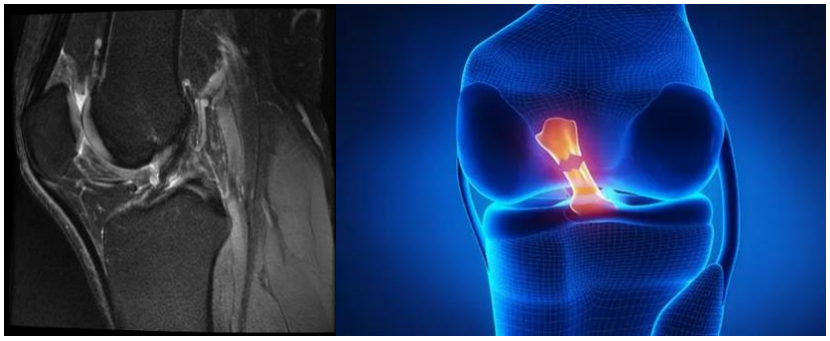

# ACL Rehab: What the Evidence Says

An ACL reconstruction is only half the job. The other half is rehab, and the research suggests it is longer, more structured and less about the calendar than many people expect. Here is what stands out from the recent literature.

## 1. Rehab starts before surgery

Going into surgery with a calm, fully mobile knee matters. Accelerated rehab guides stress full range of motion (especially symmetrical hyperextension), good leg strength and no swelling *before* the operation, because stiffness and weakness are much harder to fix afterwards. The 2018 IOC consensus on paediatric ACL injuries sets similar pre-surgery targets: full extension, at least 120° flexion, little to no effusion and the ability to hold terminal knee extension in single-leg stance.

## 2. Early movement beats cautious waiting

Modern programs get people moving fast: full extension from day one, weight-bearing as tolerated within a day or two, and gentle proprioception work (balance on the operated leg) almost immediately. The aim is full range of motion by about six weeks. Early motion also helps prevent complications such as stiffness and clots. The same "accelerated" thinking is now applied to meniscal repair, where a 2018 systematic review found no higher failure rates with early weight-bearing and motion, although the evidence is low quality.

## 3. The quadriceps is the main battle

Quads weakness after ACL injury isn't just disuse. It is partly *arthrogenic muscle inhibition*, a reflex "shutdown" of the muscle after joint injury. One study found around 15% activation deficits still present two years after reconstruction, in both legs. Standard strengthening alone may not fully overcome this, so rehab may need extras such as neuromuscular electrical stimulation. It is also hypothesised that lingering quad weakness alters joint loading and contributes to post-traumatic osteoarthritis, though that link is not yet proven.  This is where we use the WINBACK muscle stim technology in clinic to overcome this issue.

## 4. Criteria, not the calendar

Time since surgery is a poor guide to readiness. Yet only about 13% of studies in one review reported objective return-to-sport criteria. The IOC consensus suggests progression based on milestones such as:

- Full range of motion and no effusion
- Single-leg hop tests above 90% of the other leg, with good landing quality
- Around 90% limb strength symmetry
- Confidence in the knee and being mentally ready

The graft also needs time. In animal studies the intra-articular graft takes around nine months to remodel into something resembling a normal ligament, and tendon-to-bone healing never fully recreates the native ligament attachment.

## 5. Return to sport: be patient

Even elite footballers, with the best surgeons and daily rehab, took a median of about 7.4 months to return to match play in one 15-year study. Other data put elite match play closer to 12 months. In that study, 4% re-ruptured before their first match, and only about 65% were playing at the same level three years later. For young athletes, the IOC consensus suggests avoiding pivoting sport until at least 12 months after surgery, as the risk of a second ACL injury is highest in that first year.

## 6. Graft choice matters less than you'd think

A meta-analysis of hamstring versus patellar tendon grafts found hamstring grafts cause less anterior knee pain and kneeling pain, and fewer extension deficits. Patellar tendon grafts may be marginally more stable (about 0.4 mm on laxity testing), but the studies were of poor quality and the stability benefit is of questionable importance for most people. One expert's view: surgeon experience may matter more than the graft.

## 7. Don't stop at "recovered"

Neuromuscular training programs (strength, plyometrics, landing technique) reduce ACL injury risk, including reinjury in those returning to sport. Keep doing them and keep progressing !!!

## The takeaway

A good ACL rehab plan is started early, moves early, targets the quads, and returns you to sport only when you pass objective tests, usually a year or so after surgery. Always follow your own surgeon and physiotherapist's plan – its your body SO ask if they have a plan !!!

## Why experience matters: Elite Physio & Rehabilitation

Everything above points the same way: ACL rehab works best when it is guided by someone who knows the milestones, spots problems early and won't rush you back. That is where an experienced, hands-on physiotherapist makes the difference.

Elite Physio & Rehabilitation is run by David Binningsley, a Chartered Physiotherapist who, according to the practice, has spent nearly 30 years working in the English Premier League, including at Manchester United.

### The benefits of working with Elite Physio

- **Elite-level experience.** Nearly three decades of looking after professional footballers, a group where fast, safe returns to play are the whole job.
- **Bespoke rehab.** Programs are built around the individual rather than a generic protocol. One client describes a seven-week, surgery-recovery program where every day was different.
- **Root cause and prevention.** Clients describe having the cause of a problem found and fixed, then being given a plan to stop it coming back, which fits the evidence on injury prevention.
- **Clear communication and aftercare.** Reviews highlight clear explanations of treatment and strong follow-up care.
- **Support through knee and ACL problems.** One long-standing client credits David's rehab with getting him back playing football after years of knee and ACL trouble.
- **Support through a first major injury.** A former young player describes being rehabbed through his first serious injury at 18, in sessions that were professional but also enjoyable.
- **Performance and "MOT" checks.** Beyond injury rehab, clients use the service to prepare for races and events and to check how their body is moving.

### Getting in touch

Appointments can be booked by phone or WhatsApp on +44 7710 324 215, or by email at info@elite-physio.com. Website: www.elite-physio.com.