means a definitive measure of a transfemoral amputee's ability to use a prosthesis. It should guide recommendations to the patient as to which tasks they need to be able to complete to allow use of a prosthesis.

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Acknowledgements

Thanks to all who participated in the project without whose assistance this project would never have been possible. Special thanks to Liz Condie, Shaun Treweek and Angus McFadyen who were paramount in the development of the research project and in seeing it through to its conclusion.

Louise Whitehead, Team Leader Physiotherapist, Ninewells Hospital, Dundee

Guidelines for Journal Article Submission

Please use the email address bacpar@flutefamily.me.uk for your submissions and any queries.

Submitting a document:

- Please send the article as a Word or PDF file.
- If your article includes pictures please also send these as separate files (JPEG, BMP, GIF, PNG etc format) at the highest quality you have.
- If your article includes graphs please also send these as separate Excel files and name these the same as your article followed by a number in the sequence that they appear in the article (as with pictures). If all the graphs are in one Excel file this is fine.

Finally, if there is anyone out there who would like to advertise in The Journal, or if you know anyone who you think would like to, please let me know.

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Development of a Joint Physiotherapy and Prosthetic Clinic- A Service Evaluation

K Bryce, Specialist Physiotherapist[1], E McCurrach, Principal Prosthetist[2]
[1]Physiotherapy Department, Astley Ainslie Hospital, Edinburgh, [2]SMART Centre, Astley Ainslie Hospital, Edinburgh

Background

Prosthetic gait can change frequently as a result of pain, fear, weakness, alignment or change of components. As a result prosthetic users may require concurrent input from both prosthetic and physiotherapy professions. Joint professional working had previously been on an infrequent, adhoc basis with most patients having to attend multiple appointments to address their needs. A trial of joint prosthetic and physiotherapy appointments was introduced in February 2009.

Method

A weekly clinic was established comprising 4 x 45 minute slots. Patients were referred by both physiotherapy and prosthetic staff. The service was evaluated using simple data such as demographics, reason for referral and outcome of appointment. In addition a questionnaire regarding staff perceptions of the service was carried out.

Results

During the first 12 months 57 individual patients were referred and seen. Referrals were made by prosthetic staff for 50 out of the 57 patients. Table 1 summarises the demographic details of patients attending. Graph 1 shows reasons for referral.

Table 1: Patient Demographics

Mean Age (range)	58 (17-96)
Sex M/F	63/37%
Trans-femoral	54.4%
Trans-tibial	33%
Bilateral Lower Limb	5.3%
Knee Disarticulation	5.3%
Upper Limb	3.5%

Graph 1: Reason for Referral

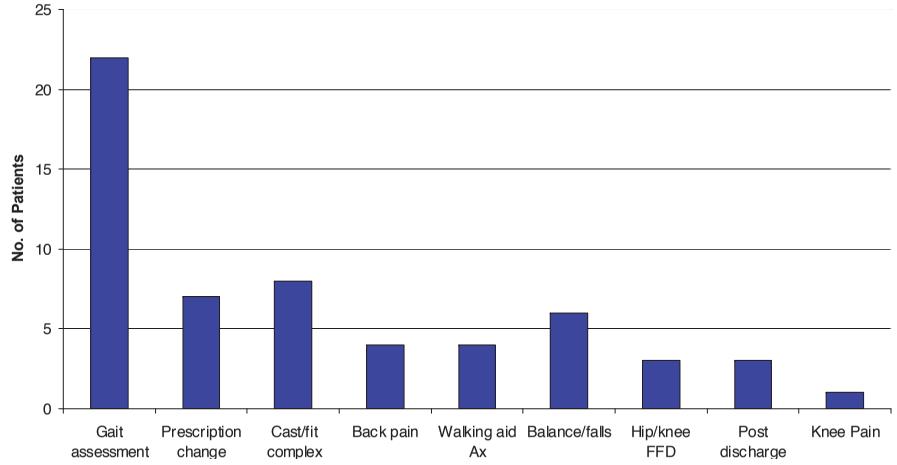


Table 2: Outcome of Appointment

One off clinic session	24
Ongoing physiotherapy input	17
Referral to physiotherapy local to patient	8
Continued in-patient rehabilitation	5
Prosthetic prescription change	4
MDT clinic	3
Admission for in-patient rehab	2
Orthotic Referral	1

Staff Perspective

A feedback questionnaire was sent to all physiotherapy and prosthetic staff involved in the clinic. There was a 100% return rate with responses from 8 prosthetists and 2 physiotherapists. Common themes emerged from the questionnaire:

"helps work out if a gait abnormality is related to prosthetic alignment or not"

"beneficial for established users with deterioration in gait"

"helpful for patients who have had significant change to prosthetic components"

Discussion

Patients over 65 years of age were more likely to be referred due to back pain, balance/falls or walking aid assessment. Those under 50 years of age were more likely to be referred with specific muscle weakness or in relation to prosthetic prescription.

The clinic allows users to access two services during one appointment, therefore reducing attendances and making more efficient use of clinical time. It was anticipated that provision of joint physiotherapy and prosthetic clinic sessions would reduce referrals for outpatient physiotherapy. A significant percentage (44%) still required ongoing physiotherapy input. It could be suggested that these patients needs were not met in our previous service model.

Three referrals were felt to be unsuitable for the clinic as they needed multidisciplinary input, primarily for issues relating to pain control. This highlighted the need for referral guidelines for clinicians to ensure patients attend the appropriate clinic to meet their needs.

Future Work

Referral guidelines for the clinic are to be developed for use by the multidisciplinary team to ensure appropriate patients are referred. The feasibility of using outcome measures and patient satisfaction tools for clinic patients is to be investigated.

The Barriers And Facilitators To Returning To Leisure Pursuits, Following Amputation

Introduction

It is felt that in order to maintain health, people's occupations must comprise a balance between the ability to look after themselves (self care), their contribution to social and economic environments (productivity) and the fulfilment and enjoyment of life (leisure). (A.Turner et al, 2002). Leisure pursuits are an important part of a person's activities of daily living. They can include hobbies, sports, exercise, entertainment, holidays, relaxation and play. For the disabled or elderly person who is not able to work, leisure has an even more important focus. Leisure activities and involvement in local organisations provide opportunities to participate in creative activities and for maintaining or increasing social contacts.

The aim of prosthetic rehabilitation is to achieve maximum independence and safety, with the minimum of energy expenditure. The individual's rehabilitation programme should take into account their pre amputation lifestyle, expectations and medical limitations. (Broomhead, P et al) The BACPAR prosthetic guidelines recommend that rehabilitation should be both functional and integrated with their activities of daily living. Prosthetic users should be encouraged and assisted to resume their hobbies, sports, social activities, driving and return to work.
Many amputees are unable to continue with the recreational activities that they participated in prior to their amputation and find difficulty in spending their day meaningfully. Finding new recreational activities is important to their well being, as taking part in recreational activity creates a distraction, which may alleviate their phantom pain and depression. (Bosmans et al, 2007) It can also facilitate an amputee's reintegration into their community. (Kegal et al, 1980)
The purpose of this audit is to establish if amputees are returning to their preamputation leisure pursuits or starting new activities and to identify any perceived barriers or facilitators to commencing leisure activities.

Methodology

A sample of thirty persons was identified as they attended the Harold Wood Disablement Services Centre during the period of November 2007 to June 2008. Eligibility criteria included being at least 17 years old, having had an acquired lower limb or upper limb amputation, being a prosthetic user for at least twelve months and having no cognitive deficits identified at their first assessment. The audit project was registered with the trust and no ethical approval was required.

The subjects were asked to consent to completing a short questionnaire face to face with a member of the prosthetic Services centre whilst they attended for their twelve-month clinical team review. The questionnaire consisted of seven questions and took a maximum of ten minutes to complete. (appendix 1). The data collected was mainly qualitative and was analysed by two members of the clinical team.

Results

The majority of the people who completed the questionnaire were male (83%) with an average age of 62.9 years (range 41 – 88). 63% respondents had single trans tibial amputations, 20% had single trans femoral amputations, 13% had bilateral lower limb amputations and 3% had multiple upper and lower limb amputations. (Figure 1)

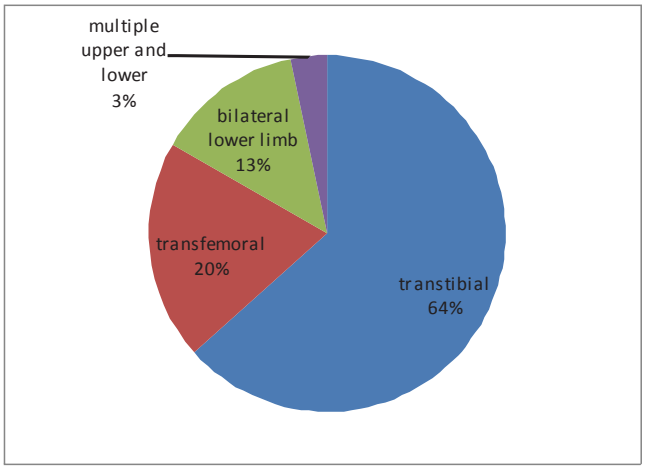


Figure 1- Amputation Levels

In the five-year period leading up to amputation 46 different leisure pursuits were identified by the participants. (Appendix 2) 10% were able to return to all of their pursuits
Post amputation, 43% returned to some of their leisure pursuits and 47% were unable to carry out any of their previous leisure pursuits following amputation. (Figure 2)

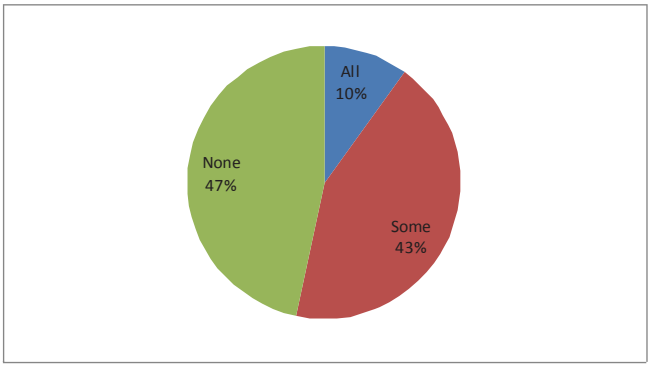
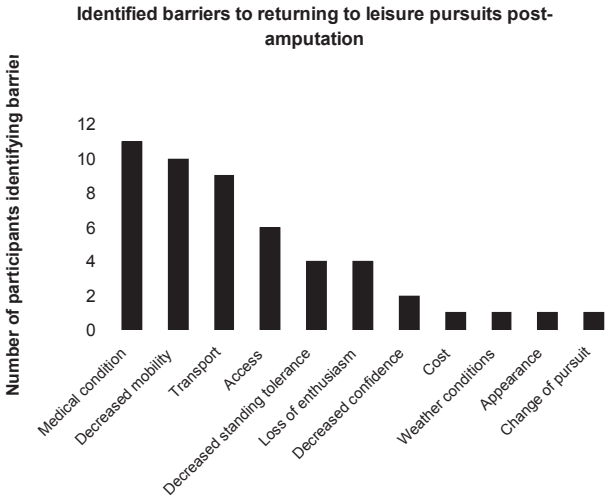


Figure 2 - Percentage of participants returning to all, some or none of their leisure pursuits post-amputation

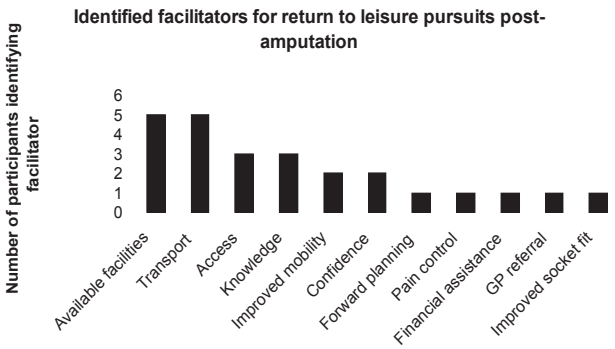
43% of participants expressed a desire to return to all of their pre amputation pursuits, 30% wished to return to some of their pre amputation pursuits and 23% did not wish to return to any of their pre amputation pursuits. Of those people who did not wish to return to their leisure pursuits, 8 reasons were cited with the most common being medical condition and access. Other reasons included poor balance, reduced confidence, change of leisure pursuit, loss of enthusiasm or motivation and a reluctance to let their amputation be seen by others.

