

## Rehabilitation after traumatic injury

### B.2 Cognitive interventions for people with complex rehabilitation needs after traumatic injury

*NICE guideline <number>*

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*These evidence reviews were developed by the National Guideline Alliance which is part of the Royal College of Obstetricians and Gynaecologists*



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1 **Summary of review questions covered**  
2 **in this report**

3 This evidence report contains information on 2 reviews

4 B.2a What cognitive rehabilitation interventions are effective and acceptable for  
5 adults with complex rehabilitation needs after traumatic injury?

6 B.2b What cognitive rehabilitations interventions are effective and acceptable for  
7 children and young people with complex rehabilitation needs after traumatic  
8 injury?

# 1 Cognitive interventions for people with 2 complex rehabilitation needs after 3 traumatic injury

## 4 Review question

5 This evidence report contains information on 2 reviews relating to cognitive  
6 rehabilitation programmes and packages for traumatic injury:

7 B.2a What cognitive rehabilitation interventions are effective and acceptable for  
8 adults with complex rehabilitation needs after traumatic injury?

9 B.2b What cognitive rehabilitation interventions are effective and acceptable for  
10 children and young people with complex rehabilitation needs after traumatic  
11 injury?

## 12 Introduction

13 Cognitive impairments such as slowed information processing, transient memory  
14 problems and poor attention are common in acute trauma situations, regardless of  
15 whether or not a brain injury has been sustained. Pain and fatigue can also affect  
16 the way we process information and affect our ability to reason. An individual's  
17 cognition therefore needs to be considered both when consenting and involving  
18 patients in their rehabilitation plans. Cognitive impairment may serve as a target for  
19 rehabilitation, and as a factor that can influence the effectiveness of other  
20 interventions e.g. psychological or physical.

21 The objective of this review was to examine what cognitive rehabilitation  
22 interventions are effective and acceptable for people with complex rehabilitation  
23 needs after traumatic injury.

## 24 Summary of the protocol

25 Please see Table 1: Summary of the adult protocol (PICO table)

<b>Population</b>	Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital
<b>Intervention</b>	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: <ul style="list-style-type: none"> <li>• Cognitive fatigue management (e.g., sleep hygiene coping strategies, patient education, pacing, low stimulation environment, sleep studies, info for GPs)</li> <li>• Cognitive rehabilitation</li> </ul>
<b>Comparison</b>	Standard rehabilitation care (as defined above) <p>Studies that employ the same intervention program as listed under 'Intervention' but vary it in terms of any of the following:</p> <ul style="list-style-type: none"> <li>• Frequency</li> </ul>



	<ul style="list-style-type: none"> <li>• Intensity</li> <li>• Timing</li> </ul>
	<p><b>Critical</b></p> <ul style="list-style-type: none"> <li>• Changes in activity of daily living (Barthel ADL index, COPM, EADL-Test, FIMFAM, GAS, Katz, OARS, PAT, PSMS)</li> <li>• Patient acceptability (any direct measure)</li> <li>• Cognition screen (O-LOG, MOCA, Addenbrookes [Overall score only], ACER, ACEIII, RBANS)</li> </ul> <p><b>Important</b></p> <ul style="list-style-type: none"> <li>• Return to work or education</li> <li>• Overall quality of life (EURO-QoL 5D 3L, SF-36, SF-12, SF-6D, SFMA)</li> <li>• Changes in mood (Depression measures – BDI, DAS, HADS, PH-Q9)</li> <li>• Fatigue measure (Fatigue Severity Scale; Modified Fatigue Impact Scale; Multi-dimensional Fatigue Inventory; Multi-dimensional Assessment of Fatigue; Short form-36 Vitality subscale of the Short Form Health Survey; Fatigue Questionnaire)</li> </ul>

1 ACER/ACEIII: Addenbrookes cognitive examination revised/III; ADL: Activities of daily living; BDI: Beck  
 2 depression inventory; COPM: Canadian occupational performance measure; DAS: Disability  
 3 assessment schedule; EADL: Erlangen Activities of Daily Living test; EURO-QoL 5D 3L: EuroQoL 5  
 4 dimensions and 3 levels; FIMFAM: Functional independence measure and Functional assessment  
 5 measure; GAS: Goal attainment scaling; HADS: Hospital anxiety and depression scale; MOCA:  
 6 Montreal cognitive assessment test; O-LOG: The orientation log; OARS: Older Americans resources  
 7 and services; PAT: Performance ADL; PH-Q9: Patient health questionnaire with 9 questions; PSMS:  
 8 Physical self-maintenance scale; RBANS: Repeatable battery for the assessment of neuropsychological  
 9 status; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-  
 10 form

11 Table 2 and Table 2 for a summary of the Population, Intervention, Comparison and  
 12 Outcome (PICO) characteristics of this review in the adult and children and young  
 13 people populations, respectively.

14 **Table 1: Summary of the adult protocol (PICO table)**

<b>Population</b>	Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital
<b>Intervention</b>	Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following: <ul style="list-style-type: none"> <li>• Cognitive fatigue management (e.g., sleep hygiene coping strategies, patient education, pacing, low stimulation environment, sleep studies, info for GPs)</li> <li>• Cognitive rehabilitation</li> </ul>
<b>Comparison</b>	Standard rehabilitation care (as defined above) <p>Studies that employ the same intervention program as listed under 'Intervention' but vary it in terms of any of the following:</p> <ul style="list-style-type: none"> <li>• Frequency</li> <li>• Intensity</li> </ul>

	<ul style="list-style-type: none"> <li>• Timing</li> </ul>
	<p><b>Critical</b></p> <ul style="list-style-type: none"> <li>• Changes in activity of daily living (Barthel ADL index, COPM, EADL-Test, FIMFAM, GAS, Katz, OARS, PAT, PSMS)</li> <li>• Patient acceptability (any direct measure)</li> <li>• Cognition screen (O-LOG, MOCA, Addenbrookes [Overall score only], ACER, ACEIII, RBANS)</li> </ul> <p><b>Important</b></p> <ul style="list-style-type: none"> <li>• Return to work or education</li> <li>• Overall quality of life (EURO-QoL 5D 3L, SF-36, SF-12, SF-6D, SFMA)</li> <li>• Changes in mood (Depression measures – BDI, DAS, HADS, PH-Q9)</li> <li>• Fatigue measure (Fatigue Severity Scale; Modified Fatigue Impact Scale; Multi-dimensional Fatigue Inventory; Multi-dimensional Assessment of Fatigue; Short form-36 Vitality subscale of the Short Form Health Survey; Fatigue Questionnaire)</li> </ul>

1 ACER/ACEIII: Addenbrookes cognitive examination revised/III; ADL: Activities of daily living; BDI: Beck  
2 depression inventory; COPM: Canadian occupational performance measure; DAS: Disability  
3 assessment schedule; EADL: Erlangen Activities of Daily Living test; EURO-QoL 5D 3L: EuroQoL 5  
4 dimensions and 3 levels; FIMFAM: Functional independence measure and Functional assessment  
5 measure; GAS: Goal attainment scaling; HADS: Hospital anxiety and depression scale; MOCA:  
6 Montreal cognitive assessment test; O-LOG: The orientation log; OARS: Older Americans resources  
7 and services; PAT: Performance ADL; PH-Q9: Patient health questionnaire with 9 questions; PSMS:  
8 Physical self-maintenance scale; RBANS: Repeatable battery for the assessment of neuropsychological  
9 status; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-  
10 form

11 **Table 2: Summary of the children and young people protocol (PICO table)**

<b>Population</b>	Children and young people (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital
<b>Intervention</b>	<p>Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following:</p> <ul style="list-style-type: none"> <li>• Cognitive fatigue management (e.g., sleep hygiene coping strategies, patient education, pacing, low stimulation environment, sleep studies, info for GPs)</li> <li>• Cognitive rehabilitation</li> <li>• Play therapy</li> <li>• Interventions to continue or return to nursery or education</li> <li>• Speech and language therapy</li> <li>• Sensory rehabilitation</li> </ul>
<b>Comparison</b>	<p>Standard rehabilitation care (as defined above)</p> <p>Studies that employ the same intervention program as listed under 'Intervention' but vary it in terms of any of the following:</p> <ul style="list-style-type: none"> <li>• Frequency</li> </ul>

	<ul style="list-style-type: none"> <li>• Intensity</li> <li>• Timing</li> </ul>
	<p><b>Critical</b></p> <ul style="list-style-type: none"> <li>• Changes in activity of daily living (Barthel ADL index, COPM, EADL-Test, GAS, FIMFAM, Katz index, OARS, PAT, PSMS)</li> <li>• Changes in mood (any measure, e.g., PEDS-QL, depression measures – HADS, PH-Q9, BDI, DAS)</li> <li>• Patient and families and carers' acceptability (any direct measure; if not reported, but patient satisfaction is, this will be reported instead)</li> <li>• Babies only: <ul style="list-style-type: none"> <li>• Alberta Infant Motor Scale (AIMS; pre-term to 19 months.</li> <li>• Bayley Assessment (1 to 42 months)</li> </ul> </li> </ul> <p><b>Important</b></p> <ul style="list-style-type: none"> <li>• Return to nursery, education, training or work</li> <li>• Overall quality of life including quality of sleep (e.g., CHQ-CF80, CHQ-PF-50, PEDS-QL, EURO-QoL 5D 3L Y, SF-36, SF-12, SF-6D, SCIM)</li> <li>• Cognition screen (any measure)</li> <li>• Fatigue measure (e.g., FACIT-F, FSS)</li> </ul>

1 ADL: Activities of daily living; BDI: Beck depression inventory; CHQ-CF50: Child health questionnaire-  
2 parent form; HQ-CF80: Child health questionnaire-child form; COPM: Canadian occupational  
3 performance measure, DAS: Disability assessment schedule; EADL: Erlangen Activities of Daily Living  
4 test; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FACIT-F: Functional assessment of chronic  
5 illness therapy-fatigue; FIMFAM: Functional independence measure and functional assessment  
6 measure; FSS: Fatigue severity scale; GAS: Goal attainment scaling form; HADS: Hospital anxiety and  
7 depression scale; Katz: OARS: Older Americans resource and services ADL scale; PAT: Performance  
8 ADL test; PEDS-QL: Pediatric quality of life inventory; PH-Q9: Patient health questionnaire with 9  
9 questions; PSMS: Physical self-maintenance scale; SCIM: Spinal cord independence measure; SF-12:  
10 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form.

11 For further details see the review protocol in appendix A.

## 12 Methods and process

13 This evidence review was developed using the methods and process described in  
14 [Developing NICE guidelines: the manual](#). Methods specific to this review question  
15 are described in the review protocol in appendix A and in the methods chapter  
16 (Supplement 1).

17 Declarations of interest were recorded according to NICE's 2018 [conflicts of interest](#)  
18 [policy](#).

## 19 Clinical evidence: Adults

### 20 Included studies

21 A systematic review of the clinical literature was conducted but no studies were  
22 identified which were applicable to this review question.

23 See the literature search strategy in appendix B and study selection flow chart in  
24 appendix C.

**1 Excluded studies**

2 Studies not included in this review with reasons for their exclusions are provided in  
3 appendix K.

**4 Summary of clinical studies included in the evidence review**

5 No studies were identified which were applicable to this review question (and so  
6 there are no evidence tables in Appendix D). No meta-analysis was undertaken for  
7 this review (and so there are no forest plots in Appendix E).

**8 Results and quality assessment of clinical outcomes included in the  
9 evidence review**

**10 Summary of the evidence**

11 No studies were identified which were applicable to this review question.

**12 Clinical evidence: Children and young people**

**13 Included studies**

14 A systematic review of the clinical literature was conducted but no studies were  
15 identified which were applicable to this review question.

