



BASK- BOSTAA Audit standards: Best Practice for Management of Anterior Cruciate Ligament (ACL) Injuries

Background and Justification: Anterior cruciate ligament (ACL) injury is a common injury usually affecting young and active individuals. The aim of treatment is to restore functional stability of the knee joint.

Summary of Audit Standards

1. Patients with haemarthrosis, following an acute knee injury, should be assessed by a clinician (a surgeon, a physiotherapist or a suitably trained allied professional) proficient in assessment of knee injuries, within 2 weeks of presentation to an Emergency department, to identify injuries requiring urgent treatment.
 - a. Access to urgent imaging facilities should be available from this clinic. Magnetic resonance Imaging (MRI), reported by a musculoskeletal radiologist, remains the imaging modality of choice.
 - b. All coexisting injuries should be identified and documented, following imaging and repeat assessment, as required.
 - c. A management plan after discussion of operative and nonoperative options, should be made in consultation with the patient.
2. The prime indication for ACL reconstruction is symptomatic instability. The decision for early surgical reconstruction versus a trial of non-operative treatment, should be individual to the patient.
3. All patients being considered for surgery should be offered prehabilitation to recover knee movement and quadriceps strength.
4. Surgery, if considered, is usually performed when the knee is “quiet” with no swelling and a full range of movement, particularly extension, has been restored.
5. Patients with an unstable and repairable meniscal lesion in combination with ACL insufficiency should be offered early combined ACL reconstruction and meniscal repair. Staged early meniscal repair followed by later ACL reconstruction is acceptable where the patient presents with a locked knee.
6. ACL injuries in setting of high velocity multiligament injuries should be managed in regional specialist centres, where expertise and facilities to deal with these injuries is available.
7. Consent
 - a. Operative and non-operative options should be discussed. The likely outcome of each including the benefits and limitations should be discussed and recorded. The general risks of surgical intervention together with the specific risks of reconstructive surgery should also be discussed and this conversation documented. Risks of persistent instability and reinjury, including to the opposite leg should be discussed.
 - b. Graft selection should be confirmed whether autograft, allograft or synthetic ligaments are to be used. This should include the benefits, complications and risks of the preferred graft.
 - c. The management of chondral and meniscal pathology should also be discussed together with the implications on post-operative recovery.
 - d. The National Ligament Registry should be discussed with all patients. Patients should be registered and consent obtained for inclusion of their data. Hospitals should facilitate the accurate recording of surgical procedures and patients’ outcome by providing appropriate clerical and IT support.
8. Surgery
 - a. The procedure should be performed on a Day Case basis, for majority of patients.
 - b. Local anaesthetic infiltration, adductor canal block or femoral nerve block may be used for perioperative pain relief. When hamstring graft is used, harvest site should be infiltrated with local anaesthetic.
 - c. Pharmacological thromboprophylaxis is not indicated as a routine. However, all patients should be risk assessed upon admission to hospital. In high risk cases, chemical thromboprophylaxis should be used as per local guidelines. Mechanical prophylaxis like calf pumps should be used intraoperatively and in recovery ward, before patient becomes mobile.
 - d. An examination under anaesthetic must be performed to assess the degree of anteroposterior and rotational laxity, as well as any other associated injuries.
 - e. Graft choice should be decided based on surgeon experience and individual patient characteristics. Allografts are not recommended for primary reconstructions in younger patients (<35 yr old). Synthetic ligaments are not currently recommended for routine primary reconstruction.
 - f. Position for tunnel position is a source of debate but any reconstruction should allow full range of movement of the knee joint, with no impingement in notch. There should be no excessive motion of graft on knee movement. Stability should be restored, and pivot should be abolished following reconstruction. Graft fixation technique and implants should allow immediate knee mobilisation.
9. Following surgery, early quadriceps activation and full range motion should be encouraged with support from an appropriate physiotherapy programme.
10. Decision to return to sport should be criteria based, taking into consideration, physical factors relating to the knee; psychological factors including fear of reinjury and social factors; while being tailored to the specific sport. To assess readiness to return to play a battery of tests, including strength tests, hop tests and measurement of movement quality, should be used. Return to sport should be specific to the individual, but rarely be less than 9 months after surgery due to higher risk of reinjury.