

# **IPRO 309**

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

# Team Members



# Current Struggles in Latin America

- 550 million people
  - Only one ISPO (International Society of Prosthetics and Orthotics) accredited Category II program
  - No ISPO accredited Category III programs
- Less than 50 certified orthotics and prosthetics practitioners
- Approximately 1500 uncertified practitioners
- Approximately 2.5 million people with unmet needs for this type of care

# Introduction

- "There are a number of people in Colombia who have congenital defects or abnormalities that need to be correct by orthotics or prosthetics."
  - Sandra Ogbonnaya
- "Imagine you take 15 students from a broad spectrum of majors, ranging from Psychology to Aerospace Engineering, to BioMedical Engineering to Mechanical Engineering. Now you tell them all that they are to help implement an orthotic and prosthetic fabrication curriculum at a Columbian trade school to help alleviate the deficiency in device availability in Latin America... what do they do? "
  - Matthew Hamblen
- "What we have done is focused on the biomechanics of prosthetics and orthotics to create a lesson plan to teach high school aged kids how to manufacture the different devices."
  - Elise French
- "Our work could potentially impact thousands of people."
  - Peter Maksimowicz

# Examples...



# What We Can Do To Help

Provide support to the first orthotics and prosthetics educational program (established in February 2005) in Bogotá, Colombia.



# Opportunities in Colombia

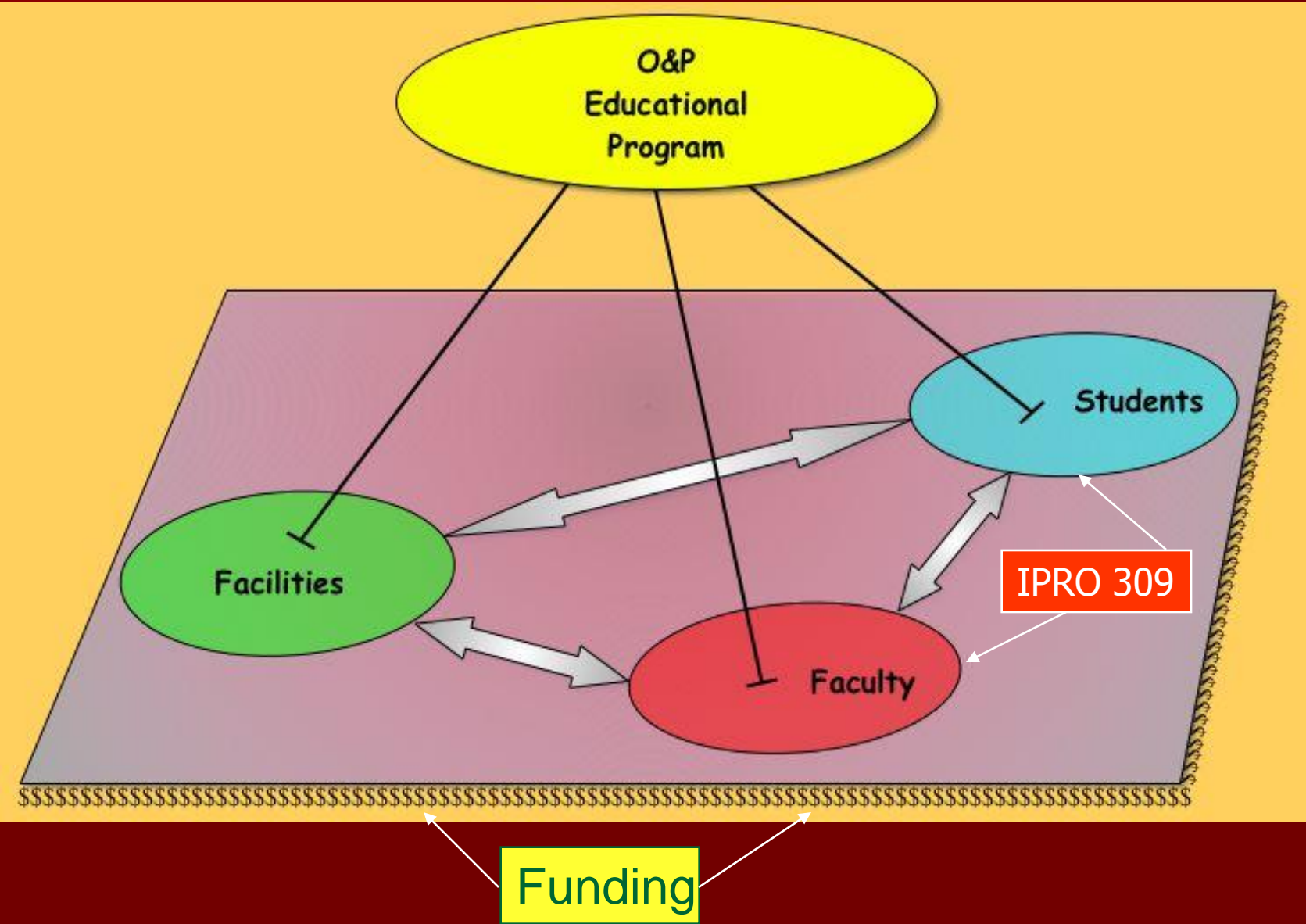
- Centro Don Bosco- Technical High School
- Support from US organizations
- Central fabrication of prosthetic/orthotic devices
- Will develop revenue stream to help foster sustainability

