Summer Student Research Program
Project Description

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PROJECT TITLE (200 Characters max): Considerations for treatment of metastatic disease with cemented osteosynthesis versus endoprosthetic reconstruction: weighing the options

HYPOTHESIS:
Previous literature has shown adequate results following treatment of metastatic disease with cemented osteosynthesis and endoprosthetic reconstruction. While not well defined, certain trends within these past studies have indicated that each management option may be subject to unique complication types. We hypothesize that while overall complication rates may be comparable, patients treated with cemented osteosynthesis are subject to increased risk of mechanical failure, while patients treated with endoprosthetic reconstruction are subject to increased risk of infection.

PROJECT DESCRIPTION (Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)
This study will retrospectively review patients treated at University Hospital over the past 20 years for metastatic disease. Chart review will include demographic information (patient age, gender, and BMI) as well as clinical information (pathologic diagnosis, anatomic region of treatment, treatment type, complications, functional outcome scores). Data analysis including comparison of complication rates, long-term survival of implants in patients, and oncologic status will be carried out utilizing SPSS. With a paucity of literature on this important topic, we are confident that findings from our large patient database will provide impactful clinical information to support pre-operative surgical decision making in patients with metastatic disease.

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
This study will add to the literature in evaluating various factors involved in clinical decision making in management of metastatic bone disease with different methods of fixation.

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 ☐
Pending ☐ Approved ☑ IRB protocol Pro20140000855

THIS PROJECT IS SUITABLE FOR:
Undergraduate students ☐ Entering freshman ☐
Sophomores ☐ 1st & 2nd Year Medical Students ☑

THIS PROJECT IS WORK-STUDY: Yes ☑ or No ☒

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 gain insight into orthopaedic oncology, including mentorship in performing a detailed analysis of both the current literature and data collected from our institutional database, as well as the development of a manuscript in clinical research. This study is currently IRB approved.