The people that had returned to some or all of their activities post amputation were asked to grade themselves on a scale of 1 to 5 on how they felt they were performing that particular activity, where 1 = marked difference, 3= same as pre amputation and 5 = better than before. 44% of the group graded themselves as 1, 11% graded themselves as 2 and 39% graded themselves as 3. 5% did not grade themselves.
The participants were asked if they had to adapt the way they carried out any of their leisure activities post amputation. The most commonly identified adaptations were in the mode of transport to get to the activity and in access to the activity itself, for example ramps into a building.
Participants were asked to state what they perceived had acted as barriers to returning to their leisure pursuits. They identified 11 different barriers. Those most commonly identified were changes in their medical condition (11), amount of walking involved or reduced mobility (10), difficulties accessing transport (9), and access to the pursuit
(6). (Graph 1)



Graph 1

Participants were asked if they could identify areas that would help them to return to any of their leisure pursuits. 40 % were unable to make any suggestions. The other 60% came up with a total of 11 different suggestions, with the most common being availability of facilities (5), assistance with transport (5), knowledge of types of appropriate activities (3) and access to the activities (3). (Graph 2)



Graph 2

In total 33% of participants had started new leisure activities post amputation. 14 different activities were identified, mainly sedentary. (Appendix 3)

Discussion and Conclusions

The sample, although small was largely representative of the amputee population with regards age and level of amputation. There was a very high ratio of male (83%) to female subjects but this would probably have been in normal limits in a larger sample. Cause of amputation was not looked at in this study but can be expected to reflect the normal population.

As may have been expected, 47% of the participants were unable to carry out any of their previous leisure pursuits post amputation. 23% of the subjects had no desire to return to these, which still left 24% who for some reason could not return to their leisure pursuits but still had a desire to do so. Prior to amputation 46 different leisure activities were identified but these had narrowed to 14 different activities post amputation. This was probably to be expected, with the majority of the new activities being sedentary. Of those people who did return to their previous leisure pursuits over half of them self graded their performance in a lesser way than pre amputation. This could possibly show some impact on their self worth or satisfaction with their performance, which would be interesting to further explore, possibly with a quality of life questionnaire.

Of the barriers and facilitators in returning to leisure pursuits some common themes emerged. Changes in medical condition and amount of walking involved in the task were identified as the top two limiters, which are probably outside of the patient and the clinical team within the community or DSC to greatly influence. However difficulties with transport and access were also identified as a major factor in preventing a return to their leisure pursuits. C.A Trobley et al, 2002 state that access to recreational and leisure pursuits may be difficult for persons with disabilities. They could easily be provided with information on using accessible transport and for identifying facilities with suitable access but perhaps do not know where or how to find out this information for themselves. Another interesting barrier identified was decreased standing tolerance, where perhaps education is

needed about the use of equipment or adapting the way they previously carried out a task through an educational programme. Loss of enthusiasm, decreased confidence and concerns about their appearance and being seen by others were also identified as barriers. This could possibly indicate a need for counselling, motivational or cognitive behavioural therapy programmes. It is interesting to note that there has been no direct access to a counsellor at the DSC during the last four years, which may have an impact on some of these issues. Attitudinal barriers are often more disabling than any physical barriers. Individuals with disabilities such as tetraplegia and bilateral upper and lower extremity amputations may not believe that they are capable of participating in a variety of activities because of the attitudes of others. (C.A Trombley et al, 2002). These results reflect Jay (1984) who suggests that many disabled people do not participate in the wide range of leisure opportunities available because of lack of confidence in their ability to participate, which reduces motivation to explore options and a lack of knowledge of how and where to find information about leisure activities. Interestingly 40% of participants were unable to make any suggestions as to how they could be assisted to carrying out any leisure activities, despite having a desire to do so, which could indicate a need for some type of empowering education programme.

Following this audit a sports and leisure information day was organised at the DSC in order to provide users and health professionals with information about types of leisure pursuits available in the area and nationally. Many amputees were able to demonstrate how they had adapted tasks or equipment to facilitate their participation to those that attended.

A research proposal has also been submitted to explore whether a recreational activity intervention programme would be a support for allied health professionals to encourage people with amputations to take up recreational activities and have an effect on improved quality of life.

E.Bacon, L. Barker, J.Byrne, M. Morten
Harold Wood Disablement Services Centre

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Caption Competition!

Whilst risking my job as editor, one feels this is an opportunity not to be missed!

Please send your captions for the photos below and we can have our very own photo story next time!!

Appendix 1

LEISURE INTERVIEW

Age

Male/ Female

Level of amputation

What leisure activities did you participate in the last five years prior to your amputation?

Do you wish to return to any of your leisure pursuits?

Do you participate in these activities now, post amputation?

If yes: which activities?
Have you had to adapt the way you do it?
How do you get there?
Do you use special equipment?

If no: what has stopped you?
e.g. mood, appearance, general health, access, finance, mobility

If yes, what level of activity do you achieve?
Please rate level on scale, where 1 = marked difference and 5 = same as pre-amputation.

_____

1 2 3 4 5

Have you started any new hobbies?

If yes – why did you choose those?

What help would you need / like to assist you to return to any of your hobbies/ leisure pursuits.

Appendix 2

Leisure Activities participated in the 5 years pre amputation

Ten Pin Bowling	Watch football	Squash	Pub	Driving	Baking
Darts	Photography	Holidays	Football	Cricket	Bingo
Motorcycling	Reading	Clubs/ assoc.	Work related	Playing	Childcare
Swimming	Ballroom dancing	Jogging	Acting	Badminton	Cycling
Dog walking	Bowls	Walking	Snooker	Music	Shopping
Golf	Amateur radio	Gardening	Gymnastics	Tennis	Television
Fishing	Day trips	Gym	Bird watching	Computer	Visiting others
Day centre	Cross-stitch	DIY	Caravanning		

Appendix 3

New Leisure Activites Pursued Post amputation

voluntary work	watch horse races	bingo	visiting parks	crosswords
television	computer	reading	cards	play keyboard
radio	gardening	counselling	day trips	

CASE STUDY

TOUCH BIONICS™

Transforming the Everyday Lives of Extraordinary People

Name: Patrick Kane
Age: 13
Location: London, England
Occupation: At school
Product: i-LIMB™ Pulse

"Now I have the i-LIMB Pulse, everything is different..."

Patrick Kane didn't have an easy start in life – aged just nine months he contracted meningococcal septicaemia, the virulent form of meningitis. This horrific illness resulted in a three month spell in the intensive care unit at St. Mary's Hospital in London, as doctors battled to save his life. While the doctors were ultimately successful in saving Patrick's life, they were unable to do so without tragic consequences: the amputation of his right leg below the knee, all of the fingers from his left hand, and part of each finger on his right hand.

In early 2010, Patrick first became aware of Touch Bionics while surfing the web. In August, Patrick and his father made the trip to Livingston in Scotland to spend a week at the Centre of Excellence to be fitted with the new i-LIMB Pulse prosthetic hand.

"My experience at the Centre of Excellence was great!" says Patrick. "The staff were very friendly and made me and my dad feel very welcome."

A few weeks after leaving the Centre of Excellence, Patrick is finding life has changed a lot.

"Now I have the i-LIMB Pulse, everything is different," he says. "It's the little things that are important, like being able to hold a glass while you pour into it, or being able to cut up the food on my plate, rather than having someone else do it for me."

"When I go back to school after the holidays, I'm looking forward to Tech class, because I have never been able to do things like hold a centre punch and a hammer at the same time without help. With the i-LIMB Pulse, I hope to be able to do this by myself."

At home, Patrick adjusts the features of his device using the end-user version of the control software, MyBioSim. The software allows him to select different grip patterns and gestures, and to monitor his myoelectric impulses via an on-screen graph.

"I find I'm mostly using index point, pinch grip and lateral grip from day to day, although I usually only move between two of them at any one time," explains Patrick. "I use hold-open and co-contract signals to activate them, and I'm training myself to get better at using the double-impulse using the graph screen."

Overall, Patrick is delighted with his device.

"The i-LIMB Pulse met all my expectations – it's so responsive and easy to use... I really feel like I knew how to use it even before I was fitted!" he says. "And it's been great to see the reaction from other people too. When people used to see my hand before, they would go 'Oh', but now they see my new hand and go "Ooooh!'"

To find out more about Touch Bionics and our products and services, contact us today on 01506 438 556 or info@touchbionics.com

ARC: A Different Perspective

The Annual Representatives Conference, many of you may read this and be thinking "well what's that then?" and others thinking "it's not for me, I don't like public speaking!" and believe me you would not be alone! I fitted into both of these categories when faced with the prospect of attending ARC for the first time in 2009 as a newly appointed regional steward. Terrified would probably be putting it lightly, but soon I was sucked into the fascinating world of ARC and 2011 was my third year as a representative, but this year it was with a different perspective.

Having been lucky enough to move jobs into the exciting world of amputee rehab I also moved regions and sadly had to leave stewarding behind me (for now). However, even with the excitement of a new job, I looked to the coming February with jealousy. The prospect that I might not be at ARC this year made me realise what an impact it has had on me as both an individual and a professional.

When writing motions on behalf of the steward's network the majority of ideas tabled were often strongly clinical (as is the nature of our profession after all). Representing these clinical issues is the role of the professional networks. ARC is the opportunity for the membership to tell Council what is important to them, what we want them to work on in the coming year, on our behalf. Interactive CSP is a fantastic tool for linking our professional network and I regularly see open debate about clinical issues that matter to us, ARC allows us to take that further within our profession. This year representing a professional network was just as rewarding.

Katrina Wilkins and I attended on behalf of BACPAR and we had two motions accepted onto the primary agenda and BACPAR also lent support to AGILE, seconding their motions opposing cuts in services for older people. We arrived in Manchester ready for 2 days of exciting debate, engaging speakers, good food and dancing, and we were not disappointed! The afternoon moved quickly and our motions were presented and debated on the following morning.

Motion 16 was asking the CSP to lobby the government to provide appropriate funding for veterans being treated in the NHS, to ensure no detrimental effects are felt by non-veterans. This motion certainly attracted a great deal of attention. BBC radio Manchester requested an interview with Ann Green, chair of council, to discuss our concerns. They were keen to hear that we were concerned for both the veterans and the services for patients within the NHS. Debate also included raising awareness of military mentality and additional issues faced such as psychological, neurological and musculoskeletal injuries and the importance of maintaining and reintegrating veterans into meaningful roles within society.

Motion 17 was calling on the CSP to lobby the department of health and the government to ensure a commitment to student and professional development is a legal requirement for any provider undertaking NHS work. This motion received great support, one speaker representing the students executive committee suggested the motion represented the issues perfectly and was reassured to know all clinical educators regardless of speciality were concerned about undergraduates having appropriate placement experiences.

Both motions were well received by conference and council and were carried unopposed. They fitted into the current socioeconomic issues facing our profession, helping to demonstrate the relevance of professional network engagement.

At a time when professional development is so difficult to obtain due to the financial constraints of many organisations, why are professional network places so under subscribed? It is free to the employer and employee as it is fully funded by the CSP, and is a great opportunity to learn about profession wide issues and have the chance to develop public speaking and debate skills in a friendly and supportive environment. Next year I hope you will give it your attention, support and maybe even your consideration for participation!

Hannah Slack

Measuring pressures at the sock/stump interface in lower limb amputees: A Pilot Study

Katrina Butler[1], Ann-Marie Hughes[1], Russel Torah[2], Ivo Ayala[2], John Tudor[2], Cheryl Metcalf[1&2],
[1]Faculty of Health Sciences, University of Southampton. [2]Faculty of Physical and Applied Sciences, University of Southampton .
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Research Questions

Where are the main areas of pressure at the stump/sock interface in lower limb amputees? What are the biomechanical factors (movements, forces and muscle activity) which contribute to these pressure points? Can these pressures be measured using a novel, textile-based sensor?

Background

An estimated 5000 people in the United Kingdom require a lower-limb amputation each year, and of these, some 53% are transtibial and 39% transfemoral. Three-quarters of all referrals for a lower limb amputation are caused by dysvascularity, infection accounted for 8% and trauma 7% [1].

The sock/stump interface is critical in the successful return of military amputees to active duty as it forms the mechanical interface between the subject and the prosthesis. Weight bearing, uneven pressures and friction through the residual limb need to be carefully managed to avoid skin breakdown, pressure sores and infection. Additionally the quality of the fit is fundamental for the comfort of the wearer. If the prosthesis is uncomfortable to wear or difficult to use, the amputee will be less inclined to wear it [2–4].

Accurate measurement of pressures and shear forces acting on the stump is vital to achieving optimum fit and alignment of a prosthetic limb. Previous research into pressure distributions during standing and gait at the stump/socket interface has produced varied results [5-7]. Research into direct pressure measurements during stepping-up, stepping-down and during the timed-up-and-go test is limited.

Research into pressure distribution and skin/stump integrity appears to fall along a continuum with aspects of engineering in the development of pressure sensors at one extreme and qualitative research investigating skin condition and prosthesis use adherence on the other extreme [8-9].

Participant Testing

Method:

Systematic review conducted to investigate areas of high and low pressure at stump/socket interface identified in previous research.

Phase 1: Using Vicon Motion Analysis (T-Series system), EMG, 2 Kistler force platforms and Tekscan sensors to collect iterative data to determine final operating conditions of the novel sensor.

10 unilateral trans-femoral amputees attend Biomechanics Laboratory, University of Southampton.

Data collected while participants complete activities of daily living; walking at varying speeds, step-up and step-down, timed-up and go test. Each task will be completed for 5 repetitions.

