TITLE: Stem Cell Therapy for the Treatment of Brain or Spinal Cord Injuries: Clinical Effectiveness and Guidelines

DATE: 12 May 2016

RESEARCH QUESTIONS

1. What is the clinical evidence regarding the effectiveness of stem cell therapy for the treatment of brain or spinal cord injuries?

2. What are the evidence-based guidelines regarding the use of stem cell therapy for the treatment of brain or spinal cord injuries?

KEY FINDINGS

Three systematic reviews with meta-analyses, three randomized controlled trials, and 11 non-randomized studies were identified regarding the clinical effectiveness of stem cell therapy for the treatment of brain or spinal cord injuries.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between Jan 1, 2011 and May 8, 2016. Internet links were provided, where available.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.
### Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult patients with brain injuries; Adult patients with spinal column injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Stem Cell Therapy</td>
</tr>
<tr>
<td>Comparator</td>
<td>Any comparator; No active comparator</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Q1: Clinical benefit; Harms; Clinical effectiveness</td>
</tr>
<tr>
<td></td>
<td>Q2: Guidelines</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines</td>
</tr>
</tbody>
</table>

### RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three systematic reviews with meta-analyses, three randomized controlled trials, and 11 non-randomized studies were identified regarding the effectiveness of stem cell therapy for the treatment of brain or spinal cord injuries. No health technology assessments or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses


Randomized Controlled Trials


Non-Randomized Studies


**Guidelines and Recommendations**

No literature identified.
APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-Analyses – Population Not Defined


Non-Randomized Studies

Neurological Disorder – Brain Injury Not Specified


Case Study


Reviews