2026

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Time	Event	Who
07:30 – 08:00	Arrival / Refreshments	
08:00	Welcome Message	Dr Doron Sher
	Biological adjuvants in foot and ankle conditions: A practical guide for Physiotherapists	Dr Todd Gothelf
	Compressive neuropathies affecting the hand	Dr Kwan Yeoh
	The QALYs and DALYs of joint replacements	Dr Andreas Loefler
09:10 – 09:25	Panel Discussion	
	An update on rotator cuff enthesis stimulation	Dr Doron Sher
	Reverse total shoulder replacement	Dr Ivan Popoff
	Robotic total hip replacement	Dr Michael Goldberg
10:25 – 10:40	Panel Discussion	
10.40 – 11:00	**Morning Tea**	
	Controversies in management of achilles tendon rupture	Dr John Negrine
	When can we use PRP?	Dr Leigh Golding
	Latest updates	Dr Paul Mason
	A day in the life of a sports physician	Dr Paul Annett
	NOTES ONLY Seven resources to enhance our clinical practice	Dr John Best
12:30 – 12:50	Panel Discussion & Close	

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Biological Adjuvants in Foot and Ankle Conditions: A Practical Guide for Physiotherapists

Introduction

Biological adjuvants (orthobiologics) are increasingly being incorporated into the management of foot and ankle disorders. They are designed to optimise the biological environment for healing rather than replace sound rehabilitation principles. For physiotherapists, understanding when these treatments may be appropriate, what they are expected to achieve, and how rehabilitation should be modified afterwards is becoming increasingly important.

How Do Orthobiologics Work?

They aim to:
• Reduce harmful inflammation.
• Stimulate collagen production and tissue repair.
• Recruit reparative cells and growth factors.
• Enhance bone healing and cartilage repair.
• Improve the biological environment while rehabilitation provides the essential mechanical stimulus.

Biologic	Primary Purpose	Common Foot & Ankle Uses	Evidence
PRP	Growth factors/tendon healing	Achilles tendinopathy, plantar fasciitis, OA	Moderate; mixed
Hyaluronic Acid	Joint lubrication	Ankle OA	Moderate
BMAC	Cellular augmentation	OLTs, nonunion, fusion	Emerging
PDGF/BMP	Bone healing	Arthrodesis, fractures	Good surgical evidence
Scaffolds	Cartilage framework	OLT cartilage repair	Emerging

1. Achilles Tendinopathy

Biologic: PRP
Purpose: stimulate failed tendon healing.
Evidence: Mixed. Progressive loading remains the cornerstone of treatment.
Physiotherapy: Relative rest for several days after injection followed by gradual reloading, heavy slow resistance, eccentric strengthening, calf endurance, kinetic-chain strengthening and return-to-running progression.
Referral considerations: Symptoms >6 months despite excellent rehabilitation, imaging-confirmed tendinosis, motivated patient.

2. Plantar Fasciitis

Biologic: PRP.
Purpose: biological healing rather than temporary anti-inflammatory effect.
Physiotherapy: Stretching, plantar fascia-specific loading, calf strengthening, taping, orthoses and footwear optimisation remain essential.
Referral considerations: Persistent symptoms beyond 6–12 months despite comprehensive conservative care.

3. Ankle Osteoarthritis

Biologics: Hyaluronic acid or PRP.
Purpose: Reduce pain sufficiently to improve participation in rehabilitation.
Physiotherapy: Strengthening, gait retraining, balance, weight management, bracing and activity modification.

4. Osteochondral Lesions of the Talus

Biologics: BMAC, PRP, scaffolds, cartilage grafts.
Purpose: Improve cartilage repair following surgery.
Physiotherapy: Respect prolonged biological healing. Progress weight bearing according to surgical protocol.

5. Stress Fractures, Non-unions and Arthrodesis

Biologics: BMAC, PDGF, BMP and bone graft substitutes.
Purpose: Enhance bone healing in difficult situations.
Physiotherapy: Rehabilitation is dictated by radiographic healing rather than the biologic itself.

Clinical Pearls for Physiotherapists

- Orthobiologics are not miracle cures; they optimise biology while rehabilitation provides the mechanical stimulus.
- Exercise remains the strongest evidence-based treatment for chronic tendinopathy.
- Patients should understand that improvement after PRP is usually gradual over months rather than weeks.
- Successful outcomes depend on load management and adherence to rehabilitation.
- Communication between surgeon, sports physician and physiotherapist is essential.

When Should a Physiotherapist Consider Referral?

Consider discussion with a sports physician or orthopaedic surgeon when patients have persistent symptoms despite well-performed rehabilitation, demonstrate imaging-confirmed pathology, are highly motivated to avoid surgery, or require biological augmentation following surgery.

Take-Home Messages

• PRP has the greatest non-operative relevance for physiotherapists but evidence remains mixed.
• Hyaluronic acid may reduce pain in ankle osteoarthritis and facilitate rehabilitation.
• BMAC and scaffolds are predominantly surgical adjuncts.
• Rehabilitation programme remains the most important determinant of long-term functional outcome.
• Current evidence is promising, but higher-quality randomised studies are still needed.

