

## **Osteochondral Transplant System—Week 12, Progress Report**

**Client:** Dr. Brian Walczak

**Advisor:** Dr. Krishanu Saha

**Team:** Rodrigo Umanzor (Leader)                      umanzor@wisc.edu  
Nicholas Zacharias (BWIG & BSAC)              nazacharias@wisc.edu  
Eduardo Enriquez (Communicator)              eenriquez2@wisc.edu  
Bilin Loi (BPAG)                                      bloi@wisc.edu

**Date:** April 14, 2017

### **Problem Statement**

Osteochondral allografting is a common procedure performed on patients that require replacement of diseased bone. Current methods of implantation require the application of mechanical forces that have a detrimental effect on the live chondrocytes present on the implant. Maximizing the amount of viable tissue during and after the surgery is a crucial factor for the success of the procedure. Hence, the client requests a delivery system that will reduce the amount of mechanical forces required to securely place the implant into the donor site.

### **Previous Week's Goals**

- Test and image using fresh porcine femur samples on 04/12 ✓
- Draft an executive summary for the BME Design Awards ✓

### **Summary of Team Accomplishments**

- Fresh samples were obtained and used for experimentation on 04/12
- Cartilage samples were imaged after 1 hour and 24 hour time points

### **This Week's Goals (Team and Individual)**

- Calculate percent viability values for all samples in the impacted, threaded, and control conditions
- Obtain fresh femurs on 04/18 and extract bone plugs for another round of testing

### **Project Difficulties**

- It was noted in our previous round of testing that threading the bone plugs with the current procedure inevitably leads to significant damage to the cartilage present in the outer diameter of the sample. Such damage could be avoided if the die used to make the threads allowed for more control over where to start/stop the threading process.

### **Expenses**

No new expenses to report.

## Individual Activity Log

Member	Task	Time (hr)	Weekly Total (hr)	Semester Total (hr)
Rodrigo (Leader)	Weekly progress report	0.5	15.5	73
	Adviser meeting	0.5		
	Team meeting	0.5		
	Individual research & team work	14		
Eduardo (Communicator)	Team meeting	1	18.5	70.5
	Adviser meeting	0.5		
	Individual research & team work	17		
Nick (BSAC & BWIG)	Adviser meeting	0.5	14.5	45
	Team Meeting	1		
	Individual research & work	13		
Bilin (BPAG)	Adviser Meeting	0.5	10.5	46
	Team Meeting	1		
	Individual research & work	9		

