**A Randomised Control Trail to compare topical use of antibiotic vs conventional management of open fractures at Modilon General Hospital**

**Patient management protocol**

Patient’s variables will be recorded on a predesigned research form. These will include demographic characteristic, type and localization of fracture, hours from the injury to first debridement, antibiotic regimen (type, dose, duration, route), type of surgical treatment,

 infection, complications, length of hospital stay and time to bony union.

On admission all patients will be administered intravenous antibiotics, prophylaxis tetanus toxoid, fracture will be immobilised and wound will be dressed with povidone iodine before first debridement.

Antibiotic therapy typically will consist of Flucloxacillin 1 g qid, IV and Gentamycin 7mg/kg single dose per day, IV; and in case of exposed bone which has been covered (GAIIIB) IV antibiotics will follow 3 days after the first debridement; it continues longer if bone is exposed. In the group 1 (intervention) topical antibiotic 160mg Gentamycin will be applied during the first debridement and before the bone cover with soft tissues. Intraoperatively, wounds will be debrided, irrigated with normal saline, skeleton will be stabilised via external or internal stabilization or plaster as appropriate. The wound will be debrided, washed out and depending on the wound closed or left for delayed closure or soft tissue cover best within 7 days.