Leaders in High-Quality Clinical Trials
The Department is enrolling patients into more than 17 orthopaedic clinical trials, and our faculty have led grants totaling $45 million in funding for high-quality research affecting clinical care.

Practice-Changing Orthopaedic Research
PREVENT CLOT: Supported by $12 million in funding from PCORI and led by Robert V. O’Toole, MD, the “PREVENT CLOT” trial is the largest orthopaedic trauma trial ever, as it evaluated 12,211 patients with pelvic, acetabular, or extremity fractures treated operatively. It demonstrated that thromboprophylaxis with aspirin was noninferior to low-molecular-weight heparin (enoxaparin) in preventing death at 90 days. (N Engl J Med. 2023 Jan 19;388(3):203-13 PMID 36652352)

PREP-IT: A three-part trial supported by $15 million in funding from PCORI and the Department of Defense, and led by Gerard P. Slobogean, MD, compares preoperative antiseptics in more than 10,000 patients undergoing fracture surgery. The first trial, Aqueous-PREP (Lancet 2022; 400 (10360):1334–44 PMID 36244384), found aqueous 10% povidone-iodine or 4% chlorhexidine gluconate have similar efficacy for skin antisepsis in adults receiving surgical fixation for open fractures. The two remaining PREP-IT trials will be submitted for publication in 2023.

Veteran’s Administration Career Development Award
Natalie L. Leong, MD was awarded this career development award $1.6 million over five years to study the role of perivascular stem cells in ligament and tendon healing.

OREF Soft Tissue Repair and Regeneration Sports Medicine Grant in Honor of Russell F. Warren, MD
Natalie L. Leong, MD is the principal investigator for the $225K research award “Therapeutic Application of Perivascular Stem Cells to Rotator Cuff Repair” from the Orthopaedic Research and Education Foundation (OREF).

Intrawound Vancomycin Powder to Reduce Surgical Site Infections
A 980-patient randomized trial supported by a $2.5 million grant from the Department of Defense and led by Robert V. O’Toole, MD, demonstrated that intrawound vancomycin powder substantially reduces gram-positive bacterial infections in high-risk tibial plateau and pilon fractures. (JAMA Surgery 2021 May 1;156(5):e207259 PMID 33760010)

Mortality in Hip Fracture Patients: Identifying the Prognostic Value of Troponin
The Department is co-leading an international, multicenter randomized controlled trial of 1,100 patients comparing accelerated surgery to standard care in hip fracture patients presenting with elevated troponin levels. The trial is supported by a $4 million National Institutes of Health grant with Gerard P. Slobogean, MD as the principal investigator.

The Maryland Orthopaedic Registry
The MOR was established by R. Frank Henn III, MD to comprehensively assess post-surgical outcomes and was supported by $1 million in funding from the James L. Kernan Endowment Fund. More than 4,500 patients have been enrolled and it has led to over 30 publications.

Veteran’s Administration MERIT Award
Mohit N. Gilotra, MD was awarded $1.8 million over four years to study pharmacologic inhibition of muscle fatty infiltration.