# Centro Don Bosco

- The first O&P education program in Colombia
- High school level students
- 17 students entered in 2005
- 2 year program



# Essential Elements of an Educational Program



# Centro Don Bosco By The Numbers

- Category III O&P Technician \* 250 patients/year  
\* 20 years = 5000 patients/technician
- 1st Graduating Class: 5000 patients\* 15  
students = 75000 patients helped during their  
careers
- Total cost per student to complete the program  
= \$3000
- Cost of Training per patient= \$0.60

# Specific IPRO Goals

- To develop several educational modules for instruction in biomechanics
- To deliver a 4-day presentation in Bogotá, Colombia
- To create a Spanish/English website to get the information out to the community
- 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

# Team Structure

- Administrative Groups
- IPRO day deliverables groups
- Module Teams

# Administrative Groups

- Team Leaders
  - Educational Modules
  - Organization
- Travel Coordinators
- USA Liaison
- International Liaison
- IPRO Facilitator
- Accreditation Experts
  - ABC & NCOPE
    - ABC: Accreditation Board for Certification in Orthotics and Prosthetics (USA)
    - NCOPE: National Commission on Orthotics and Prosthetics Education (USA)
  - ISPO
- Exporting Liaisons
- Webmaster
  - English
  - Spanish

# IPRO Day Deliverable Groups

- Abstract
- Poster
  - English
  - Spanish
- Presentation
- Final Report

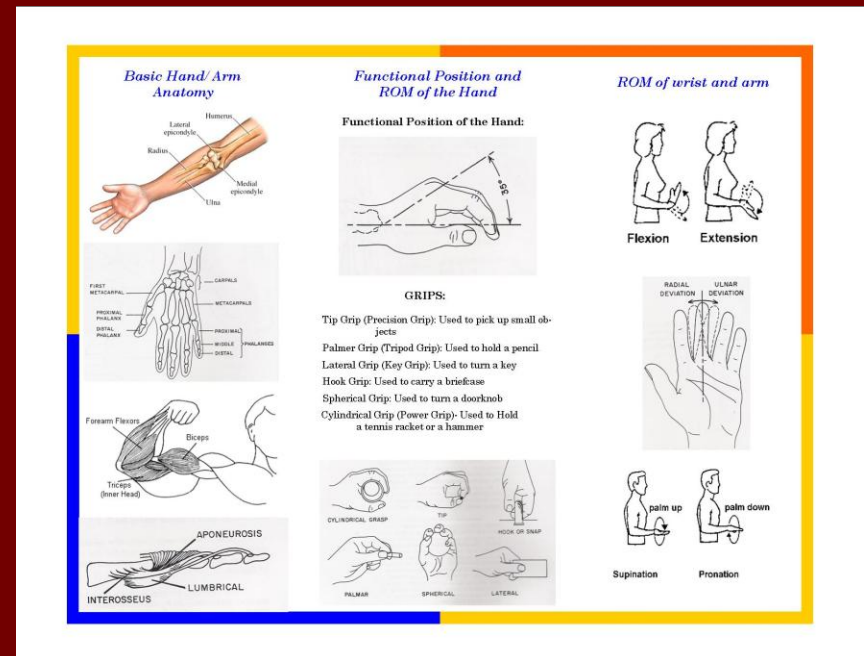
# Module Teams

- Biomechanics
  - Materials
  - Upper Limb Orthotics and Prosthetics
  - Lower Limb Orthotics and Prosthetics
  - Spine Orthotics
- 
- 2-3 Members in each team



