

TITLE: A-PREP: A Pragmatic Randomized trial Evaluating Pre-operative aqueous antiseptic skin solution in open fractures

FACULTY MENTOR NAME, EMAIL PHONE NUMBER

Jennifer Hagen MD
Assistant Professor Orthopaedics
hagenje@ortho.ufl.edu
216-570-1417

FACULTY MENTOR DEPARTMENT

UF Orthopaedics and Sports Medicine

RESEARCH PROJECT DESCRIPTION

The prevention of infection is the single most important goal influencing peri-operative care of patients with open fractures. Standard practice includes surgical debridement, pre-operative antibiotics and pre-operative skin preparation with antiseptic solutions. There is limited evidence regarding the choice of antiseptic skin preparation specifically in the acute management of fracture patients and no surgeon consensus. The two commonly used solutions are Chlorhexidine Gluconate and Iodine based formulations. Based on current evidence, we hypothesize that aqueous solutions of 10% povidone-iodine will be more effective than aqueous 4% Chlorhexidine Gluconate to reduce 90-day surgical site infection or unplanned fracture-related reoperations within one year of injury.

This is a multicenter, prospective cluster-randomized crossover trial, funded by the Department of Defense. All patients with open fractures treated at UF Shands during the enrollment period will be included. The medical student will help enroll patients in the hospital, complete case report forms based on in-person interview and chart review, and assist the research team with patient follow up data. They will participate in weekly research meetings and be exposed to the fundamentals of large trial design and implementation.

Swenson BR, Hedrick TL, Metzger R, Bonatti H, Pruett TL, Sawyer RG. Effects of preoperative skin preparation on postoperative wound infection rates: a prospective study of 3 skin preparation protocols. *Infect Control Hosp Epidemiol.* 2009;30(10):964-971. Doi:10.1086/605926

Dumville J, McFarlane E, Edwards P, Lipp A, Holmes A, Liu Z. Preoperative skin antiseptic for prevention of surgical wound infections after clean surgery. *Cochrane Database Syst Rev.* 2013;(3):CD003949. Doi:10.1002/14651858.