Summer Student Research Program
Project Description

FACULTY SPONSOR’S NAME AND DEGREE: James K. Liu, MD
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PROJECT TITLE (200 Characters max):

1. Surgical Outcomes After Endoscopic Endonasal Skull Base Surgery in the Pediatric Population
2. Microscopic Vs. Endoscopic Resection of Tuberculum Sellae Meningiomas
3. Outcomes After Microsurgical Resection of Sphenoid Wing Meningiomas

HYPOTHESIS:
The use of skull base techniques, either via endoscopic endonasal approaches or standard transcranial approaches, are useful for removal of deep seated intracranial tumors at the skull base, and can be performed safely with low rates of morbidity and mortality. In this study, we assess the surgical outcomes after skull base surgery (endoscopic vs. microscopic techniques) for removal of intracranial tumors at the skull base.

PROJECT DESCRIPTION (Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)

Student would work closely with attending neurosurgeon with focus on skull base surgery/brain tumor clinical research. Student would be required to formulate hypothesis, formulate a scientific question and subsequently design a clinical study in an attempt to answer the question, perform data collection from patient charts and records, generation of databases, data and statistical analysis. Past participants have been successful in writing of scientific abstracts and manuscripts for submission to major national meetings and scientific journals for ultimate publication. Additional portions of the project may require anatomical cadaveric dissections and generation of quality publication level photographs, and editing of surgical-operative videos. Knowledge of adobe photoshop, some basic editing, video editing may be helpful.

SPONSOR’S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:


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**IS THIS PROJECT SUPPORTED BY EXTRAMURAL FUNDS?**
Yes ☒ or  No ☑
*(IF YES, PLEASE SUPPLY THE GRANTING AGENCY’S NAME)*

**THIS PROJECT IS:**  ☑Clinical  ☐Laboratory  ☐Behavioral  ☐Other

**THIS PROJECT IS CANCER-RELATED ☑**
Please explain Cancer relevance
Study will be focused on brain tumors, skull base tumors, both malignant and benign

**THIS PROJECT IS HEART, LUNG & BLOOD-RELATED ☐**
Please explain Heart, Lung, Blood relevance

**THIS PROJECT EMPLOYS RADIOISOTOPES ☐**

**THIS PROJECT INVOLVES THE USE OF ANIMALS ☐**
Pending ☐  Approved ☐
IACUC Protocol #

**THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS ☐**
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PENDING ☐  APPROVED ☑  IRB PROTOCOL # M

THIS PROJECT IS SUITABLE FOR:
UNDERGRADUATE STUDENTS ☐  ENTERING FRESHMAN ☐
SOPHOMORES ☐  ALL STUDENTS ☑ (however preference will be
given to students who have just finished first year of medical school)

THIS PROJECT IS WORK-STUDY:  Yes ☐  or  No ☑ (not sure)

THIS PROJECT WILL BE POSTED DURING ACADEMIC YEAR
FOR INTERESTED VOLUNTEERS?:  Yes ☑  or  No ☐

WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?
The student will learn how to perform scientific analysis for clinical neurosurgical research, learn
neurosurgical operative approaches, disease processes, anatomical structures, radiological findings,
clinical presentation of patients with neurosurgical disease. In addition they will learn how to properly
submit and author a scientific abstract and manuscript for publication.