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Compressive neuropathies affecting the hand

CARPAL TUNNEL SYNDROME (MEDIAN NERVE)

- Diagnosis
  - History & examination
  - Investigations
    - Imaging
    - Nerve conduction study/electromyography (NCS/EMG)
- Non-operative treatment
  - Treat the cause
  - Physiotherapy
  - Medications, injections
- Operative treatment – Nerve decompression
  - Open surgery
  - Endoscopic surgery

CUBITAL TUNNEL SYNDROME (ULNAR NERVE)

- Diagnosis
  - History & examination
  - Investigations
    - Imaging
    - Nerve conduction study/electromyography (NCS/EMG)

- Non-operative treatment
  - Physiotherapy
  - Medications, injections
- Operative treatment – Nerve decompression

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Ulnar nerve subluxation

- Examination – Palpable nerve subluxation
- Investigations – Ultrasound
- Treatment – Surgical transposition

RADIAL TUNNEL SYNDROME; PIN SYNDROME (RADIAL NERVE)

- Diagnosis
  - History – Lateral proximal forearm pain
  - Examination – Tender on direct pressure
  - Investigations – Pain relieved with injection
- Treatment
  - Injection
  - Physiotherapy
  - Operative treatment – Nerve decompression

LESS COMMON CONDITIONS

Guyons canal syndrome (Ulnar nerve)

- History similar to cubital tunnel syndrome
- Difference in examination & investigations

Pronator syndrome (Median nerve)

- History similar to carpal tunnel syndrome
- Difference in examination & investigations

OTHER NON-COMPRESSIVE CONSIDERATIONS

AIN syndrome (Median nerve)

Thoracic outlet syndrome

Cervical spine

Generalised neuropathies

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The QALYs and DALYs of Joint Replacements

Joint replacements, especially Total Hip and Total Knee replacements, are one of the most effective elective surgical interventions, by reducing pain and disability caused by osteoarthritis and other joint diseases. To understand and estimate the value of surgery, health economists and policymakers often use two summary measures: Quality Adjusted Life Years (QALYs) and Disability Adjusted Life Years (DALYs). Both measures are used to describe health outcomes, but they do so from different angles. QALYs focus on health gained from treatments, while DALYs focus on health lost due to illness, in this case arthritis. Both measures are relevant in terms of assessing the clinical and economic importance of joint replacement.

A QALY combines the quantity and quality of life in a single measure. One year lived in perfect health equals one QALY, whilst a year in pain, limited mobility or other health impairment is valued at less than one. Joint replacement does not generally add many years to life, but it greatly improves the quality of life by relieving pain, restoring mobility, and increasing independence, allowing a return to exercise, work and social participation. In Australia osteoarthritis is a major contributor to disability in older adults. A patient with severe arthritis in the hip or knee will experience a marked rise in quality of life after joint replacement surgery, producing a substantial QALY gain over the remaining years of life.

Hip and knee replacements are cost effective operations, when evaluated by using QALYs. Cost effectiveness is typically assessed by comparing the cost of surgery, hospital care, rehabilitation and after care with the gain in QALYs achieved by the operation. Because joint replacement often produces large and sustained improvements in pain and physical function, the cost per QALY gained is usually favourable. This means that Australian investment in joint replacement is justified not only clinically, but also economically. This is important in a publicly funded system, in which governments must decide how to allocate limited health resources. As health practitioners we need to understand and participate in this process.

QALYs are also useful for comparing joint replacements with other interventions. A hip replacement can be compared to treatments for heart disease, cancer, or mental illness using the same unit of value. Joint replacements tend to do well in such comparisons. The gains are greatest for patients with advanced arthritis, who have exhausted all nonoperative treatments, such a physiotherapy, analgesia and weight management.

By contrast, DALYs measure the disease burden of prolonged illness and disability. A DALY represents one lost year of healthy life and is made up of two components; years of life lost due to an illness and years lived with a disability. Osteoarthritis does not usually lead to premature death, but it does cause long term disability. The DALY burden comes mainly from pain, stiffness, and reduced mobility. In Australia osteoarthritis contributes substantially to the national burden of disease. When viewed through a DALY perspective, the value of joint replacement lies in the ability to avert disability.

The AOA National Joint Replacement Registry has been monitoring implant performance, revision rates and long-term outcomes. The registry has identified poorly performing prostheses and is supporting evidence-based decisions. This has implications for both QALYs and DALYs. Fewer revisions will improve quality of life, increasing QALYs, and avoid further disability, thus reducing DALYs. The registry itself has been shown to be highly cost effective by improving outcomes and saving the cost of revision.

There are some limitations when using QALYs and DALYs. QALYs depend on how quality of life is measured and valued. There are many subjective elements, as each individual patient may give a different value to say the ability to work, or garden, or look after grandchildren. DALYs are better suited to populations than to capturing the full lived experience of a patient. Neither QALYs nor DALYs fully reflect the social context, caregiver effects, or inequalities in access to orthopaedic services.

Notwithstanding all these limitations, in Australia a QALY is estimated to be worth about $50,000. Roughly speaking, a total hip replacement will cost between $20,000 to $30,000 and thus the cost of surgery can be seen favourably, when compared to the estimated gain of one QALY.

As health professionals, surgeons and physiotherapists need to understand not only the treatment of the individual, but also the implications for the community. Health budgets may be finite, but we can help advocate for our patients by looking at surgery as an investment, not a cost. QALYs and DALYs are tools to help define costs and benefits of medical interventions, and are favourable for joint replacements.

