

There are 15 million blind and visually impaired people in North America.

The Intracortical Visual Prosthesis team (IVP) at IIT is currently developing a procedure and visual prosthesis device.

The IVP team is currently preparing for human implantation within the next few years.

Our Goal:

Develop a guide that details specific requirements needed to satisfy safety and regulatory criteria, important ethical issues that must be addressed, and how to introduce and educate the public about the prosthesis.

Fall 2008 Team Members

Marin Assaliyski (Aero and Mech. Eng.)
Joshua Blacketter (Materials Eng.)
Saurabh Jain (ECE)
Joel Kam Sadjja (Electrical Eng.)
Peter Mathes (Psychology)
Kevin Ragauskis (Biomedical Eng.)
Andrew Rust (Biology)
Dan Tian (Biomedical Eng.)
Minh Tran (Chemical Eng.)

Faculty Advisors

Professor Phil Troyk
Professor Margaret Huyck

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With Collaboration From:
Chicago Lighthouse for the Blind
Intracortical Visual Prosthesis Team at IIT



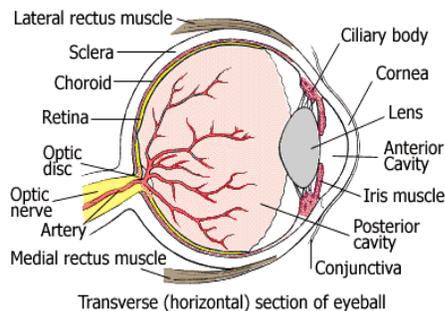
IPRO 306

Planning for Human Implantation of a Cortical Visual Prosthesis



Team Objectives

- Review literature on visual prosthetics to understand and assess the status of the current technology
- Focus on the main issues involved in human implantation
- Make inferences and educated hypotheses regarding visual prosthetics and human implantation



Six Main Issues/Subteams

- **Engineering**
 - Minh, Saurabh
- **Regulatory**
 - Minh, Saurabh
- **Medical**
 - Andrew, Marin
- **Ethical**
 - Kevin, Dan, Joel
- **Media/Politics**
 - Dan, Joel
- **Psychology**
 - Pete, Joshua

Conclusions and Recommendations

- **Engineering**—future equipment and device testing needed; especially long term testing
- **Regulatory**—device must meet FDA standards; the

research team should implement an extensive note-taking system

- **Ethical**—need quantitative risk data to better understand ethical implications
- **Media/Politics**—emphasize both positive and negative aspects of the device; analyze data from focus groups

- **Medical**—detail qualifications for participation
- **Psychology**—include family and friends into the decision making process