

Considered Judgement Form (revised)

Meeting date: 14 May 2008 (purchasing recommendations amended 27 August 2008)

Topic: Extracorporeal Shock Wave Therapy (ESWT) in treatment of selected musculoskeletal conditions

Background and Purpose:

In October 2001 and in November 2004 ACC completed two reports examining ESWT efficacy in treatment of plantar fasciitis, lateral epicondylitis, non-union of bone fracture and shoulder calcific tendinopathy. The update report of November 2004 concluded that ESWT was effective in treatment of plantar fasciitis. The review also considered ESWT use in treatment of bone non-union, lateral epicondylitis and calcifying tendonitis of the shoulder. However evidence published at the time of the review did not allow the reviewers to determine effectiveness of ESWT for these conditions. As a result of these findings PGAG recommended purchasing shock wave therapy for plantar fasciitis but not for the other conditions.

Subsequent to the earlier EBH reports, ACC has been asked to re-consider evidence of ESWT effectiveness in relation to the following medical conditions:

- Calcific tendinopathy and non-calcified shoulder syndrome
- Rotator cuff syndromes
- Lateral and medial epicondyle injuries
- Achilles tendon injuries
- Patellar tendon and knee injuries

For consistency with the 2004 evidence-based report, in addition to the above conditions the update review has also considered ESWT application for treatment of osseous non-union and delayed union. We recommend that in making purchasing decisions both evidence-based reports will be taken into consideration.

1. Effectiveness, Volume of Evidence, Applicability /Generalisability and Consistency

A few high level studies have been published since the 2004 EBH review. In light of these studies there is now some evidence to establish additional benefits from shock waves applications.
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<i>Rotator cuff tendinopathies</i>

Some evidence of moderate clinical benefits in treatment of calcific rotator cuff tendinopathy (CRCT) was established. However no evidence was found in support of ESWT application in treatment of non-calcific rotator cuff tendinopathy.

The reviewed studies commonly used the following selection criteria:
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| <ul style="list-style-type: none"> • CRCT with Type I and Type II calcific deposits • Symptomatic tendinopathy for over 3 months • Tendinopathy resistant to conservative treatment. |
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These criteria need to be applied when referring patients with CRCT to ESWT.

Lateral and medial elbow tendinopathies

The original studies as well as the systematic reviews provide conflicting evidence on efficacy of ESWT in treatment of lateral elbow tendinopathy. On balance, lack of convincing high quality evidence on ESWT efficacy does not support its use in treatment of epicondylalgia.

No evidence was found in support of effectiveness of ESWT in treatment of medial epicondylitis.

Achilles tendinopathy

Paucity of research and conflicting evidence do not allow the reviewer to form a final opinion on effectiveness of ESWT in treatment of Achilles tendinopathies. In addition to the evidence-based review of 2004 this updated review found two studies suggesting beneficial results. However in a combination with the conclusion of the 2004 report, it appears to be insufficient evidence up to date to determine effectiveness of shock waves therapy in treatment of chronic Achilles tendinopathy. This conclusion could to be re-considered if new clinical evidence in support of this treatment is published.

Patella tendon and knee injury

No publications were found in regard to these conditions.

Non-union and delayed union

No high quality clinical trials have been published. The publications are descriptive and provide low level of evidence which is insufficient to establish effectiveness of ESWT in treatment of non-union and delayed union.

2. Cost

The cost of ESWT is significant. The treatment provider Health Kompass Ltd quotes the following figures¹:

<i>Indication</i>	<i>ACC price</i>	<i>Private price</i>
Rotator cuff injuries	\$395.00 per session	\$562.00 per session
Calcified shoulder injuries	\$395.00 per session	\$562.00 per session
Patellar knee injuries	\$395.00 per session	\$562.00 per session
Medial/Lateral Epicondylitis	\$395.00 per session	\$562.00 per session
Achilles tendon injuries	\$395.00 per session	\$562.00 per session

The Health Kompass Ltd compares these costs with the hypothetical costs of surgical treatments for the above conditions, suggesting that ESWT would result in significant cost savings. These suggested costs have not been verified.

<i>Indication</i>	<i>ESWT cost</i>	<i>Surgical cost</i>	<i>Hospital & Rehabilitation costs</i>
Achilles tendon - 6 cases	\$7,110.00	\$22,800.00	\$5,250.00
Epicondylitis - 6 cases	\$7,110.00	\$22,800.00	\$5,700.00

¹ Health Kompass Ltd. Extra-corporeal Shock Wave Therapy (Electro-hydraulic ESWT)

Shoulder syndrome - 6 cases	\$7,110.00	\$27,000.00	\$6,750.00
Patella tendon - 6 cases	\$7,110.00	\$26,400.00	\$6,600.00
3. Clinical impact			
<p>CRCT is a common medical condition of unknown aetiology, with 3-20% prevalence of asymptomatic calcific tendinopathy in the general population. Consensus among orthopaedic surgeons indicates that calcific tendinopathy is not caused by trauma.</p> <p>All the trials involving ESWT for musculoskeletal conditions included patients with long standing symptoms, following failure of conservative treatments to resolve these conditions. Therefore when recommendations on referral of ACC claimants are made, it needs to be noted that a referral should be made only subsequently to unsuccessful management by conventional therapies.</p> <p>However it is important to emphasise that CRCT is not regarded as an injury-related condition and as such it does not get ACC cover, unless under exceptional circumstances.</p>			
4. Equity, Maori Health, Pacific Health, Acceptability			
<p>Currently the treatment cost is prohibitive and only affordable for patients with private health insurance. The only known ESWT provider Health Kompass Ltd is based in Auckland. The provider indicated that additional facilities could have been set up in other centres had ACC agreed to fund treatment.</p>			
5. Possible Purchasing Options			
<p>a) Purchase (for CRCT only)</p> <p>b) Purchase on a case-by-case basis.</p> <p>c) Do not purchase</p>			
6. Evidence Statements			
<p><i>Calcific rotator cuff tendinopathy-</i></p> <ol style="list-style-type: none"> 1. There is some evidence from controlled clinical trials that ESWT is more effective than sham/control treatment in reducing calcific deposits 2. There is some evidence that ESWT is more effective than sham/control treatment in improving shoulder function as measured by Constant and Murley score 3. There is equivocal evidence that ESWT is more effective than sham/control treatment in reducing shoulder pain <p><i>Chronic Achilles tendinopathy.</i> There is insufficient evidence to determine effectiveness of ESWT in treatment of chronic Achilles tendinopathy</p> <p><i>Lateral and medial elbow tendinopathy.</i> There is insufficient evidence to determine effectiveness of ESWT in treatment of elbow tendinopathy.</p>			

Patella tendon and knee injury: No conclusion can be made due to the absence of published studies.

Non-union and delayed union: There is a lack of high quality studies to determine effectiveness of ESWT in treatment of these conditions. Evidence from low quality observational studies was inconclusive.

7. Purchasing Recommendations

Calcific rotator cuff tendinopathy – Purchase on a case-by-case basis, noting that CRCT is a condition not usually covered by ACC. Always refer to the Corporate Medical Advisor for advice.

Chronic Achilles tendinopathy – Do not purchase

Elbow tendinopathy – Do not purchase

Patella tendon and knee injuries – Do not purchase.

Non-union and delayed union – Do not purchase

PGAG Discussions:

Clarification and discussion about the quality of evidence supporting the use of ESWT for CRCT; what constituted a relevant control group; and were results statistically significant.

Which outcome measures were most relevant; resorption of calcific deposits, pain relief or shoulder function?

Whether CRT is an injury related condition or whether it is a medical condition.