**Technology, company and licensing**

**Register ID** WP133  
**Technology name** Autologous blood injection  
**Patient indication** For patients with soft tissue injury

**Description of the technology**

The injection of a patient’s own (autologous) blood into a region that is affected by a soft tissue injury may promote the body’s natural healing process. Soft tissue injuries, such as plantar fasciitis (chronic heel pain), lateral epicondylitis (tennis elbow), patella tendinosis (jumper’s knee) and other forms of tendinopathy are characterised by poor blood supply that may contribute to the slow healing process. Platelets in the blood carry platelet-derived growth factors which, when introduced into an injured region, may stimulate a healing response through the recruitment of stem cells, increased vascularisation and the production of collagen.

The procedure was first reported in 2003 and involves a small amount of blood withdrawn from the patient that is then usually mixed with a local anaesthetic; approximately 2-3 mL is re-injected into the area around the affected tissue, and can occur under ultrasound guidance (see Figure 1). The main side effects observed are pain and bruising at the site of the injection, which may persist for one to two weeks. During this period, patients are advised to avoid strenuous or excessive use of the injured region prior to beginning a physiotherapy regime. The procedure may be repeated if required.

Autologous blood injections are inexpensive and simple to acquire and prepare; application confers minimal trauma, and there is little risk for immune-mediated rejection.

![Figure 1](#)  
**Figure 1** Aspiration and injection of autologous blood. Blood is withdrawn from an unaffected area (A), and is re-injected into the affected region (B).

**Company or developer**  
Not applicable.
Reason for assessment
Topic resulting from horizon scanning activities; potential controversy about benefits and risk of excessive diffusion.

Stage of development in Australia
- Yet to emerge
- Experimental
- Investigational
- Nearly established
- Established
- Established but changed indication or modification of technique
- Should be taken out of use

Licensing, reimbursement and other approval
Autologous blood injections are exempt from Therapeutic Goods Administration (TGA) and US Food and Drug Administration (FDA) regulation.4

Australian Therapeutic Goods Administration approval
- Yes
- No
- Not applicable

Technology type
- Procedure

Technology use
- Therapeutic

Patient indication and setting

Disease description and associated mortality and morbidity
Soft tissue refers to the tissue that connects, supports or surrounds the structures and organs of the body, and among others includes muscles, tendons, ligaments, fascia and nerves. Soft tissue injuries may occur acutely and present as bruises, sprains or strains, or can alternatively develop over time as a result of overuse and repetitive friction, pulling, twisting or compression that leads to the progressive degeneration of the soft tissue.5,6 The recovery time for most soft tissue injuries is generally one to six weeks; however, this may vary depending on the patient’s age and general health, and the severity of the injury.5

Hospital separations data for soft tissue injuries in Australia and New Zealand for 2009–10 are listed in Table 1.7 It is unclear from this data which patients would benefit from therapy with autologous blood injections. Soft tissue injuries accounted for almost half of the 640,700 Australians who experienced a work-related injury in 2009–10, with 30 per cent experiencing a sprain or strain, and chronic joint or muscle conditions experienced by 18 per cent.8
Table 1  Separation statistics of soft tissue injury, Australia and New Zealand 2009–10

<table>
<thead>
<tr>
<th>Principal diagnosis in ICD-10-AM classification</th>
<th>Australia</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>S43 Dislocation, sprain and strain of joints and ligaments of shoulder girdle</td>
<td>5,128</td>
<td>878</td>
</tr>
<tr>
<td>S46 Injury of muscle and tendon at shoulder and upper arm level</td>
<td>3,751</td>
<td>651</td>
</tr>
<tr>
<td>S53 Dislocation, sprain and strain of joints and ligaments of elbow</td>
<td>1,025</td>
<td>322</td>
</tr>
<tr>
<td>S56 Injury of muscle and tendon at forearm level</td>
<td>2,143</td>
<td>355</td>
</tr>
<tr>
<td>S93 Dislocation, sprain and strain of joints and ligaments at ankle and foot level</td>
<td>2,053</td>
<td>743</td>
</tr>
<tr>
<td>S96 Injury of muscle and tendon at ankle and foot level</td>
<td>1,287</td>
<td>269</td>
</tr>
</tbody>
</table>

The recovery time of chronic soft tissue injuries, such as lateral epicondylitis and other forms of tendinopathy may be between 12 and 18 months. These chronic injuries are generally considered self-limiting, with management plans restricted to physical therapy, analgesic medication and the use of anti-inflammatory agents, such as non-steroidal anti-inflammatory agents (NSAIDs) and/or corticosteroid injections. While drugs provide symptomatic relief, enabling a patient to manage the injury and associated pain, they do not accelerate the restoration of tissue function.

