

Project Plan IPRO 309

Educational and Technical Support of Orthotics and Prosthetics Education in Latin America

Primary Project Objective

- There is an enormous need for creating and supporting education opportunities in orthotics and prosthetics in Latin America. The primary objective of this IPRO is to support the first orthotics and prosthetics educational program (established in February 2005) in Bogotá, Colombia.

Secondary Project Objectives

- To develop several educational modules for instruction in orthopedic biomechanics.
- To deliver a 3-day presentation in Bogotá Colombia May 15-17.
- To create a Spanish/English website to get the information out to the community.
- To follow ABC, NCOPE and ISPO accreditation and to collaborate with clinical practitioners and other organizations with the content of the educational modules.
- To develop several low-cost laboratory demonstrations for the presentations to be as visual and hands-on as possible.
- To develop an ongoing project and establish relationships that will result in further service to Latin America beyond this semester.

Project Background

Overall there is a strong need for aid to the prosthetics and orthotics educational programs in Latin America. This is shown by the fact that the population is over 550 million people and there is only one ISPO accredited Category II program. This program is located at Don Bosco University in El Salvador. In addition there are only two unaccredited orthotics and prosthetics schools in Mexico and only one in Argentina. Overall there are less than 50 certified orthotics and prosthetics practitioners and approximately 1500 uncertified practitioners. There are approximately 2.5 million people with unmet needs for this type of care.

Available resources for establishing an educational program in Bogotá are as follows. Number one there is the faculty of the Centro Don Bosco and Laboratorio Gilete located in Bogotá and the USA. There are the facilities available at Centro Don Bosco with a 60+ year history of vocational/technical training. Last there are the existing Centro Don Bosco students.

Commitments that have already been made in an effort to improve the orthotics and

prosthetics educational programs in Latin America include that in October 2004, Centro Don Bosco and Don Bosco University (El Salvador) and Laboratorio Gilete signed an agreement establishing the first P&O education program in Colombia. Approximately 3500 square feet of space has been allotted for the new program at Centro Don Bosco and it is currently being modified. The Health Services Administration of the Colombian Army, Navy and Air Force as well as the Colombian National Police force have also endorsed this new program. Support from the USA has come from Rotary clubs from Minneapolis, Cary and Chicago when partnering with the Rotary club in Santa Fe de Bogotá to try to provide funding for scholarships as well as specialized equipment. The Lion's Club from Area 73 is also willing to find ways to partner with the Rotary clubs on this project.

Overall the impact this program will have on the area is that in two years the first class (17 students that entered February 2005) will graduate. Conservatively they will fabricate 200 new prosthetic/orthotic devices per year and over their entire career they could affect over 100,000 patients. The program will also develop revenue streams that will help foster its sustainability. Currently there is continuing education and the manufacture and sale of prosthetic/orthotic components. One new opportunity in the near future would be the central fabrication of prosthetic/orthotic devices.

Research Methodology/ Expected results.

Five different teams have been created to focus on different aspects of the project. These teams include: Biomechanics, Materials, Upper Limb, Lower Limb and Spine. Along with these teams, the jobs of Team Leader of Educational Modules, Team Leader of Organizational Management and Budget, IPRO Facilitator, Travel Coordinator, USA Liaison, International Liaison, Accreditation expert, investigating Shipping to Colombia and Webmaster, one for English and one for Spanish have been assigned

The mini-plan for each group is as follows:

Biomechanics:

The biomechanics group has decided on creating 3-5 brochures to hand out to represent the material covered in this section. They also plan on creating 3 demonstrations for the final presentation in Bogotá. These would include but not be limited to a lever class demonstration, show models of each type of joint, show how to use crutches properly, show how to measure gait etc. The following is a breakdown of the due dates selected.

PowerPoint Update:	February 23rd
PowerPoint Update/Brochure:	March 7th
PowerPoint Update/Brochure:	March 23rd
Create Demonstrations:	March 23rd
Pictures for Website:	April 6th
PowerPoint Update/Brochure:	April 6th
PowerPoint Update/Brochure:	April 20th
Levers Built for Demonstration:	April 20th
Module Evaluation:	May 2nd

Materials:

The materials group has decided that every week they will rotate on researching information about the sub-categories that they have formed. They will either combine it as a word document or make a PowerPoint to report to the group. The sub-categories that they developed are as shown below:

Fabrication Process

Availability of Material

Future Advances

Different Types of Materials Used in Different Prosthesis

Different properties of the Different Materials used

Their goal will be to add some new information under any of the above categories on a weekly basis so when it is time to put together all the information they will have more than enough information to provide.

Upper Limb:

The upper limb group basically broke the topic down into mini modules. Their plan is to make the complete curriculum for each mini module throughout the semester. Their due dates are planned out as shown below.

Curriculum covering functions of the arm: Feb. 28th

Curriculum covering how devices assist/imitate movement: March 9th

Curriculum on hand/wrist orthotics: March 23rd

Curriculum on transradial prosthetics: April 6th

Final presentation of all the mini modules combined: April 20th

Lower Limb:

The lower limb group has split their topic into three smaller topics to be handled separately by each of the three individuals. These sub-topics include anatomy of the lower limb, AFO and transtibial. Their proposed schedule is as follows.

Week 6	Feb 21,23	Research on lower limb Prosthetics
Week 7	Feb 28, March 2	Research on lower limb Prosthetics
Week 8	March 7, 9	Mid-term report
Week 9	March 14, 16	Spring Break
Week 10	March 21, 23	Contact experts(Children memorial hospital)
Week 11	March 28, 30	Elaboration of the lower limb module
Week 12	April 4, 6	Elaboration of the lower limb module
Week 13	April 11, 13	Elaboration of the lower limb module
Week 14	April 18, 20	Elaboration of the lower limb module
Week 15	April 25, 27	Trip Plan
Week 16	May 3, 4	Final deliverables

Week 17 May 9, 11 Final deliverables

They also plan to create a very simple anatomy booklet (in addition to the handouts). This booklet will go into further detail concerning the muscle and skeletal functions of the lower limb. They would like to have our handout completed by Thursday February 23. and the informational booklets by April 18th or April 20th. They also plan to do presentations to update the class on their progress every other Thursday.

Spine:

The spine group decided on the following timetable of tasks. They plan on giving PowerPoint updates to the group on bi-weekly Thursdays

March 2: Spinal Functions - Loading, How it works, Disease/Trauma

March 9: Natural Alignment

March 23: Elaborate on Devices for specific deformity/trauma cases

March 30: Scoliosis tests

April 6: How to use visuals, which visuals we can have in hand

April 13: Final PowerPoint

April 20: Fliers

The breakdown of the positions of each group and the job titles of everyone is as follows:

Biomechanics:	David Gracia	Webmaster
	Vinit Prabhu	Travel Coordinator
	Kristen Kelley	Team Leader: Educational Modules
Materials:	Christopher Pellico	Team Leader: Management/Budget
	Prachi Singh	Shipping
Upper Limb:	Natalie Rezek	Travel Coordinator
	Elise French	USA Liaison
	Michael Grilley	Accreditation Expert-ABC&NCOPE
Lower Limb:	Amara Ogbonnaya	USA Liaison
	Piotr Maksimowicz	Webmaster
	Jahir Caro	Accreditation Expert-ISPO
Spine:	Shea Lemley	International Liaison
	Matthew Hamblen	IPro Facilitator
	Sonali Patel	Shipping