

Generic Orthopaedic Trauma Implants: A Case Series

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INTRODUCTION: With more emphasis being placed on providing value-centric care to patients, the use of generic implants is one option surgeons can pursue. The purpose of this study was to evaluate the surgical outcomes and cost differences associated with the use of generic implants in the orthopaedic trauma setting.

METHODS: A retrospective review of a single hospital's electronic medical record (EMR) was conducted for patients treated with generic implants from April to September of 2022. Patients were excluded if they were treated with any conventional implants in addition to the generic implants used. Demographic, injury surgical characteristics, and patient outcomes were extracted from the EMR. Implant costs were obtained from the chargemaster database. Generic implant costs were compared to 2021 conventional implant costs adjusted for inflation.

RESULTS:

A total of 125 patients who underwent 20 different procedures were identified. Most patients were female with an average age of 65.6 (range: 8.7-97.0). The average BMI was 27.37 (range: 14.1-57.7). Patients equally injured either extremity (n = 61, 48.8%), with 25 experiencing concomitant injuries (20.0%). There were no open fractures. The most common injury patterns were 31-A, 31-B, 41-B, 43-B, and 43-C per the OTA classification (24.8%, 5.6%, 5.6%, 5.6%, 5.6%, respectively). There were eight reoperations (6.4%) (hardware removal, revision, infection) and six patient deaths (4.8%). Average operating time was 72.1 minutes. The overall cost savings between generic and conventional implants for 13 different procedures was 72% (Table 1). Maintaining 2021's case volume for one surgeon, an overall amount of \$513,387 in savings could be generated.

DISCUSSION AND CONCLUSION: This study demonstrated that generic implants can provide an opportunity for relatively good outcomes for patients with minimal overall risk. Generic implants are another way to decrease costs while also helping to maintain acceptable patient outcomes. Future studies should seek to provide patient-reported outcome measures for generic implants and compare them to conventional implant use.

Table 1. Case Volume and Implant Cost for Conventional and Generic Implants

Primary Procedure	Conventional Implants		Generic Implants	
	Case Volume	Implant Cost	Case Volume	Implant Cost
Insertion Intramedullary Nail Femur	70	\$3,734	38	\$1,480
Open Reduction Internal Fixation Tibial Plateau Fracture	13	\$3,749	11	\$1,122
Insertion Intramedullary Nail Tibia	10	\$3,448	5	\$1,379
Insertion of Retrograde Nail Femur	4	\$3,735	7	\$1,707
Open Reduction Internal Fixation Distal Radius	6	\$2,450	10	\$1,175
Open Reduction Internal Fixation Clavicle Fracture	7	\$1,975	9	\$1,123
Open Reduction Internal Fixation Hip Fracture	11	\$1,612	4	\$717
Open Reduction Internal Fixation Ankle Fracture	46	\$752	19	\$524
Open Reduction Internal Fixation Proximal Humerus Fracture	2	\$2,707	4	\$1,809
Open Reduction Internal Fixation Calcaneus Fracture	3	\$1,372	1	\$296
Open Reduction Internal Fixation Forearm Fracture	3	\$1,043	1	\$307
Open Reduction Internal Fixation Pilon Fracture	4	\$1,877	1	\$1,703
Open Reduction Internal Fixation Cannulated Hip Screw	7	\$210	4	\$461
Totals	285	\$49,484	114	\$13,890