

Open Day Experiences

Open Day at the La Trobe University Bundoora campus was held on a rainy Sunday the 26th of August. In spite of the weather, many people visited the NCPO to learn about our course and the P&O profession generally. Visitors included high school students who are considering subject selection and further education options, people who are planning career changes and curious members of the public. The Open Day is an annual forum for us to educate people about the P&O profession and to promote our P&O program. Success of this, and other promotional activities undertaken by the NCPO, has resulted in increased competition for places in our course.

Displays of photographs, videos, scientific posters, CAD/CAM systems and historical and modern prostheses and orthoses were arranged in the Health Sciences Clinic, and guided tours of the building and displays were offered. A service desk was situated in the West Lecture Theatre complex to direct people to the Clinic and answer administrative questions. During the day, NCPO staff presented two information sessions, which provided an overview of the B.P&O program and selection and admissions processes. Both sessions were very popular, to the extent that the crowd spilled out of the lecture room into the corridors. Similar sessions are held at various times throughout the year. Demonstrations of simple clinical tasks were also presented to an Open Day audience that was interested observing P&Os in practice.

All NCPO staff were on duty for part of the day and were assisted by administrative staff and a team of current P&O students. Considerable effort was put



Demonstration of upper limb orthotic technique by lecturer Rod Cooper, at the NCPO Open Day.



NCPO Student Research Symposium

Monday 22nd October, 2001

8.55 am - 4.30 pm

Szental Lecture Theatre,
La Trobe University

The NCPO cordially invites interested people to the 2001 Student Research Symposium.

Project reports will be presented by current P&O Honours students and 3rd year students.

A program can be accessed on our homepage:

<http://www.latrobe.edu.au/www/ncpo/>

Lunch and closing drinks will be sponsored by Reis Orthopaedic.

To organise parking in the Visitors Carpark and to assist with catering, please let us know if you will attend by contacting School of Human Biosciences receptionist, Jan Johnston, on phone: 03 9479 5787.

into preparing brochures and displays, setting up the building, staffing the desk, leading guided tours, presenting sessions and demonstrations, and packing up afterwards. The NCPO appreciates the work involved and commends staff and students on providing a valuable experience for the community.

Curriculum Corner

Detail about the P&O curriculum can be found in the 'Course outline and subject descriptions' section on the NCPO homepage: <http://www.latrobe.edu.au/www/ncpo/>

Applied Lower Limb Orthotics B Theory of Lower Limb Orthotics B

Second year students are completing their second semester of the Lower Limb Orthotics program. Following a predominantly below-knee focus in 1st semester, we concentrate on above-knee orthoses in the applied (practical) subject in 2nd semester.

The students complete four practical projects: a KO cast, a KAFO cast, assessment and KAFO tracing of a volunteer patient, and provision of a KAFO for a fellow student. Each student is given a case study for the KAFO and must prescribe and provide knee joints and shell and strap configurations appropriate for that case. Through this challenging project, students gain understanding of important factors such as knee and ankle joint casting positions, mechanical and anatomical joint alignment and height of trimlines.

The theory subject covers knee and hip orthotic principles, and lower limb orthotic management of various pathologies. Staff from St. Vincent's Hospital Melbourne, Royal Children's Hospital, Geelong Orthotics, Orthotic Consultants and the Austin and Repatriation Medical Centre give lectures on lower limb orthotic management of post polio syndrome, cerebral palsy, muscular dystrophy, paediatric hip pathology, ambulatory orthoses, burns, sports injury, knee pathology, and spinal cord injury. Students also learn about the biomechanics of KOs, KAFOs and hip orthoses.

Diploma Conversion Course Ends 2002

The last intake into the La Trobe University P&O Conversion Course will be in 2002. Students who enroll in 2002 will have a couple of years to complete their course.

After 2002, it will still be possible for a diplomat to gain a degree, however his/her course requirements will be decided on a case by case basis and will probably involve more study than the Conversion Course. As University regulations allow up to 50% credit towards a degree based on prior learning, a diplomat student would be required to complete approximately two years of coursework to obtain a degree.

If you hold a Dip. App. Sci. (P&O) and want to convert to a Bachelor of Prosthetics and Orthotics, please contact Jan Johnston, School of Human Biosciences Reception, phone: (03) 9479 5787 by 1st February 2002.

NCPO Staff Research

NCPO research is published at conferences and in journals. An overview of a current staff research project is provided here.