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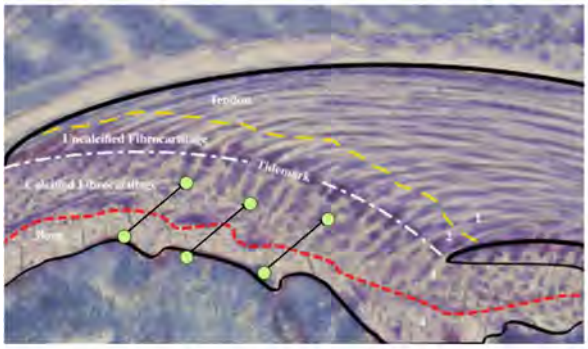
An update on rotator cuff enthesis stimulation

Despite major advances in technology the retear rate of the rotator cuff following repair is higher than we would like it to be. Until now the focus has been on reinforcing or thickening the tendon with various types of patches but recently the emphasis has changed to biological enhancement instead. This is designed to recreate the original tendon-bone interface of Sharpey's fibres rather than healing with weak scar tissue.

The rotator cuff attaches to bone in four layers as seen below. Unfortunately, tendon does not heal very well to bone in a natural enthesis. Instead you end up with Fibrovascular scar formation which is more likely to fail in the future.



- Four layers

1. Zone 1: Pure Dense Fibrous Connective Tissue
    1. Linearly arranged collagen (what you think of as "tendon")
    2. Fibroblasts, Type 1, type 3 collagen
2. Zone 2: Uncalcified Fibrocartilage
    1. Dissipates the bending of collagen fibers in the tendon
    2. Fibrochondrocytes, Proteoglycan aggrecan, Collagen 1,2,3.
3. Zone 3: Calcified Fibrocartilage.
    1. Fibrochondrocytes, Type 2 predomin
    2. Irregularity of attachments into bone give mechanical integrity of the enthesis
4. Zone 4: Bone
    1. Osteo-cytes, -blasts, -clasts, type 1 collagen

Images and information from:
Apostolakos, J et. al, The enthesis: a review of the tendon-to-bone insertion. Muscles, Ligaments and Tendons Journal 2014; 4 (3): 333-342

Images and information from:
Ahlam A. Abdalla, Catherine J. Pendegrass, Biological approaches to the repair and regeneration of the rotator cuff tendon-bone enthesis: a literature review. Biomater Transl. 2023, 4(2), 85-103

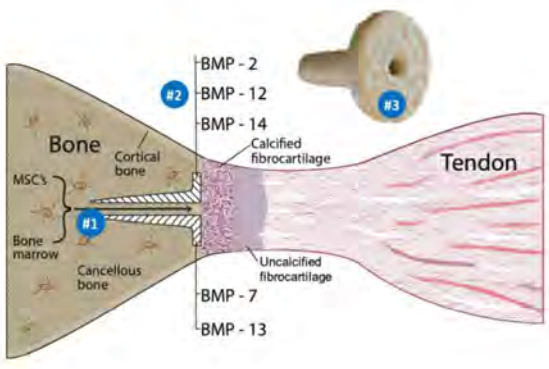
One of the solutions to the problem which is under clinical review at the moment is to augment the enthesis with an allograft bone plug. This provides osteogenesis, osteinduction and osteoconduction to the area to promote healing with Sharpey's fibres and formation of normal tendon.

Provides three components for endochondral ossification:

(#1) Osteogenesis: Cannulated peg design anchors into marrow-rich subchondral bone accessing endogenous MSC's to stimulate Osteogenesis

(#2) Osteoinduction: DBF (demineralized bone fibers) uncovers all of the bone morphogenic proteins involved in bone, cartilage, and tendon to stimulate Osteoinduction via transfection of the MSC's

(#3) Osteoconduction: DBF patch portion integrates at tendon-bone interface regenerating the enthesis and encouraging Sharpey's fiber formation



The product can be used to augment the bone and place the anchor into it to provide better fixation or can be used between anchors to provide a biological enhancement of the repair.

The animal studies show that it improves both short and long term fixation outcomes and the early human clinical trials are showing a lower retear rate compared to patients that have not had the implant used.

The type of fixation used does not seem to matter very much when it comes to healing of the tendon and both single and double row repairs show good clinical outcomes. The goal is to reduce micromotion at the repair site during healing because excessive strain can disrupt fibrocartilage formation. This generally means doing absolutely no physiotherapy exercises in the first 6 weeks post surgery.

The images below show an example of the healing of the rotator cuff with use of the Tetrous product but even a biologically enhanced repair can fail if:

- loading progresses too aggressively
- scapular mechanics are poor
- stiffness develops
- strength deficits persist

So surgery and rehab remain tightly linked.

