

## Pain Management and Impact on the Local Muscle Mass Comparing Local Infiltration Analgesia Versus Femoral Nerve Block after Anterior Cruciate Ligament Reconstruction: A Randomised Controlled Trial

Emiliano Luis Alvarez Salinas, MD, ARGENTINA  
**Horacio F. Rivarola Etcheto, MD, ARGENTINA**  
Cristian Carlos Collazo, MD, ARGENTINA  
Mauricio Eduardo Chiotta Romano, MD, ARGENTINA  
Marcos Palanconi, MD, ARGENTINA  
Santiago Lamarca, MD, ARGENTINA

HOSPITAL UNIVERSITARIO AUSTRAL  
PILAR, BUENOS AIRES, ARGENTINA

### Summary:

Pain management, early recovery and reducing hospitalization time are the goals of ACL reconstruction.

### Abstract:

Arthroscopic anterior cruciate ligament (ACL) reconstruction is a painful procedure requiring intensive postoperative pain management. Femoral nerve block is widely used in ACL surgery. It requires training, preparation time in OR and has an impact on quadriceps muscle early function. Local infiltration analgesia is a simple technique that has proven effective in postoperative pain management after total knee arthroplasty. Further, local infiltration analgesia covers the donor site and is associated with few complications. It was hypothesised that local infiltration analgesia at the donor site and wounds would decrease pain and analgesic consumption after ACL reconstruction with PBTB graft. Sixty patients undergoing primary ACL surgery with PBTB graft were randomised to receive either local infiltration analgesia (lidocaine – bupivacaine – ketorolac) or femoral nerve block. Pain was scored on the numeric rating scale, and use of analgesic rescue, and adverse effects were assessed at the postoperative recovery unit (0 h), 3, 6 hs, and in the 24 hs postoperatively after hospital discharge. We evaluate the thigh diameter and range of motion preop and at 4 weeks.

There were no significant differences between the groups in pain intensity or total analgesic consumption at any of the follow-up points. Further, there were no differences between groups concerning side effects, range of motion. We found a significant tendency to maintain the diameter of the thigh in the group of local infiltration analgesia versus the femoral nerve block group.

Local infiltration analgesia and femoral nerve block are similar in the management of postoperative pain after ACL reconstruction with PBTB graft. LIA maintains muscle volume and function and even requires less time for preparation optimizing operating time.