Lateral epicondylitis, more commonly referred to as tennis elbow, is a frequent source of elbow pain, wrist dysfunction and tenderness. Prevalence is estimated between 1 to 3 per cent, with an estimated incidence of 4 to 7 per 1,000 patients per year. In addition to sporting activities, such as tennis or golf, lateral epicondylitis may be more common in strenuous jobs, with prevalence reported up to 14.5 per cent.

Plantar fasciitis is characterised by the chronic degeneration of the plantar fascia that causes pain on the underside of the heel, typically caused by overuse, injury or biomechanical abnormalities. The estimated prevalence in the general population is 3.6–7 per cent, while the prevalence of heel pain reported in one population-based Australian study was 3.6 per cent. Plantar fasciitis has been reported to account for approximately eight per cent of all running-related injuries.

Furthermore, muscular injuries account for approximately 35–45 per cent of all sport-related injuries and may prevent participation in athletic training and competition; consequently, there may be great benefits for professional athletes in particular to use a therapy that may facilitate a more rapid recovery.

**Number of patients**

No evidence was identified to indicate the potential number of patients per 100,000 population who would benefit from autologous blood injection.
Speciality Orthopaedics, rheumatology and podiatry
Technology setting Specialist hospital, ambulatory care

Impact

Alternative and/or complementary technology
Autologous blood injections are likely to be used in addition to, or in substitution of, current treatment options for soft tissue injury.

Current technology
Conservative treatments for persistent soft tissue injuries include rest, compression, analgesic medication, NSAIDs, physiotherapy, eccentric training and stretching. Corticosteroid injections are common practice for persistent pain or pain that interferes with rehabilitation or daily activities. Soft tissue injuries that are characterised by degeneration from overuse (including lateral epicondylitis and other forms of tendinopathy) typically display no evidence of inflammation, and treatment with anti-inflammatories, NSAIDs in particular, may be ineffective and potentially harmful, due to the gastrointestinal side effects associated with long term use.\(^9\)

Corticosteroid medications inhibit the accumulation of the cells of the immune system that produce inflammatory mediators. Depending on the location of the injury, evidence suggests these injections are effective in producing symptom relief in the short term (6–8 weeks); however, long-term effectiveness is uncertain.

Diffusion of technology in Australia
Autologous blood injection therapy is diffuse in Australia and is predominantly made available through the private sector, and in particular through specialised sport and radiology clinics.\(^14\) There is indication that the therapy is practised in some of the professional football leagues of Australia.\(^15\)

International utilisation

<table>
<thead>
<tr>
<th>Country</th>
<th>Level of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trials underway or completed</td>
</tr>
<tr>
<td>Australia(^a)</td>
<td>✓</td>
</tr>
<tr>
<td>New Zealand</td>
<td>✓</td>
</tr>
<tr>
<td>United States</td>
<td>✓</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>✓</td>
</tr>
<tr>
<td>India</td>
<td>✓</td>
</tr>
<tr>
<td>Iran</td>
<td>✓</td>
</tr>
<tr>
<td>Malaysia</td>
<td>✓</td>
</tr>
</tbody>
</table>

\(^a\) Autologous blood injection is particularly diffuse within the field of sports medicine in Australia
Cost infrastructure and economic consequences

Autologous blood injection therapy itself is relatively inexpensive; many Australian clinics that currently provide this service do so under ultrasound guidance, which would contribute an additional cost for both the use of the machine and the time of a sonographer or radiologist.