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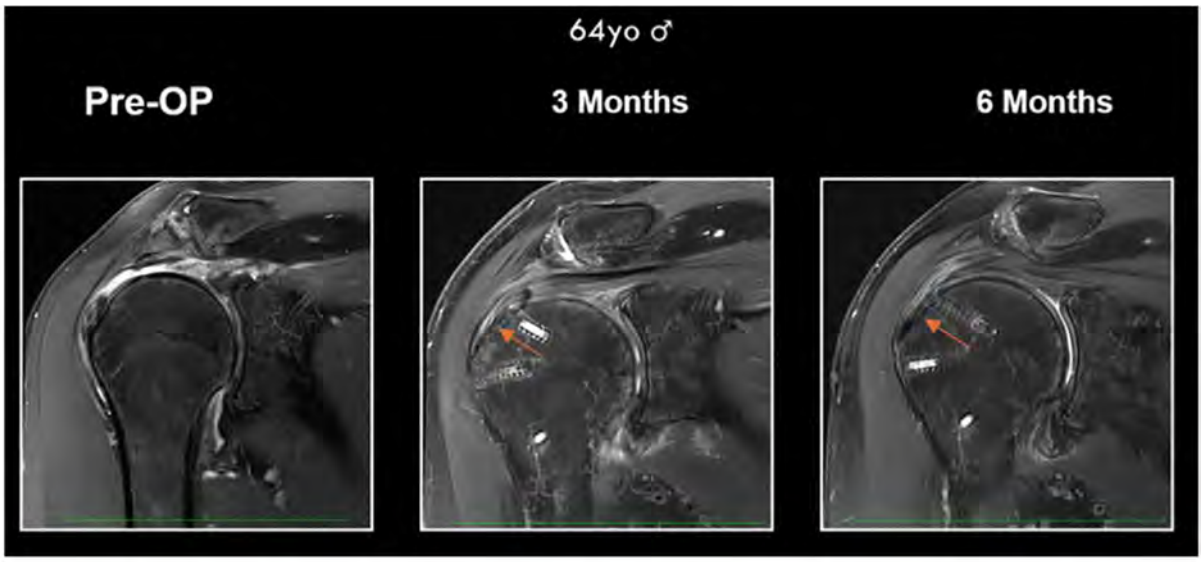

Courtesy of Kenneth Cutbush, MD. Queensland University of Technology, Orthopaedic Department, Cairns Base Hospital. Shoulder Clinic St Andrews War Memorial Hospital Brisbane, Australia

While it is still early in the clinical trial the results have been extremely encouraging. There are virtually no contra-indications to using the product and if the ongoing results are as good as the early results this will become a routine part of every rotator cuff operation moving forward.

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Robotic Total Hip Replacement

What is it? Why do I use it?
Does it make a difference to patient outcomes and rehabilitation?

Robotics in THR allows precise 3 dimensional pre-operative planning with the ability to accurately execute that plan.

Pre-operative planning allows:

- Measurement of proposed leg length and offset.
- Accurate implant sizing.
- Positioning of acetabular cup to restore normal centre of rotation and minimise anterior cup uncoverage (risk of psoas impingement).
- Incorporation of spinopelvic mechanics, to predict impingement free range of motion, and subsequent risk of dislocation.

Intra-operative robotics allows:

- Execution of an accurate femoral neck cut to enable accurate restoration of leg length.
- Accurate intraoperative assessment of leg length and offset.
- Accurate execution of planned acetabular cup position (Robotic arm reams acetabulum and holds cup in correct position during impaction).

Advantages:

- Allows me to predict which patients are higher risk of dislocation and take steps to adjust implant position pre-operatively, to reduce risk.
- Allows accurate execution of the pre-operative plan during the surgery.
- Fewer outliers.

Disadvantages:

- Slightly longer operation (approximately extra 10 mins).
- Requires pre-operative CT scan (radiation exposure).
- Potentially higher cost to hospital (not patient).
- Robot availability (not available at all hospitals)..
- Large machine in the operating theatre.
- Can only use one company’s implants.

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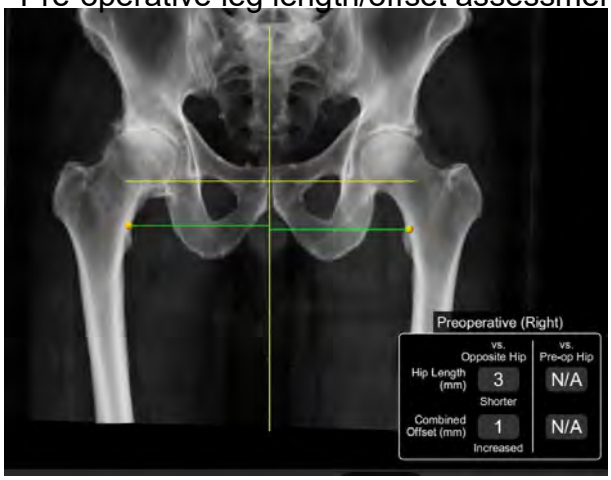
Does it make a difference?

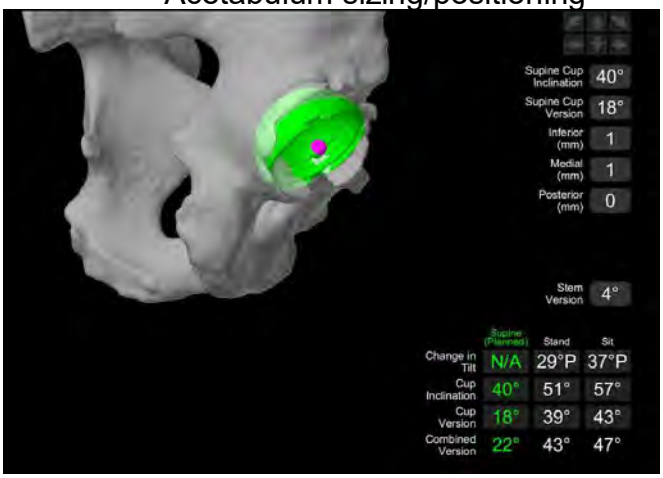
- To the Patient:
  - Studies suggest achieves equivalent, but not superior clinical outcomes to non-robotic THR.
  - Theoretically may help to prevent instability/dislocation, psoas impingement, incidence of leg length inequality.
- To the Surgeon:
  - Less intra-operative stress by allowing accurate pre-operative planning and execution.
- To the Physiotherapist/Rehabilitation:
  - No studies that demonstrate robotics improves post-operative rehabilitation speed/outcomes.
  - I don't insist on hip precautions in my patients (but this is increasingly common amongst all surgeons).