16 See the literature search strategy in appendix B and study selection flow chart in  
17 appendix C.

**18 Excluded studies**

19 Studies not included in this review with reasons for their exclusions are provided in  
20 appendix K.

**21 Summary of clinical studies included in the evidence review**

22 No studies were identified which were applicable to this review question (and so  
23 there are no evidence tables in Appendix D). No meta-analysis was undertaken for  
24 this review (and so there are no forest plots in Appendix E).

**25 Results and quality assessment of clinical outcomes included in the  
26 evidence review**

**27 Summary of the evidence**

28 No studies were identified which were applicable to this review question.

**29 Economic evidence: Adults and children and young people**

**30 Included studies**

31 A systematic review of the economic literature was conducted but no economic  
32 studies were identified which were applicable to these review questions. A single  
33 economic search was undertaken for adult, and children and young people reviews.  
34 Please see the study selection flow chart in appendix G.

## 1 Excluded studies

2 No studies were identified which were applicable to these review questions.

## 3 Summary of studies included in the economic evidence review

4 No economic evidence was identified which was applicable to these review  
5 questions.

## 6 Economic model

7 No economic modelling was undertaken for this review because the committee  
8 agreed that other topics were higher priorities for economic evaluation.

## 9 The committee's discussion of the evidence

### 10 Interpreting the evidence

#### 11 *The outcomes that matter most*

12 When selecting the critical and important outcomes, the committee agreed that the  
13 outcomes needed to be sufficiently generalisable to adequately capture patient-  
14 important outcomes for the whole adult and child and young people populations,  
15 respectively, which they recognised are quite large and very heterogeneous.

16 For adults, they therefore prioritised cognition screen and activities of daily living as  
17 critical outcomes because the committee considered that one of the main aims of  
18 people with traumatic injury would be to achieve similar cognitive ability and activity  
19 of daily living level as before the injury. Patient acceptability was also included as a  
20 critical outcome as how acceptable a patient finds the rehabilitation intervention is  
21 likely to have a large impact in their compliance.

22 The committee selected return to education or work as well as overall quality of life  
23 as important outcomes as these outcomes measure patient-important levels of  
24 functional independence as well as quality of life of the patient after traumatic injury.  
25 Changes in mood was also considered to be important because depression and  
26 post-traumatic stress disorders are common in people with traumatic injury and this  
27 outcome reflects their psychological wellbeing. Fatigue was included as an important  
28 outcome because cognitive impairment can be associated with fatigue, and fatigue  
29 can affect a person's ability or willingness to engage with rehabilitation interventions.

30 For children and young people the same outcomes were prioritised, with the following  
31 exceptions: Changes in mood was considered a critical outcome and cognition  
32 screen as an important outcome because the committee agreed that cognition  
33 screen might be harder to adequately measure in children and young people and that  
34 changes in mood therefore would be a better more global measure of their function  
35 and well-being in this group than cognitive screen although they agreed that this  
36 outcome was still important in children and young people, if available. The committee  
37 also extended the outcome of "return to education or work" to include nursery and  
38 training also and the outcome of patient acceptability to include family and carer  
39 ratings. Finally, although all the included outcomes are high-level, the committee  
40 were still worried they would not adequately relate to babies, they therefore decided  
41 to also include, for babies only, the Alberta infant motor scale and the Bayley  
42 assessment scale as critical

43 No evidence was found for any of these outcomes.

## 1 **The quality of the evidence**

2 No evidence was identified which was applicable to either of these review questions.  
3 All the recommendations were therefore based on the experience and expertise of  
4 the committee.

## 5 **Benefits and harms**

6 As no evidence was identified, the recommendations were based on the experience  
7 and expertise of the committee.

8 The committee agreed that disturbance of cognitive function, such as confusion,  
9 disorientation, slow thinking, withdrawal, amnesia and agitation is relatively common  
10 in any acute trauma situation, with or without a brain injury, due to the shock of the  
11 traumatic injury and psychological trauma, and that, in their experience, this is not  
12 always something that all healthcare professionals involved in the care of people with  
13 traumatic injury are aware of. Although most trauma related cognitive impairment is  
14 temporary, in cases where there has been no brain injury, it can be upsetting for the  
15 patient and affect their decision making and participation in treatment. The committee  
16 therefore agreed that it is important that the rehabilitation needs assessment includes  
17 an assessment of potential cognitive problems. The committee did however also note  
18 that such cognitive issues may also have other organic causes, such as pre-existing  
19 cognitive impairments or dementia, delirium, behavioural problems or learning  
20 disability, or traumatic brain injury which may not show up on scans immediately,  
21 which it is important to exclude before progressing management and treatment if the  
22 disturbance of cognitive function persists. If a person has problems with cognitive  
23 functioning after a traumatic injury after ruling out other potential causes, the  
24 committee agreed that a brief cognitive screen can quickly give an informative first  
25 assessment of the extent of any disturbance of normal cognitive function which can  
26 guide further management. The committee therefore agreed that a brief cognitive  
27 screen that assesses orientation to time/place/person/situation, ability to follow  
28 simple instructions, and ability to recall information and communicate it in immediate  
29 and delayed recall conditions should be performed. This could be delivered by any  
30 member of the MDT with appropriate skills and expertise in supporting patients after  
31 traumatic injury. However, the committee also recognised that further clinical  
32 assessment may be needed if the brief cognitive screen confirms difficulties with  
33 cognitive functioning in order to clarify the causes of the persisting cognitive changes  
34 and, in turn, offer the most appropriate management. The committee therefore  
35 agreed to refer the person for specialist cognitive assessment in these circumstances  
36 which may be provided by an occupational therapist, practitioner psychologist (ideally  
37 neuro-psychologist) or speech and language therapist, as appropriate, depending on  
38 the nature of the cognitive difficulties (for example, practitioner psychologist for an  
39 assessment of reasoning, memory, attention and behaviour and personality changes,  
40 or speech and language therapist for an assessment of a language deficit). The  
41 committee also agreed that if problems with cognitive functioning persist, get worse  
42 or recur, further assessments need to be carried out to understand the cause and  
43 inform management.

44 As already noted above, although most trauma related cognitive impairment is  
45 temporary, in cases where there has been no brain injury, it can be upsetting for the  
46 patient and affect their decision making and participation in treatment. It is therefore  
47 important that reassurance is provided from the healthcare team that most trauma  
48 related cognitive impairment is temporary.

49 The committee agreed that the cognitive and emotional state of the patient affects  
50 the ability of the person to participate in therapy or assessments from any disciplines.

1 Some are shocked and stunned, and some process things more slowly and need  
2 more time to make choices. Whatever the injuries and background of the person in  
3 rehabilitation, awareness of the effects of trauma on cognition and emotion need to  
4 inform delivery of rehabilitation and take into account any problems with motor  
5 development and skills or coexisting neurodevelopmental conditions.

6 Moreover, the committee agreed that the provision of information is essential to  
7 patients undergoing rehabilitation after traumatic injury and that it is important to  
8 provide that information in a format that is accessible to and appropriate for people  
9 with cognitive difficulties in order for them to fully participate in the decision making,  
10 plans and interventions pertaining to their rehabilitation after traumatic injury.  
11 Moreover, the committee recognised that the person's family members or carers can  
12 play an important part in helping the person understand the key messages and aid  
13 recall in this regard and information should therefore also be shared with them.

14 The committee recognised that it may be necessary to liaise with parents, carers or  
15 the education provider in order to be able to fully understand the cognitive state of  
16 children and young people after traumatic injury and therefore encouraged such  
17 liaison. Moreover, they also agreed that any trauma-related cognitive changes may  
18 influence the child or young person's education and therefore agreed that the  
19 education providers and teachers, including the hospital's education team and  
20 teachers should be informed about any problems with cognitive functioning and the  
21 child or young person's needs.

22 Finally, the committee agreed that patients post traumatic injury may present with  
23 fluctuations in mental capacity which may affect decision making, and therefore  
24 included a specific reference to the NICE guideline on Decision-making and mental  
25 capacity (NG108).

26 Despite the lack of evidence for this review question, the committee decided not to  
27 make a research recommendation in this area. The committee discussed the lack of  
28 controversy in current clinical management and decided to prioritise other areas  
29 where new research evidence might be more valuable.

30

### 31 **Cost effectiveness and resource use**

32 There was no existing economic evidence for either the adult or children and young  
33 people review questions.

34 The committee explained that a brief cognitive screen that assesses orientation to  
35 time/place/person/situation, ability to follow simple instructions, and ability to recall  
36 information and communicate it in immediate and delayed recall conditions is the  
37 most general of the general screens and could be undertaken by any member of the  
38 multidisciplinary team. This recommendation represents current practice and will not  
39 result in additional resources to the health service.

40 The committee explained that some recommendations may result in an additional  
41 time requirement (e.g. reassuring an individual, performing a further clinical  
42 assessment, preparing and providing information in a more accessible format).  
43 However, the committee explained that such care is justified by the clinical need and  
44 is essential to ensure the success of rehabilitation.

45 The committee noted that the benefits would outweigh any additional costs. For  
46 example, undertaking a brief cognitive screen will ensure that any potential problems  
47 are identified early and timely subsequent screens / assessments and management

1 is initiated. This will ensure that problems are picked up early, and delays averted  
2 which may be detrimental to an individual and require much more expensive care  
3 further down the line. Reassuring an individual and providing information should  
4 result in more effective participation and engagement of people in discussions of their  
5 care. Engagement with care will positively impact their care and outcomes.

6 Moreover, the committee noted that these recommendations reflect standard practice  
7 for most services.

## 8 **Recommendations supported by this evidence review**

9 This evidence review supports recommendations 1.2.15, 1.2.16, 1.2.17, 1.2.18,  
10 1.2.19, 1.12.1, 1.12.2, 1.12.3, 1.12.4, 1.12.5, 1.12.6 and 1.12.7 in the NICE guideline.  
11

## 12 **References**

### 13 **Evidence for adults**

14 A systematic review of the literature was conducted, but no studies were identified  
15 which were applicable to this review question.

### 16 **Evidence for children and young people**

17 A systematic review of the literature was conducted, but no studies were identified  
18 which were applicable to this review question.