# Specific Tasks in Module Teams

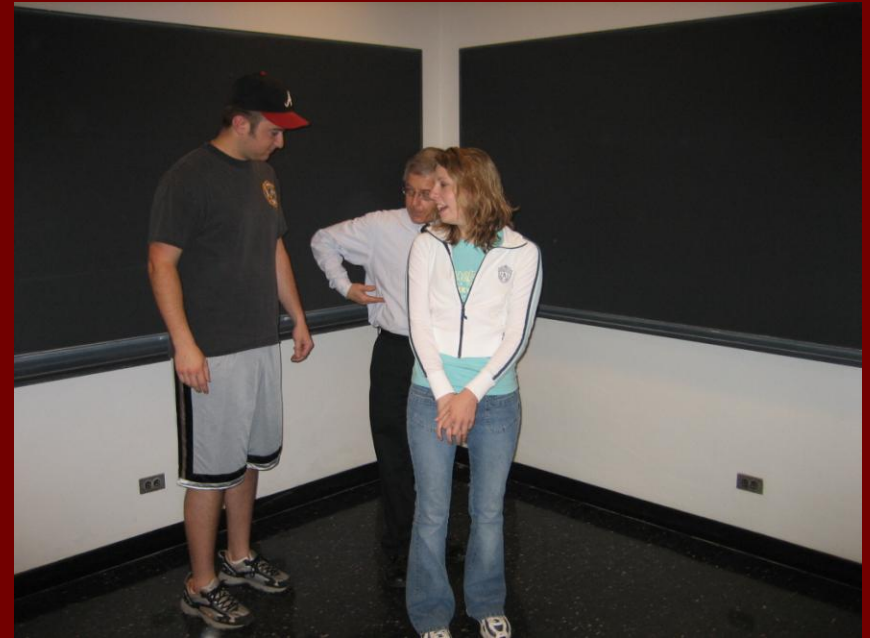
- Research
- Design Modules
- Create PowerPoints
- Create Worksheets
- Create Brochures
- Prepare Demonstrations
- Order necessary materials



*Sample Brochure*

# Learning Processes in Class

- Basic Anatomy
- Scoliosis Testing
- Experimentation with Orthotic Devices
- Measuring for Orthotics
- Presentations by individual groups



# Final Product

- Teaching Modules
  - Worksheets
  - Demonstrations
  - Presentations
  - Pamphlets
- Website
- 5 hour presentation for Colombia
- Resources for ongoing project



# Trip to Colombia

- 5 students traveling to Colombia  
May 14-24
- Presentation at  
Orthotics/Prosthetics Convention:  
May 15<sup>th</sup>-18<sup>th</sup>
  - May 15<sup>th</sup>: Biomechanics
  - May 16<sup>th</sup>: Lower Limb and Upper Limb
  - May 17<sup>th</sup>: Materials
  - May 18<sup>th</sup>: Spine
- May 19<sup>th</sup> and 20<sup>th</sup>: Time in Bogota
- May 21<sup>st</sup>-23<sup>rd</sup>: Visit to Clinic in  
Villavicencio



Colombian Flag

# Future Work

- Expanding current modules
- Translating material
- Adding new modules
- Working with program in Joliet, IL



*Joliet Junior College*

# Outside Support

- **Centro Don Bosco, Bogotá, Colombia**
- **Laboratorio Gilete, Bogotá, Colombia**
- **Bioconcepts, Inc., Burr Ridge, IL**
- **Gulbrandson Orthotics & Prosthetics, Cary, IL**
- **Children's Memorial Hospital, Chicago, IL**
- **Northwestern University Prosthetics and Orthotics Center, Chicago, IL**

Questions?