<u>Example of pre-operative planning</u>:

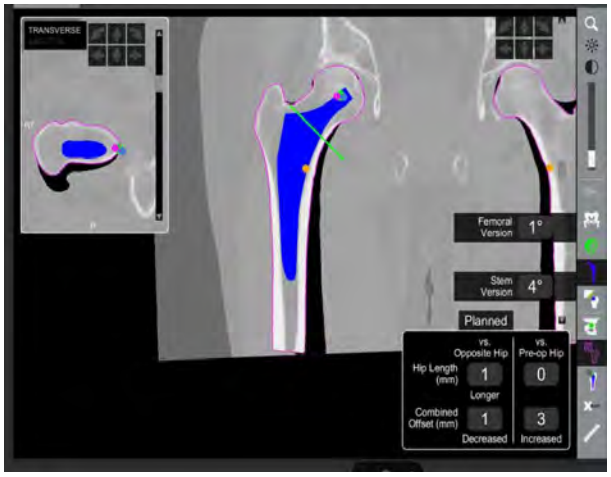
Pre-operative leg length/offset assessment



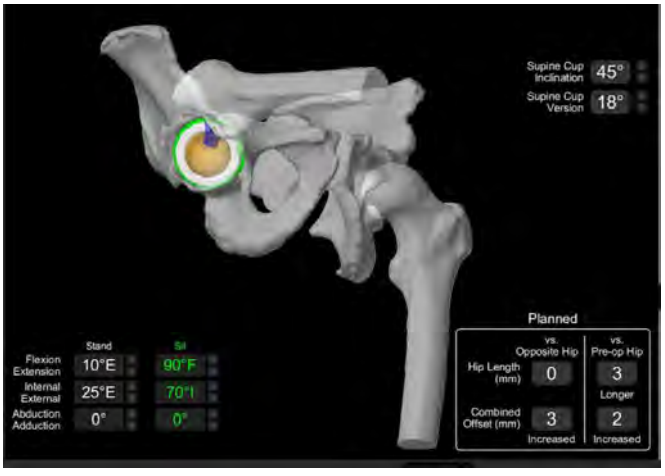
Acetabulum sizing/positioning



Femur sizing/positioning



Virtual impingement-free range of motion assessment



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Controversies in the Management of Achilles Tendon Rupture

Achilles tendon rupture is now the tendon injury treated most often in orthopaedic practice, yet five questions in its management remain genuinely contested — not from a lack of evidence, but because several large randomised trials point in different directions. This handout summarises the key evidence behind each controversy covered in the talk, together with the practical implications for physiotherapy practice.

1. Operative vs Non-Operative Management

The oldest debate in Achilles surgery. Soroceanu et al.'s 2012 meta-analysis found that, with accelerated functional rehabilitation, re-rupture rates converged between operative and non-operative treatment — but the large, multicentre Myhrvold et al. (2022) trial reignited the debate.

Outcome	Non-Operative	Open Repair	Minimally Invasive
Re-rupture rate	6.2%	0.6%	0.6%
Sural nerve injury	0.6%	2.8%	5.2%
ATRS change, 12mo*	-17.0	-16.0	-14.7

*Change in Achilles Tendon Total Rupture Score, baseline → 12 months — no significant difference between groups (p = 0.57).

- Lean surgical: competitive or high-demand athletes; younger patients prioritising minimal re-rupture risk; occupations needing peak calf strength.
- Lean non-operative: smokers, diabetes, peripheral vascular disease; lower physical demand or higher anaesthetic risk; patient preference after balanced discussion.

Whichever pathway is chosen, rehabilitation quality drives outcome more than the pathway itself.

2. Cast Immobilisation vs Early Functional Rehabilitation

Traditional management used 6–8 weeks of cast immobilisation with non- or delayed weight-bearing. Functional rehabilitation allows early protected weight-bearing in a brace or boot, with early controlled range of motion.

- UKSTAR (Costa et al., Lancet 2020), n = 540 non-operative patients: plaster cast vs functional brace showed no difference in patient-reported outcome (ATRS) at 9 months, and no difference in re-rupture rate — but the brace permits far earlier mobility.
- The same trial team flagged wide, unwarranted variation in rehabilitation provision across UK hospitals.

Prolonged rigid immobilisation isn't protecting healing any better than earlier protected loading and it costs the patient in atrophy, stiffness and DVT risk.

3. Open vs Minimally Invasive Surgical Repair

Open and minimally invasive repair achieve similar re-rupture rates, but the complication profile differs (Myhrvold et al., 2022):

- Re-rupture rate: 0.6% in both groups.
- Sural nerve injury: 2.8% (open) vs 5.2% (minimally invasive).
- Wound / infection risk: higher with open repair, owing to the larger incision.
- Cosmesis: a visible scar with open repair vs minimal scarring with minimally invasive technique.

No free lunch: minimally invasive trades wound complications for sural nerve risk. Lateral foot numbness or tingling after a percutaneous repair is a recognised trade-off, not necessarily a surgical error.

4. Clinical Diagnosis vs Imaging

Despite a classic history and recognisable examination findings, acute Achilles rupture is missed at first presentation in up to 25% of cases (Raikin et al., 2013).

