



## CLINICAL TRIAL HIGHLIGHTS

ACL rupture was confirmed by clinical exam and magnetic resonance imaging. Exclusion criteria included age <18 years, multiple ligament injuries, and previous knee ligament surgery in either knee. Patient demographics were similar among both study arms.

The failure rate of ACL reconstruction with AUTO was 8.5% compared with 26.5% in reconstructions performed with ALLO at 10-year follow-up. Failure was defined as a documented re-tear of the ACL. There was no significant difference in metrics between the surviving AUTOs and ALLOs. Six patients reported that their knee with the reconstructed ACL was unstable; however, following assessment by clinical exam and MRI, these grafts were found to be intact. Therefore, subjective instability was likely due to issues related to the meniscus, arthritis, or other reasons, rather than actual instability of the graft.

Dr. Bottoni highlighted that at a minimum of 10 years follow-up, 80% of patients that underwent ACL reconstruction maintained stability. However, he stated that the data from this study indicate that young, active patients who underwent an ACL reconstruction with ALLO had a 3-fold greater failure rate than those patients who underwent reconstruction with an AUTO. In addition, he noted that although the study was limited in that patients provided subjective data, there were objective measurements of graft wear.

## Arthroscopic Latarjet for Shoulder Repair Provided Better Positioning, Less Pain

Written by Mary Mosley

Patients with chronic anterior instability of the shoulder that required bone grafting had significantly less pain and better bone block and equatorial positioning with an arthroscopic rather than a minimally invasive mini-open surgical approach for the Latarjet procedure in a prospective, nonrandomized, comparative study presented by Julien Deranlot, MD, Hôpitaux Universitaires Paris Ile-de-France Ouest, Paris, France.

The average Instability Severity Index Score (ISIS) was 4.4 at inclusion; an ISIS >3 was an inclusion criterion. The 36 patients in the arthroscopic and 22 patients in the mini-open groups had an average age of 26.9 years and 13 were women. Most (84.5%) of the patients were active in sports (67.2% recreationally). The treatment groups were comparable.

The primary outcome of patient-reported postoperative pain during Week 1 using the Visual Analog Score (VAS) of 0 to 10 was a mean 1.2±1.2 with arthroscopy compared with 2.5±1.4 with mini-open (p=0.0026). Further, the mean VAS

pain scores were significantly lower for Day 1 (2.1±1.3 vs 4.3±1.7; p=0.0001) through Day 4 (1±1.6 vs 2.3±1.8; p=0.001). Postoperative use of analgesics, by a standardized protocol that included paracetamol, tramadol, and naproxen, was similar (Table 1).

Table 1. Analgesic Consumption After Latarjet Shoulder Repair

	Mini-Open	Arthroscopic	p Value
Acetaminophen 500 mg	2.5±1.8	1.8±1.4	0.13
Tramadol 100 mg	0.2±0.4	0.7±1.2	0.07
Naproxen 75 mg	0.9±0.6	0.8±0.5	0.20

The arthroscopic approach took significantly more time (76.8±14 vs 61.6±13.2 minutes; p=0.0001). No perioperative complications occurred in either group, and the postoperative side effects of nausea, vomiting, anxiety, and vertigo were similar.

Radiography revealed significantly better bone block positioning at the anterior aspect of the glenoid with arthroscopy compared with the mini-open procedure, but no significant difference was seen with computed tomography (CT). On antero-posterior and lateral x-ray, the medio-lateral bone block positioning was 3.7±3.3 mm with arthroscopy versus 6.6±5.5 mm with mini-open (p=0.036), and the equatorial bone block positioning was better at 94.1% compared with 44.4%, respectively (p=0.002). On CT scan assessment, equatorial bone positioning was 40.9% with arthroscopy and 50% with the mini-open procedure at 4 hours, and bone block length was 20.6±2.8 and 21.4±2.1 mm, respectively.

The arthroscopic approach to the Latarjet procedure is more technically demanding, stated Prof. Deranlot, and to date there have been few comparisons between this approach and the mini-open surgical approach. This study shows that the arthroscopic procedure is reliable and reproducible and provides good bone positioning.

## Application Order of Skin Antiseptics Does Not Affect Postsurgical Wound Infection

Written by Nicola Parry

Joshua Hunter, MD, University of Rochester Medical Center, Rochester, New York, USA, presented results from a prospectively randomized, single-blind study, demonstrating that the order in which isopropyl alcohol (IA) and chlorhexidine gluconate (CG) skin preparation solutions are applied does not affect wound infection rates in patients undergoing foot and ankle orthopedic surgery.