Phase 2: Using Novel pressure sensor, Tekscan sensor and foot-switches to allow comparison between the two pressure measurement devices

12 unilateral trans-femoral amputees attend Biomechanics Laboratory, University of Southampton

Data collected while participants walk at three different speeds; slow, normal and fast. Walking task will be repeated twice. Order of presentation will be counter-balanced to reduce bias.

Statistical Analysis: Phase 1 will analyse timing of maximum and minimum pressures as a percentage of the participants' gait cycle for each participant. Phase 2 will use a Bland and Altman plot to assess the agreement between the 2 sets of pressure data for the duration of a gait cycle.

Development of Novel Textile Based Sensor

Rationale for Sensor Development:

1. Flexibility of fabric based sensor substrate allows better contact between sensor and skin
2. Higher sensor resolution will increase the detail of pressure data collected and reduce the risk of areas of the stump not being measured.
3. Wireless connection between pressure sensor and processing computer means participants are less restricted in movements

Method:

3 possible sensor materials were tested for resistance in the horizontal and vertical axis. Tests were conducted to identify the best sensor material.

Results:

32 resistance measurements were collected for each sensor. Linear graphs were produced to allow comparisons of substrate materials (Fig 1). A 3D surface plot was created to ensure a change in resistance could be identified to indicate pressure changes at a specific area of the sensor (Fig 2).

Discussion:

Resistance measurements reasonably consistent in horizontal and vertical direction for each sensor material. Higher resistances at the edges of the sensor indicate a fringe effect possibly due to printing process.

Conclusion:

Initial results indicate that production of a textile based sensor is feasible.

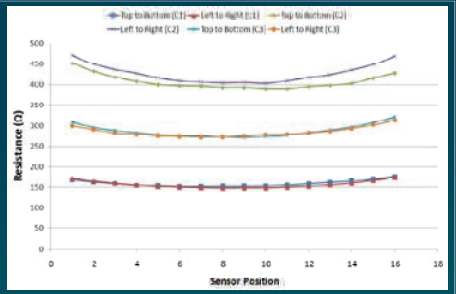

Figure 1. Comparison of resistance of different sensor materials

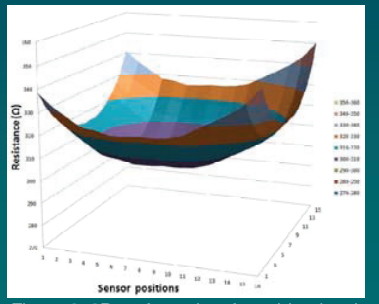

Figure 2. 3D surface plot of combined resistance at each point on the sensor

References 1. National Amputee Statistical Database (2005); 2. McColl (DHSS) (1986); 3. Chadderton (1978) Prosthet Orth Int 2(1):12-14; 4. Nielsen et al (1989) J Prosth Orthot 1(4): 242-249; 5. Hong & Mun (2005) Prosthet Orth Int 29(1):59-72; 6. Lee *et al* (1997) J Eng Med 211(2):167-80; 7. Redhead (1979) Prothet Orth Int 3(3):126-136; 8. Lee & Zhang (2007) Med Eng & Phys 29(8):923-929; 9. Meulenbelt *et al* (2009) Arch Phys Med Rehab 90(1):74-81

ISPO National Study Day – Prosthetic Day 4th November 2010

ISPO is the International Society for Prosthetics and Orthotics. The format of their recent study days has been one day focused on prosthetics and one on orthotics. Chair of ISPO is Laura Burgess who is the Amputee Physiotherapist at Charing Cross Limb Fitting Centre and she is an active member of BACPAR. Although initially reluctant to leave home in South London at 5a.m. for my day trip to Newcastle, and despite my return train being cancelled, it was thoroughly worthwhile, an educational experience and I really enjoyed the day.

There were many familiar BACPAR faces representing a variety of limb fitting centres and private companies. The BACPAR stand was on display with the other prosthetic exhibitors.

Maggie Uden, Physiotherapist at Queen Mary's Hospital, presented " Case Presentation: An overview of 6 years prosthetic use of the first female transfemoral osseointegration volunteer in the UK". She discussed the differences the procedure and subsequent rehabilitation had made to the young lady's life, function and gait. Dr Sooriakumaran also discussed Roehampton's experience and the results since 1997 of using the Branemark Integrum osseointegration system. Replacement of abutments and incidence of infection remain 2 concerns that they feel need further investigation and development.

Another familiar Physiotherapy speaker was Bob Gailey who spoke re: trauma, higher level exercises and the creation of a new outcome measure for higher functioning amputees - Comprehensive High Activity Mobility Predictor (CHAMP). The article re: the creation of CHAMP will be published later this year; it follows on from the existing outcome measure the Amputee Mobility Predictor (AMP) – AMP Pro and AMP no Pro. He spoke re: targeting balance, power, speed/agility and showed video clips demonstrating exercises that were multidirectional, focused on hip proprioception, single limb stance, stop/start, symmetry and hip stability.

There were two very interesting presentations from Oskar Aszmann and Hubert Egger from Vienna -"Selective Nerve Transfers for Improved Controlling and Integration of Myoelectric Artificial Limbs". The surgery involves attaching nerves to the pectoral muscles in a trans humeral amputee so when a patient thinks about, for example, extending their wrist a certain part of the pectoral muscle contracts. Up to 6 electrodes are then put in the socket around the pectoral area. They then demonstrated that this results in improved ability to use the myoelectric upper limb prostheses. Technological neurological rehabilitation store individual patterns of the patient, and they are fitted with a prosthesis 1 year post the procedure. Although currently it is very resource intensive it is a very exciting development.

The next part of the study day focused on trauma, a surgeon spoke re: the difficulties of contamination of the wound and therefore need for debridement, staged procedures, and the difficulties of skin and muscle viability and heterotrophic ossification. Keren Fisher discussed Post Traumatic Stress Disorder (PTSD). This included the criteria for diagnosing PTSD. She also stated that the evidence supported no intervention immediately in the 1st month. Current treatment includes the patient focusing on the traumatic event and building up the time they can do this for. Current thinking is that patients should not distract from the event and distraction can mean people presenting a significant period later with PTSD and additional problems such as alcohol and drug abuse. A prosthetist discussed his experience at Headley Court and the prosthetic difficulties such as multiple injury's, multiple amputation, volume fluctuation, SSG and residual limb length. Bob Gailey spoke of his experience with American service personnel, patients from Haiti and road traumatic accidents. They all recognised that improved response teams and medical/surgical improvements resulted in people surviving with very complex disabilities, physical and psychological problems. A lower limb bilateral amputee now a veteran gave an inspiring talk re: his approach following his amputation including his role in films, casualty simulation for army personnel and medics, and sports.

It was an excellent day and it was very well organised. I have already incorporated some of the higher level balance and speed exercises into my practice in one to one treatments and our exercise class. I also feel that our service is likely to receive more veterans in the future and the trauma element of the day was therefore very relevant. Many thanks to the speakers and the ISPO committee for organising the event. I would highly recommend future ISPO events to BACPAR members.

Nichola Carrington - Clinical Lead Physiotherapist, Bowley Close Rehabilitation Centre
South Thames BACPAR Representative

Risks to the Contra-lateral Foot of Unilateral Lower Limb Amputees: A Therapist's Guide to Identification and Management.

Authors:
Fiona Brett
Clare Burton Mary Duguid
Maria Brown Tim Randell
Karen Clark Dianne Thomas

Introduction:

In the UK 4957 amputees were referred to prosthetic services in the year ending March 2007.[31] After 1-5 years it is reported that 26-53% of the dysvascular amputee population require a second amputation.[29, 30,32] Amputees who have or develop cardiovascular problems and/or diabetes are at increased risk of amputation of their contra-lateral foot.[1, 7, 20] For people with bilateral amputations the literature reports high rates of disability, depression and mortality with a lower rate of prosthetic use.[32, 33] It is therefore important that therapists are aware of the risk factors associated with contra-lateral amputation, and work with podiatrists and the MDT to minimise the risk.

Scope of the guideline:

BACPAR recommend that care of the remaining/ contra-lateral limb is included in therapeutic practice. [28] These guidelines are intended to be a practical resource for therapists working with lower limb amputees and should be used alongside other current published guidelines. [17,21,22,28]

Generic risk factors which can affect the contra-lateral foot:

Additional risk factors which should be considered in the holistic management of the amputee – these are not fully covered in this guideline.

- Cardiovascular risk factors [5,22]
  - Hyperlipidaemia [22]
  - Hypertension [22]
- Diabetes mellitus [5,10,17,18,22]
  - Duration of diabetes [21]
  - Poor glycaemic control [21]
- Obesity [7,22]
- Previous ulceration/amputation [5,6,7,8,14,18,20,25]
- Smoking [5,22]

Areas for further research:

- To investigate the impact of minor trauma caused by home environmental incidents on ulceration/amputation rates to the contra-lateral foot of unilateral amputees.
- To establish the influence of patient foot care education on the ulceration/ bilateral amputation rates found within the unilateral amputee population.
- To establish current effectiveness of unilateral amputee's self monitoring regimes of their contra-lateral foot.
- To ascertain the most effective adult educational strategies for unilateral amputees to enable efficient self monitoring & foot care regimes to be established.
- To determine the pathophysiological impact of pivot transfers and hopping on the 'at risk' contra-lateral foot to help guide selection of therapeutic mobility techniques.

Risk factors addressed by the guideline

Intrinsic risk factors Does the patient present with:	Action
Diabetes with additional risk factor [1,5,6,7,17] (B)	▪ Ensure patient is under the review of the appropriate diabetic specialist [7,14,17,20,21] (B) ▪ If possible minimize all modifiable risk factors [5,7,10,14,17,18,20,21] (B)
PAD [3,6,8,14,17,18,25] (B)	▪ Assess PAD status [3,4,5,8,17,18,21,25] (B) ▪ Ensure patient under care of vascular specialist [8,17,22] (B)
Callus [6,8,17] (B) Foot deformity [6,8,11,17,18,20,25,27] (B) Sensory peripheral neuropathy [1,2,4,5,6,7,8,11,16,17,18,19,25,27] (B) Ulceration [1,6,7,8,11,12,18,25] (C) Minor foot trauma [4,5,6,8,18,19,25] (D)	▪ Educate patient regarding risk factors and foot care [8,15,17,21,25,26] (B) ▪ Ensure patient under care of appropriate multidisciplinary team foot care specialist [4,7,8,11,12,13,17,25] (B) ▪ Refer to specialist service to assess footwear needs [5,4,8,11,12,14,17,19,21,25] (B) ▪ Visual and sensory assessment of foot [2,4,6,7,8,12,14,16,17,18,20,21,25,27] (B)
Limited mobility of foot and ankle joints [6,8,12] (D)	▪ Ensure patient under care of appropriate multidisciplinary team foot care specialist [4,7,8,11,12,13,17,25] (B) ▪ Refer to specialist service to assess footwear needs [5,4,8,11,12,14,17,19,21,25] (B) ▪ Assess active and passive range of movement of foot and ankle and treat accordingly [6,8] (D)

Extrinsic risk factors Does the patient present with:	Action
Inadequate footwear [4,5,6,8,11,12,14,17,18,19,25] (B)	▪ Ensure patient under care of appropriate multidisciplinary team foot care specialist [4,7,8,11,12,13,17,25] (B) ▪ Refer to specialist service to assess footwear needs [5,4,8,11,12,14,17,19,21,25] (B)
Abnormal loading of limb during mobility and activity [6,8,9,11,12,18,24] (D)	▪ Assess mobility and activity and adapt accordingly [2,6,18,24] (D) ▪ Optimise prosthetic stability and gait [9,11] (D)
Inability to complete self care. including: social behaviour, cognition, vision [6,7,8,18,19,25] (D)	▪ Assess and address ability to self-care ☑
Minor foot trauma and environmental hazards [19,23] (D)	▪ Assess and minimise environmental hazards ☑

Literature search (Evidence limited by availability of good quality articles.)

Databases searched
- CINAHL 1983 to 2008
- Medline 1966 to 2008
- PEDro
- Cochrane
- OT seeker
- Amed 1985 to 2008
- Hand search of relevant literature reference lists

Key words
- Lower limb amput*
- Diabetes (and/or)
- Vascular (and/or)
- Risk factors (and/or)

Studies
- Any experimental study, systematic review or narrative review

Inclusion criteria
- Adults aged 18 & over
- Male & female
- All levels of lower limb amputation
- Articles written in english language

Exclusion criteria
- Upper limb amputations
- Children aged under 18 years

Levels of evidence :[34]

1++	High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1+	Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias
1-	Meta-analyses, systematic reviews, or RCTs with a high risk of bias
2++	High quality systematic reviews of case control or cohort studies High quality case-control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+	Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
2-	Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
3	Non-analytic studies, e.g. case reports, case series
4	Expert opinion

Level of evidence awarded to each paper on basis of critical review by two group members.

