CDMI

CENTER FOR DISRUPTIVE
MUSCULOSKELETAL INNOVATIONS

Wearable activity sensors and patient-reported outcomes in total hip arthroplasty: a nested RCT

Stefano A. Bini, MD
Professor, Department of Orthopaedics
UCSF

WWW.NSFCDMI.ORG

Project Summary

- Patient Reported Outcomes (PROs) have been selected as a means to measure outcomes in total joint arthroplasty
  - Collecting PROs is costly, inefficient, and inaccurate
- Question: can data collected passively about a patient help *predict* both objective and subjective clinical outcomes following surgical intervention?
- This study has been developed to utilize three different activity trackers (sensors) to passively collect patient-generated data both pre and post-operatively in total joint arthroplasty patients

Project Updates

- No major changes to the proposal.
- Have experienced setbacks to timeline:
  - IRB Approval
  - Device Procurement
  - Patient Recruitment

- Total Enrollment to Date: 11 patients have signed consent
  - Another 8 to sign consent this week
  - Target enrollment is 20 to 25 patients
  - Following for minimum of 2-months post-operatively

Project Milestones

- Planned – 2017:
  - End Q2: complete enrollment
  - Q3: continue data collection & preliminary data analysis
  - September: Final Presentation
  - September 30: complete all post-operative data collection

- Ideas moving forward with data:
  - Determine if sensor data closely predicts gait
  - Using sensor data to track and predict Patient Report Outcomes

Thank You

- Questions?