# Appendices

## Appendix A – Review protocols

**Review protocol for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

**Table 3: Review protocol for cognitive rehabilitation programmes and packages for adults**

Field	Content
PROSPERO registration number	CRD42019135318
Review title	Rehabilitation packages and programmes for adults
Review question	What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?
Objective	To evaluate the effectiveness of cognitive rehabilitation interventions among adults with complex rehabilitation needs after traumatic injury
Searches	<p>The following databases will be searched:</p> <ul style="list-style-type: none"> <li>• Cochrane Central Register of Controlled Trials (CENTRAL)</li> <li>• Cochrane Database of Systematic Reviews (CDSR)</li> <li>• Embase</li> <li>• MEDLINE</li> </ul> <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> <li>• Date: 1995 onwards as there has been significant change in practice since then</li> <li>• English language</li> <li>• Human studies</li> </ul> <p>The full search strategies for MEDLINE database will be published in the final review.</p>
Condition or domain being studied	<p>Complex rehabilitation needs resulting from traumatic injury</p> <p>'Complex rehab needs' refers to 'multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and also include the following:</p> <ul style="list-style-type: none"> <li>• Vocational or educational social support for the person to return to their previous functional level, including return to work, school or college</li> </ul>

Field	Content
	<ul style="list-style-type: none"> <li>• Emotional, psychological and psychosocial support</li> <li>• Equipment or adaptations</li> <li>• Ongoing recovery from injury that may change the person's rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in feature clinic)Further surgery and readmissions to hospital</li> </ul> <p>Traumatic injury is defined as 'traumatic injury as injury that requires admission to hospital at the time of injury.'</p>
Population	<p>Inclusion: Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital</p> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>• Adults with complex rehabilitation needs resulting from traumatic brain injury (including anoxic brain injury, for example, drowning and strangulation)</li> <li>• Adults with traumatic injuries who do not have complex rehabilitation needs and/or do not require admission to hospital</li> <li>• Adults with complex rehabilitation needs resulting from traumatic injury who are admitted to the ICU</li> </ul>
Intervention	<p>Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following:</p> <ul style="list-style-type: none"> <li>• Cognitive fatigue management (e.g., sleep hygiene coping strategies, patient education, pacing, low stimulation environment, sleep studies, info for GPs)</li> <li>• Cognitive rehabilitation</li> </ul> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>• Rehabilitation packages and programmes relating to traumatic brain injury, sight loss and hearing loss</li> <li>• Social care interventions (for example, home care or personal assistance)</li> <li>• Long-term care and rehabilitation packages for people with long-term care needs</li> <li>• Specific pain management interventions</li> </ul>
Comparator	<p>1) Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils).</p>

Field	Content
	2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following: <ul style="list-style-type: none"> <li>• Frequency</li> <li>• Intensity</li> <li>• Timing</li> </ul>
Types of study to be included	<ul style="list-style-type: none"> <li>• Systematic review of RCTs</li> <li>• Randomised controlled trial</li> </ul> If no RCT data are available for an intervention, evidence from the followings will be considered in order <ul style="list-style-type: none"> <li>• Cluster-randomised trial</li> <li>• Systematic review of non-randomised studies</li> <li>• Comparative prospective cohort studies with N≥100 per treatment arm</li> <li>• Comparative retrospective cohort studies with N≥100 per treatment arm</li> </ul>
Other exclusion criteria	Study design: <ul style="list-style-type: none"> <li>• Cross-over design</li> <li>• Case-controls</li> <li>• Cross-sectional</li> <li>• Case series and case reports</li> <li>• Audits</li> </ul> Language: <ul style="list-style-type: none"> <li>• Non-English</li> </ul> Publication status: <ul style="list-style-type: none"> <li>• Abstract only</li> </ul>
Context	Settings - Inclusion: <ul style="list-style-type: none"> <li>• All inpatient, outpatient and community settings in which rehabilitation services following traumatic injury are provided</li> </ul> Exclusion: <ul style="list-style-type: none"> <li>• Accident and emergency departments</li> <li>• Critical care units</li> </ul>

Field	Content
	<ul style="list-style-type: none"> <li>Prisons</li> </ul>
Primary outcomes (critical outcomes)	<p>Critical:</p> <ul style="list-style-type: none"> <li>Changes in activity of daily living (Barthel ADL index, COPM, EADL-Test, FIMFAM, GAS, Katz, OARS, PAT, PSMS)</li> <li>Patient acceptability (any direct measure)</li> <li>Cognition screen (O-LOG, MOCA, Addenbrookes [Overall score only], ACER, ACEIII, RBANS)</li> </ul> <p>Timeframe for the follow-up will be 0 to 18 months. This will be grouped into short-term (0 to 6 months) and long-term (&gt;6 to 18 months).</p>
Secondary outcomes (important outcomes)	<p>Important:</p> <ul style="list-style-type: none"> <li>Return to work or education</li> <li>Overall quality of life (EURO-QoL 5D 3L, SF-36, SF-12, SF-6D, SFMA)</li> <li>Changes in mood (Depression measures – HADS, PH-Q9, BDI, DAS)</li> <li>Fatigue measure (Fatigue Severity Scale; Modified Fatigue Impact Scale; Multi-dimensional Fatigue Inventory; Multi-dimensional Assessment of Fatigue; Short form-36 Vitality subscale of the Short Form Health Survey; Fatigue Questionnaire)</li> </ul> <p>Timeframe for the follow-up will be 0 to 18 months. This will be grouped into short-term (0 to 6 months) and long-term (&gt;6 to 18 months).</p>
Data extraction (selection and coding)	<p>All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. 5% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4).</p>
Risk of bias (quality) assessment	<p>Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual.</p>
Strategy for data synthesis	<p>NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction.</p> <p>If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan).</p> <p>'GRADEpro' will be used to assess the quality of evidence for each outcome.</p>
Analysis of sub-groups	<p>No subgroups were specified for this question for stratification of the data, but if there is heterogeneity, we will look at the</p>

Field	Content																					
	<p>following subgroups to try to identify the source of it:</p> <ul style="list-style-type: none"> <li>• Upper limb / lower limb</li> <li>• People with pre-existing physical and/or mental health conditions (including substance misuse), physical and learning disability</li> <li>• Age below 65 years / age above 65 years</li> <li>• Frail / not frail</li> <li>• Vulnerable adults or those who require safeguarding</li> </ul>																					
Type and method of review	Intervention																					
Language	English																					
Country	England																					
Anticipated or actual start date	15/04/2019																					
Anticipated completion date	24/11/2020																					
Stage of review at time of this submission	<table border="1"> <thead> <tr> <th>Review stage</th> <th>Started</th> <th>Completed</th> </tr> </thead> <tbody> <tr> <td>Preliminary searches</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Piloting of the study selection process</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Formal screening of search results against eligibility criteria</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Data extraction</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Risk of bias (quality) assessment</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Data analysis</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Review stage	Started	Completed	Preliminary searches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Piloting of the study selection process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Formal screening of search results against eligibility criteria	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Data extraction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Risk of bias (quality) assessment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Data analysis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Data analysis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																				
Named contact	National Guideline Alliance																					
Review team members	National Guideline Alliance																					
Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.																					
Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by																					

Field	Content
	the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: <a href="https://www.nice.org.uk/guidance/indevelopment/gid-ng10105">https://www.nice.org.uk/guidance/indevelopment/gid-ng10105</a>
Other registration details	
Reference/URL for published protocol	<a href="https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=135318">https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=135318</a>
Dissemination plans	
Keywords	
Details of existing review of same topic by same authors	
Current review status	
Additional information	
Details of final publication	<a href="http://www.nice.org.uk">www.nice.org.uk</a>

*ACER/ACEIII: Addenbrookes cognitive examination revised/III; ADL: Activities of daily living; BDI: Beck depression inventory; COPM: Canadian occupational performance measure; DAS: Disability assessment schedule; EADL: Erlangen Activities of Daily Living test; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FIMFAM: Functional independence measure and Functional assessment measure; GAS: Goal attainment scaling; HADS: Hospital anxiety and depression scale; ICU: Intensive care unit; MOCA: Montreal cognitive assessment test; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; O-LOG: The orientation log; OARS: Older Americans resources and services; PAT: Performance ADL; PH-Q9: Patient health questionnaire with 9 questions; PSMS: Physical self-maintenance scale; RBANS: Repeatable battery for the assessment of neuropsychological status; RCT(s): Randomised controlled trial(s); RoB: Risk of bias; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form; SFMA: Selective Functional Movement Assessment.*

## Review protocol for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

**Table 4: Review protocol for cognitive rehabilitation programmes and packages for children and young people**

Field	Content
PROSPERO registration number	CRD42019135319

Field	Content
Review title	Rehabilitation packages and programmes for children and young people
Review question	What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?
Objective	To evaluate the effectiveness of cognitive rehabilitation interventions among children and young people with complex rehabilitation needs after traumatic injury
Searches	<p>The following databases will be searched:</p> <ul style="list-style-type: none"> <li>• Cochrane Central Register of Controlled Trials (CENTRAL)</li> <li>• Cochrane Database of Systematic Reviews (CDSR)</li> <li>• Embase</li> <li>• MEDLINE</li> </ul> <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> <li>• Date: 1995 onwards as there has been significant change in practice since then</li> <li>• English language</li> <li>• Human studies</li> </ul> <p>The full search strategies for MEDLINE database will be published in the final review.</p>
Condition or domain being studied	<p>Complex rehabilitation needs resulting from traumatic injury</p> <p>'Complex rehab needs' refers to 'multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and also include the following:</p> <ul style="list-style-type: none"> <li>• Vocational or educational social support for the person to return to their previous functional level, including return to work, school or college</li> <li>• Emotional, psychological and psychosocial support</li> <li>• Equipment or adaptations</li> <li>• Ongoing recovery from injury that may change the person's rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in feature clinic)Further surgery and readmissions to hospital</li> </ul> <p>Traumatic injury is defined as 'traumatic injury as injury that requires admission to hospital at the time of injury.'</p>
Population	<p>Inclusion:</p> <p>Children and young people (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that required admission to hospital</p> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>• Children and young people with complex rehabilitation needs resulting from traumatic brain injury (including anoxic brain injury, for example, drowning and strangulation)</li> </ul>

Field	Content
	<ul style="list-style-type: none"> <li>• Children and young people with traumatic injuries who do not have complex rehabilitation needs and/or do not require admission to hospital</li> <li>• Children and young people with complex rehabilitation needs resulting from traumatic injury who are admitted to the PICU</li> </ul>
Intervention	<p>Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils) in addition to at least one of the following:</p> <ul style="list-style-type: none"> <li>• Cognitive fatigue management (e.g., sleep hygiene coping strategies, patient education, pacing, low stimulation environment, sleep studies, info for GPs)</li> <li>• Cognitive rehabilitation</li> <li>• Play therapy</li> <li>• Interventions to continue or return to nursery or education</li> <li>• Speech and language therapy</li> <li>• Sensory rehabilitation</li> </ul> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>• Rehabilitation packages and programmes relating to traumatic brain injury, sight loss and hearing loss</li> <li>• Social care interventions (for example, home care or personal assistance)</li> <li>• Long-term care and rehabilitation packages for people with long-term care needs</li> <li>• Specific pain management interventions</li> </ul>
Comparator	<p>1) Standard rehabilitation care consisting of: physiotherapy [range of movement exercises, exercises to maintain muscle function, mobilisation and training with mobilisation aids such as crutches or frame], occupational therapy assessment, and identification and support of basic activities of daily living through training or aids (e.g. toileting equipment, perching stools, long-handled aids, adapted eating utensils).</p> <p>2) Studies that employ the same intervention program as listed under 'interventions' but vary it in terms of any of the following:</p> <ul style="list-style-type: none"> <li>• Frequency</li> </ul>



Field	Content
	<ul style="list-style-type: none"> <li>• Intensity</li> <li>• Timing</li> </ul>
Types of study to be included	<ul style="list-style-type: none"> <li>• Systematic review of RCTs</li> <li>• Randomised controlled trial</li> </ul> <p>If no RCT data are available for an intervention, evidence from the followings will be considered in order</p> <ul style="list-style-type: none"> <li>• Cluster-randomised trial</li> <li>• Systematic review of non-randomised studies</li> <li>• Comparative prospective cohort studies with N≥100 per treatment arm</li> <li>• Comparative retrospective cohort studies with N≥100 per treatment arm</li> </ul>
Other exclusion criteria	<p>Study design:</p> <ul style="list-style-type: none"> <li>• Cross-over design</li> <li>• Case-controls</li> <li>• Cross-sectional</li> <li>• Case series and case reports</li> <li>• Audits</li> </ul> <p>Language:</p> <ul style="list-style-type: none"> <li>• Non-English</li> </ul> <p>Publication status:</p> <ul style="list-style-type: none"> <li>• Abstract only</li> </ul>
Context	<p>Settings - Inclusion:</p> <ul style="list-style-type: none"> <li>• All inpatient, outpatient and community settings in which rehabilitation services following traumatic injury are provided</li> </ul> <p>Exclusion:</p> <ul style="list-style-type: none"> <li>• Accident and emergency departments</li> <li>• Critical care units</li> <li>• Prisons</li> </ul>
Primary outcomes (critical	Critical:

Field	Content
outcomes)	<ul style="list-style-type: none"> <li>• Changes in activity of daily living (e.g., Barthel ADL index, COPM, EADL-Test, GAS, FIMFAM, Katz, OARS, PAT, PSMS)</li> <li>• Changes in mood (Any measure, PEDS-QL, Depression measures – HADS, PH-Q9, BDI, DAS)</li> <li>• Patient and families and carers' acceptability (any direct measure; if not reported, but patient satisfaction is, this will be reported instead)</li> </ul> <p>Babies only:</p> <ul style="list-style-type: none"> <li>• Alberta Infant Motor Scale (AIMS; pre-term to 19 months.</li> <li>• Bayley Assessment (1 to 42 months)</li> </ul> <p>Timeframe for the follow-up will be 0 to 5 years. This will be grouped into short-term (0 to 6 months) and long-term (&gt; 6 months to 5 years).</p>
Secondary outcomes (important outcomes)	<p>Important:</p> <ul style="list-style-type: none"> <li>• Return to nursery, education, training or work</li> <li>• Overall quality of life including quality of sleep (e.g., CHQ-CF80, CHQ-PF-50, PEDS-QL, EURO-QoL 5D 3L Y, SF-36, SF-12, SF-6D, SCIM)</li> <li>• Cognition screen (any measure)</li> <li>• Fatigue measure (e.g., FACIT-F, FSS)</li> </ul> <p>Timeframe for the follow-up will be 0 to 5 years. This will be grouped into short-term (0 to 6 months) and long-term (&gt; 6 months to 5 years).</p>
Data extraction (selection and coding)	<p>All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. 5% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4.</p>
Risk of bias (quality assessment)	<p>Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual.</p>
Strategy for data synthesis	<p>NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction.</p> <p>If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan).</p> <p>'GRADEpro' will be used to assess the quality of evidence for each outcome.</p>

Field	Content																		
Analysis of sub-groups	<p>The following subgroups were specified for this question for stratification of the data:</p> <ul style="list-style-type: none"> <li>• Children and young people who are suspected of sustaining non-accidental injuries versus accidental injuries</li> <li>• Children and young people with parents known to social services versus not known</li> <li>• Children and young people with young (&lt; 20 years at birth of child) parents versus not young (<math>\geq</math> 20 years at birth of child)</li> <li>• Children and young people with parents from deprived backgrounds versus not deprived backgrounds</li> <li>• Children and young people with parents who have mental health issues versus none</li> </ul> <p>If there is any further unexplained heterogeneity, we will look at the following subgroups to try to identify the source of it:</p> <ul style="list-style-type: none"> <li>• Upper limb / lower limb</li> <li>• Children and young people with pre-existing physical and/or mental health conditions (including substance misuse), physical and learning disability versus no pre-existing conditions</li> <li>• Children and young people whose parents are very involved in their rehabilitation/recovery (e.g., by staying overnight in hospital) versus not involved</li> <li>• Age (0-3 versus 4-7 versus 8-12 versus 13-17)</li> </ul>																		
Type and method of review	Intervention																		
Language	English																		
Country	England																		
Anticipated or actual start date	15/04/2019																		
Anticipated completion date	24/11/2020																		
Stage of review at time of this submission	<table border="1"> <thead> <tr> <th>Review stage</th> <th>Started</th> <th>Completed</th> </tr> </thead> <tbody> <tr> <td>Preliminary searches</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Piloting of the study selection process</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Formal screening of search results against eligibility criteria</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Data extraction</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Risk of bias (quality) assessment</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Review stage	Started	Completed	Preliminary searches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Piloting of the study selection process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Formal screening of search results against eligibility criteria	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Data extraction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Risk of bias (quality) assessment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Data extraction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
Risk of bias (quality) assessment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	

Field	Content
	Data analysis <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Named contact	National Guideline Alliance
Review team members	National Guideline Alliance
Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: <a href="https://www.nice.org.uk/guidance/indevelopment/gid-ng10105">https://www.nice.org.uk/guidance/indevelopment/gid-ng10105</a>
Other registration details	
Reference/URL for published protocol	<a href="https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=135319">https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=135319</a>
Dissemination plans	
Keywords	
Details of existing review of same topic by same authors	
Current review status	
Additional information	
Details of final publication	<a href="http://www.nice.org.uk">www.nice.org.uk</a>

ADL: Activities of daily living; BDI: Beck depression inventory; CHQ-CF50: Child health questionnaire-parent form; HQ-CF80: Child health questionnaire-child form; COPM: Canadian occupational performance measure; DARE: Database of Abstracts of Reviews of Effects; DAS: Disability assessment schedule; EADL: Erlangen Activities of Daily Living test; EURO-QoL 5D 3L: EuroQol 5 dimensions and 3 levels; FACIT-F: Functional assessment of chronic illness therapy-fatigue; FIMFAM: Functional independence measure and functional assessment measure; FSS: Fatigue severity scale; GAS: Goal attainment scaling form; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HADS: Hospital anxiety and depression scale; HTA: Health Technology Assessment; PICU: Paediatric intensive care unit; N: Number; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; OARS: Older Americans resource and services ADL scale; PAT: Performance ADL test; PEDS-QL: Pediatric quality of life inventory; PH-Q9: Patient health questionnaire with 9 questions; PSMS: Physical self-maintenance scale; SCIM: Spinal cord independence measure; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form; RCT(s): randomised controlled trial(s); RoB: risk of bias

DRAFT FOR CONSULTATION

Cognitive interventions for people with complex rehabilitation needs after traumatic injury

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## Appendix B – Literature search strategies

### Literature search strategies for review questions:

**B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

**B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

*A combined search was conducted for both review questions.*

### Review question search strategies

#### Databases: Medline; Medline Epub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 22/06/2019

#	Searches
1	ADOLESCENT/ or MINORS/
2	(adolescen\$ or teen\$ or youth\$ or young or juvenile? or minors or highschool\$).ti,ab,jw,nw.
3	exp CHILD/
4	(child\$ or schoolchild\$ or "school age" or "school aged" or preschool\$ or toddler\$ or kid? or kindergar\$ or boy? or girl?).ti,ab,jw,nw.
5	exp INFANT/
6	(infan\$ or neonat\$ or newborn\$ or baby or babies).ti,ab,jw,nw.
7	exp PEDIATRICS/ or exp PUBERTY/
8	(p?ediatric\$ or pubert\$ or prepubert\$ or pubescen\$ or prepubescen\$).ti,ab,jw,nw.
9	or/1-8
10	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
11	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
12	((hospitali?ed or hospitali?ation?) adj10 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
13	((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
14	(patient? adj5 trauma\$).ti,ab.
15	(patient? adj3 (burn? or burned or fractur\$)).ti,ab.
16	wound\$ patient?.ti,ab.
17	injur\$ patient?.ti,ab.
18	accident\$ patient?.ti,ab.
19	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma\$.ti.
20	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma\$.ab. /freq=2
21	exp MULTIPLE TRAUMA/
22	TRAUMATOLOGY/
23	(trauma\$ adj5 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
24	((complex\$ or multiple or critical\$) adj3 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.

#	Searches
25	(trauma\$ adj3 (severe or severely or major or multiple)).ti,ab.
26	((injur\$ or wound\$ or burn\$ or burned or fractur\$) adj2 (severe or severely or major or multiple)).ti,ab.
27	((physical\$ or body or bodily) adj3 (injur\$ or wound\$ or trauma\$ or burn\$ or burned or fractur\$)).ti,ab.
28	(acute adj1 (injur\$ or trauma\$ or wound\$ or burn\$ or burned or fractur\$)).ti,ab.
29	(polytrauma? or poly-trauma?).ti,ab.
30	traumatolog\$.ti,ab.
31	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (exp **WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/))
32	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur\$ or wound\$ or trauma\$ or burn\$ or burned or fractur\$).ti.
33	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur\$ or wound\$ or trauma\$ or burn\$ or burned or fractur\$).ab. /freq=2
34	(accident? adj5 (injur\$ or wound\$ or trauma\$ or burn\$ or burned or fractur\$)).ti,ab.
35	(accident? adj3 (serious\$ or severe or severely or major)).ti,ab.
36	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
37	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
38	*SPINAL CORD INJURIES/ or *SPINAL CORD COMPRESSION/
39	exp *THORACIC INJURIES/ or *ACUTE LUNG INJURY/
40	*PERIPHERAL NERVE INJURIES/ or exp *CRANIAL NERVE INJURIES/
41	exp *AMPUTATION/ or *AMPUTATION, TRAUMATIC/ or *AMPUTEES/ or *AMPUTATION STUMPS/ or *LIMB SALVAGE/
42	((spinal\$ or spine? or chest? or thoracic\$ or nerve?) adj3 injur\$).ti.
43	((spinal\$ or spine?) adj3 cord? adj3 compress\$).ti.
44	((Flail\$ or stove in) adj3 chest?).ti.
45	(rib? adj3 fractur\$).ti.
46	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur\$).ti.
47	(amputat\$ or amputee?).ti.
48	(limb? adj3 (loss or losing or lost or salvag\$ or re-construct\$ or reconstruct\$)).ti.
49	*HEAD INJURIES, CLOSED/ or *HEAD INJURIES, PENETRATING/
50	(head adj3 injur\$).ti.
51	or/10-50
52	exp BRAIN INJURIES/
53	(brain adj3 injur\$).ti,ab.
54	or/52-53
55	51 not 54
56	FATIGUE/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
57	MENTAL FATIGUE/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
58	SLEEP WAKE DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
59	SLEEP HYGIENE/
60	((fatigue? or tired\$) adj3 (manag\$ or therap\$ or treat\$ or rehab\$ or intervention? or train\$ or retrain\$ or care or program\$ or educat\$ or reeducat\$ or coping or strateg\$ or pacing or environment\$ or information or counsel\$ or exercis\$ or nutrit\$ or distract\$ or relax\$ or refram\$)).ti,ab.
61	(sleep\$ adj3 (manag\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or coping or strateg\$ or environment\$ or information or counsel\$)).ti,ab.
62	((fatigue? or tired\$ or sleep\$) adj3 (low\$ or reduc\$) adj3 stimulat\$).ti,ab.
63	(sleep\$ adj3 (hygiene or habit?)).ti,ab.
64	sleep studies.ti,ab.
65	sleep lab?.ti,ab.
66	or/56-65
67	COGNITION DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
68	COGNITIVE DYSFUNCTION/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
69	MEMORY DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
70	LANGUAGE DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
71	COMMUNICATION DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
72	(cognit\$ adj3 (manag\$ or rehab\$ or train\$ or retrain\$ or educat\$ or reeducat\$ or support\$ or adjust\$ or adapt\$ or remedi\$)).ti,ab.
73	(cognit\$ adj1 (intervention? or program\$)).ti,ab.
74	((rehab\$ or therap\$ or remedi\$) adj2 (attention or memory or executive function\$ or language? or communicat\$)).ti,ab.
75	(psychoeducat\$ adj5 (cognit\$ or attention or memor\$ or executive function\$ or language? or communicat\$)).ti,ab.
76	(memory adj5 (aid? or notebook? or diary or diaries or board? or calendar? or reminder? or alarm? or list? or log? or map? or technolog\$ or device? or phone? or iphone or ipad or image\$ or mmenomic\$)).ti,ab.
77	attention strateg\$.ti,ab.
78	(reduc\$ adj2 distract\$).ti,ab.