Ethical, cultural or religious considerations

Autologous blood injections were previously embargoed by the World Anti-Doping Agency due to concerns regarding use for blood doping; the relaxation of this embargo enables use of the therapy in the treatment of most injuries in elite athletes, provided a declaration of use is provided. Muscle injuries, however, may require a therapeutic use exemption for autologous blood injections.16

Evidence and Policy

Safety and effectiveness

Three randomised controlled trials (level II intervention evidence) have been included that assess the safety and effectiveness of autologous blood injection compared to injection with a corticosteroid,17,18 or corticosteroid and placebo19 in patients with lateral epicondylitis. Autologous blood injections have additionally been trialled in indications of chronic plantar fasciitis and patellar tendinosis; the results of a study for each indication has additionally been summarised.20,21

Dojode17

A randomised controlled trial (level II intervention evidence) was conducted at a single-centre in India by Dojode. Patients (n=60) were recruited upon diagnosis of lateral epicondylitis after presentation to an outpatient department, and included patients who were older than 15 years. Patients were excluded if they had received steroid injections in the three months prior, previous surgeries for lateral epicondylitis or the presence of other causes of elbow pain. Patients were allocated sequentially into Groups A or B according to a computer-generated randomisation table. The method of blinding, if performed, was not reported. Group A (n=30) was designated to receive an injection of autologous blood (2 mL) drawn from the upper limb vein mixed with 1 mL of a local anaesthetic (0.5% bupivacaine); Group B (n=30) was designated to receive an injection volume of 2 mL, consisting of 80 mg methylprednisolone acetate corticosteroid mixed with 1 mL of a local anaesthetic (0.5% bupivacaine). At baseline, no significant differences were reported for age, mean duration of symptoms, type of employment (manual or non-manual) or whether the injury was on the dominant arm. Injection into the lateral epicondyle was guided by anatomical landmarks, with patients advised to rest the upper limb for three days after injection. Losses
to follow up were not reported. The level of pain was the outcome of interest, and was assessed prior to injection, and at 1-, 4-, 12-week and 6-month follow-up using:

- visual analogue scale (VAS), where the patient was asked to indicate pain levels on a scale from 0 (no pain) to 10 (worst pain ever); and
- the Nirschl staging system, which consists of seven phases in ascending order of pain (Table 2).

**Table 2  Nirschl staging system**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mild pain with exercise, resolves within 24 hours</td>
</tr>
<tr>
<td>2</td>
<td>Pain after exercise, exceeds 48 hours</td>
</tr>
<tr>
<td>3</td>
<td>Pain with exercise, does not alter activity</td>
</tr>
<tr>
<td>4</td>
<td>Pain with exercise, alters activity</td>
</tr>
<tr>
<td>5</td>
<td>Pain with heavy activities of daily living</td>
</tr>
<tr>
<td>6</td>
<td>Pain with light activities of daily living, intermittent pain at rest</td>
</tr>
<tr>
<td>7</td>
<td>Constant pain at rest, disrupts sleep</td>
</tr>
</tbody>
</table>

**Safety**

Of the patients who received an autologous blood injection, significantly more, 18/30 (60%), complained of an increase in pain immediately and in the days following the injection, compared to 8/30 (26%) who received an injection with the corticosteroid ($p=0.009$). While two (7%) patients who received an injection with corticosteroid developed local skin atrophy, no instances were observed in those who were injected with autologous blood; however, this difference was not significant ($p>0.05$, chi-squared test). There were no instances in either group of elbow stiffness, infection, neurovascular damage, tendon rupture or other complications.

**Effectiveness**

Prior to injection, no significant differences were observed between groups for mean VAS and Nirschl staging systems scores (Table 3, Figure 2). At one week and four weeks after the injection, both groups displayed lower levels of pain; however, the group that received the corticosteroid injection reported significantly lower scores than the groups that received autologous blood. After four weeks, however, the pain levels in the corticosteroid group steadied, and began to rise, with significantly lower pain levels observed in the autologous blood group at the 12-week and six-month follow-up.

At six-month follow-up, significantly more patients (27/30) who received autologous blood injections were completely relieved of pain, compared to 14 of 30 who received injections with corticosteroid ($p<0.001$, chi-squared test). The rate of lateral epicondylitis recurrence at six months was significantly higher in the corticosteroid group (37%), compared to no recurrences observed in the autologous blood group ($p<0.001$, chi-squared test).
Table 3  Mean pain scores measured by VAS and Nirschl stage during follow-up period.¹⁷

