

Osteochondral Transplant System—Week 4, Progress Report

Client: Dr. Brian Walczak

Advisor: Dr. Krishanu Saha

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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

- Construct a design matrix that evaluates three different methods for chondrocyte viability quantification ✓
- Create a PowerPoint for preliminary presentation ✓
- Use SOLIDWORKS to model the guide part that will be used for bone plug extraction ✓
- Place an order for a trephine part that will be compatible with our guide ✗
- Reserve time slots to receive confocal microscope training ✗
- Edit PDS ✓

Summary of Team Accomplishments

- Agreed to that we plan to image our tissue sections using a confocal and fluorescent microscope
- Discovered that we may be able to freeze our tissue sections to cope for the 3-day waiting period reported in last week's project difficulties
- Concluded that the trephine piece is not compatible with the power tools that are available to us, hence we will need to rely on the use of a hole saw and a guiding tool for bone plug extraction

This Week's Goals (Team and Individual)

- Reserve time slots to receive confocal microscope training
- Draft a preliminary project report
- Begin to fabricate guide tool so we can begin testing

Project Difficulties

No new difficulties to report.

Expenses

No expenses to report.

Individual Activity Log

Person	Task	Time (hr)	Weekly Total (hr)	Semester Total (hr)
Rodrigo (Leader)	Weekly progress report	0.5	3	12.5
	Adviser meeting	0.5		
	Team meeting	1		
	Individual research & work	1		
Eduardo (Communicator)	Team meeting	1	3	11
	Adviser meeting	0.5		
	Individual research & work	1.5		
Nick (BSAC & BWIG)	Adviser meeting	0.5	3	9
	Team Meeting	1		
	Individual research & work	1.5		
Bilin (BPAG)	Adviser Meeting	0.5	3.5	11.5
	Team Meeting	1		
	Individual research & work	2		

