

**Educational and Technical Support of Orthotics and Prosthetics Education  
in Latin America and the United States**

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***Did you know???*****Latin America has...**

- Over 500 million people
- One Orthotic and Prosthetic (O&P) education program accredited by the International Society for Prosthetics and Orthotics (ISPO)
  - ISPO Category II program - Universidad Don Bosco, El Salvador
- Two O&P schools in Mexico (not ISPO accredited)
- One O&P school in Argentina (not ISPO accredited)
- Less than 50 certified O&P practitioners
- Approximately 1,500 uncertified O&P practitioners
- 2.5 million people with unmet needs for O&P care

**and that even though the United States has . . .**

- Almost 300 million people
- Thirteen O&P education programs
- There is still a shortage of technicians to fabricate orthotic and prosthetic devices!

**Objective:**

The purpose of IPRO 309 was to develop orthotic and prosthetic educational modules to help address a strong need for orthotic and prosthetic technicians in all of Latin America and the United States. We are working with Centro Don Bosco in Bogotá, Columbia, who began an ISPO category III program in 2005, and Joliet Junior College, who is starting a similar program in 2007, to implement these modules as a foundation in the educational process for training orthotic and prosthetic technicians.

**Organization:**

The IPRO team was split into five subgroups. They include: Palpation of Anatomical Landmarks and Orthometry Measurements; Range of Motion Testing and Manual Muscle Testing; Evaluation of Seated and Standing Posture; Dermatomes, Myotomes, and Reflexes and Spinal Cord Injuries; and Observational Gait Analysis and Use of Crutches, Canes and Walkers. Each subgroup was responsible for creating an educational module that consists of a two hour interactive presentation and additional material. These topics were chosen from the curriculum because they build off of the previous IPRO team's (Spring 2006) work.

**Accomplishments:**

The subgroups researched their topics and began creating their presentations early in the semester. Every two weeks, each subgroup would present their updated modules to the team. During these presentations, the team and advisor filled out evaluations critiquing the presentation and providing feedback. By the end of October, all the subgroups had their presentations complete and began to compile their research to create handouts that would accompany and complement the presentations.

At this point we contacted Northwestern University Prosthetics and Orthotics Center (NUPOC) so that we could present our modules to their graduate students and professors - all individuals who had previously been through a similar training. This was highly successful as they all appreciated the importance of the project and gave great constructive feedback. We incorporated their suggestions to update the presentations to their current forms.

We faced two significant obstacles during the semester. The first was selecting the information most relevant to our topics and goals from the wealth of material uncovered during our research. We were limited to selecting information to field two hours of instruction, and working to have complete but substantive material within that constraint required extensive evaluation and editing. The second obstacle we encountered was finding a way to present our selected information in a format suitable to our target audience: recent high school graduates with no higher level education. The material is very complex. To allow someone of relatively limited education to gain the necessary, critical, and fundamental understanding of the Orthotics and Prosthetics field, the material needs to be presented in a manner that does not rely on advanced phraseology to explain the information.

#### Future Plans:

This IPRO will continue in the spring 2007 semester. Some of the new features are:

- Including students from Universidad de los Andes in Bogotá on our IPRO Team
  - Jared Gardner, member of the current team, will be spending several months in Bogotá beginning in January 2007 and will facilitate this new aspect of the project
- Field testing of our educational modules with students from the Joliet Junior College program that begins in January 2007
- Development of new modules concentrating on fabrication techniques
- Trip to Bogotá in May 2007 to deliver new curriculum materials to Centro don Bosco and to interact with students from Universidad de los Andes

#### Team Members:

Palpation of Anatomical Landmarks and Orthometry Measurements:

Katy Pyles and Michael Addis

Range of Motion Testing and Manual Muscle Testing:

Andrew Swantek and Daniel Wido

Evaluation of Seated and Standing Posture:

Jared Gardner and Amara Ogbonnaya

Dermatomes, Myotomes, and Reflexes and Spinal Cord Injuries:

Eduardo Aramayo and Russell Derrick

Observational Gait Analysis and Use of Crutches, Canes and Walkers

Alayna George and Julia Northrop

Advisor:

Kevin Meade