<table>
<thead>
<tr>
<th>Follow up</th>
<th>Visual Analogue Scale (VAS) score</th>
<th></th>
<th></th>
<th></th>
<th>Nirschl stage score</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group A</td>
<td>Group B</td>
<td>p-value</td>
<td>Group A</td>
<td>Group B</td>
<td>p-value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-injection</td>
<td>7.7 (1.3)</td>
<td>7.5 (1.3)</td>
<td>0.5395</td>
<td>5.4 (1.1)</td>
<td>5.2 (1.0)</td>
<td>0.4918</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 week</td>
<td>7.2 (1.9)</td>
<td>4.5 (1.9)</td>
<td>&lt;0.0001</td>
<td>5.1 (1.5)</td>
<td>3.1 (1.4)</td>
<td>&lt;0.0001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 weeks</td>
<td>3.2 (2.4)</td>
<td>1.5 (2.3)</td>
<td>0.0022</td>
<td>2.2 (1.6)</td>
<td>1.0 (1.6)</td>
<td>0.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 weeks</td>
<td>0.6 (1.9)</td>
<td>1.5 (1.8)</td>
<td>0.0127</td>
<td>0.43 (1.3)</td>
<td>1.0 (1.3)</td>
<td>0.0184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 months</td>
<td>0.5 (1.9)</td>
<td>1.8 (2.0)</td>
<td>0.0058</td>
<td>0.36 (1.3)</td>
<td>1.2 (1.4)</td>
<td>0.0064</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Group A received autologous blood injection; Group B received corticosteroid injection. All data is reported as a mean (standard deviation).

* indicates significant differences (p<0.05)

Figure 2  Course of mean VAS (A) and Nirschl stage (B) scores during follow-up period.¹⁷

Kazemi et al¹⁸

A single-blinded randomised controlled trial (level II intervention evidence) was conducted at a single-centre outpatient department in Iran by Kazemi and colleagues. Consecutive patients (n=60) with a new episode of lateral epicondylitis within the previous year were recruited after referral by physical medicine and rehabilitation specialists. Patients were excluded if they had active or a history of arthritis, previous operations on the elbow or corticosteroid injections in the three months prior. Patients were randomised by sequential allocation, with the first patient randomly assigned by coin toss; outcome assessors were blinded to the treatment allocation. The Autologous Blood (AB) group was designated treatment with 2 mL autologous blood drawn from the ipsilateral upper limb and mixed with 1 mL local anaesthetic (2% lidocaine), while the Local Corticosteroid (LC) group received a single dose of local corticosteroid (single dose injection of 20 mg methylprednisolone) mixed with 1 mL local anaesthetic (2% lidocaine). No significant differences were observed between groups for baseline characteristics of age, duration of symptoms or injury to dominant arm. Injection into the lateral epicondyle was guided by anatomical landmarks, with patients advised to avoid pain-provoking stresses to the elbow region particularly within the first 48 hours after injection. For the duration of the study, patients were instructed not to use a brace, physiotherapy or analgesic medications. All
patients recruited completed the trial. The subjective severity of pain within the last 24 hours, as measured by VAS, was the primary outcome measure, with secondary outcome measures including:

- disabilities of the arm, shoulder and hand quick questionnaire (quick DASH), which includes 11 rating scale questions from 1 (no difficulty) to 5 (unable) to assess improvement in functional status
- modified Nirschl scores, a five point scale ranging from 0 (no pain with exercise) to 4 (severe pain with normal activities of daily living)
- dynamometer, to measure muscle strength
- algometer, to measure pain thresholds.

Safety

There were no noticeable or reported side effects of the treatment observed in either group.

Effectiveness

Prior to injection, no significant differences were observed between groups for all outcome measures. Outcome measures at four weeks had improved significantly within each group compared to baseline, except for pain thresholds in the group treated with the corticosteroid. Between four and eight weeks, all outcomes continued to significantly improve in the autologous blood group, with only significant improvements in the corticosteroid group observed for limb pain and maximum grip strength.

When groups were compared, at four weeks all outcomes except limb function, grip strength and the modified Nirschl score showed significant improvements for the autologous blood group (Table 4). At eight weeks, all outcomes were significantly in favour of the autologous blood group.