#	Searches
79	(short\$ adj1 (work or working)).ti,ab.
80	brain break? .ti,ab.
81	(errorless or error-less).ti,ab.
82	(behavio\$ adj3 (contract? or sticker? or chart?)).ti,ab.
83	(brain adj3 game?).ti,ab.
84	or/67-83
85	PLAY THERAPY/
86	(play\$ adj3 therap\$).ti,ab.
87	or/85-86
88	(EDUCATION/ or SCHOOLS/ or SCHOOLS, NURSERY/ or exp NURSERIES/ or CHILD DAY CARE CENTERS/) and (SOCIAL ADJUSTMENT/ or ADAPTATION, PHYSIOLOGICAL/ or ACCLIMATIZATION/ or exp ADAPTATION, PSYCHOLOGICAL/ or ERGONOMICS/ or EQUIPMENT DESIGN/ or exp SELF-HELP DEVICES/)
89	((return\$ or reentry or re-entry or reintegrat\$ or re-integrat\$ or integrat\$ or transition\$) adj5 (education\$ or school\$ or nurser\$)).ti,ab.
90	((education\$ or school\$ or nurser\$) adj3 (adjust\$ or adapt\$ or acclimati\$ or facilitat\$ or support\$ or equipment or ergonomic\$)).ti,ab.
91	((education\$ or school\$ or nurser\$) adj5 (assist\$ or self help or selfhelp) adj3 (device? or technolog\$ or aid?)).ti,ab.
92	(hospital\$ adj2 (education\$ or school\$ or nurser\$)).ti,ab.
93	or/88-92
94	SPEECH THERAPY/
95	LANGUAGE THERAPY/
96	((speech\$ or language\$) adj3 (therap\$ or intervention? or train\$ or retrain\$ or program\$ or treat\$ or patholog\$ or audiolog\$)).ti,ab.
97	or/94-96
98	((senses or sensory) adj3 (rehab\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or program\$ or treat\$ or therap\$ or stimulat\$ or condition\$)).ti,ab.
99	((sight or vision or hear or hearing or smell\$ or tast\$ or touch\$) adj3 (rehab\$ or intervention? or therap\$)).ti,ab.
100	or/98-99
101	55 and 66
102	55 and 84
103	9 and 55 and 87
104	9 and 55 and 93
105	9 and 55 and 97
106	9 and 55 and 100
107	or/101-106
108	limit 107 to english language
109	limit 108 to yr="1995 -Current"
110	LETTER/
111	EDITORIAL/
112	NEWS/
113	exp HISTORICAL ARTICLE/
114	ANECDOTES AS TOPIC/
115	COMMENT/
116	CASE REPORT/
117	(letter or comment*).ti.
118	or/110-117
119	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
120	118 not 119
121	ANIMALS/ not HUMANS/
122	exp ANIMALS, LABORATORY/
123	exp ANIMAL EXPERIMENTATION/
124	exp MODELS, ANIMAL/
125	exp RODENTIA/
126	(rat or rats or mouse or mice).ti.
127	or/120-126
128	109 not 127

## Databases: Embase; and Embase Classic

Date of last search: 22/06/2019

#	Searches
1	exp ADOLESCENT/
2	(adolescenc\$ or teen\$ or youth\$ or young or juvenile? or minors or highschool\$).ti,ab,jx.
3	exp CHILD/
4	(child\$ or schoolchild\$ or "school age" or "school aged" or preschool\$ or toddler\$ or kid? or kindergar\$ or boy? or girl?).ti,ab,jx.
5	exp INFANT/



#	Searches
6	(infan\$ or neonat\$ or newborn\$ or baby or babies).ti,ab,jx.
7	exp PEDIATRICS/ or exp PUBERTY/
8	(p?ediatric\$ or pubert\$ or prepubert\$ or pubescen\$ or prepubescen\$).ti,ab,jx,ec.
9	or/1-8
10	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER)
11	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?)).ti,ab.
12	((hospitali?ed or hospitali?ation?) adj10 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
13	((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
14	(patient? adj5 trauma\$).ti,ab.
15	(patient? adj3 (burn? or burned or fractur\$)).ti,ab.
16	wound\$ patient?.ti,ab.
17	injur\$ patient?.ti,ab.
18	accident\$ patient?.ti,ab.
19	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma\$.ti.
20	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma\$.ab. /freq=2
21	MULTIPLE TRAUMA/
22	TRAUMATOLOGY/
23	(trauma\$ adj5 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
24	((complex\$ or multiple or critical\$) adj3 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
25	(trauma\$ adj3 (severe or severely or major or multiple)).ti,ab.
26	((injur\$ or wound\$ or burn? or burned or fractur\$) adj2 (severe or severely or major or multiple)).ti,ab.
27	((physical\$ or body or bodily) adj3 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
28	(acute adj1 (injur\$ or trauma\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
29	(polytrauma? or poly-trauma?).ti,ab.
30	traumatolog\$.ti,ab.
31	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/))
32	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ti.
33	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ab. /freq=2
34	(accident? adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
35	(accident? adj3 (serious\$ or severe or severely or major)).ti,ab.
36	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
37	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?)).ti,ab.
38	*SPINAL CORD INJURY/ or *SPINAL CORD COMPRESSION/

#	Searches
39	exp *THORAX INJURY/ or *ACUTE LUNG INJURY/ or exp *RIB FRACTURE/
40	exp *NERVE INJURY/
41	exp *AMPUTATION/ or *AMPUTE/ or *LIMB SALVAGE/
42	((spinal\$ or spine? or chest? or thoracic\$ or nerve?) adj3 injur\$.ti.
43	((spinal\$ or spine?) adj3 cord? adj3 compress\$).ti.
44	((Flail\$ or stove in) adj3 chest?).ti.
45	(rib? adj3 fractur\$).ti.
46	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur\$.ti.
47	(amputat\$ or amputee?).ti.
48	(limb? adj3 (loss or losing or lost or salvag\$ or re-construct\$ or reconstruct\$)).ti.
49	*HEAD INJURY/
50	(head adj3 injur\$.ti.
51	or/10-50
52	exp BRAIN INJURY/
53	(brain adj3 injur\$.ti,ab.
54	or/52-53
55	51 not 54
56	FATIGUE/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
57	SLEEP DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
58	SLEEP HYGIENE/
59	((fatigue? or tired\$) adj3 (manag\$ or therap\$ or treat\$ or rehab\$ or intervention? or train\$ or retrain\$ or care or program\$ or educat\$ or reeducat\$ or coping or strateg\$ or pacing or environment\$ or information or counsel\$ or exercis\$ or nutrit\$ or distract\$ or relax\$ or refram\$)).ti,ab.
60	(sleep\$ adj3 (manag\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or coping or strateg\$ or environment\$ or information or counsel\$)).ti,ab.
61	((fatigue? or tired\$ or sleep\$) adj3 (low\$ or reduc\$) adj3 stimulat\$).ti,ab.
62	(sleep\$ adj3 (hygiene or habit?)).ti,ab.
63	sleep studies.ti,ab.
64	sleep lab?.ti,ab.
65	or/56-64
66	COGNITIVE REHABILITATION/
67	COGNITIVE DEFECT/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
68	MILD COGNITIVE IMPAIRMENT/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
69	MEMORY DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
70	LANGUAGE DISABILITY/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
71	COMMUNICATION DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
72	(cognit\$ adj3 (manag\$ or rehab\$ or train\$ or retrain\$ or educat\$ or reeducat\$ or support\$ or adjust\$ or adapt\$ or remediati\$)).ti,ab.
73	(cognit\$ adj1 (intervention? or program\$)).ti,ab.
74	((rehab\$ or therap\$ or remediati\$) adj2 (attention or memory or executive function\$ or language? or communicat\$)).ti,ab.
75	(psychoeducat\$ adj5 (cognit\$ or attention or memor\$ or executive function\$ or language? or communicat\$)).ti,ab.
76	(memory adj5 (aid? or notebook? or diary or diaries or board? or calendar? or reminder? or alarm? or list? or log? or map? or technolog\$ or device? or phone? or iphone or ipad or image\$ or mmenomic\$)).ti,ab.
77	attention strateg\$.ti,ab.
78	(reduc\$ adj2 distract\$).ti,ab.
79	(short\$ adj1 (work or working)).ti,ab.
80	brain break?.ti,ab.
81	(errorless or error-less).ti,ab.
82	(behavio\$ adj3 (contract? or sticker? or chart?)).ti,ab.
83	(brain adj3 game?).ti,ab.
84	or/66-83
85	PLAY THERAPY/
86	(play\$ adj3 therap\$).ti,ab.
87	or/85-86
88	(EDUCATION/ or SCHOOL/ or HIGH SCHOOL/ or MIDDLE SCHOOL/ or PRIMARY SCHOOL/ or NURSERY SCHOOL/ or KINDERGARTEN/ or DAY CARE/) and (SOCIAL ADAPTATION/ or ADAPTATION/ or ACCLIMATIZATION/ or exp COPING BEHAVIOR/ or ERGONOMICS/ or EQUIPMENT DESIGN/ or SELF HELP DEVICE/ or ASSISTIVE TECHNOLOGY DEVICE/)
89	SCHOOL REENTRY/
90	((return\$ or reentry or re-entry or reintegrat\$ or re-integrat\$ or integrat\$ or transition\$) adj5 (education\$ or school\$ or nurser\$)).ti,ab.
91	((education\$ or school\$ or nurser\$) adj3 (adjust\$ or adapt\$ or acclimati\$ or facilitat\$ or support\$ or equipment or ergonomic\$)).ti,ab.
92	((education\$ or school\$ or nurser\$) adj5 (assist\$ or self help or selfhelp) adj3 (device? or technolog\$ or aid?)).ti,ab.
93	(hospital\$ adj2 (education\$ or school\$ or nurser\$)).ti,ab.
94	or/88-93
95	"SPEECH AND LANGUAGE REHABILITATION"/
96	SPEECH REHABILITATION/
97	SPEECH THERAPY/
98	LANGUAGE THERAPY/

#	Searches
99	((speech\$ or language\$) adj3 (therap\$ or intervention? or train\$ or retrain\$ or program\$ or treat\$ or patholog\$ or audiolog\$)).ti,ab.
100	or/95-99
101	((senses or sensory) adj3 (rehab\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or program\$ or treat\$ or therap\$ or stimulat\$ or condition\$)).ti,ab.
102	((sight or vision or hear or hearing or smell\$ or tast\$ or touch\$) adj3 (rehab\$ or intervention? or therap\$)).ti,ab.
103	or/101-102
104	55 and 65
105	55 and 84
106	9 and 55 and 87
107	9 and 55 and 94
108	9 and 55 and 100
109	9 and 55 and 103
110	or/104-109
111	limit 110 to english language
112	limit 111 to yr="1995 -Current"
113	letter.pt. or LETTER/
114	note.pt.
115	editorial.pt.
116	CASE REPORT/ or CASE STUDY/
117	(letter or comment*).ti.
118	or/113-117
119	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
120	118 not 119
121	ANIMAL/ not HUMAN/
122	NONHUMAN/
123	exp ANIMAL EXPERIMENT/
124	exp EXPERIMENTAL ANIMAL/
125	ANIMAL MODEL/
126	exp RODENT/
127	(rat or rats or mouse or mice).ti.
128	or/120-127
129	112 not 128