- Individual clinical tests are imperfect — the Simmonds–Thompson calf squeeze can be falsely negative if plantaris is intact.
- Missed diagnosis is more common with atypical (non-sporting) mechanisms, older age, and higher BMI.
- Ultrasound/MRI are reserved for diagnostic uncertainty, partial tears, or delayed presentations — not routinely required when the exam is classic.

Physiotherapists are often the first clinician to see a 'calf strain' that isn't settling — a high index of suspicion matters.

5. Return to Sport: Time-Based vs Criteria-Based

Most published return-to-sport guidance is still time-based, despite known limitations. A 2026 scoping review of 34 studies (Busà et al.) found that none defined a validated outcome-measure threshold for clearance — most relied on elapsed time alone.

- Reported criteria, by frequency: time since surgery, ankle ROM, ATRS score, calf circumference, heel-rise test — with no agreed combination.
- Average return-to-sport rate after surgery is reported around 77%, at a mean of roughly 8 months — yet long-term strength deficits often persist even in those who return.
- An emerging multi-domain approach assesses: strength symmetry (heel-rise, dynamometry), hop & jump performance (limb symmetry index), movement quality (running mechanics), and psychological readiness (re-injury anxiety).

Build a criteria-based return-to-sport battery rather than defaulting to a fixed week number.

Practical Takeaways for Your Clinic

1. Early functional loading principles apply whether the patient had surgery or not — don't let the pathway dictate over-caution.
2. Ask which technique was used (open vs minimally invasive) — it informs early sensory monitoring for sural nerve symptoms.
3. Build a criteria-based return-to-sport battery — strength symmetry, hop testing, psychological readiness — rather than defaulting to a fixed week number.
4. Keep a high index of suspicion for missed or delayed rupture presenting as 'a calf strain that isn't settling.'
5. Standardise within your own service — UKSTAR found significant, unwarranted variation in rehab practice nationally.

Key Messages

1. Evidence is evolving, not settled — the pendulum has swung twice in 15 years.
2. Most of these debates are about complication trade-offs, not one treatment being categorically superior.
3. Function- and criteria-based decisions consistently outperform fixed timelines.
4. Whichever pathway is chosen, rehabilitation quality is the strongest lever we have on outcome.

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Current Management of Achilles Tendinopathy

Achilles tendinopathy is not one condition but two: midsubstace and insertional disease have different mechanical drivers, and therefore different loading prescriptions and different surgical menus. This handout summarises the current evidence behind non-surgical and surgical management of each, together with the practical implications for physiotherapy practice.

1. Classification: Two Conditions, Not One

Midsubstance tendinopathy is tensile-overload disease of the tendon's main body, 2–7 cm proximal to the insertion, with a population prevalence of around 4–7%. Insertional tendinopathy adds a compressive component at the enthesis — driven by a prominent Haglund process and ankle dorsiflexion — often together with intratendinous calcification.

- Both share the same broad shape of care: structured loading first, selective second-line adjuncts, and surgery reserved for genuine non-responders.
- But the specifics differ enough that a single generic 'Achilles protocol' undersells both conditions.

Confirm midsubstance vs insertional before prescribing a loading protocol — they are mechanically different problems.

2. Midportion — Non-Surgical First-Line

Eccentric loading (Alfredson protocol) was long treated as the cornerstone of treatment. A 2025 international Delphi consensus of tendinopathy experts (Demangeot et al.) found that current evidence does not clearly favour any single contraction type — heavy slow resistance and isometric/isotonic protocols now sit on equal footing with pure eccentric work. This is formalised in the 2024 revision of the AOPT/JOSPT clinical practice guideline for midportion Achilles tendinopathy.

Load	Strain Window	Tempo
70-90% of 1RM	**4.5-6.5%**	**~6 sec / rep**
For tendon adaptation	*Target for collagen remodelling*	*3s concentric/3s eccentric*

Dosing parameters – load, strain window, tempo – matter more than which contraction type you choose.

3. Midportion — Second-Line Adjuncts & Surgery

Even a well-run loading programme leaves roughly a quarter of patients symptomatic (Lohrer et al., 2016), which is why a second-line pathway matters:

- Extracorporeal shockwave therapy: one RCT found no significant extra functional benefit over loading exercise alone.
- Radiofrequency microtenotomy: one RCT found lower pain than eccentric exercise alone at 2-year follow-up.
- High-volume image-guided injection: small-trial support only, no consensus on role or sequencing.
- Platelet-rich plasma: pooled analyses are mixed — not a first-line recommendation on current evidence.
- Ultrasound-guided percutaneous needle tenotomy: a minimally invasive bridge between injections and open surgery.

Procedure	Satisfaction	Approach
Open paratenon debridement	94%	Open
FHL tendon transfer/augmentation	91.3%	Open
Minimally invasive paratenon debridement	82.5%	MIS
Percutaneous longitudinal tenotomy	81.1%	MIS
Open intratendinous debridement	79.3%	Open
Gastrocnemius recession (isolated)	61.6%	Open

Patient satisfaction by procedure (Lohrer et al., 2016).

Minimally invasive and endoscopic debridement are trending up: comparable satisfaction to open surgery, with a more favourable complication profile.

4. Insertional — Non-Surgical First-Line

Pain here is driven as much by compressive load at the enthesis — a prominent Haglund process compressing the tendon during ankle dorsiflexion — as by tensile overload.

- Loading is modified accordingly: exercises are typically kept at or above neutral dorsiflexion rather than into a deep stretch, which would aggravate the compressive component.
- A heel lift or shoe modification (avoiding a rigid, low-heeled shoe) is a simple and useful early adjunct.
- The same hierarchy of second-line adjuncts applies, but injections close to the insertion are used more cautiously given the theoretical rupture risk at this site.