Table 4  Comparison of outcomes at 4 and 8 weeks after treatment

<table>
<thead>
<tr>
<th></th>
<th>Four weeks after injection</th>
<th>Eight weeks after injection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AB</td>
<td>LC</td>
</tr>
<tr>
<td>Limb pain at rest within last 24 hours</td>
<td>2.7 (0.9)</td>
<td>4.5 (2.5)</td>
</tr>
<tr>
<td>Limb function within last 24 hours</td>
<td>3 (1.2)</td>
<td>3.4 (2)</td>
</tr>
<tr>
<td>Pain in maximum grip</td>
<td>3 (1)</td>
<td>4.7 (2.6)</td>
</tr>
<tr>
<td>Pressure pain threshold (algometer)</td>
<td>14.4 (7.1)</td>
<td>10.6 (6.2)</td>
</tr>
<tr>
<td>Maximum grip strength (dynamometer)</td>
<td>41.2 (19.3)</td>
<td>33.2 (14)</td>
</tr>
<tr>
<td>Modified Nirschl</td>
<td>1.5 (0.7)</td>
<td>1.9 (1)</td>
</tr>
<tr>
<td>Quick DASH</td>
<td>21 (10.6)</td>
<td>32.3 (17.2)</td>
</tr>
</tbody>
</table>

AB: autologous blood; LC: local corticosteroid. Data reported as mean (standard error).
A blinded randomised controlled trial (level II intervention evidence) was conducted in two centres in the United States by Wolf and colleagues. Patients (n=34) who had not been treated with an injection for lateral epicondylitis in the previous six months were included in the study; those with a history of elbow surgery, inflammatory arthritis or autoimmune diseases were excluded. Patients were randomised into three treatment groups by sealed envelopes generated centrally by a random numbers table. The three groups received 2 mL of either autologous blood, corticosteroid or saline mixed with 1 mL of lidocaine (total volume 3 mL); the concentrations of the corticosteroid or local anaesthesia were not reported. The syringe that contained the injection was covered with aluminium foil so as to blind the patient to treatment; outcome assessors were not blinded. Baseline characteristics of the treatment groups were not reported. Injection into the lateral epicondyle was guided by anatomical landmarks, after which each patient was given a standard sheet of stretching exercises and was not provided with other forms of therapy or splints for the six-month duration of the study. Six patients did not complete the study, three subjects dropped out after two weeks and three were lost to follow up after the initial injection. Data was analysed for 28 patients, of which n=9 had been randomised to be treated with saline, n=10 to autologous blood and n=9 received steroid injections. One patient in each group requested an additional injection at two months. It is unclear what they received; and patients were not blinded to the repeat injection. The primary outcome measure was the DASH outcomes score, with pain- and disease-specific functional scores, as measured by the VAS and the Patient Rated Forearm Evaluation (PRFE) questionnaires respectively, as the secondary measures. The latter measure, the PRFE, was subdivided into pain and functional scales, with each analysed separately.

**Safety**

Adverse events and other safety outcomes were not reported in the study.

**Effectiveness**

Patients were asked to complete the DASH, VAS and PRFE questionnaires pre-injection and at two weeks, and two and six months after injection. Compared to baseline, each of the treatment groups observed significant improvements in the DASH scores at six months (p<0.001); however, these differences were not significant for other time points. No significant differences were observed in the DASH scores between the treatment groups (p>0.05).

Similarly, improvements were observed in each of the treatment groups for the secondary measures, with no significant differences between the groups for the improvement in the PRFE pain scores and the VAS score. The saline-treated group showed the most improvement as assessed by the PRFE function score and was significantly better than the
group treated with autologous blood ($p=0.048$). Differences between the steroid-treated group and the saline-treated or autologous blood-treated groups were not significant.

**Summary of studies for alternative indications**

A prospective, randomised controlled trial (level II intervention evidence) was conducted by Lee and colleagues\(^2^1\) that compared injections of autologous blood to corticosteroid in the treatment of chronic plantar fasciitis; 61 patients were enrolled. Similar to the studies reported for lateral epicondylitis, both treatment groups observed significant reduction in pain levels ($p<0.001$); however, no significant difference were observed between the treatment groups at six months. Pain relief was more rapid in the group treated with corticosteroid injection. No adverse events such as fat pad atrophy, infections or rupture of the plantar fascia were observed; however, all patients indicated the injection was painful, with post-injection pain that required analgesia and/or ice application in 16/30 (53%) of patients treated with autologous blood, and 4/31 (13%) treated with corticosteroid.