Effect of silicon liners on movement between the transtibial stump and socket

A number of research projects conducted at the NCPO in recent years have examined the benefits of silicon liners for transtibial amputees. In 1997, Mark Graf demonstrated increased knee extension torque in amputees wearing silicon liners when compared to the more common pelite liner with suprapatellar cuff. Graf demonstrated that peak pressures in the "kick-point" area of the stump (antero-distal region) were unchanged despite increased extensor moments with the silicon liner. In 1998, Jessie Beard showed that amputees using silicon liners utilised their quadriceps musculature more effectively in activities of daily living. These effects are probably due to the improved pressure distribution provided by the silicone gel.

A current investigation is examining the effect of silicon liners on relative movements between the stump and socket. When an amputee loads the prosthesis, there is a tendency for the stump to sink into the socket. As the loading decreases, the stump rises out of the socket again. It has been suggested that this "pistoning" of the stump inside the socket contributes to higher energy cost of ambulation in amputees. In this study, a video-based motion analysis system is being used to measure the relative movements between the prosthesis and limb during walking and cyclic loading. From the force and motion data, a force-displacement curve can be obtained which indicates the stiffness of the stump-socket interface. Energy expenditure during walking is being measured by collecting expired air during a 300m walk. Preliminary results suggest that the silicon liner provides a much stiffer connection and is associated with much less pistoning during movement. It is less clear at this stage whether there is any energy advantage.

Project support

The project is being conducted by Mr Greg Halford, an NCPO honours student. The project is supervised by Dr. Tim Bach and Mr. Les Barnes. A research grant of \$6000 was received from the Faculty of Health Sciences to conduct the study.

References

Beard, J (1998) Unpublished Honours Thesis, La Trobe University, Melbourne.
Graf, M (1997) Unpublished Honours Thesis, La Trobe University, Melbourne.

2000 Course Review

The report of the Prosthetics and Orthotics Review committee, November 2000, has been received by the University. The committee was chaired by Professor John Evans from Queensland University of Technology and included Mr David Lee Gow from Caulfield General Medical Centre and Ms Pryia Davis from St. Vincent's Hospital, Melbourne. The review committee received submissions from the NCPO, AOPA, ISPO, current P&O students, other organisations and individuals. During the review consultation, the committee visited the NCPO and local P&O facilities, interviewed members of staff, students and graduates, and met with representatives of organisations.

In the report, the committee supported all of the curriculum recommendations suggested by the NCPO staff in their submission. Notable recommendations for change include:

- Second year to become a "below knee" year including below knee orthotics (foot, ankle-foot) and transtibial prosthetics
- Third year to become an "above-knee" year including transfemoral prosthetics and above knee orthotics (knee, knee-ankle-foot, hip, ambulatory orthoses)
- Spinal orthotics to be incorporated into the first year Introduction to Orthotics subject

Other recommendations included:

- Production of a range of multimedia materials to assist with instruction
- Reinforcement of clinical evaluations skills throughout the course
- Increasing communication with the professional and increasing involvement of the profession in assessment of final year students
- Development of postgraduate and continuing education courses

The review committee commended the NCPO for:

- Improvement in the course experience reported by students since 1995.
- The general acknowledgement that current students have a better inclination and are more academically sound than students who graduated from Lincoln Institute and/or were RALAC trained.
- Staff who are committed, flexible, have up-to date clinical knowledge and have worked to develop the curriculum, producing competent professionals with well-developed research skills.

NCPO P&O Degree by Distance Education

The Commonwealth Department of Education, Training and Youth Affairs (DETYA) awarded the NCPO and the University of New South Wales (UNSW) a joint grant of \$1,040,000, over three years (2001-03), to develop a Prosthetics and Orthotics degree via distance education. NCPO progress in the distance education program is reported here.

The NCPO is working with UNSW to provide a P&O degree via distance education. The Distance Education (DE) program should enable more flexible delivery of a P&O degree to students who are taught predominantly off campus. Students may enroll in the DE program through either the NCPO or UNSW. DE students will take some subjects through La Trobe, some through UNSW and some through local institutions. Over the next three years, teams at the NCPO and UNSW will be responsible for developing 25 subjects for distance presentation. Stage 1 of the project will see five subjects developed by the NCPO team.