## Databases: Cochrane Central Register of Controlled Trials; and Cochrane Database of Systematic Reviews

Date of last search: 22/06/2019

#	Searches
#1	[mh ^ADOLESCENT]
#2	[mh ^MINORS]
#3	(adolescen* or teen* or youth* or young or juvenile* or minors or highschool*):ti,ab
#4	[mh CHILD]
#5	(child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid* or kindergar* or boy* or girl*):ti,ab
#6	[mh INFANT]
#7	(infan* or neonat* or newborn* or baby or babies):ti,ab
#8	[mh PEDIATRICS]
#9	[mh PUBERTY]
#10	(pediatric* or paediatric* or pubert* or prepubert* or pubescen* or prepubescen*):ti,ab
#11	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10
#12	(([mh "WOUNDS AND INJURIES"] not ([mh ^ASPHYXIA] or [mh ^"BATTERED CHILD SYNDROME"]) or [mh "BIRTH INJURIES"] or [mh "BITES AND STINGS"] or [mh DROWNING] or [mh ^"EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"]) or [mh ^FROSTBITE] or [mh "HEAT STRESS DISORDERS"] or [mh "RADIATION INJURIES"] or [mh ^RETROPNEUMOPERITONEUM] or [mh ^"SURGICAL WOUND"])
#13	(([mh ^HOSPITALIZATION] or [mh ^"PATIENT ADMISSION"] or [mh ^"ADOLESCENT, HOSPITALIZED"] or [mh ^"CHILD, HOSPITALIZED"] or [mh HOSPITALS] or [mh "EMERGENCY SERVICE, HOSPITAL"] or [mh "INTENSIVE CARE UNITS"] or [mh ^"REHABILITATION CENTERS"])
#14	#12 and #13
#15	((hospitalised or hospitalized or hospitalistion* or hospitalization* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*)):ti,ab
#16	#12 and #15
#17	((hospitalised or hospitalized or hospitalistion* or hospitalization*) near/10 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#18	((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*) near/5 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab

#	Searches
#19	(patient* near/5 trauma*):ti,ab
#20	(patient* near/3 (burn* or burned or fractur*)):ti,ab
#21	"wound* patient*":ti,ab
#22	"injur* patient*":ti,ab
#23	"accident* patient*":ti,ab
#24	trauma*:ti,ab
#25	#12 and #24
#26	[mh "MULTIPLE TRAUMA"]
#27	[mh ^TRAUMATOLOGY]
#28	(trauma* near/5 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#29	((complex* or multiple or critical*) near/3 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#30	(trauma* near/3 (severe or severely or major or multiple)):ti,ab
#31	((injur* or wound* or burn* or burned or fractur*) near/2 (severe or severely or major or multiple)):ti,ab
#32	((physical* or body or bodily) near/3 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#33	(acute near/1 (injur* or trauma* or wound* or burn* or burned or fractur*)):ti,ab
#34	(polytrauma* or poly-trauma*):ti,ab
#35	traumatolog*:ti,ab
#36	([mh ^ACCIDENTS] or [mh ^"ACCIDENTAL FALLS"] or [mh ^"ACCIDENTS, HOME"] or [mh ^"ACCIDENTS, OCCUPATIONAL"] or [mh ^"ACCIDENTS, TRAFFIC"])
#37	#12 and #36
#38	(injur* or wound* or trauma* or burn* or burned or fractur*):ti,ab
#39	#36 and #38
#40	(accident* near/5 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#41	(accident* near/3 (serious* or severe or severely or major)):ti,ab
#42	#13 and #36
#43	(hospitalised or hospitalized or hospitalistion* or hospitalization* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or intensive care or ICU* or PICU* or NICU* or department* or centre* or center*)):ti,ab
#44	#36 and #43
#45	[mh ^"SPINAL CORD INJURIES"] or [mh ^"SPINAL CORD COMPRESSION"]
#46	[mh ^"THORACIC INJURIES"] or [mh ^"ACUTE LUNG INJURY"]
#47	[mh ^"PERIPHERAL NERVE INJURIES"] or [mh ^"CRANIAL NERVE INJURIES"]
#48	[mh ^"AMPUTATION"] or [mh ^"AMPUTATION, TRAUMATIC"] or [mh ^"AMPUTEES"] or [mh ^"AMPUTATION STUMPS"] or [mh ^"LIMB SALVAGE"]
#49	((spinal* or spine* or chest* or thoracic* or nerve*) near/3 injur*):ti
#50	((spinal* or spine*) near/3 cord* near/3 compress*):ti
#51	((Flail* or stove in) near/3 chest*):ti
#52	(rib* near/3 fractur*):ti
#53	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) near/3 plexus near/3 injur*):ti
#54	(amputat* or amputee*):ti
#55	(limb* near/3 (loss or losing or lost or salvag* or re-construct* or reconstruct*)):ti
#56	[mh ^"HEAD INJURIES, CLOSED"] or [mh ^"HEAD INJURIES, PENETRATING"]
#57	(head near/3 injur*):ti
#58	#14 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #37 or #39 or #40 or #41 or #42 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51 or #52 or #53 or #54 or #55 or #56 or #57
#59	[mh ^"BRAIN INJURIES"]
#60	(brain near/3 injur*):ti,ab
#61	#59 or #60
#62	#58 not #61
#63	[mh ^FATIGUE/pc]
#64	[mh ^FATIGUE/rh]
#65	[mh ^FATIGUE/th]
#66	[mh ^"MENTAL FATIGUE"/pc]
#67	[mh ^"MENTAL FATIGUE"/rh]
#68	[mh ^"MENTAL FATIGUE"/th]
#69	[mh ^"SLEEP WAKE DISORDERS"/pc]
#70	[mh ^"SLEEP WAKE DISORDERS"/rh]
#71	[mh ^"SLEEP WAKE DISORDERS"/th]
#72	[mh ^"SLEEP HYGIENE"]
#73	((fatigue* or tired*) near/3 (manag* or therap* or treat* or rehab* or intervention* or train* or retrain* or care or program* or educat* or reeducat* or coping or strateg* or pacing or environment* or information or counsel* or exercis* or nutrit* or distract* or relax* or refram*)):ti,ab
#74	(sleep* near/3 (manag* or intervention* or train* or retrain* or educat* or reeducat* or coping or strateg* or environment* or information or counsel*)):ti,ab
#75	((fatigue* or tired* or sleep*) near/3 (low* or reduc*) near/3 stimulat*):ti,ab
#76	(sleep* near/3 (hygiene or habit*)):ti,ab
#77	"sleep studies":ti,ab
#78	"sleep lab*":ti,ab
#79	#63 or #64 or #65 or #66 or #67 or #68 or #69 or #70 or #71 or #72 or #73 or #74 or #75 or #76 or #77 or #78
#80	[mh ^"COGNITION DISORDERS"/pc]
#81	[mh ^"COGNITION DISORDERS"/rh]

#	Searches
#82	[mh ^"COGNITION DISORDERS"/th]
#83	[mh ^"COGNITIVE DYSFUNCTION"/pc]
#84	[mh ^"COGNITIVE DYSFUNCTION"/rh]
#85	[mh ^"COGNITIVE DYSFUNCTION"/th]
#86	[mh ^"MEMORY DISORDERS"/pc]
#87	[mh ^"MEMORY DISORDERS"/rh]
#88	[mh ^"MEMORY DISORDERS"/th]
#89	[mh ^"LANGUAGE DISORDERS"/pc]
#90	[mh ^"LANGUAGE DISORDERS"/rh]
#91	[mh ^"LANGUAGE DISORDERS"/th]
#92	[mh ^"COMMUNICATION DISORDERS"/pc]
#93	[mh ^"COMMUNICATION DISORDERS"/rh]
#94	[mh ^"COMMUNICATION DISORDERS"/th]
#95	(cognit* near/3 (manag* or rehab* or train* or retrain* or educat* or reeducat* or support* or adjust* or adapt* or remediati*)):ti,ab
#96	(cognit* near/1 (intervention* or program*)):ti,ab
#97	((rehab* or therap* or remediati*) near/2 (attention or memory or "executive function*" or language* or communicat*)):ti,ab
#98	(psychoeducat* near/5 (cognit* or attention or memor* or "executive function*" or language* or communicat*)):ti,ab
#99	(memory near/5 (aid* or notebook* or diary or diaries or board* or calendar* or reminder* or alarm* or list* or log* or map* or technolog* or device* or phone* or iphone or ipad or image* or mmenomic*)):ti,ab
#100	"attention strateg*":ti,ab
#101	(reduc* near/2 distract*):ti,ab
#102	(short* near/1 (work or working)):ti,ab
#103	"brain break*":ti,ab
#104	(errorless or error-less):ti,ab
#105	(behavio* near/3 (contract* or sticker* or chart*)):ti,ab
#106	(brain near/3 game*):ti,ab
#107	#80 or #81 or #82 or #83 or #84 or #85 or #86 or #87 or #88 or #89 or #90 or #91 or #92 or #93 or #94 or #95 or #96 or #97 or #98 or #99 or #100 or #101 or #102 or #103 or #104 or #105 or #106
#108	[mh ^"PLAY THERAPY"]
#109	(play* near/3 therap*):ti,ab
#110	#108 or #109
#111	[(mh ^EDUCATION] or [mh ^SCHOOLS] or [mh ^"SCHOOLS, NURSERY"] or [mh NURSERIES] or [mh ^"CHILD DAY CARE CENTERS"]) and ((mh ^"SOCIAL ADJUSTMENT"] or [mh ^"ADAPTATION, PHYSIOLOGICAL"] or [mh ^ACCLIMATIZATION] or [mh ^"ADAPTATION, PSYCHOLOGICAL"] or [mh ^ERGONOMICS] or [mh ^"EQUIPMENT DESIGN"] or [mh ^"SELF-HELP DEVICES"])
#112	((return* or reentry or re-entry or reintegrat* or re-integrat* or integrat* or transition*) near/5 (education* or school* or nurser*)):ti,ab
#113	((education* or school* or nurser*) near/3 (adjust* or adapt* or acclimati* or facilitat* or support* or equipment or ergonomic*)):ti,ab
#114	((education* or school* or nurser*) near/5 (assist* or "self help" or selfhelp) near/3 (device* or technolog* or aid*)):ti,ab
#115	(hospital* near/2 (education* or school* or nurser*)):ti,ab
#116	#111 or #112 or #113 or #114 or #115
#117	[mh ^"SPEECH THERAPY"]
#118	[mh ^"LANGUAGE THERAPY"]
#119	((speech* or language*) near/3 (therap* or intervention* or train* or retrain* or program* or treat* or patholog* or audiolog*)):ti,ab
#120	#117 or #118 or #119
#121	((senses or sensory) near/3 (rehab* or intervention* or train* or retrain* or educat* or reeducat* or program* or treat* or therap* or stimulat* or condition*)):ti,ab
#122	((sight or vision or hear or hearing or smell* or tast* or touch*) near/3 (rehab* or intervention* or therap*)):ti,ab
#123	#121 or #122
#124	#62 and #79
#125	#62 and #107
#126	#11 and #62 and #110
#127	#11 and #62 and #116
#128	#11 and #62 and #120
#129	#11 and #62 and #123
#130	#124 or #125 or #126 or #127 or #128 or #129
#131	#124 or #125 or #126 or #127 or #128 or #129 with Publication Year from 1995 to 2019, in Trials
#132	#124 or #125 or #126 or #127 or #128 or #129 with Cochrane Library publication date Between Jan 1995 and Jul 2019, in Cochrane Reviews