A case-series study (level IV interventional evidence) was conducted by James et al\(^2^0\) in the UK that treated patients with patellar tendinosis (jumper’s knee) with autologous blood injection. Consecutive patients (n=44, with n=47 treated knees) were enrolled, with the injection of autologous blood administered via ultrasound guidance and dry needling, which involved the repeated passing of the needle through the abnormal tendon for a one minute period. At post-procedure follow up, subjective knee functionality scores significantly improved ($p<0.001$). In a sub-set of 21 patients (with 24 treated knees), follow-up ultrasound examination observed a reduction in tendon thickness in 22/24 cases; however, only one case could be classed as normal. Safety outcomes were not reported.

**Economic evaluation**

No economic evaluations were identified in the preparation of this report.

**Ongoing research**

One newly registered trial (ClinicalTrials.gov Identifier: NCT01668953) has been identified which compares autologous blood injection to a placebo, dry needling and platelet-rich plasma injection in the treatment of lateral epicondylitis.\(^2^2\) The study aims to enrol 60 patients, with study completion in 2014.

**Other issues**

Four of the studies included did not perform autologous blood injection under ultrasound guidance, a method which is often practised in Australia.

As the proposed mechanism of action of autologous blood injection is mediated by the platelet derived growth factors, higher concentrations of platelets injected may be more beneficial, with the development of platelet-rich plasma injections. The systems used to
isolate the platelets from autologous blood have TGA (ARTG numbers include 100053, 133209), FDA and CE mark approval, with ongoing and completed trials conducted in Australia (ClinicalTrials.gov Identifier: NCT01414764) and in other sites around the world. Clinical advice suggests that platelet-rich plasma injections may supersede injections with autologous blood, with diffusion of the technology observed in Australia. The incremental benefits of the procedure compared to autologous blood injection are uncertain; at least one large double-blind randomised controlled trial for lateral epicondylitis observed little difference between treatment groups for outcomes assessed.

**Summary of findings**

Two of the three included randomised controlled trials reported safety outcomes for the treatment of autologous blood injections in patients with lateral epicondylitis; while one observed no side effects of the treatment, the other reported significantly more pain after autologous blood injection compared to corticosteroid. In this same study, two patients treated with corticosteroid reported skin atrophy, with no reports in patients who received autologous blood. No instances of tendon rupture were reported. Other safety concerns associated with the treatment may include bruising and infection; the studies included did not report on these outcomes.

In terms of effectiveness, each of the studies included for the lateral epicondylitis indication reported significantly improved outcomes compared to baseline regardless of the treatment group (autologous blood, corticosteroid) and patients receiving placebo (saline) also reported improvements compared to baseline. The two studies that compared injections of autologous blood to corticosteroid observed significantly better improvement in patients who were treated with blood, particularly at time points beyond one month. No significant differences were observed between the treatment groups in the study that compared autologous blood to steroid or saline injections.

The evidence for autologous blood injection in other indications such as chronic plantar fasciitis and patellar tendinosis each showed an improvement in symptoms. When compared to corticosteroid injections, however, no significant differences were observed for the indication of chronic plantar fasciitis. Additionally, no conclusions can be drawn regarding the comparative effectiveness of autologous blood injections in patellar tendinosis as no comparative evidence was available.

The comparator chosen in the studies included, corticosteroid injections, may be inappropriate, as other options, including rest, NSAIDs and physiotherapy, may better reflect current practice. Consequently, conclusions regarding the comparative effectiveness of autologous blood injections to these more conventional and accepted treatments cannot be drawn.
HealthPACT assessment

Based on the level and availability of evidence for multiple indications, in addition to the diffusion of autologous blood injections within Australia, the HealthPACT agreed the technology should be monitored for 24 months, or until the availability of pending RCT trial results.

Number of studies included

All evidence included for assessment in this Technology Brief has been assessed according to the revised NHMRC levels of evidence. A document summarising these levels may be accessed via the HealthPACT web site.

Total number of studies 5
Total number of Level II studies 4
Total number of Level IV studies 1

References


**Search criteria to be used (MeSH terms)**

Autologous blood injection, blood [MeSH Terms], tendinosis, tendinopathy[MeSH Terms], lateral epicondylitis, tennis elbow[MeSH Terms], plantar fasciitis