Grades of recommendation :[34]

This relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

A	At least one meta analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results
B	A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or extrapolated evidence from studies rated as 1++ or 1+
C	A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or extrapolated evidence from studies rated as 2++
D	Evidence level 3 or 4; or extrapolated evidence from studies rated as 2+

Grades of recommendation awarded following group discussion on evidence available.

☑ **Good practice point:**

Recommended best practice based on the clinical experience of the guideline group in the absence of supporting evidence.

Abbreviations list

BACPAR	British Association of Chartered Physiotherapists in Amputee Rehabilitation
MDT	Multi-Disciplinary Team
PAD	Peripheral Arterial Disease
RCT	Randomised Control Trial

Reference list – articles included in the formation of the clinical guideline and level of evidence awarded:

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P. Broomhead
Honorary Education Officer, BACPAR.

West Midlands BACPAR Region Introduction to Amputee Rehabilitation Study Day

Tuesday 25th January 2011
Maltings Mobility Centre Wolverhampton

Talks led by:
Rajeev Singha Associate Specialist Amputee Rehabilitation North Midlands Limb Fitting Clinic (NMLFC)
Judy Moule Counselor Maltings Mobility Centre (MMC)
Ruth Woodruff Senior Physiotherapist NMLFC
Sarah Crick Senior Occupational Therapist NMLFC
Louise Tisdale Clinical Specialist Physiotherapist MMC
Rachel Neilson Senior Prosthetist MMC

The West Midlands regional BACPAR group aims to run an Introductory Course every 18 months. This one was very much in demand after we had to cancel one organized for 2009 through a lack of interest.

21 delegates attended from a variety of workplaces and professions from throughout the West Midlands and we had 1 visitor from Hertfordshire and 1 from Gloucestershire; Physiotherapists. Vascular Nurse Specialist, Occupational Therapists and Therapy Assistants.

The presentation team was ably supported by two patients (1 transfemoral and 1bilateral transtibial) to get their information across.

Delegates were provided with a Learning Needs assessment tool in advance to ensure they got the most out of the day.

Overall feedback was very positive. 99% of delegates found the day very informative and extremely useful to their practice. They appreciated the low cost.

The room was criticized for being full but with changing rooms for the practical sessions this helped to alleviate this issue.

Louise Tisdale and Ruth Woodruff

Southwark NHS
Primary Care Trust

Southwark PCT Rehabilitation Centre Early

Mobilising Protocol

Amy Jones, Clinical Specialist Physiotherapist

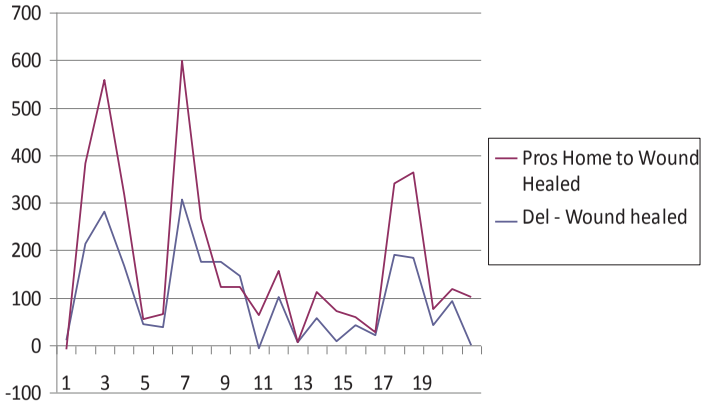
Background : Following in the success that Manchester Prosthetics Centre were
having providing dysvascular trans tibial amputees with prostheses despite their wounds failing to heal, we set up our own service in 2005. To date we have treated 23 patients (1 is ongoing and the data is not included).

Definition of an open wound :
minimum 1 x 1cm2 21 days post op.

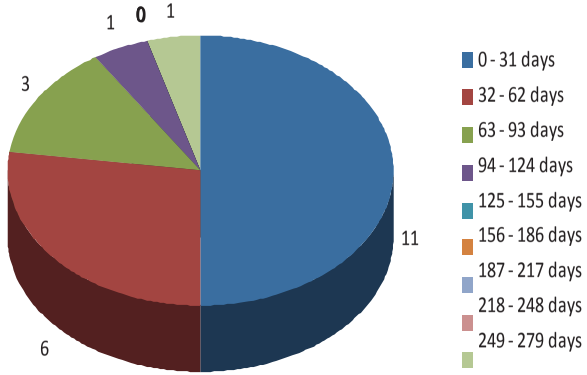
~~Inclusion~~
•Wound 1 x 1 cm2 or larger 21/7 post op
•Pt medically stable to commence out patient rehab.
•Able to attend a minimum of once weekly appointments at Southwark PCT Rehab. Centre

Exclusion
•Wound deterioration by > 10 percent
•At patients' request
•At the request of the clinical team E.g Non compliance with attendance
•Other complications eg. FFD, unstable angina, at risk other

Time Taken For Wound To



Time From Delivery To Taking Prosthesis

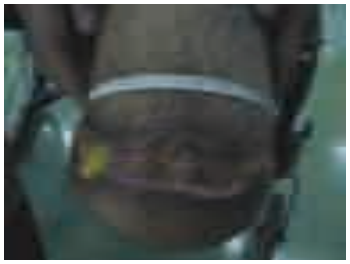


Summary

We have had very positive results with this innovative work. If prostheses were not supplied for these patients, they would be wheelchair bound; becoming deconditioned and developing contractures. Prosthetic provision has enabled these patients to regain independent mobility faster than if standard practice was followed. They have been able to return to work and actively participate in family and social activities.

Case Study 1

Southwark NHS
Primary Care Trust



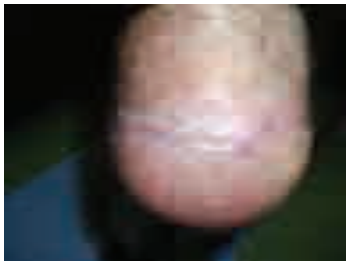
November 2004.

1st PPAM Aid session

1 month into into EMP with prosthesis (December 2004)

Early Feb 2005

Mid Feb 2005



April 2005

39 year old male
Our 1st patient !
Type 1 DM for 31 yrs
R TTA 2002
L TTA 7/2004 - wound not fully healed
Fell on day of D/C

- Wound size 12 x 5 cms
- Took prosthesis home on 1st November

1/10/04 - MDT Ax
12/10/04 - Cast
1/11/04 - pros home
31/3/05 - wound healed

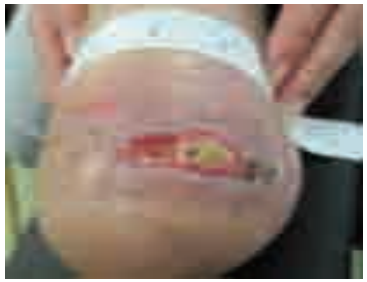
- Days from delivery of prosthesis to wound healed : 166

Total No of sockets : 6

Mobility Score : SIGAM F
(Normal or near normal walking)

Case Study 2

Southwark NHS
Primary Care Trust



22.4.2010

12/5/2010

19/5/2010

16/6/2010

14/7/2010

44 year old female

Type 1 DM

Failed forefoot amputation

TT Amp 4/3/2010

❖Wound size 1.5 X 4.2 cms

22/3/2010 - MDT Ax
7/4/2010 - Cast
24/4/2010 - pros home
14/7/2010 - wound healed

❖Days from delivery of prosthesis to wound healed : 92

Total No of sockets : 3

Mobility Score : SIGAM E (Independent : walks 50ms or more without walking aids except to improve confidence in adverse terrain or weather)

Amputee Football World Cup Experience

A squad of 18 players went to the 2010 Amputee Football World cup held in Argentina, I was lucky enough to attend as one of the two team physiotherapists. This was a pleasant change to my day job as a musculoskeletal and amputee rehabilitation outpatient physiotherapist!

I became involved with the team after becoming the physiotherapist for a newly formed East Anglian team. This occurred after attending a recruitment day for players, sparked off by my interest in amputee rehabilitation.

I was then invited to a Great Britain match against France in July which was held in Manchester, followed by an invite to travel with the squad to Argentina. Naturally I said yes without hesitation. I took leave and the time was voluntary but all my expenses were covered. We were away for just over a fortnight. The journey was very long and tiring and took us over two days. When we did eventually arrive, the conditions left a lot to be desired! A large church hall with 18 beds in for the squad and an attic room for me, and two toilets between twenty of us, one without a seat! However the hospitality and friendliness of the town's people was next to none and the experience worth every minute of the long journey and the basic conditions.

The tournament ran from the 17th to the 24th of October and was held in Crespo, which is in the province of Entros Rios in Argentina. The British (GB), Russian, Haitians and Angolans teams were based in a small town called Viale; an hour from Crespo and other teams were based in Paranna; the capital of Entros rios and Crespo. Games were played in all 3 venues. 15 countries took part, which was the largest tournament to date.

The tournament began with an opening ceremony in Crespoin in which everybody played. GB then kicked off our group stage games playing in Viale against the newly formed Haitians, a game we won.

The next day we played the Russians; who were previous tournament winners, sadly we lost but not without a valiant fight! We then qualified for the second round by beating Angola. In this game one of our in form strikers fractured his metatarsals which meant he was out for the rest of the tournament. Joining our striker who had already sustained the same injury. Luckily this young gentleman did wear a prosthesis however he wasn't very confident on it and it wasn't fitting correctly. With my combined amputee and general sports/outpatient knowledge I was able to make the prosthesis much more comfortable and a better fit and with my guidance he became much more confident in its use.

The second round games were all played in Paranna, which was an hour's commute away, not ideal when we were playing games at 21:00. But this did mean we missed the heat of the day. Sadly we lost to defending champions Uzbekistan, then the next day to Russia again and after light failure, despite disputing we lost to Brazil.

This was the end of our race for the title but we still had the play offs. We went out on a high after beating Ukraine to finish 7th overall. Not ideal but considering injuries and the lack of practice the team had together, this was a good result.

Overall injuries were fairly minor other than the metatarsal fractures and a rotator cuff tear.

I was kept busy doing lots of things not just physiotherapy; thankfully a little GCSE Spanish was still in the memory and came in very useful! I ended up being general organizer, co coordinator, kit woman and many other jobs. Have you ever spent time with 18 men?!. I would not have changed it for the world however. It was a brilliant experience and I loved every minute of it and can't wait to go away with them again.

Besides playing in the tournament and training we spent a lot of time visiting local schools and colleges chatting with the students and teachers. The local children would also come to where we were staying and we would 'kick around' with them. The hospitality of the town was overwhelming and we were treated like stars; asked for autographs and photos wherever we went. It was an amazing experience and we made many new friends.

For those of you who don't know about Amputee football it consists of 6 players plus the goalkeeper. The game is played without a prosthesis and on metal forearm crutches. Outfielders are only allowed 1 leg and goal keepers must have an arm missing/deficient. They play on a smaller pitch than normal (51m by 31m) and the goals are smaller (2m high x 3m wide x 1m deep). Residual limbs may not be used to hit the ball and the use of crutches is classed as hand ball. Crutches cannot be used to hit other players and if they are then the player is sent off. The goal keeper is not allowed out of his area and if he does intentionally he is also red carded and a penalty is awarded. 2 x 25minute periods are played with a 10minute interval between halves.

The players on the squad range in ages from 18 to 45 with varying levels and causes of amputation. We have several hind quarter/hemipelvectomy amputees who never wear limbs and the predominate cause of these types of amputation are cancer. Most of the others wear prosthesis in their daily lives and are Transfemoral or Transtibials amputees. The causes consist of trauma, congenital and cancer. Most are well established amputees but we do have 2 players who had their amputation early last year.

At present we are setting up a national league consisting of 7 regions. These are the Home Counties, London, Midlands, South West and Wales, Manchester, North East, North West and Yorkshire. The training venues in each region are to be announced soon. I will be mainly involved with the home counties region which will be held in St Albans as this is the most local region to me.

Once this league is up and running well then we will be able to lobby better for the sport to become an Olympic sport, the process is under way but there is a long way to go. This will also hopefully allow funding and support to improve. At present the sport gets very little help and relies on a lot of fund raising by the players themselves. The FA gives very minimal support at present but we hope to change this for next season.

We are constantly looking for players so if anyone has any patients or knows of anyone who may be interested please do not hesitate to contact me or GBAFA./EAFA. The more players we can recruit the better the national leagues will be. We have set up the 7 teams around the country so hopefully players can get to a team no further than an hour and a half away from their homes. They hope to train once a month to begin with and then see how this progresses. In the interim weeks players can train with local teams to help with their skills and fitness. We do have a player who plays weekly with his prosthesis on for a 5 a side able bodied team.

2 hour development sessions are organized for all the regions on January 15th, February 12th, March 13th, April 9th, May 15th and June 11th. These will be for anyone who is interested in getting involved, whether they have played before or not. For more details please contact myself at katrina.wilkin@ntlworld.com or visit www.EAFA.co.uk.
League meetings will also be held, dates to follow.