## Databases: PsycInfo

Date of last search: 22/06/2019

#	Searches
1	(adolescen\$ or teen\$ or youth\$ or young or juvenile? or minors or highschool\$).ti,ab.
2	(child\$ or schoolchild\$ or "school age" or "school aged" or preschool\$ or toddler\$ or kid? or kindergar\$ or boy? or girl?).ti,ab.
3	(infan\$ or neonat\$ or newborn\$ or baby or babies).ti,ab.
4	PEDIATRICS/ or PUBERTY/
5	(p?ediatric\$ or pubert\$ or prepubert\$ or pubescen\$ or prepubescen\$).ti,ab.
6	or/1-5
7	(exp INJURIES/ not BIRTH INJURIES/) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED PATIENTS/ or HOSPITALS/ or exp INTENSIVE CARE/ or REHABILITATION CENTERS/)
8	(exp INJURIES/ not BIRTH INJURIES/) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
9	((hospitali?ed or hospitali?ation?) adj10 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
10	((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
11	(patient? adj5 trauma\$).ti,ab.
12	(patient? adj3 (burn? or burned or fractur\$)).ti,ab.
13	wound\$ patient?.ti,ab.
14	injur\$ patient?.ti,ab.
15	accident\$ patient?.ti,ab.
16	(exp INJURIES/ not BIRTH INJURIES/) and trauma\$.ti,ab.
17	(trauma\$ adj5 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
18	((complex\$ or multiple or critical\$) adj3 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
19	(trauma\$ adj3 (severe or severely or major or multiple)).ti,ab.
20	((injur\$ or wound\$ or burn? or burned or fractur\$) adj2 (severe or severely or major or multiple)).ti,ab.
21	((physical\$ or body or bodily) adj3 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
22	(acute adj1 (injur\$ or trauma\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
23	(polytrauma? or poly-trauma?).ti,ab.
24	traumatolog\$.ti,ab.
25	exp ACCIDENTS/ and (exp INJURIES/ not BIRTH INJURIES/)
26	exp ACCIDENTS/ and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ti,ab.
27	(accident? adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
28	(accident? adj3 (serious\$ or severe or severely or major)).ti,ab.
29	exp ACCIDENTS/ and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED PATIENTS/ or HOSPITALS/ or exp INTENSIVE CARE/ or REHABILITATION CENTERS/)
30	exp ACCIDENTS/ and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
31	SPINAL CORD INJURIES/
32	AMPUTATION/
33	((spinal\$ or spine? or chest? or thoracic\$ or nerve?) adj3 injur\$).ti.
34	((spinal\$ or spine?) adj3 cord? adj3 compress\$).ti.
35	((Flail\$ or stove in) adj3 chest?).ti.
36	(rib? adj3 fractur\$).ti.
37	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur\$).ti.
38	(amputat\$ or amputee?).ti.
39	(limb? adj3 (loss or losing or lost or salvag\$ or re-construct\$ or reconstruct\$)).ti.
40	HEAD INJURIES/
41	(head adj3 injur\$).ti.
42	or/7-41
43	exp BRAIN INJURIES/
44	(brain adj3 injur\$).ti,ab.
45	or/43-44
46	42 not 45
47	FATIGUE/
48	SLEEPINESS/
49	SLEEP WAKE DISORDERS/
50	((fatigue? or tired\$) adj3 (manag\$ or therap\$ or treat\$ or rehab\$ or intervention? or train\$ or retrain\$ or care or program\$ or educat\$ or reeducat\$ or coping or strateg\$ or pacing or environment\$ or information or counsel\$ or exercis\$ or nutrit\$ or distract\$ or relax\$ or refram\$)).ti,ab.
51	(sleep\$ adj3 (manag\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or coping or strateg\$ or environment\$ or inform\$)).ti,ab.
52	((fatigue? or tired\$ or sleep\$) adj3 (low\$ or reduc\$) adj3 stimulat\$).ti,ab.
53	(sleep\$ adj3 (hygiene or habit?)).ti,ab.
54	sleep studies.ti,ab.
55	sleep lab?.ti,ab.
56	or/47-55
57	COGNITIVE REHABILITATION/
58	COGNITION/ and REHABILITATION/
59	COGNITIVE IMPAIRMENT/ and REHABILITATION/

#	Searches
60	ATTENTION/ and REHABILITATION/
61	MEMORY/ and REHABILITATION/
62	MEMORY DISORDERS/ and REHABILITATION/
63	MEMORY TRAINING/
64	EXECUTIVE FUNCTION/ and REHABILITATION/
65	LANGUAGE DISORDERS/ and REHABILITATION/
66	COMMUNICATION DISORDERS/ and REHABILITATION/
67	(cognit\$ adj3 (manag\$ or rehab\$ or train\$ or retrain\$ or educat\$ or reeducat\$ or support\$ or adjust\$ or adapt\$ or remediat\$)).ti,ab.
68	(cognit\$ adj1 (intervention? or program\$)).ti,ab.
69	((rehab\$ or therap\$ or remediat\$) adj2 (attention or memory or executive function\$ or language? or communicat\$)).ti,ab.
70	(psychoeducat\$ adj5 (cognit\$ or attention or memor\$ or executive function\$ or language? or communicat\$)).ti,ab.
71	(memory adj5 (aid? or notebook? or diary or diaries or board? or calendar? or reminder? or alarm? or list? or log? or map? or technolog\$ or device? or phone? or iphone or ipad or image\$ or mmenomic\$)).ti,ab.
72	attention strateg\$.ti,ab.
73	(reduc\$ adj2 distract\$.ti,ab.
74	(short\$ adj1 (work or working)).ti,ab.
75	brain break?.ti,ab.
76	(errorless or error-less).ti,ab.
77	(behavio\$ adj3 (contract? or sticker? or chart?)).ti,ab.
78	(brain adj3 game?).ti,ab.
79	or/57-78
80	PLAY THERAPY/
81	(play\$ adj3 therap\$).ti,ab.
82	or/80-81
83	(EDUCATION/ or SCHOOLS/ or MIDDLE SCHOOLS/ or JUNIOR HIGH SCHOOLS/ or HIGH SCHOOLS/ or ELEMENTARY SCHOOLS/ or BOARDING SCHOOLS/ or KINDERGARTENS/ or NURSERY SCHOOLS/ or CHILD DAY CARE/) and (SOCIAL ADJUSTMENT/ or ADAPTATION/ or HUMAN FACTORS ENGINEERING/ or ASSISTIVE TECHNOLOGY/)
84	((return\$ or reentry or re-entry or reintegrat\$ or re-integrat\$ or integrat\$ or transition\$) adj5 (education\$ or school\$ or nurser\$)).ti,ab.
85	((education\$ or school\$ or nurser\$) adj3 (adjust\$ or adapt\$ or acclimat\$ or facilitat\$ or support\$ or equipment or ergonomic\$)).ti,ab.
86	((education\$ or school\$ or nurser\$) adj5 (assist\$ or self help or selfhelp) adj3 (device? or technolog\$ or aid?)).ti,ab.
87	(hospital\$ adj2 (education\$ or school\$ or nurser\$)).ti,ab.
88	or/83-87
89	SPEECH THERAPY/
90	LANGUAGE THERAPY/
91	((speech\$ or language\$) adj3 (therap\$ or intervention? or train\$ or retrain\$ or program\$ or treat\$ or patholog\$ or audiolog\$)).ti,ab.
92	or/89-91
93	((senses or sensory) adj3 (rehab\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or program\$ or treat\$ or therap\$ or stimulat\$ or condition\$)).ti,ab.
94	((sight or vision or hear or hearing or smell\$ or tast\$ or touch\$) adj3 (rehab\$ or intervention? or therap\$)).ti,ab.
95	or/93-94
96	46 and 56
97	46 and 79
98	6 and 46 and 82
99	6 and 46 and 88
100	6 and 46 and 92
101	6 and 46 and 95
102	or/96-101
103	limit 102 to english language
104	limit 103 to yr="1995 -Current"
105	limit 104 to ("0100 journal" or "0110 peer-reviewed journal" or "0120 non-peer-reviewed journal")

## Health economics search strategies

### Databases: Medline; Medline Epub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 16/08/2019

#	Searches
1	ECONOMICS/
2	VALUE OF LIFE/

#	Searches
3	exp "COSTS AND COST ANALYSIS"/
4	exp ECONOMICS, HOSPITAL/
5	exp ECONOMICS, MEDICAL/
6	exp RESOURCE ALLOCATION/
7	ECONOMICS, NURSING/
8	ECONOMICS, PHARMACEUTICAL/
9	exp "FEES AND CHARGES"/
10	exp BUDGETS/
11	budget*.ti,ab.
12	cost*.ti,ab.
13	(economic* or pharmaco?economic*).ti,ab.
14	(price* or pricing*).ti,ab.
15	(financ* or fee or fees or expenditure* or saving*).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	resourc* allocat*.ti,ab.
18	(fund or funds or funding* or funded).ti,ab.
19	(ration or rations or rationing* or rationed).ti,ab.
20	ec.fs.
21	or/1-20
22	ADOLESCENT/ or MINORS/
23	(adolescen\$ or teen\$ or youth\$ or young or juvenile? or minors or highschool\$).ti,ab,jw,nw.
24	exp CHILD/
25	(child\$ or schoolchild\$ or "school age" or "school aged" or preschool\$ or toddler\$ or kid? or kindergar\$ or boy? or girl?).ti,ab,jw,nw.
26	exp INFANT/
27	(infan\$ or neonat\$ or newborn\$ or baby or babies).ti,ab,jw,nw.
28	exp PEDIATRICS/ or exp PUBERTY/
29	(p?ediatric\$ or pubert\$ or prepubert\$ or pubescen\$ or prepubescen\$).ti,ab,jw,nw.
30	or/22-29
31	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
32	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
33	((hospitali?ed or hospitali?ation?) adj10 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
34	((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
35	(patient? adj5 trauma\$).ti,ab.
36	(patient? adj3 (burn? or burned or fractur\$)).ti,ab.
37	wound\$ patient?.ti,ab.
38	injur\$ patient?.ti,ab.
39	accident\$ patient?.ti,ab.
40	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma\$.ti.
41	(exp "WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/)) and trauma\$.ab. /freq=2
42	exp MULTIPLE TRAUMA/
43	TRAUMATOLOGY/
44	(trauma\$ adj5 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
45	((complex\$ or multiple or critical\$) adj3 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
46	(trauma\$ adj3 (severe or severely or major or multiple)).ti,ab.
47	((injur\$ or wound\$ or burn? or burned or fractur\$) adj2 (severe or severely or major or multiple)).ti,ab.
48	((physical\$ or body or bodily) adj3 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
49	(acute adj1 (injur\$ or trauma\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
50	(polytrauma? or poly-trauma?).ti,ab.
51	traumatolog\$.ti,ab.
52	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (exp *WOUNDS AND INJURIES"/ not (ASPHYXIA/ or BATTERED CHILD SYNDROME/ or exp BIRTH INJURIES/ or exp "BITES AND STINGS"/ or exp DROWNING/ or "EXTRAVASATION



