

Clinical and Economic Impact of Generic Implant Use at a Level II Trauma Center

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Background/Purpose: In the current health care environment there has been increased awareness in the availability and effectiveness of generic orthopaedic implants, and their contribution to cost containment while maintaining clinical benefit and patient safety. The economic impact of widespread use of generic orthopaedic implants as a cost containment strategy between the hospital, surgeon, and patients cannot be understated. The purpose of this study is to expand the understanding quantitatively of the financial cost savings utilizing these implant designs as well as to examine the outcomes/complications associated with the use of these versus traditional implants.

Methods: Following approval by the IRB, the orthopaedic traumatologists at our institution adopted the use of generic volar locking distal radius, clavicle, proximal humerus, distal tibia, ankle, and proximal tibial plateau plates. Despite a much lower cost, these constructs were biomechanically tested as equivalent to major implant company products prior to the initiation of the project. Review of our trauma database identified patients with displaced distal radius, clavicle, proximal humerus, ankle, pilon, and tibial plateau fractures that met operative criteria treated with generic implants. These patients were compared to patients treated in a similar manner from years prior with conventional implants. Chart review was undertaken to obtain basic demographic variables such as age, sex, and fracture classification. Operative records were analyzed to identify any intraoperative complications, operative time, and estimated blood loss. Hospital charts were examined to compare rates of deep infection and need for repeat surgery including hardware removal. Clinic charts were assessed to identify cases of infection, malunion, nonunion, or need for repeat surgery. Radiographs were reviewed by an author not involved in the clinical care of the patient to record fracture type, hardware loosening, healing, loss of reduction, and malunion or nonunion. Hospital financial records were appraised to determine operative implant costs.

Results: We had a total of 533 patients treated with generic constructs. 128 patients with operatively managed distal radius fractures, 51 patients treated operatively with tibial plateau fractures, 123 patients with clavicle fractures, 38 patients with proximal humerus fractures, and 193 total patients with ankle and pilon fractures were identified in the study group. There were no significant differences in age, sex, or fracture type between generic and conventional groups and no difference in operative time, estimated blood loss, or complication rate was observed. No increase in postoperative infection rate, hardware failure, hardware loosening, malunion, nonunion, or need for hardware removal was noted. Overall our hospital realized a significant reduction in implant costs, resulting in a total savings of \$428,310.

Conclusion: Use of generic implants has been a successful endeavor at our institution. Hospital implant costs decreased significantly without any associated increase in compli-

cation rate or change in radiographic outcome. Generic implant usage has the potential to markedly reduce operative costs in a manner similar to the generic pharmaceutical industry. This has profound implications for the treatment of trauma patients. As long as quality products are utilized, patient care is unaffected and cost savings can be realized. A portion of savings from such a change can be reinvested in the hospital trauma program to support OTA/AAOS position statement guidelines and positively affect the cost of fracture implants in the future.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.