Major tournaments are the European championships this year in Russia and the World Cup next year in Japan.

Katrina Wilkin - OAC

PHYSICALLY DEMANDING VISUALLY SPECTACULAR

Tim Burrows is no stranger to harsh environments. Currently one of the top 5 British amateur riders in the Masters Motocross Series, Tim spends his weekends racing on some of the toughest circuits in the country. The terrain can range from deep sand to hard clay and that's when the weather's good!

Tim rides a 350cc KTM bike. His right knee disarticulation prosthesis includes the new KX06, which solved the breakage problems he was having with other knees he tried, when training to get back into competitive Motocross. Clearly any rider needs confidence in their kit but, in Tim's case, being able to rely on the integrity of the prosthesis is critical to surviving the race! See our website for spectacular video of Tim in action.

www.endolite.co.uk

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Predictive factors of trans-femoral prosthetic rehabilitation

Introduction

In 2006/2007 trans-femoral amputations accounted for 39% of all amputees in the United Kingdom, of these 69% were male and of the male trans-femorals, 82% were over the age of fifty-five years (National Amputee Statistical Database: NASDAB, 2009). For the purposes of this essay five male unilateral trans-femoral amputees between fifty-nine and eighty-five years were chosen to provide a good representation of the amputee population. Nehler et al. (2003) states that mobility is an important goal for both patients and physicians post-operatively. However, Cumming et al. (2009) identifies that unilateral trans-femoral amputees have a low prosthetic success rate in terms of functional mobility. It is suggested that 65% more energy is required to mobilise with a trans-femoral prosthesis and only 25% of trans-femoral amputees over fifty years achieve successful community mobility, (Cumming et al., 2009). Current literature discusses the factors that may affect rehabilitation and predict prosthetic success. These include co-morbidities (Cumming et al. 2008, Nehler et al., 2003, and Munin et al., 2001), age (Davies and Datta, 2003, Schoppen et al., 2003 and Munin at al., 2001), contractures (Cole, 2003 and Munin at al., 2001), pain (Geertzen et al., 2005 and Marzoug et al., 2003), pre-prosthetic rehabilitation (Broomhead et al., 2006, Marzoug et al., 2003 and Parry and Morrison,1989), patients goals and motivation (Cumming at al., 2009, Nehler et al., 2003 and Cole 2003), previous mobility (Cumming et al., 2008 and Cole 2003), social support (Cumming et al., 2009) and psychological factors (O'Neill and Evans 2009 and Larner et al., 2003).

In clinical practice the decision regarding a patient's ability to be a prosthetic user should be made by the multidisciplinary team (MDT) in conjuncture with the patient (Broomhead et al., 2003). Marzoug et al. (2003) state that determining patient's success with a prosthesis is difficult even for an experienced team and can result in almost half the patients barely functioning. Therefore an MDT must be aware of the influencing factors to ensure the correct decision is made for the patient. This essay will critically appraise the literature, reflect on five trans-femoral case studies and suggest guidance on the predictors which may be used to deem someone suitable for prosthetic rehabilitation. It is beyond the scope of this essay to look critically in-depth at all factors identified by the literature, therefore it will focus on the most pertinent factors to the five case studies and the authors clinical practice.

Co-morbidities

Dysvascularity is the major cause of trans-femoral amputation, accounting for 73% of all lower limb amputations (NASDAB, 2009). This is reflected in the case studies, as all five had their amputation for dysvascularity. Case studies C and D were also diabetic which mirrors NASDAB statistics for 2006/2007 which show 28% of dysvascular trans-femoral amputations are diabetes related (NASDAB, 2009). Dysvascularity was also the cause of case study D's re-amputation. The incidence of contralateral limb amputation for diabetic patients is 50%, five years post amputation (Izumi et al., 2006). The risk being so high it must be considered due to the impact it can have on prosthetic rehabilitation such as abandonment of current prosthesis. This occurred with case study D who abandoned two months after fitting of his prosthesis. It may be argued that in such a case the fitting of a prosthesis was a waste of National Health Service (NHS) resources however, correct prediction of a contralateral amputation is difficult Vascular disease causes the build up of fatty deposits in the walls of the arteries which causes insufficient blood flow to the muscles and other tissues (SIGN, 2006). This in effect may lead to cardiopulmonary disease. The retrospective study by Nehler et al. (2003) collected data about co-morbidities for vascular trans-tibial and trans-femoral patients and found trans-femoral patients had a statistically significant higher incidence of heart failure ($P = 0.02$) and myocardial infarction ($P = 0.04$). Data for all patients over a five year period was included in this study with no exclusions therefore the author feels it can be thought of as clinically significant. All five cases suffered from some cardiopulmonary disease varying from hypertension to a cardiac event. Vascular disease can also be the cause of a cerebral vascular accident (CVA) this was true for case studies B and E and was a consideration for the MDT because of the residual physical effects on the patients.

Munin et al. (2001) carried out a retrospective study to determine predictive factors for prosthetic rehabilitation. Co-morbidities were recorded, however, the data showed no statistically significant correlation between this and successful rehabilitation (ability to ambulate more than 45m). This may be because the patients included in this study were ones who were deemed to have prosthetic potential. To get a true correlation all amputees would need to be looked at. However, Hamamura et al. (2009) and Cumming et al. (2008)'s retrospective studies both found statistical significance ($P<0.01$ and $P<0.05$ retrospectively) between the number of co-morbidities and successful prosthetic rehabilitation. Unfortunately neither study reported the number and type of co-morbidities which would have made this data more clinically useful. Other co-morbidities were seen in the five case studies including fractures, respiratory problems and osteoarthritis. Case study A had a previous fracture to his right hip, on objective assessment post amputation he was seen to have generalized weakness around his hip and a flexion contracture. A certain degree on this may be attributed to

the fracture and meant he struggled with his prosthetic rehabilitation.

Age

Schoppen et al. (2003) investigated predictors of functional outcome for amputees and found that age above sixty years was one of the main factors in poor prosthetic functional outcome. This was a prospective cohort study and only included five trans-femoral amputees, with no clarification of the separate trans-femoral and trans-tibial results, but is further supported by Munin et al. (2001) and Davies and Datta (2003) who concluded that the ability to use a prosthesis reduces with age. This is reflected in the case studies, B and C were the youngest patients at sixty-two and fifty-nine years respectively, and the most successful with prosthetic rehabilitation and C the only community ambulator. The eldest patient, E, was eighty-five and not deemed suitable for prosthetic rehabilitation and although case studies A and D started prosthetic rehabilitation they eventually abandoned limb use. On reflection of the literature and the outcome of the case studies the author feels age is an important factor.

Contractures

Munin et al. (2001) suggests that contractures should be aggressively treated prior to prosthetic prescription with Cole (2003) stating it should be delayed until the contracture is no greater than 10°. Cole's paper is based on clinical practice in America and uses no current literature to back up opinions and therefore be would be thought of as expert opinion. The opinion is from a clinician working in a different health care setting to the National Health Service so needs to be applied with caution. However, the author notes this is similar to their clinical practice but a more evidence based study would be beneficial to support this. Munin et al. (2001) found a statistical significance ($P = 0.02$) between the absence of contractures and successful rehabilitation, however the severity of the contracture was not documented which would be important clinically. Two case-studies, A and B, presented with fixed flexion contractures of their hips (15° and 10° respectively). Case study A was able to mobilise short distances indoors but after discussions with patient, therapists, consultant and prosthetist he later abandoned his prosthesis. Munin et al. (2001) defines successful rehabilitation as being able to ambulate at least 45m. By this definition B would also be deemed unsuccessful therefore the two case studies with contractures may be thought of as failing with their prosthetic rehabilitation. The author has found in clinical practice a patient may be considered for a prosthesis by the MDT with a flexion contracture of up to 25° (BACPAR, 2007), this is not supported by the literature and the case studies have shown a poor outcome for patients with a less severe contracture.

Stump pain (SP) and Phantom Limb Pain (PLP)

Geertzen et al. (2005) researched the chance of a patient walking 500m with a prosthesis. It was found to be reduced for patients who were trans-femoral, vascular and experiencing pain. The severity of pain was not measured it was merely documented whether they experienced PLP or SP. The author feels the use of a numerical rating scale would have provided useful information as to how the severity of the pain effects mobility. Clinically, if a patient experiences PLP it is often discussed with the consultant who looks to manage it with medication. This was not the case for B who's initial prosthetic use was limited by PLP, but this was treated successfully with acupuncture and he was able to continue. Marzoug et al. (2003) found that 14% of their subjects were rejected for a prosthesis because of SP however there was no mention of PLP so whether this was taken into account is unclear. This study also only looked at patients who were doubtful for being prosthetic, therefore this figure may be different when looking at the whole trans-femoral population. Only one of the five case studies experienced PLP or SP that affected their rehabilitation, however, the author feels it is important for the MDT to be aware of how this can delay treatment. There are treatment options for both SP and PLP therefore the author feels it should not exclude someone from prosthetic rehabilitation.

Pre-prosthetic rehabilitation

All of the case studies participated in rehabilitation by the MDT aiming to maximize functional independence. Broomhead et al. (2006) suggests early walking aids (EWAs) should be considered as an assessment and treatment tool in the rehabilitation process. Parry and Morrison (1989) advocate the use of the Femurett to assess a trans-femoral's ability to use a prosthesis, but do not discuss the factors that may further influence a person's ability. An EWA was not used for case study E due to his inability to transfer or stand independently in the parallel bars therefore his rehabilitation consisted of transfer practice. All other case studies were assessed with a Femurett, C and D began use two weeks post amputation whereas it was four months for B due to him being initially slow with rehabilitation. Munin et al. (2001) supports this by suggesting that delayed fitting may be a better alternative in some cases. Following assessment their progress was discussed with the consultant and prosthetist and a decision was made about prosthetic potential. Marzoug et al. (2003) used refurbished prosthetic components with custom made sockets to assess patients who were thought to be doubtful for prosthetic rehabilitation, and found that their results were different to that of those using an EWA. They do not state which EWA results they used for comparison or how the results differed. Marzoug et al. (2003) advocated this method of assessment, however, this is more difficult to do clinically

as it requires more input from a prosthetist and the availability of appropriate prosthetic components.

Previous Mobility

A patient's previous mobility can provide the MDT with important information such as overall balance, strength and endurance and is an important predictor for prosthetic use (Cole, 2003). Cumming et al. (2008) carried out a retrospective cohort study of trans-femoral amputees and found that limb use at six months correlated to a patient being a community ambulator prior to their amputation. The data included all trans-femoral patients within a five year period, however, numbers of community ambulators compared to non community ambulators, distances walked and statistical analysis are not evident therefore it is difficult to fully appreciate the clinical relevance. All but case study E may be thought of as community ambulators prior to amputation, however, only case study C mobilised more than 500m unaided and he was the most successful. Cumming et al. (2008) reviewed mobility after six months, and found only 53% were independently mobile indoors or outdoors at this stage and those who had stopped had poor mobility pre amputation which is similar to case studies A and D who had abandoned six months after fitting. The author feels that distance and aids used should also be considered when looking at previous mobility.

Social Support

Cumming et al. (2009) states how help and support are important influences on a person's independence with their prosthesis. This can be seen with case study B who had little support at home. He struggled to don his limb independently or safely mobilise without supervision therefore he was only able to use his limb with therapists which meant he couldn't be functionally independent at home. This is in contrast to case study D who lived with his daughter therefore he was able to take his prosthesis home sooner as she was able to assist with donning and supervising his mobility. From reviewing the case studies and from clinical experience, social support is especially important for those patients who are considered borderline. Case study C lived alone but because he was of a higher functioning level this did not affect his independence with his prosthesis as he was able to don his limb and mobilise independently.

Conclusion

It can be seen from the literature (Nehler et al., 2003) and the case studies that the rate of successful prosthetic use for trans-femoral amputees is poor. Correct prediction could improve cost and time efficiency, so the MDT must be aware of factors that will influence their decision. The literature suggests that age over sixty, presence of contractures and poor previous mobility are the most important indicators of unsuccessful prosthetic rehabilitation. However, it is not possible to generalize as other factors will influence individual cases meaning full assessment and clinical reasoning remain important for the MDT. The author intends to develop the use of cognitive tests in clinical practice.

The ability to mobilise with a prosthesis is often seen as the ultimate goal and measure of success when determining functional ability for trans-femoral amputees. However, clinical practice suggests someone can be functionally independent in their wheelchair, Nehler at al. (2003) recognised patients may find this physically less demanding and may be the correct choice for frailer patients with multiple co-morbidities which is pertinent for the patient group seen in the NHS.

Elizabeth Bouch

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BACPAR Bursaries

Bursary money will be available at the next executive BACPAR meeting in Spring 2011. Bursaries are available to support BACPAR members. Awards may be granted towards presenting a paper at a conference, attending relevant courses and conferences, or to help with a project related to amputee or prosthetic rehabilitation.

The bursary guidelines and application form are downloadable from iCSP, or available from your regional rep.

