

Radiofrequency Denervation (RFD) Evidence Review

DISCUSSION PAPER

Executive Summary:

An Evidence Review on “Spinal Injection Therapies: Radiofrequency Denervation (RFD)” was prepared in April 2009. The Evidence Review suggested that synthesis was required to incorporate new RCTs into the synthesised evidence and provide a more definitive assessment of the effectiveness of RFD in lumbar and sacroiliac joints. The Evidence Review noted that an update of the Cochrane review on RFD in cervical and lumbar facet joints was expected, and it was believed that this update would incorporate the relevant new RCTs.

The updated Cochrane review was published in March 2010, however, the content of the review was not updated and the additional RCTs were not incorporated.

Given this, the CJC may like to consider the following options:

1. Use the results of the Evidence Review as they currently stand, and not incorporate the further RCTs
2. Request the Evidence Service incorporate the new RCTs that were identified in the Evidence Review (i.e. for lumbar facet and sacroiliac joints) using the results of the original literature searches
3. Request the Evidence Service run updated literature searches for all four anatomical areas, and update all of the anatomical areas where new evidence is found.

Objective:

To update the CJC on business arising from the Radiofrequency Denervation (RFD) review. To enable the CJC to determine if further work is required on this question.

Plain Language Summary from Evidence Review:

“Radiofrequency denervation (RFD) has been used to treat patients for persistent neck and back pain. RFD involves insertion of a needle next to joints in the spine. Electricity is then passed through the needle destroying the nerve to the joint. When pain comes from that joint then the pain signals to the brain are stopped.”

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Before doing RFD on a patient the right joint is found by doing a numbing block of the suspected nerve(s). Sometimes this is done twice, once with a numbing solution and once with an inactive solution, to be sure of where the pain is coming from.

There is currently not enough evidence to assess the benefits and harms of RFD for the treatment of persistent pain in the neck, upper or lower back.”

Background:

An Evidence Review on “Spinal Injection Therapies: Radiofrequency Denervation” was prepared by the previous Evidence Service team in April 2009 (see Attachment 1).

This Evidence Review was broken down into four anatomical areas (cervical facet, thoracic facet, lumbar facet, and sacroiliac joints) with separate conclusions drawn for each.

The Evidence Review found that, for lumbar and sacroiliac joints, recent RCTs were available that had not been included in the available synthesised evidence (evidence-based guidelines and systematic reviews) included in the Evidence Review.

The Evidence Review suggested that additional meta-analysis was required to incorporate these new RCTs into the synthesised evidence and provide a more definitive assessment of the effectiveness of RFD in these joints.

The Evidence Review noted that an update of the Cochrane review on RFD in cervical and lumbar facet joints (Neimisto et al) was expected to be published in July 2009, and it was believed that this update would incorporate the relevant new RCTs.

“The evidence for the effectiveness of radiofrequency denervation across the various anatomical locations is either insufficient, inconclusive or conflicting. Several RCTs are now available that have not been included in the synthesised research. Further synthesis of all the identified evidence is required.

Correspondence with the Cochrane Back Review Group confirmed that the authors of the Cochrane review on radiofrequency denervation are in the process of updating their review, including meta-analysis where appropriate. This is expected to be published in the third issue of The Cochrane Library (July 2009). The Cochrane review will address neck and low back pain. It is anticipated that this review will provide further clarification on the effectiveness of radiofrequency denervation in these areas.”

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Results:

The updated Cochrane review was published in March 2010, however, the review update involved a change in format and updating of contact details only. The content of the review was not updated, the additional RCTs identified by the Evidence Review were not incorporated, and the meta-analysis was not changed. The results reported in the Evidence Review (summarised below) are, therefore, still current.

Anatomical area	Effectiveness	Evidence-base	Comments
Cervical facet joints	Inconclusive for persistent pain and insufficient for function, quality of life, return to work, medication use or healthcare utilisation.	Evidence-based guideline with low risk of bias (2008)	All RCTs identified in 2008 are included in synthesised evidence
Thoracic facet joints	Insufficient evidence for persistent pain, function, quality of life, return to work, medication use or healthcare utilisation.	Systematic review with low to moderate risk of bias (2008)	All RCTs identified in 2008 are included in synthesised evidence
Lumbar facet joints	Inconclusive for persistent pain and insufficient for function, quality of life, return to work, medication use or healthcare utilisation.	Evidence-based guideline with a low risk of bias (2008)	Additional RCTs not included in synthesised evidence are available
Sacroiliac joints	Insufficient evidence for persistent pain, function, quality of life, return to work, medication use or healthcare utilisation	Systematic review with low risk of bias (2007)	Additional RCTs not included in synthesised evidence are available

Options

Given this, the CJC may like to consider the following options:

1. Use the results of the Evidence Review as they currently stand, and not incorporate the further RCTs
2. Request the Evidence Service incorporate the new RCTs that were identified in the Evidence Review (i.e. for lumbar facet and sacroiliac joints) using the results of the original literature searches conducted in November 2008

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3. Request the Evidence Service run updated literature searches for all four anatomical areas, and update all of the anatomical areas where new evidence is found.

More detail about these options, and the timeframes involved with each are outlined below.

Option 2

Steps

- Consider the anatomical areas of cervical facet joints and thoracic facet joints as complete, as these two areas were not pending results of the updated Cochrane review, and were not noted as having new information suitable for synthesis at the time that the evidence review was prepared
- Synthesize/meta-analyse the evidence for the anatomical areas of lumbar facet joints and sacroiliac joints, where additional RCTs not included in the synthesized evidence were identified at the time that the Evidence Review was initially prepared.

Time-Frame

Likely to be 8 -12 weeks to allow time for statistical consultation on meta-analysis.

Result

A completed Evidence Review based on searches carried out in November 2008. Conclusions for cervical and thoracic joints would stay the same, and conclusions may change for lumbar facet and sacroiliac joints.

Option 3

Steps

- Rerun searches for all anatomical areas to check for new synthesised evidence or primary studies published since the last search was run
- Screen results for relevance
- Retrieve and appraise relevant papers found
- Synthesize/meta-analyse information where relevant
- Incorporate new evidence/findings found for all four anatomical areas

Time-Frame

Will depend on numbers of papers found, but at least 12 weeks

Result

A completed Evidence Review based on searches carried out in 2010. Conclusions may change for all areas.

We are very happy to discuss these, or other, options with you.

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