The NCPO team, led by DE experts Dr Len Webster and Mr. Ian Thomas, is currently working with Rod Cooper and Wes Pryor to develop two first year subjects. Initially the work focussed on the general principles of getting material into on-line format (using WebCT). Prototype units of work are being developed that can serve as models to follow when preparing the remaining topics. The units will be tested by staff and students over the next few months.

The prototype stage for the remaining three subjects, which involve significant practical, workshop and clinical components, will commence during September. Because of these complex components, we expect very interesting educational issues to emerge from the process of delivering such subjects via distance education. We anticipate lively discussion of these issues over the life of the project.

Further information about the Distance Education program at the NCPO can be gained from Ian Thomas, DE consultant, phone: (03) 9479 5787.

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Staffing Update

The NCPO depends on practising clinicians for much of the clinical and technical teaching provided to students. A portion of the staffing budget is reserved for short-term contracts so that external clinicians can have a limited involvement in teaching and students can benefit from exposure to a variety of approaches and points-of-view.

This semester, four clinicians are helping with teaching. Mr Darren Pereira, Manager of St Vincent's Hospital, Melbourne, Prosthetic and Orthotic Department is assisting

Kaisha Gurry in teaching Applied Lower Limb Orthotics B (Above-Knee Orthotics). Ms Natalie Sullivan, Manager of the Orthotic and Prosthetic Department at the Austin and Repatriation Medical Centre is coordinating and teaching Prosthetic and Orthotic Management to second and third year students. Mr Paul Stoney of Cybernetic Designs is assisting Les Barnes with delivery of Applied Transfemoral Prosthetics. Ms Danielle Bonett of Dynamic Orthotics and Fitness Concepts is spending one day each week assisting with coordination of Clinical Education and another day each week assisting Rod Cooper in Introduction to Applied Orthotics.

Swedish P&O Student Studies at the NCPO



The NCPO welcomes Karolin Lindgren, an exchange student from the University College of Health Sciences in Jönköping, Sweden, who is attending classes this semester. Karolin is in the

third year of her Prosthetics and Orthotics degree in Sweden. At La Trobe University she is studying transfemoral prosthetics, spinal orthotics and podiatric biomechanics. She will complete a three week clinical placement in Melbourne before returning to Sweden.

Karolin is enjoying Australia very much. She says the people are friendly and the NCPO students and staff have made her welcome. When comparing the La Trobe P&O course with the Jönköping course, Karolin says that, although the teaching methods are different (Problem-based Learning is used at Jönköping), both methods are effective.

La Trobe University has a formal international student exchange agreement with the University College of Health Sciences. Students from Sweden can study at La Trobe and receive full credit towards their degree in Sweden. La Trobe students can do the reverse: study in Sweden and receive credit towards their La Trobe degree. Financial assistance from the University is available for eligible students. The program provides an exciting opportunity for students to gain new perspectives about education and clinical practise. NCPO students have shown interest in the program and one may study in Sweden next year.

P&O Clinical Education

Clinical Education (CE) has entered a quieter phase. Facilities are enjoying a break from students, and CE Coordinator Kaisha Gurry, and CE assistant Danielle Bonett, are catching up on administration. Review of the CE Guidelines is almost complete and these will be available via the NCPO web page. A folder that can be updated will be provided for those without web access.

A big thank you to all facilities for returning the Clinical Placement Survey for 2001/2002 and Letter of Exchange (new contract requirements). The CE database has been updated and facility details will be provided to students when they are selecting preferences for next year.

Kaisha and Danielle have met the challenge of allocating 29 fourth year students for 2002 placements. Nearly every student received one of their four preferences and 90% received at least one first preference. Because of this large class size, students will be located right across the country. Second year students will undertake a three week placement during November or December and allocation of these will be finalised during late September or early October.

The next Clinical Supervisor's meeting is scheduled for Wednesday October 24 at 4.30pm in the Health Sciences Clinic. Proposed changes to the fourth year clinical examination structure for 2002 will be presented and discussed. It is proposed that, to comply with new University assessment weightings, students complete just one clinical exam at the conclusion of two placements. Changes to the exam structure and fewer examiners have also been proposed to reduce costs, and AOPA has been asked to assist with the exams. It will be helpful to receive feedback about the proposal from Clinical Supervisors at the meeting. Additional comments can be given to the CE Coordinator, Kaisha Gurry, phone: (03) 9479 5864.

The NCPO NEWS is produced in March, June, September and December by the National Centre for Prosthetics and Orthotics, La Trobe University, 3086, Victoria, Australia.

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