Case studies

Case study summary

	Case study A	Case study B	Case study C	Case study D	Case study E
Co-morbidities	6	4	4	7	7
Age	65	62	59	77	85
Contractures	Yes	Yes	No	No	Yes
Pain	No	Yes but treated	No	No	No
Pre-prosthetic Rehab	Femurett	Femurett	Femurett	Femurett	Transfer practice
Goals and motivation	Keen to be prosthetic - unmotivated	Keen to be prosthetic - motivated	Keen to be prosthetic - motivated	Keen to be prosthetic - motivated	Keen to transfer - motivated
Previous mobility	200m with walking stick	500m with walking stick	1000m unaided	200m – 400m with 2 crutches	5m with walking stick
Social Support	Non resident family	Carers	Non resident family	Lives with daughter	Carers and wife
Psychological factors	Not formally assessed	Not formally assessed	Not formally assessed	Not formally assessed	Not formally assessed
Prosthetic outcome	Abandoned	Indoor mobility with supervision	Community ambulatory	Abandoned	Non-prosthetic

In January 2011 I spent a week working with amputees and leprosy in Central India.

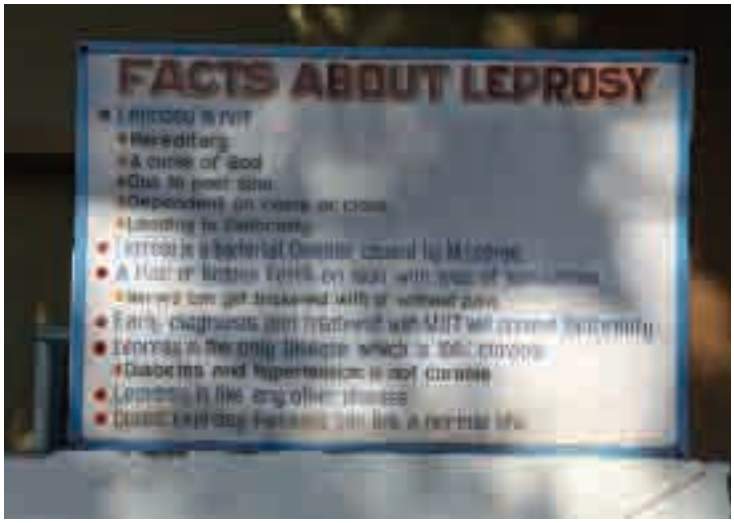
'Navchaitanya – New Limbs for New Lives, Anandwan, Maharashtra, India' BACPAR journal, Autumn 2009, Issue No 31 outlines the cause and symptoms of leprosy and describes a community founded in 1949 for people with leprosy.

Since 2001, three UK therapists – two Occupational Therapists and a Physiotherapist – have between them visited Anandwan annually to assist with the pre and post operative management of hand tendon reconstructive surgery. The need to provide a prosthetic and orthotic service for the community's amputees was apparent and in collaboration with Otto Bock and Anandwan's medical director, a proposal for suitable premises and specialist equipment for amputees was produced. Fundraising activities were successful and in early 2007 a prosthetic unit was opened to the delight of all, in particular to the many amputees who had previously been unable to access or use prostheses in a meaningful way. Following this, a small charity 'New Limbs for New Lives' was established to provide ongoing equipment and specific help for patients and staff.

Despite an evolving prosthetic service with a resident prosthetist, there has been no physiotherapy service for the Anandwan amputees. In my capacity as Chair of BACPAR at the time and working at Roehampton where Penny Penton (one of Anandwan's visiting UK OTs) had previously worked, I heard about the project. In the first instance I invited Penny to tell members about the project via the journal and then in turn she invited me to accompany her to Anandwan to assess the need for physiotherapy. What an opportunity! I'd already been to India twice and needed no persuasion to return, especially in a 'working' capacity. Despite a little uncertainty of what to expect, it was exciting to finally be going and it felt as if we were setting off on an 'expedition', armed with rolls of theraband (and loo roll!), gym balls, the PIRPAG exercise sheets, a donated laptop, guidelines and books…..

Rather like 'hearing' jingle bells on Christmas Eve (!) I'm sure I could 'smell' curry as the plane taxied along the runway on our arrival in Mumbai…..India is an assault on the senses in every way. It's noisy, colourful and frenetic. At the same time it's exhilarating, thrilling and inspiring.

It was down to business immediately with a meeting with Otto Bock India Directors Bernard O'Keefe (our paths had crossed years ago at Roehampton) and Amit Mukerji at the grand and distinguished Taj Mahal Palace. It was apparent that Otto Bock is committed to providing a high quality service to Anandwan at an affordable cost. A visiting clinic was discussed as a practical alternative to a resident prosthetist where professional isolation can be an issue.



Prosthetic training in India takes places in national institutions and is typically a three and a half year graduate programme with a further six month internship. Between fifty and sixty prosthetists graduate annually however courses do not reach ISPO Category I or II standard. Employment is in the non-

governmental organisation (NGO) sector, within the national institutions or the private sector and a small number are employed by Otto Bock where considerable money is invested in post graduate training. The Indian workforce is very mobile and with their language skills many seek employment in the USA after gaining some experience in India.

It's estimated that around 40% of Indian amputees do not receive a prosthesis of any sort and outcomes in terms of community use depends on the service. Prostheses tend to be conventional style fittings through the charity / NGO sectors or through government workshops. Apparently India has an over supply of 'sub-basic' prosthesis suppliers and a huge under capacity for quality service; the typical low level NGO prosthesis does not always allow a return to previous economic activity and allows limited mobility. It is important to remember that the Indian amputee population is much younger and therefore more active than the UK.

A flight from Mumbai took us to the city of Nagpur, the geographical centre of India. Known as the orange growing capital of the country, it lists a shiny shopping mall and a less shiny prison amongst its sights! Our sight seeing was limited to Otto Bock's most recently opened centre, modest in size but light and very well laid out with workshop and pristine fitting and assessment rooms (shiny enough to be added to the city attractions). A team of three CPO's (combined prosthetist orthotist), a technician, a receptionist and office boy were expecting their first clients that week. In the emerging Indian middle classes there is a demand for better outcomes and value and Otto Bock is meeting this demand with similar centres around the country. It is from Nagpur that an appropriate prosthetic service to Anandwan would be provided. Again, the hows and wherefores were discussed and we left for Anandwan two hours away by road, feeling confident and reassured.

Anandwan is a large and thriving village where approximately 1300 inhabitants with active (receiving treatment) or cured leprosy live. The population of fit inhabitants is growing as people with leprosy marry and have families. The community is also home to people with other disabilities. Penny says it is busier now with more motorbikes and cars; however most residents walk, use a bicycle or a three-wheeled trike. Off the main street there's a constant hive of activity with many production and training workshops – metal work (e.g. tricycles), weaving, tailoring, printing; several special needs schools, an agricultural college, an orphanage, an old people's home and two hospitals, one for the treatment of acute leprosy, the other the 'eye' hospital where in addition to hand surgery, there's an annual 'cataract camp' and more recently gynaecological surgery and a paediatric service has begun. Everywhere is spotless – in and outside; the medical director, Dr Pole, was understandably proud as he showed us new or donated equipment mostly funded by external benefactors although Indian charities are increasingly supporting these developments.

Accommodation for Anandwan residents ranges from inpatient hospital beds, dormitories for some of the school children to family houses dotted about, modest and attractively decorated with ceramic tiles on domed roofs. Penny and I were billeted in the guest house. En suite facilities included a choice of Indian or western style lavatory and the shower was a refreshing sloosh of water from a bucket – economy of resources an inherent philosophy of this community. Our beds had mattresses made in one of the workshops from compressed plastic bottles, surprisingly comfortable.

No sooner had we arrived we started to work. Altogether twenty people, mostly amputees, were assessed and received physiotherapy. The main cause of amputation in Anandwan amputees is leprosy, the second trauma, often railway accidents, trauma being the greatest cause of amputation in India. With the exception of two transfemoral amputees (one with a trans radial amputation) and one Symes, all were trans tibial. Ages ranged from 10 to approximately 65 (not everyone was certain of their age!). Despite the high incidence of diabetes in the Indian population only one amputee had diabetes and this was not the primary cause of his amputation. But like

diabetics, people with leprosy are susceptible to skin breakdown, ulcers and infection through sensory loss, leading to amputation for some. The remaining limb is often compromised, with loss of sensation, toes etc.

Muscle weakness, painful residuums, uncomfortable or poorly fitting sockets, height discrepancies or problems with the remaining leg were frequent findings. Poor gait was common with familiar deviations observed. With the exception of a few amputees who used no walking aids, all used crude crutches which limited effective muscle action and exaggerated some gait variations. Only one gentleman chose not to use his prosthesis due to discomfort. However it was good to see that all others used their prostheses for daily mobility, ADL and work. Prostheses were in various states of repair, several old and occasionally suspended by innovative but rather dubious means, self adjustment being common practice. Some had liners, others not, often lost. Colourful home made stump socks were used in plenty and bandaging was obviously popular with many layers and some evidence of distal congestion.

By fortunate co-incidence Gauri, an Indian physiotherapist, was staying in Anandwan for a few months, volunteering her skills. Guari is one of 25,000 Indian registered physiotherapists (compare the size of India to the UK and its 50,000+ registered physios!). But the profession is growing in India and the four year graduate courses are much sought after with admission via merit and the caste system. Like the prosthetists, a six month internship is required on graduation. Knowledgeable, very capable and enthusiastic to learn Gauri was a great asset to the team approach – which included the founder Baba' Amte's daughter-in-law Dr Bharati, medical superintendant of the amputee unit – and invaluable as an interpreter.

Assessment findings, treatment plans and interventions were recorded on the 'new' laptop. The treatment area in Anandwan's prosthetic unit was dusted down and used to capacity…..theraband was tied to the parallel bars to improve pelvic stability, gym balls were inflated and incorporated into core exercise work, mats were placed on the floor and the place quickly became a mini 'walking school'. Advice on residual limb and remaining foot care and stump sock management was a recurring theme. Additional members of the team included Sunil the prosthetic technician and Anandwan's cobbler who was extremely efficient in modifying footwear and producing leather slippers and insoles to aid prosthetic assessment.

In several cases physiotherapy and gait re-education was only going to be effective following prosthetic intervention and a 'combined prosthetic and therapy clinic' was speedily arranged. To my relief the prosthetists from Nagpur agreed with my prosthetic suggestions and the workshop facilities proved very satisfactory as new casts and measures were taken and changes to alignments, sockets and orthoses were quickly made.

Aware of the cost constraints of the Anandwan community in its status as a charity, Otto Bock selects materials and componentry relevant to the setting and each person's individual needs. Jaipur and SACH feet remain popular, laminated sockets are preferred for their relative ease to make, durability and low maintenance, and standard modular componenty will soon replace heavy exoskeletal prostheses. That said, two gentlemen who have each used their trans tibial prostheses for more than 10 years have specifically requested exoskeletal replacements. Sunil, in his role as prosthetic technician, addresses issues of maintenance and can access more specialist advice via the phone in between prosthetic clinics. Expired materials have been replaced and there's a new stock of stump socks.Otto Bock's first visiting clinic proved very successful. There are plans to attract more amputees to the centre to make best use of the clinics and facilities. The prosthetic centre is situated on the edge of the village but will be transferred to a building, currently under construction, beside the eye hospital. This will prove easier for amputees to access and allow closer working with medical and nursing colleagues.

The need for amputees to receive timely physiotherapy was highlighted. A follow up prosthetic clinic took place after we left. Gauri is continuing with physiotherapy and her emails report improved gait patterns and progress from crutches to sticks. Gauri has access to a range of resources uploaded onto the laptop and is currently translating the PIRPAG exercise sheets into Hindu.

Further physiotherapy resources were amongst recommendations made to facilitate the treatment of other residents with physical disabilities. The potential for professional isolation – as was experienced by the prosthetist who had been resident – would suggest that the reality of a permanent physiotherapist working in Anandwan is unlikely. We discussed alternatives options, one being two physiotherapists working together for a period of approximately three months, one

from India, another from the UK, perhaps a newly qualified and merits further exploration.

Besides the satisfaction of working with amputees there were other memorable experiences to enjoy during this short stay. Hospitality was generous and we were very well catered for. Breakfast was brought to our room – I quickly grew accustomed to masala chai again – and main meals were eaten together with colleagues, Indian style (remembering to use the right hand only to eat with). Most people who visit India lose weight; I gained!

The setting and early morning walks lent themselves wonderfully to photography. Penny's enthusiasm for bird watching was infectious and I can now rattle off the names of several exotic birds. The days were like a warm and sunny summer's day in England, but by local accounts there was a 'nip in the air'…..woollen hats and ear muffs common attire. The local weekly market was lively, colourful and friendly – Penny remarked how integration between Anandwan and surrounding towns appears to be improving. It would seem that the stigma of leprosy is gradually reducing; there were many visitors to Anandwan while were there, interested see how a leprosy community runs.