Surgical site infections are among the most common postoperative complications encountered by foot and

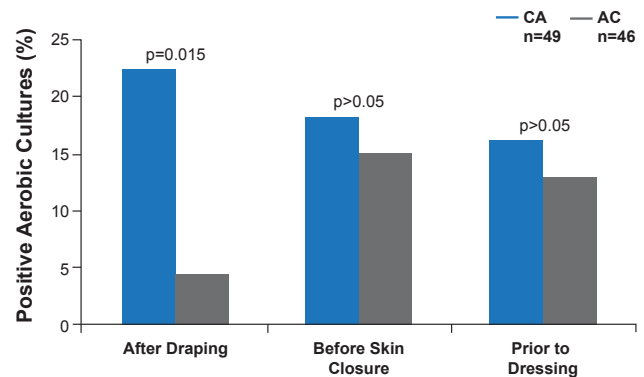
ankle surgeons, and can make for difficult clinical scenarios. Although the skin surface represents one source of pathogens that may contribute to these infections, numerous skin preparation agents are used prior to surgery to reduce the risk of postoperative complications [Ostranderv RV et al. *J Bone Joint Surg Am* 2005].

IA and CG are two commonly used skin preparation agents which have potential synergistic qualities to prevent postsurgical infection. With this in mind, Dr. Hunter and colleagues conducted a prospectively randomized, single-blind study to determine whether the order of applying these two solutions has a significant effect on the residual load of bacterial pathogens after surgical site preparation for foot and ankle surgery.

One hundred patients undergoing surgery of the foot and ankle with a single surgeon were prospectively randomized to two surgical preparation groups. In Group 1 (CA; n=49), patients underwent surgical site preparation consisting of a 4% CG application followed by a 70% IA rinse; this process was repeated and allowed to dry. For patients in Group 2 (AC; n=45), surgical site preparation consisted of IA followed by CG, which was then repeated. Swabs for aerobic bacterial culture were collected from the third web space of each patient's operative foot before surgical site preparation, post skin preparation, before wound site closure, and after wound closure. Patients were followed for 6 months postoperatively to monitor for wound complications. Six patients were excluded from the study due to incomplete bacterial culture data. In both groups, all swabs obtained before surgical site preparation were culture-positive for bacteria. More of the post-skin preparation swabs in the CA group were bacterial culture-positive compared with those in the AC group (18.7% vs 10.9%; Figure 1), but this was not statistically significant ( $p=0.07$ ). However, there was a significant increase in culture-positive post-draping swabs in the CA group compared with those in the AC group (22% vs 4%;  $p=0.015$ ). There was no significant difference between the groups in culture-positive swabs taken before skin closure (18% vs 15%;  $p>0.05$ ) and after skin closure (16% vs 13%;  $p>0.05$ ). One superficial surgical site infection occurred in each group during the first 6 months postoperatively, and both were successfully treated with oral antibiotics.

Dr. Hunter stated that postoperative infection rates following foot and ankle surgery are low, and emphasized that both CG and IA are effective at reducing surgical site bacterial colonization when combined. Although the results from this study showed that applying IA before CG solution more effectively reduces the number of positive bacterial cultures in samples taken after draping, he concluded that the order of application of these agents had no influence on the incidence of postsurgical wound infection.

Figure 1. Positive Culture Swabs Results



AC=70% isopropyl alcohol rinse followed by chlorhexidine application; CA=chlorhexidine application followed by a 70% isopropyl alcohol rinse.

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## Risedronate and Follow-up Quantitative Ultrasound Reduces Refracture in Osteoporosis

Written by Nicola Parry

Emanuele Betti, MD, Università di Pisa, Livorno, Italy, presented results from a randomized trial demonstrating a reduction in subsequent fractures in patients with intertrochanteric fractures who were treated with risedronate and received follow-up care with quantitative ultrasound (QUS) to monitor the existing fracture and bone status.

As life expectancy increases, low energy hip fractures become an increasing public health problem due to the growing size of the elderly population. Osteoporotic fractures are therefore becoming a significant cause of morbidity and mortality worldwide.

Risedronate is an oral bisphosphonate that inhibits osteoclast-mediated bone resorption and modulates bone metabolism, and, in the treatment of osteoporosis, this agent can play an important role in prevention of bone fractures. Additionally, QUS represents a valuable predictor of fracture risk and can also be useful in the management of osteoporosis. Specifically, it can provide information about factors such as bone density, elasticity, microarchitecture that contribute to "bone quality", and therefore has a role to play in monitoring the response to antiosteoporotic treatments.

Prof. Betti and colleagues conducted a randomized trial in the use of QUS to compare the differences in bone mineral density (BMD), bone quality, and the incidence of new low-energy fractures in patients with intertrochanteric fractures treated with risedronate or placebo.