Avoid deep dorsiflexion stretching early in insertional disease — it aggravates the compressive component at the enthesis.

5. Insertional — Surgical Options

- Central-splitting approach: posterior midline transtendinous approach — retrocalcaneal bursectomy, calcaneal exostectomy for the Haglund deformity, debridement of degenerate tendon and calcification, with double-row reattachment or FHL augmentation if more than half the tendon is excised.
- Zadek osteotomy: a closing-wedge calcaneal osteotomy (open or percutaneous) that indirectly decompresses the insertion via calcaneal pitch — joint- and tendon-preserving, without committing to extensive debridement.

- Combined PMGR + debridement: for calcified disease with gastrocnemius tightness, proximal medial gastrocnemius release plus tendon debridement and reattachment gives good long-term satisfaction, though radiographic recurrence of the calcification is reported in roughly a fifth to half of cases.
- Endoscopic / minimally invasive: a 2025 meta-analysis found comparable clinical outcomes to open surgery with a more favourable complication profile — the same trend seen in midportion disease.

Set realistic expectations on calcification recurrence with combined PMGR/debridement — satisfaction is good even when imaging shows some recurrence.

Practical Takeaways for Your Clinic

1. Confirm midportion vs insertional before prescribing a loading protocol — they're mechanically different problems with different exercise prescriptions.
2. No single contraction type is mandatory. Load, strain window and tempo matter more than eccentric vs heavy slow resistance vs isometric.
3. For insertional disease, avoid deep dorsiflexion stretching early; a heel lift is a simple, useful adjunct.
4. Set expectations honestly: roughly a quarter of patients remain symptomatic even with a well-run loading programme — know your service's second-line pathway.
5. Ask about surgical technique post-op (open vs minimally invasive) to anticipate the recovery trajectory and complication watch-points.

Key Messages

1. Two different conditions, two different mechanical drivers, two different protocols.
2. 'Eccentric-only' is no longer the evidence-backed default — dosing parameters matter more than contraction type.
3. Second-line injectable and energy-based therapies have a real but inconsistent evidence base.
4. Surgery, when needed, is trending toward minimally invasive technique in both subtypes — comparable efficacy, better complication trade-off.

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WHEN CAN WE USE PRP?

THE EVOLUTION OF PRP RESEARCH

The clinical application of Platelet-Rich Plasma (PRP) has evolved significantly, moving past early heterogeneous outcomes driven by inconsistent preparation methods. Current evidence highlights that preparation formulations and dosing thresholds are the primary determinants of clinical success. Efficacy generally requires a concentration exceeding 1,000,000 platelets per microlitre to demonstrate superiority over saline at long-term follow-up. For tendinopathic applications, Leukocyte-Rich PRP (LR-PRP) is currently favoured, as the pro-inflammatory neutrophil load initiates a necessary reparative cascade within degenerative tissues[1]. The paradigm has shifted from viewing orthobiologics as a standalone structural cure to utilizing them as a targeted biological modulator.

TENDINOPATHY: TRIAGE AND CLINICAL EXPECTATIONS

The most strategic application of PRP is for mechanically-driven, localised tendinopathies that have remained recalcitrant to 6–12 weeks of progressive loading.

Lateral Epicondylalgia and Plantar Fasciitis

These conditions represent robust indications for PRP intervention. In lateral epicondylalgia, multiple randomized controlled trials and network meta-analyses favour PRP over corticosteroids at long-term follow-up[2]. Similarly, for plantar fasciitis, recent 2025 meta-analyses demonstrate that PRP provides superior sustained pain relief and functional improvement compared to corticosteroids at medium and long-term intervals, highlighting its capacity for lasting tissue remodelling rather than transient symptomatic suppression[3]. It serves as a definitive biological adjunct for pathology failing strict mechanical loading.

Gluteal Tendinopathy

While there is ongoing academic debate regarding optimal PRP preparation, there is strong Level 1 evidence supporting its use in the lateral hip. A landmark randomized, double-blind controlled trial demonstrated that a single PRP injection was clinically superior to a single corticosteroid injection for gluteal tendinopathy over a 24–104-week follow-up period, accompanied by MRI evidence of structural improvement[4]. For cases that fail to improve despite strict adherence to load management, PRP is a highly defensible therapeutic option.

Achilles Tendinopathy

The broad application of PRP in midportion Achilles tendinopathy demonstrates a high failure rate, with recent umbrella reviews indicating no significant benefit over saline regarding tendon thickness or functional scores. Heavy slow resistance remains the definitive gold standard for this specific pathology[1].

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THE REHABILITATION IMPERATIVE

An orthobiologic injection without concurrent rehabilitation represents incomplete therapy. PRP acts strictly to re-induce inflammation and open a biological window for tissue repair; mechanical loading remains the most critical factor in driving recovery. Progression must be dictated by physiological capacity and strictly aligned with the biological cascade.

Phase I (Days 1–7): Platelet degranulation and macrophage influx occur, typically resulting in transient pain exacerbation. NSAIDs are strictly contraindicated, as they chemically inhibit the inflammatory cascade essential for efficacy. Management focuses on relative rest and gentle active range of motion.

Phase II (Weeks 2–4): Fibroblast migration initiates the deposition of disorganised type III collagen1. Low-load isometrics are introduced to stimulate initial collagen alignment.