Whilst hoping the amputees benefited from my short stay I was in no doubt that I have been enriched. The commitment and efficiency of Anandwan staff and Otto Bock to provide a high quality service was impressive. It was very satisfying to work alongside them and to contribute, albeit modestly, using my skills and sharing my experience and passion for amputee rehabilitation. I was inspired by meeting people who managed their disabilities with dignity and no hint of self pity. I was met with gratitude and generosity everywhere (and curiosity and amusement when I went jogging!). I sincerely hope I have the chance to return one day. In the meantime I will pursue the possibility of UK physiotherapy volunteers visiting Anandwan. If you are interested in such an opportunity, please contact Penny Penton – Pennypenton@hotmail.com or myself, Mary Jane Cole – maryjjrcole@aol.com

Acknowledgements

I would like to thank Penny Penton for this wonderful opportunity, the charity 'New Lives, New Limbs' and BACPAR for their financial contributions and the Anandwan community – professionals, amputees and residents – for their warmth, appreciation and friendship.

Further reading and information:

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'Navchaitanya – New Limbs for New Lives, Anandwan, Maharashtra, India' BACPAR journal, Autumn 2009, Issue No 31
For more information about Anandwan see http://www.anandwan.in/default.html

Mobility India (MI) in Bangalore provides 'substantial prosthetics and orthotics workshops and a gait training facility'. MI also supports various grass roots organisations all over India. See: http://www.mobility-india.org

Rehabilitation Therapy Handbook, Volumes 1 and 2. 2010. Editor in Chief Emma Tebbutt. Published by Mobility India. This has been written by MI staff in collaboration with health care professionals from Europe and India and contributes to a therapy assistant course and P&O technician course undertaken at the MI centre. Its bio-psycho-social approach to rehabilitation is a helpful text for therapists unaccustomed to working in developing countries.
Cost is 1000 rupees for volume 1 and 600 for volume 2 (total approx. £25.00) and you can get a copy by emailing e-mail@mobility-india.org or contact Saraswathi (academic manager) on academic@mobility-india.org. There is also more information on their website.

For members interested in working abroad the network ADAPT (Chartered Physiotherapists in International Health and Development) is an excellent resource of relevant information and experience. Contact Cristina Rafter, Secretary ADAPT. cristinarafter@hotmail.com

Mary Jane Cole

BACPAR Annual General Meeting

1. Attendance/Apologies

Attendance – Helen Jones, Jain Ord, Kirsty Worden, Pippa Ellery, Rachel Neilson, Ursula Crosby, Lysa Downing, Trudi Dunn, Kelvin Marshall, Lucy Farnsworth, Pat Sidwell, Carolyn Hirons, Sarah Bradbury, Marie Hulse, Jayne Watkin, Christine Willingale, Peter Ross, Lynn Hirst, Annette Shackley, Julia Earle, Jennifer Syred, Katharine Atkin, Jo Wilkinson, Margaret Wilson, Kate Sherman, Hannah Slack, Joanna Breslin, Jodie Georgiou, Kate Primett, Natasha Brett, Rita Blundell, Gillian Atkinson, Eleanor Platt; Laura Burgess, Jo Teesdale, Maggie Uden, Jess Withpetersen, Nancy Golland, Sue Hughes, Debbie Chilman, Wendy Mayhew, Wendy Leonard, Raynu Ghai, Nicola Hicks, Matt Fuller, Maggie Donovan-Hall, Katrina Wilkin, Amy Jones, Nichola Carrington, Jane Guilford, Amanda Hancock, Barbara Brown, Sarah Vernon, Sameena Ismail, Nikki Becvar, Anne Berry, Eleanor Bacon, Judith Douch, Kim Hill, Ashwini Walvekar, Ruth Wilde, Anne Harrill, Catherine Neck, Emma Kidner, Emma Rogerson, Susan Tillotson, Caroline Morley, Lauren Newcombe, Rajinder Kang, Niici Brabool, Robert Shepherd, Anna Rose, Gemma Dissington, Elizabeth Bouch, Lizzie Geer, Geraldine Reed, Mandy Fuller, Carolyn Wilson, Helen Mullin, Janet Parkinson, Jane Grieller, Vanessa Davies MBE, Katie Stokes, Jo Burton, Mary Jane Cole, Penny Broomhead, Helen Scott, Hilary Smith, Tim Randell, Karen Clark, Fiona Brett.

Apologies – Jane Cumming, Hayley Freeman, Sue Lein, Jennifer Fulton, Joanna Buckley, Rose Mann, Natalie Christmas, Melissa Berry, Sarah Brown, Kate Jackson, Helen Nicholson, Pam Mercer, Dianne Thomas.

2. Minutes of the Previous Record – Agreed as a true record.

3. Chairman's Report

Thank you's
Our conference organisers – Lucy Holt, Marc Hudson, Jain Ord
Our past chair Mary Jane who continues in the role of vice-chair, BACPAR continued to grow under her supervision and we thank her for her ongoing support. To the Exec committee members new and established, this includes your regional representatives. They work together well to enable BACPAR to achieve its objectives. Work that is supported by communication from the membership and the role of the regional rep is key to this.

The exec member who hopes to retire after this AGM is Maggie Donovan-Hall from her honorary treasurer position. Maggie we are sure will continue to play a positive role in the workings of BACPAR.
We have seen some changes in the regional reps this autumn: Thanks to Hilary Smith, Marc Hudson (to Oz), Anne Berry and Jennifer Fulton (North Thames)- whom we hope we can persuade at least 1 of into another role, Julia Earle in her South Thames role, Helen Nicholson and Kate Jackson (Northern).

We welcome onto the committee by taking on these roles Natasha Brett and Kate Primett (N Thames), Fiona Brett (S Thames) and Liz Bouch (NW and Mersey).

Service Portfolio
In Feb 2010 the BACPAR committee agreed the update of the Service portfolio - Published on iCSP and copies available here on the BACPAR stand. On page 13, you will find the BACPAR work plan and on this I will base my report, as these form BACPAR's objectives.

BACPAR Work Plan 2010
• Publication of two BACPAR journals – Spring and Autumn issues 2 excellent journals have been pulled together by the journal editor Sue Flute, advertising has increased and the Exec agreed to purchase a new programme to simplify the process for future editions.

• Two face to face executive committee meetings and one online meeting via iCSP. We have had 2 meetings in 2010, 1 at the CSP (free venue once per year) and 1 in Birmingham, and in between 1 meeting where committee members are asked to update their peers re the progress of their projects on the Exec Site. There is an expectation for the committee members Pto attend at least 1 meeting per year.

• Anticipated completion of 2003 Evidence Based Clinical Guidelines for the Physiotherapy Management of Adults with Lower Limb Prostheses update The closing date has just recently passed for you to return your Delphi questionnaires as

part of the 2003 prosthetic rehab guidelines, this is one of a number of processes that there advised by the guideline development team at the CSP to ensure that a thorough update was produced.

• Ongoing scoping towards Therapy and/ or MDT management of Paediatric Prosthetic Rehabilitation guidance – currently working with UL/LLPOT colleagues . The Paediatric Limb loss guideline development is underway, Lynn Hirst and penny Broomhead have been involved in preliminary work to establish the Best Practice question and Lynn has agreed to represent BACPAR in the continued work which will be headed up by Sue Banton, the director of the charity STEPS.

• Executive Working Group developing first version 'Outcome Measures Toolbox' for member use and implementation (launch via executive committee meeting February 2010). The Outcome measures toolbox were published and made available in February. The working party now need your feedback to decide what the next stage needs to be. Your regional rep can coordinate your feedback (form in the delegate pack) The results of the online audit by Natalie Vanicek (Hull Uni) will be shared with BACPAR in the New Year. There has been a lot of interest from non physios re the Toolbox.

• Anticipated publication of 'Risks to the non amputated foot' guidance (Bradford cohort 2007). The Risks to the Non Amputated Foot guidance produced by the 2nd Bradford University PG Cert cohort is now available.

• Identify effective means to collect information regards research development and its dissemination (currently small database of audit/ research projects). Dissemination and implementation of evidence based practice across the membership. Gathering your outcomes of audit and research you have been involved in continues to be a challenge for the Research Officer. Alex continues to consider the options. Forms to complete are available on the BACPAR stand.

• Review support mechanisms and role of regional representatives including update of regional representative pack and developing communications and links with English networks. The regional reps have had their 2nd in-Conference meeting led by Vanessa Davies MBE and regional rep for Wales, Vanessa has also agreed to be the lead regional rep and has led the update of the regional rep pack, available on the exec committee iCSP site. Following the re-establishment of the CSP regional networks, the regional reps have been developing links with the committees in these networks to assist with for e.g. dissemination of information re study days, and the benefits of BACPAR membership.

• Collaboration with Ossur UK to develop guidance on the use of the Femurett. A BACPAR working party has been working with Ossur to develop an instructional DVD for the use of the femurett, this has been be followed by the publication of written information to be used alongside the DVD.

• Collaboration with OrthoEurope to develop extra large PPAM Aid frame and bag. Following liaison between SPARG and BACPAR members and Ortho Europe, led by Louise Whitehead, larger PPAM aid bags and frames (medium and tall heights) are now in production. Keith Bell from Ortho Europe has stated that the need for short large frames can be discussed at a later date if they are found necessary so please update your regional reps with your requests.

• Continued representation and/ or consultations with CSP, APLLG, Centre Managers Forum, UL/LLPOT and others e.g. participation in Quality Service Framework, Vascular Society for the peri-operative management of patients following amputation. BACPAR has continued to be represented with established collaborators. APLLG, the CSP and the OT special interest group. BACPAR members input is always valued, and this year we were invited to help develop and comment on a quality improvement framework for the vascular society for the reduction of peri-operative mortality.

• Representation at 13th World Congress ISPO (International Society of Prosthetics and Orthotics) Leipzig, Germany, May 2010. The BACPAR stand went to ISPO in Leipzig as did a number of BACPAR members as both delegates and speakers, Laura Burgess and Carolyn Hirons were the latter. Carolyn was supported in her attendance with a BACPAR bursary.

• Plan and deliver a successful National Study Event Autumn plus AGM 2010; explore potential for joint study event with ISPO UK. From your feedback after the last BACPAR conference and from information taken from your membership applications, we are here again in Wolverhampton and the programme has been designed to fulfil your CPD needs. Unfortunately the committee could not sustain a joint conference with ISPO UK. We want to ensure that the BACPAR conference is affordable to all its membership, and this has been borne out by another excellent turn out. Unfortunately this meant we could not secure the services of Bob Gailey for our conference, but we hope that those fortunate to see him will share their experience with their peers, and who knows what the future holds…

• Explore collaboration with Barbara Engstrom, editor, Therapy for Amputees, towards 4th Edition Barbara Engstrom had contacted MJ in 2009 to establish if there would be interest from the BACPAR membership to update Therapy For Amputees - well there was and Barbara now finds herself not able to lead in the editing of a 4th edition, so Alex on BACPAR's behalf has contacted the publishers to start the ball rolling. If there is anyone out there who would like to contribute but have not yet made themselves know, then please contact Alex to add your interest.

• Bradford cohort entry 2009 – anticipated award of PG Certificate Amputee Rehabilitation 2011 The PG Cert continues to be run by Bradford Uni, the current (3rd cohort) have recently undertaken their practical exams and are developing their thoughts for their final module. .. another guideline perhaps?? The advert for the 2011 cohort has been placed in the current journal so if you are interested, apply, and on a personal note, I found the experience of being a clinical educator for the course was a very valuable one.

• Maintain healthy membership. Membership numbers mirror those for last year. Continue to identify learning priorities for membership for planning future study events:

- Learning priorities are taken from your membership application and renewal forms. Make sure you communicate your local needs to your regional reps to develop your local study day plans

- Encourage uptake of bursary applications

Bursaries are available to full members of BACPAR. This membership year (Sept 09-June 10) £755 was bursaried, to 5 individuals. The remaining £245 was carried over to the current financial year (July-June 2011) so get your applications in to Ruth in advance of our Exec meetings in Feb (they can be in retrospect) all we expect in return is a piece in the journal.

• Maintain healthy financial accounts. The finances are indeed healthy as Maggie will explain in her treasurer's report.

• The SWOT analysis is a current project being led by the regional reps to gain your views on BACPAR membership SWOT. Please get your views to the regional reps. This work will inform our next update of our service portfolio.

Other Actions
Marc Hudson took amputee rehabilitation to the Associate conference and was highly commended for his efforts. The vast majority of 60 delegates reported him as excellent and are demanding more. Thank you.

The BACPAR stand went to ISPO UK in Newcastle courtesy of Blatchford's. Lynn, Sue and Julia womaned it on BACPAR's behalf.

The CSP asked BACPAR to be involved in the NICE Diabetes Inpatient Management Consultation. Feedback was duly gathered through iCSP and passed onto the CSP for which they were grateful.

