**Pediatric Research Retreat**

**January 27, 2012**

**Discussion Guide and Note Taking Template**

**Roundtable Discussion Topics:**

*Orthopedics/Sports Medicine*

*Group Session 2: (12:35 – 1:30)*

**Discussion Leader:**

Michael Schmitz

**Scribe:**

Rian Thornton

**Registered Attendees:**

Gilda Barabino

Lauren Brady

Douglas Brooks - Present

Jill C. Flanagan - Present

Colleen Coulter-O'Berry - Present

Dennis Fredette

Mark Geil - Present

Chris Hermann - Present

Kinsey Herrin - Present

Sharon Hyzy

Kelsey Lawrence - Present

Traci leong

Janet Lombardo

Ifeyinwa (Ify) Osunkwo - Present

Kristine Rogers

Kathy Stephens - Present

Kate Sutton

Larry Vogler - Present

Alaina Whitton

Chris Buchanan – Present

H. Shelvin – Present

Idy Akinsanmi – Present

Diane Waldner - Present

**Meeting Objective:** To learn about research interests across campus and at area institutions in the area defined above, discover areas of mutual interest and define next steps to establish/further collaborations, exchange information and share and improve access to research approaches, techniques & technologies.

**Research Interests Represented:**

* *Physical Therapy / Occupational Therapy / Rehab*
* *Pediatric Orthopaedic Surgery*
* *Hematology/Oncology*
* *Biomedical Engineering*
* *Nursing / Clinicians*
* *Academia*
* *Psychiatry*
* *Georgia Tech, Emory, CHOA, Georgia State Univ./Morehouse Univ./Orthotics & Prosthetics*

**High level discussion points and goals:**

* Transitioning to Adult Care
  + Possible Collaboration with all service lines and psychiatry (Laura Mae et. al) to create/research effective pathways of transitioning children with conditions to adult care
* GT Collaborations for Device Creation
  + Seed money through Georgia Research Alliance (GRA)
    - Initial money up to 500k, but originating members must work/live in Georgia.
  + GRA will work with collaborators to advance the investigative device/product
    - Assessments throughout development
    - Marketability
    - Patents
    - Intellectual Property allocations
    - Are not responsible for the filings of patents due to state restrictions
  + GT has relationships and partnerships with other institutions and privately owned companies that may fund projects
    - Foundations / Donors
  + After Patent is filed/approved, GT along with investors create a company for marketing/outsourcing/maintaining of device lifetime.
    - Rare that institutions create separate entities that hold patents
  + It was noted that working groups and steering committees with patent projects and research ideas have;
    - Clear and concise research/business objectives that display relevance and purpose for the device/research that indicates clinical need/competitor strengths and weaknesses
    - Clear timelines for deliverables as patent deadlines are final and if missed, the potential investment is at risk.
* Orthopaedic, Rehab and Hematology collaborating on Sickle Cell treatment pathways
  + Rehab, Oncologists, Hematologists, Orthopaedists, Physiatry, Pain Specialists and Nurses should all weigh in on changing patient care to encompass all ideas and suggestions.
  + With over 16000 patients at CHOA alone and life expectancy increasing, patients are living with severe pain for longer
  + Possible collaborations may involve;
    - Orthopaedic devices
    - Bone Health Collaboration studies in sickle cell population
    - Bisphosphonate treatment studies in all populations
      * Create brittle bone instead of rigid bone growth
      * Risk vs. Reward (Fx rates in patients)
      * Overall acceptance of physicians prescribing
      * Current medications / Contraindications in Peds
    - Vitamin D pain studies for patients with sickle cell
      * Pilot study indicated that vitamin D decreased pain when kept at therapeutic levels
    - Osteonecrosis occurrences rising and treatment
    - Avascular Necrosis
      * Increasing pain leading to ischemic events
      * Operation pioneered at Duke seems to improve vascularization, but not replicated
    - Bone Implants
      * Joint replacements help but are finite which leads to more surgeries later in life
* Collaborations of Clinicians and Orthopaedics to improve and promote bone health starting in the Pediatric population
  + Dr. Jill Flanagan at Children’s Orthopaedics is starting a bone health clinic at CHOA to initiate bone health in peds
    - Bone health should start as a young teen (13-19) and continue into adulthood
    - Female Teens are most at risk
* Collaborations with GT/Emory/CHOA for bone imaging studies
  + Use of MicroCT, CT, MRI and Ultrasound to map out structural and physical properties
  + Seed money available for projects through CORPH and GT
  + Current Studies are looking at craniofacial, spinal deformity, and other heterogeneous bone formations and use the SNAKE algorithm to identify similarities and differences
  + Not ethical to use MicroCT on the pediatric population due to radiology exposure
    - Also cost prohibitive
  + PQ-CT commonly used in Bone Health
  + Ultrasound and MRI are becoming more abundant in bone imaging studies
* GT collaboration with Orthopaedics in polymer research
  + Injectable Hydrogel for controlled release of therapeutic vehicle
    - Hydrogel acts as a carrier for whatever molecularly bound to
      * Ex. BMP and Antibiotics
    - Polymers that fill empty bone spaces after Osteotomy

**Action Items Assigned:**

1. Establish working groups after round table discussion minutes are sent to attendees
2. Identify champion to hold responsibility for driving projects
3. Identify intramural and extramural grant opportunities