Phase III (Weeks 4–8): The tissue transitions from type III to type I collagen. Rehabilitation progresses to concentric-eccentric resistance and closed kinetic chain movements.

Phase IV (Weeks 8–12+): Matrix cross-linking achieves maximum tensile strength. The focus shifts to heavy slow resistance and sport-specific energy storage.
The primary clinical utility of PRP is to reduce tissue irritability and facilitate engagement with a structured loading program.

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A Day in the Life of a sports Physician

I have been involved in the Orthosports physiotherapy presentations now for some time. We have covered many clinical topics over the years. As a result, I have been left with a few meaningful impressions. Firstly, from the feedback given after the day each year, case presentations seem to be a well-received and a helpful teaching tool, and I still find this to be the case. Everyone always loves interesting cases or '2 minute/2 slides' at conferences because we all like to consider the problem presented, work out the various diagnostic possibilities and how we might have approached the problem presented if the person was our patient. Sometimes the case will be something you haven't encountered before – the old 'I haven't seen it, but it's seen me' syndrome – and will add to our existing clinical knowledge.

Secondly, there are many similarities in the way we all practice in musculoskeletal medicine, whether as physiotherapists, sports physicians or orthopaedic surgeons. Diagnosis is 'the king' and structuring an appropriate management plan is the road to improvement. Whilst we do use different tools; hands on and exercise-based rehabilitation for physiotherapists and medications/injections/surgery for doctors, the desired result for the patient is the resolution of their problem. As doctors where we can really add value to our physiotherapy colleagues is by discussing some of the medical, rather than musculoskeletal issues to be considered. This has led to presentations on rheumatology and neurology in previous years.

Lastly, and as I mentioned last year, my eldest son is on the verge of joining your profession as a fully qualified, fee -paying physiotherapist. I am often thinking about things I can tell him that might be helpful, and much of this does transfer over to this presentation. What are some of the 'pearls' and clinical tips and pitfalls that can be offered to any junior, and even senior, physiotherapists.

As such this presentation will aim to emulate 'a day in the office of the sports physician'. For anyone that has sat in on a consultation day there will be patients with problems that we may encounter every day – shoulder pain, hip pain and back pain. There will be some typical, and also unusual problems, as can be the case on any day. I trust this presentation will give some insight into how a sports physician works, and also provides a few useful tips to take into your own practices in the future.

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Seven Resources to Enhance our Clinical Practice

These seven resources have had a strong influence in my clinical practice and I have passed them on as educational tools to health care colleagues and patients. In addition to personal education, you may find them useful in your clinic setting for ongoing education and personal development.

1. Platelet-Rich-Plasma (PRP) injection therapy and Gluteal Tendinopathy

Published in 2018 with preliminary data presented at conferences prior, an Australian team led by Prof Jane Fitzpatrick demonstrated the benefits of a single PRP injection versus a single corticosteroid injection for chronic trochanteric pain syndrome due to gluteal tendinopathy. 82% of patients at 12 weeks were satisfied. The rehabilitation protocol was cautious and included avoidance of weighted and dynamic lateral movements in the early phase.

2. Sarcopenia and Frailty

Although published in 2018, this excellent paper from the European Working Group on Sarcopenia in Older People (EWGSOP) provides an excellent review of the development of reduce skeletal muscle mass, the functional testing criteria, and the prediction of frailty.

As we manage older, active people many come to our practices with a background of illness and de-conditioning and may in fact be ‘frail’. This carries an increased risk of falls, hospitalisation and reduced quality of life. The paper also offers a number of useful tools, including the SARC-F questionnaire. (see Malmstrom, 2013).

3. Concussion Update

Dr Michael Collins, PhD is the ‘Clinical and Executive Director of the University of Pittsburgh Medical College” (UPMC) Sports Medicine Concussion Program. The reference is an interview conducted in 2023 and is available on youtube (see link) or podcast.

An excellent overview which presents six concussion categories and the importance of the patience background. The categories overlap but broadly may be considered as: cognitive fatigue, vestibular, ocular, migrainous / headache, anxiety and cervical features.

Patients and their families enjoy this resource and find it offers great hope as well as good medical information.

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4. Metabolically Driven Osteoarthritis

Why do patients with symptomatic osteoarthritis (OA) in their fingers improve on a weight reduction and inflammation eating plan? This article beautifully reviews the processes around the development of osteoarthritis, factors which regulate inflammation and educates us well to not merely look at OA from a mechanical perspective. The graphics are excellent and it has remained contemporary in its content.

5. Hip Impingement, CAM lesions and Osteoarthritis

An international consortium of 28 authors published (2026) a review of over 23,000 hips which displayed radiological features of osteoarthritis.

The presence of CAM lesions increased the risk of progressive OA within 4-8 years especially in males aged 51-60 years. It's good to offer our patients this prognostic information to plan their treatment and manage their expectations.

6. Long-Term Health benefits of Physical Activity

This systematic review of 85 peer-reviewed publications showed that, irrespective of age, the more physical activity you do through adult life creates a cumulative benefit for your health. Irrespective of the type of exercise performed there is a reduction in all causes of mortality. As we say 'Exercise is Medicine!'

7. FIFA 11+

For many years I have recommended the FIFA11+ movement and return to play protocol to patients. This poster (see the reference) is sometimes accompanied with videos offering staged return to play activities following lower limb injuries. It has also been a valid tool for knee injury prevention in young adults. Patients find it useful and practical.

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