

# TechLINK

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Merry Christmas & a Happy New Year

The staff at REHAB Tech would like to wish everybody all the best for the festive season and a happy and prosperous New Year in 2003

## Research: Optimum strength and weight of a trans-tibial prosthetic limb



At REHABTech, a project has been underway investigating the method of construction of a trans tibial prosthesis and optimising the strength to weight. In simple terms, the entire prosthesis is designed from the "ground up", and there is only enough material used to make it as strong as it needs to be for walking. This has involved doing a number of calculations and modelling the required strength. This project came to a milestone recently when two Monash university mechanical engineering students completed the construction of a prototype with the assistance of CGMC's Amputee Unit.

The result was a limb that proved to be strong enough for standing and normal level walking. **The weight was an amazing 230 grams (complete!)** - that's a lightweight prosthesis!

Whilst this was essentially a laboratory trial there was an immediate clinical spin off - due to the lightweight and all in one plastic construction, the design was used for a combined shower leg and emergency travel leg for the trans tibial volunteer who was involved with the project.

How strong an it be?

How light can it be?

Volunteers wanted!

**More volunteers are always wanted!!!**

## Resource page for the symposium on Wheelchair safety and standards monitoring

As reported in the November *TechLINK* issue No. 102 this symposium was held at REHAB Tech and proved to be a well attended, informative, interesting and motivating session. It was decided at the symposium that a resource page should be established so that presentations and discussions could be accessed. This resource page (primarily designed for those in attendance) can be found by linking form the website [www.monash.edu.au/rehabtech](http://www.monash.edu.au/rehabtech)

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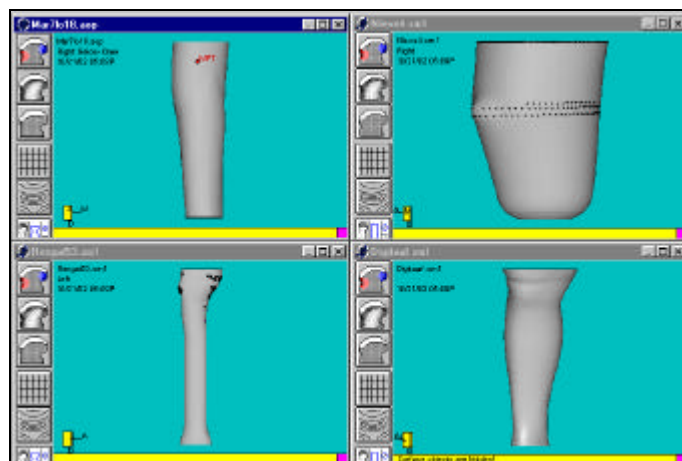
## Research projects and placements at REHABTech

Marijke van Steijn and Loes Huis in het Veld recently completed a 12-week practical placement at **REHABTech**. The two biomechanics and human movement students from the Haagse Hogeschool in Holland used Shapemaker to create an effective forearm cosmesis for an upper limb prosthesis and a cosmetic shell for a trans femoral prosthesis. The students also designed a simple and lightweight shower-leg.

Once again the students showed that technically challenging devices could be designed relatively easily using the CAD/CAM and digital manipulation techniques at REHAB Tech.

They would like to acknowledge the support from REHAB tech staff and all of the assistance and guidance during the project from staff at CGMC's Amputee Unit.

Details of their work as available on the CAD/CAM resource pages.



## Clinical Management of Amputees Course

Over 40 delegates attended this course between 23–25 November. **REHAB Tech** facilitates this course which aims to teach an integrated approach to the management of amputees based broadly on clinical experience within a large rehabilitation amputee unit using the team model from the Amputee Unit CGMC. It is anticipated that this course will run again towards the middle of 2003...but register your interest now so you will influence where it will be held!

## Positions Vacant - Job WATCH

Please visit our website <http://www.monash.edu.au/rehabtech/employ.htm> for detailed information on vacancies as they occur.

### COMING EVENTS

6–11 January, 2003	<b>Lower Limb Prosthetics Course—Sydney</b> Contact Dr Lorraine Jones (02) 9382 5929 for Course details.
17 February, 2003	<b>Lower Limb Prosthetics Course—Melbourne</b> Contact <b>REHABTech</b> for Early Bird registration by 20 December, 2002.
24 February, 2003	<b>Clinical Management of Upper Limb Amputees—Melbourne</b> Contact <b>REHABTech</b> for Early Bird registration by 20 December, 2002.
21–23 March 2003	<b>Prosthetics, Orthotics and Rehabilitation in the New Century—NZ</b> Fax “Prosth-TH-otics” Congress 0064 4 494 6133

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