The CSP Research priorities projects asks the Clinical Interest groups to submit ideas for research that will be considered by steering group experts (BACPAR members are steering group members) Alex collated these ideas on behalf of the BACPAR membership and were forwarded to the CSP, we will await the outcome , the process is a well structured but lengthy one).

BACPAR's library was opened following the donation of the book Amputee Coach (review of which is in the journal) by Steve McNeice who himself received the book from Otto Bock..

During the summer BACPAR were asked to give feedback into the 2nd draft of the OT amputee guidelines, with relatively short notice Karen did a sterling job of gathering feedback on BACPAR's behalf. We await the next draft.

Matt was asked amongst other things in his role as PRO to review the CSPs submission to the HSE website re the role of Physiotherapy in Occupational healthcare, which he duly did.

In the last week, I posted the CSP leaflet Supporting your Service on the amp rehab site. I left a copies at the BACPAR stand. The leaflet is aimed at your managers to encourage their continued support of your attendance at BACPAR events and participating in BACPAR projects, particularly in these forthcoming ongoing financial times.

Future Plans
Alex has been working up a plan to add access online articles to the list of BACPAR membership benefits, mindful of the difficulties that the membership has in not only searching for and then accessing current research in amputee rehab, he has been in contact with SAGE publishing to scope the potential to make this easier for us all.

At a cost of around £65 per paper for a pilot period of 20 articles, we could gain online access to the raft of journals that they hold. This includes Clinical rehabilitation and in the future Prosthetics and Orthotics international. This could lead to the development of an online journal club.

All of this is dependant upon the CSPs development of our BACPAR website with a member's only section.
VOTE: Is the membership happy to support the use of BACPAR funds to facilitate the access of to relevant online journal articles? CARRIED

The CSP is currently in the process of reorganising how Clinical Interest and occupational groups (CIOGS) are managed. This is the last time you will hear me call BACPAR a CIG, from now on we are a professional network.

Governance arrangements are set to be more robust (although BACPAR's business already is up to scratch) Professional networks will be grouped in Alliances relevant to their role in supporting clinical practice. I will be attending a meeting at the CSP in Jan to get more detail of which alliance we will be placed in and what the constitution of our network will look like.

We have been discussing in the exec re how we can make the membership of our PN more accessible to support workers who are undertaking a large amount of work in amputee rehab. Currently Physiotherapy SW who are also CSP members can pay, £35 to be a full member of BACPAR, or non CSP members can pay £35 to be an associate member.

Following a request by a support worker to review our membership categories and fees we came up with the option for Support worker category at £15. The specific title of all membership categories will be decided by the content of the constitution. Support workers will not have the right to vote unless they become a full member… but

VOTE: Does the BACPAR membership support the development of a new membership category aimed at increasing support worker membership at £15? CARRIED

The BACPAR website is set to be updated by the CSP following their update of the CSP website. We will expect increased functionality and it is hoped that this can happen by Spring! This will give us the options for a member's only section… Online article, online version of our own Journal? Also the potential for online membership renewal (the next membership year beginning on the 1st March) and using, for example, Pay Pal to gain membership fees.

BACPAR thanks Hannah Slack for submitting 2 motions for the ARC agenda 2011, which will be held in Feb. We will find out if they have been successful after the next ARC committee meeting on the 25th November. We have 1 place available to attend ARC (all expenses paid for by the CSP) in Manchester. See me if you would like to attend?

Conference 2011- communications have already started with the PPA, ADAPT and the OT SIG re the programme for the 2011 BACPAR conference. If there are any other interested parties out there re collaboration please let us know. The NOI group are also keen for us to include an update re GMI in the programme.

BACPAR needs a Move for Health representative, to act as a communication link between the CSP and BACPAR's membership re the M4H project. This opportunity has come available with Paula's move to Oz.

Treasurer's Report

2009/10 BACPAR Accounts

Income		**Expenditure**	
Subs	8,110.00	Travel	2,010.46
Course Fee	11,591.00	Printing	2,042.38
Course Sponsorship	2,400.00	Postage and Stationary	518.00
		Course costs	9,002.65
		Bursaries	755.00
		Gifts	203.42
		Other	645.00
Income	22,101.00		
Expenditure	-15,176.91		
Surplus	6,924.09		
Bank Reconciliation	13,502.39	Opening Reserves	6,578.00
		Surplus	6,924.09
		Bank Reconciliation	13,502.39

Key Financial Issues – changes implemented in the last financial year

- Two signatories on bank account (Chair and Secretary)
- Second signature for cheques over £250
- Traditional ledger transferred to Excel spreadsheet
- Ongoing increase in financial turnover – reflects increased membership, larger study days etc.

Suggested Changes for Financial year 2010/11

- Help support conference costs of the person who takes the BACPAR stand to conferences.
- Start using PayPal
- Thorough changeover between old and new treasurer.

5. SPARG Report

- Last *SPARG meeting* was held on 28.10.2010. DONM is planned for 28.4.2010 with new format i.e. Business meeting 10.30 – 1.00pm, educational presentations 1.45 – 4.00pm. Afternoon session open to non-SPARG members for nominal fee of £10.00 to cover cost of lunch and speakers. Contact Helen Scott (Helen.scott@ggc.scot.nhs.uk) to book place.
- *Liz Condie retired* in June this year and Helen Scott is now chairman.
- *2008 report* has been finalised and is available only in electronic format (free!). Contact Helen Scott for a copy (Helen.scott@ggc.scot.nhs.uk)
- *2009 Report* will also now be available electronically and will contain only the national data. Should be ready Spring 2011.
- *The Functional Co-morbidities Index (FCI)* was added to the discharge summary form in 2008. Funding has been granted to validate its use with lower limb amputees using data from SPARG data base for 2009. This project will begin Feb 2011.
- *SPARG Protocols* are available on line and contain most up to date contact details of SPARG members.
- *Intermittent Claudication Guidelines*
- Literature review is complete; guidelines are in process of being written and are due for publication in 2011.
- *Diabetic project*
- SPARG has been collaborating with Brian Kennon, Consultant Diabetologist to look in more detail at outcomes for diabetic amputees and to investigate the 'intactness' of SPARG data by linking it with SMR1 data.
- *Transfemoral Predictor*
- The report from the validation project is in press. The tool and guidance on how to use it are available from Louise Whitehead (lwhitehead@nhs.net). Further validation is being planned.
- *Web Based Data base*
- The data base facility for local analysis and reporting has been evaluated the modified over the past six months to make it more robust. Helen demonstrated it to the group at the October meeting and the group agreed to carryout a small local audit to become more familiar with analysing their own data. The group agreed to analyse milestone data for time to compression therapy, time to early walking aid and time to first cast and to bring the results to the April meeting to participate in a Benchmarking Exercise.

6. Nomination Of Officers

Treasurer	Nominee	Anne Berry	Result of Vote	Anne Berry to become Treasurer
	Proposer	Eleanor Bacon		
	Seconder	Maggie Donovan-Hall		
Diversity Officer	Nominee	Clare Singh	Result of Vote	Clare Singh to become Diversity Officer
	Proposer	Alex Weden		
	Seconder	Penny Broomhead		

7. Any Other Business

Question from the floor – Is there any optimal amount of money that should be retained in the BACPAR bank account? Answer by Maggie Donovan-Hall – She has been advised by the accountant to retain a surplus of £5,000.

16th November 2010
Wolverhampton Science Park

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Socioeconomic Factors and Self Care Amongst Diabetic Amputees

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Dr David Henderson Slater — Consultant, Oxford Centre for Enablement, Senior Research Fellow, University of Oxford

INTRODUCTION

This pilot study was undertaken at the Oxford Centre for Enablement (OCE), a specialist Rehabilitation centre providing services to amputees in Oxfordshire, Berkshire and Buckinghamshire. The work formed part of a final year student project and was supervised by a consultant from the OCE.

Diabetes can have devastating consequences; it is the most common cause of lower limb amputations in the UK[1]. Mortality rates for patients undergoing a lower limb amputation are extremely high: up to 70% of patients die within five years of having an amputation[1]. One of the groups of patients most at risk of an amputation are those who have already undergone some sort of amputation[1]. Improving patients' knowledge of self care, to reduce the risk of a second amputation, is therefore a clinical priority.

Various studies show that health outcomes can be correlated with educational attainment[2], and socio-economic status. Most agree that poorer health outcomes are associated with a lower socioeconomic status and educational attainment. This suggests that these two measures may be useful in identifying groups of patients who are at a particularly high risk of losing a second limb.

The aim of this study was to investigate whether or not socio-economic status and educational attainment correlated with the quality of self-care practices amongst diabetic amputees attending the OCE.

We hypothesised that the quality of self-care would be correlated with socio-economic status and educational attainment.

METHODS

A single researcher carried out a semi structured interview with individual patients. This involved the use of a questionnaire which was designed specifically for the study. The questionnaire was composed of three sections, each incorporating a different rating scale. The ADKnowl rating scale was used to assess patients' k nowledge of foot-care, the DAS-3 was used to assess patients' a ttitudes towards diabetes and the SDSCA was used to assess patients' s elf care abilities.

In addition to the questionnaire, patients were also asked questions about their educational and employment history as well as their demographics.

After completion of the questionnaire patients were stratified into different socio-economic groups according to the National Statistics Socio-economic Classification (NS-SEC) system[3], as well as different groups based on their educational attainment. Each section of the completed questionnaires was then scored and the scores from individual patients

THE RATING SCALES

ADKnowl[4]

The audit of diabetes knowledge is a 138 item questionnaire designed to measure knowledge of diabetes management and treatment. The questionnaire is divided into 33 sections which all measure a different aspect of knowledge for example knowledge of foot-care. Each question is made up of a statement and respondents must indicate whether they think the statement is true or false. The ADKnowl can be analysed " i tem by item" so that irrelevant items can be removed without affecting the validity of the questionnaire[4]. In this study only

DAS-3[5]

The Diabetes Attitudes Scale-3 is a 33 item instrument designed to assess general attitudes towards diabetes. Each item is made up of a statement and respondents must then indicate how strongly they agree or disagree with the statement.

SDSCA[6]

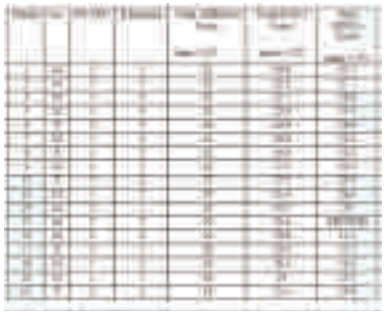
The Summary of Diabetes Self-Care Activities is a short self report questionnaire that is used to assess diabetes self management, in particular: diet, exercise, blood glucose testing, foot-care and smoking. Each question is based around a particular self care activity and patients are asked to indicate how many days per week they perform that activity.

RESULTS

In total 22 patients participated in the study and 17 responses were suitable for analysis. All of the patients described themselves as white British. Male participants (12) outnumbered females (5). Patients were fairly evenly distributed across the 3 NS-SEC classes with 7 patients belonging to class one (managerial and professional occupations), 4 patients belonging to class two (intermediate occupations) and 6 patients belonging to class three (routine and manual occupations). The majority left secondary school with qualifications but did not progress into further education.

Patients generally demonstrated good theoretical knowledge of foot-care but were markedly less knowledgeable about proper toenail cutting technique. A mismatch between theoretical knowledge and actual foot-care practice was demonstrated. Low scores were also observed for sections of the questionnaire which measured patient autonomy and exercise levels.

No correlation was found between socioeconomic status or educational attainment and knowledge of foot-care, attitude towards diabetes or self care capabilities.



CONCLUSIONS

The **rating scales** used as part of the questionnaire are relatively unknown in the UK; there are few papers which refer to their use and reliability. We found them to be user friendly and would recommend them to others for use in both research and clinical settings.

Against our expectations **no correlation was found to exist between socioeconomic status or educational attainment and knowledge of foot-care, attitude towards diabetes or self care abilities**. When scores from each patient were compared to their socioeconomic class and educational attainment, no clear patterns emerged. We expected to observe a gradient in knowledge scores whereby those patients belonging to the higher socioeconomic classes would score more highly than those belonging to the lower socioeconomic classes. However this clearly was not the case; the best and worst results seemed to be randomly distributed throughout all three of the socioeconomic classes and rather counter intuitively the worst result recorded for knowledge of foot-care was achieved by the most highly educated patient.

However **the study did highlight some clear deficits in knowledge** of foot-care and self care practices. In particular, patients were not very knowledgeable about proper **toe nail cutting** technique.

The ' s elf care activities' section of the questionnaire showed that the patients were **unlikely to manage any exercise** in a standard week and were also **unlikely to implement good care of their contralateral limb**. These findings demonstrate the need for clinicians to check that patients apply theoretical knowledge in daily life.

LIMITATIONS

This pilot study is limited in its generalisability due to the small number of participants.

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The staff in the Oxford Centre for Enablement who helped to organise patient interviews.

All of the patients who took part in interviews.

This poster presentation has been at the BSRM conference, and has appeared in the BSRM newsletter (December 2010, p 14), and at the BACPAR meeting.

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