#	Searches
	OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"/ or exp FROSTBITE/ or exp HEAT STRESS DISORDERS/ or exp RADIATION INJURIES/ or RETROPNEUMOPERITONEUM/ or SURGICAL WOUND/))
53	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ti.
54	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ab. /freq=2
55	(accident? adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
56	(accident? adj3 (serious\$ or severe or severely or major)).ti,ab.
57	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (HOSPITALIZATION/ or PATIENT ADMISSION/ or ADOLESCENT, HOSPITALIZED/ or CHILD, HOSPITALIZED/ or exp HOSPITALS/ or exp EMERGENCY SERVICE, HOSPITAL/ or exp INTENSIVE CARE UNITS/ or REHABILITATION CENTERS/)
58	(ACCIDENTS/ or ACCIDENTAL FALLS/ or ACCIDENTS, HOME/ or ACCIDENTS, OCCUPATIONAL/ or ACCIDENTS, TRAFFIC/) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?))).ti,ab.
59	*SPINAL CORD INJURIES/ or *SPINAL CORD COMPRESSION/
60	exp *THORACIC INJURIES/ or *ACUTE LUNG INJURY/
61	*PERIPHERAL NERVE INJURIES/ or exp *CRANIAL NERVE INJURIES/
62	exp *AMPUTATION/ or *AMPUTATION, TRAUMATIC/ or *AMPUTEES/ or *AMPUTATION STUMPS/ or *LIMB SALVAGE/
63	((spinal\$ or spine? or chest? or thoracic\$ or nerve?) adj3 injur\$).ti.
64	((spinal\$ or spine?) adj3 cord? adj3 compress\$).ti.
65	((Flail\$ or stove in) adj3 chest?).ti.
66	(rib? adj3 fractur\$).ti.
67	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) adj3 plexus adj3 injur\$).ti.
68	(amputat\$ or amputee?).ti.
69	(limb? adj3 (loss or losing or lost or salvag\$ or re-construct\$ or reconstruct\$)).ti.
70	*HEAD INJURIES, CLOSED/ or *HEAD INJURIES, PENETRATING/
71	(head adj3 injur\$).ti.
72	or/31-71
73	exp BRAIN INJURIES/
74	(brain adj3 injur\$).ti,ab.
75	or/73-74
76	72 not 75
77	FATIGUE/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
78	MENTAL FATIGUE/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
79	SLEEP WAKE DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
80	SLEEP HYGIENE/
81	((fatigue? or tired\$) adj3 (manag\$ or therap\$ or treat\$ or rehab\$ or intervention? or train\$ or retrain\$ or care or program\$ or educat\$ or reeducat\$ or coping or strateg\$ or pacing or environment\$ or information or counsel\$ or exercis\$ or nutrit\$ or distract\$ or relax\$ or refram\$)).ti,ab.
82	(sleep\$ adj3 (manag\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or coping or strateg\$ or environment\$ or information or counsel\$)).ti,ab.
83	((fatigue? or tired\$ or sleep\$) adj3 (low\$ or reduc\$) adj3 stimulat\$).ti,ab.
84	(sleep\$ adj3 (hygiene or habit?)).ti,ab.
85	sleep studies.ti,ab.
86	sleep lab?.ti,ab.
87	or/77-86
88	COGNITION DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
89	COGNITIVE DYSFUNCTION/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
90	MEMORY DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
91	LANGUAGE DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
92	COMMUNICATION DISORDERS/pc, rh, th [Prevention & Control, Rehabilitation, Therapy]
93	(cognit\$ adj3 (manag\$ or rehab\$ or train\$ or retrain\$ or educat\$ or reeducat\$ or support\$ or adjust\$ or adapt\$ or remedi\$)).ti,ab.
94	(cognit\$ adj1 (intervention? or program\$)).ti,ab.
95	((rehab\$ or therap\$ or remedi\$) adj2 (attention or memory or executive function\$ or language? or communicat\$)).ti,ab.
96	(psychoeducat\$ adj5 (cognit\$ or attention or memor\$ or executive function\$ or language? or communicat\$)).ti,ab.
97	(memory adj5 (aid? or notebook? or diary or diaries or board? or calendar? or reminder? or alarm? or list? or log? or map? or technolog\$ or device? or phone? or iphone or ipad or image\$ or mmenomic\$)).ti,ab.
98	attention strateg\$.ti,ab.
99	(reduc\$ adj2 distract\$).ti,ab.
100	(short\$ adj1 (work or working)).ti,ab.
101	brain break?.ti,ab.
102	(errorless or error-less).ti,ab.
103	(behavio\$ adj3 (contract? or sticker? or chart?)).ti,ab.
104	(brain adj3 game?).ti,ab.
105	or/88-104
106	PLAY THERAPY/
107	(play\$ adj3 therap\$).ti,ab.

#	Searches
108	or/106-107
109	(EDUCATION/ or SCHOOLS/ or SCHOOLS, NURSERY/ or exp NURSERIES/ or CHILD DAY CARE CENTERS/) and (SOCIAL ADJUSTMENT/ or ADAPTATION, PHYSIOLOGICAL/ or ACCLIMATIZATION/ or exp ADAPTATION, PSYCHOLOGICAL/ or ERGONOMICS/ or EQUIPMENT DESIGN/ or exp SELF-HELP DEVICES/)
110	((return\$ or reentry or re-entry or reintegrat\$ or re-integrat\$ or integrat\$ or transition\$) adj5 (education\$ or school\$ or nurser\$)).ti,ab.
111	((education\$ or school\$ or nurser\$) adj3 (adjust\$ or adapt\$ or acclimati\$ or facilitat\$ or support\$ or equipment or ergonomic\$)).ti,ab.
112	((education\$ or school\$ or nurser\$) adj5 (assist\$ or self help or selfhelp) adj3 (device? or technolog\$ or aid?)).ti,ab.
113	(hospital\$ adj2 (education\$ or school\$ or nurser\$)).ti,ab.
114	or/109-113
115	SPEECH THERAPY/
116	LANGUAGE THERAPY/
117	((speech\$ or language\$) adj3 (therap\$ or intervention? or train\$ or retrain\$ or program\$ or treat\$ or patholog\$ or audiolog\$)).ti,ab.
118	or/115-117
119	((senses or sensory) adj3 (rehab\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or program\$ or treat\$ or therap\$ or stimulat\$ or condition\$)).ti,ab.
120	((sight or vision or hear or hearing or smell\$ or tast\$ or touch\$) adj3 (rehab\$ or intervention? or therap\$)).ti,ab.
121	or/119-120
122	76 and 87
123	76 and 105
124	30 and 76 and 108
125	30 and 76 and 114
126	30 and 76 and 118
127	30 and 76 and 121
128	or/122-127
129	limit 128 to english language
130	limit 129 to yr="1995 -Current"
131	LETTER/
132	EDITORIAL/
133	NEWS/
134	exp HISTORICAL ARTICLE/
135	ANECDOTES AS TOPIC/
136	COMMENT/
137	CASE REPORT/
138	(letter or comment*).ti.
139	or/131-138
140	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
141	139 not 140
142	ANIMALS/ not HUMANS/
143	exp ANIMALS, LABORATORY/
144	exp ANIMAL EXPERIMENTATION/
145	exp MODELS, ANIMAL/
146	exp RODENTIA/
147	(rat or rats or mouse or mice).ti.
148	or/141-147
149	130 not 148
150	21 and 149

## Databases: Embase; and Embase Classic

Date of last search: 16/08/2019

#	Searches
1	HEALTH ECONOMICS/
2	exp ECONOMIC EVALUATION/
3	exp HEALTH CARE COST/
4	exp FEE/
5	BUDGET/
6	FUNDING/
7	RESOURCE ALLOCATION/
8	budget*.ti,ab.
9	cost*.ti,ab.
10	(economic* or pharmaco?economic*).ti,ab.
11	(price* or pricing*).ti,ab.
12	(financ* or fee or fees or expenditure* or saving*).ti,ab.
13	(value adj2 (money or monetary)).ti,ab.
14	resourc* allocat*.ti,ab.
15	(fund or funds or funding* or funded).ti,ab.
16	(ration or rations or rationing* or rationed).ti,ab.

#	Searches
17	or/1-16
18	exp ADOLESCENT/
19	(adolescen\$ or teen\$ or youth\$ or young or juvenile? or minors or highschool\$).ti,ab,jx.
20	exp CHILD/
21	(child\$ or schoolchild\$ or "school age" or "school aged" or preschool\$ or toddler\$ or kid? or kindergar\$ or boy? or girl?).ti,ab,jx.
22	exp INFANT/
23	(infan\$ or neonat\$ or newborn\$ or baby or babies).ti,ab,jx.
24	exp PEDIATRICS/ or exp PUBERTY/
25	(p?ediatric\$ or pubert\$ or prepubert\$ or pubescen\$ or prepubescen\$).ti,ab,jx,ec.
26	or/18-25
27	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
28	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?)).ti,ab.
29	((hospitali?ed or hospitali?ation?) adj10 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
30	((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?) adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$ or accident?)).ti,ab.
31	(patient? adj5 trauma\$).ti,ab.
32	(patient? adj3 (burn? or burned or fractur\$)).ti,ab.
33	wound\$ patient?.ti,ab.
34	injur\$ patient?.ti,ab.
35	accident\$ patient?.ti,ab.
36	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma\$.ti.
37	(exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/)) and trauma\$.ab. /freq=2
38	MULTIPLE TRAUMA/
39	TRAUMATOLOGY/
40	(trauma\$ adj5 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
41	((complex\$ or multiple or critical\$) adj3 (injur\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
42	(trauma\$ adj3 (severe or severely or major or multiple)).ti,ab.
43	((injur\$ or wound\$ or burn? or burned or fractur\$) adj2 (severe or severely or major or multiple)).ti,ab.
44	((physical\$ or body or bodily) adj3 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
45	(acute adj1 (injur\$ or trauma\$ or wound\$ or burn? or burned or fractur\$)).ti,ab.
46	(polytrauma? or poly-trauma?).ti,ab.
47	traumatolog\$.ti,ab.
48	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (exp INJURY/ not (AUTOMUTILATION/ or BATTERED CHILD SYNDROME/ or BIRTH INJURY/ or exp "BITES AND STINGS"/ or exp DROWNING/ or exp EROSION/ or exp EXPERIMENTAL INJURY/ or exp HEART INJURY/ or IMMUNE INJURY/ or IMMUNE MEDIATED INJURY/ or MEMBRANE DAMAGE/ or PRENATAL INJURY/ or PSYCHOTRAUMA/ or exp RADIATION INJURY/ or exp REPERFUSION INJURY/ or exp RESPIRATORY TRACT INJURY/ or exp RUPTURE/ or STRANGULATION/ or SURGICAL INJURY/ or exp THERMAL INJURY/ or BITE WOUND/ or exp SURGICAL WOUND/))
49	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ti.
50	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/) and (injur\$ or wound? or trauma\$ or burn? or burned or fractur\$).ab. /freq=2
51	(accident? adj5 (injur\$ or wound\$ or trauma\$ or burn? or burned or fractur\$)).ti,ab.
52	(accident? adj3 (serious\$ or severe or severely or major)).ti,ab.
53	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/)

#	Searches
	and (HOSPITALIZATION/ or HOSPITAL ADMISSION/ or HOSPITALIZED ADOLESCENT/ or HOSPITALIZED CHILD/ or exp HOSPITAL/ or EMERGENCY HOSPITAL SERVICE/ or exp INTENSIVE CARE UNIT/ or REHABILITATION CENTER/)
54	(ACCIDENT/ or FALLING/ or HOME ACCIDENT/ or exp OCCUPATIONAL ACCIDENT/ or TRAFFIC ACCIDENT/ and (hospitali?ed or hospitali?tion? or ((admi\$ or stay? or stayed or treat\$ or present\$) adj5 (hospital? or unit? or intensive care or ICU? or PICU? or NICU? or department? or centre? or center?)))ti,ab.
55	*SPINAL CORD INJURY/ or *SPINAL CORD COMPRESSION/
56	exp *THORAX INJURY/ or *ACUTE LUNG INJURY/ or exp *RIB FRACTURE/
57	exp *NERVE INJURY/
58	exp *AMPUTATION/ or *AMPUTE/ or *LIMB SALVAGE/
59	((spinal\$ or spine? or chest? or thoracic\$ or nerve?) adj3 injur\$.ti.
60	((spinal\$ or spine?) adj3 cord? adj3 compress\$.ti.
61	((Flail\$ or stove in) adj3 chest?).ti.
62	(rib? adj3 fractur\$.ti.
63	((brachial or lumbosacral or lumbar or sacral or cervical or coccygeal) adj3 plexus adj3 injur\$.ti.
64	(amputat\$ or amputee?).ti.
65	(limb? adj3 (loss or losing or lost or salvag\$ or re-construct\$ or reconstruct\$)).ti.
66	*HEAD INJURY/
67	(head adj3 injur\$.ti.
68	or/27-67
69	exp BRAIN INJURY/
70	(brain adj3 injur\$.ti,ab.
71	or/69-70
72	68 not 71
73	FATIGUE/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
74	SLEEP DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
75	SLEEP HYGIENE/
76	((fatigue? or tired\$) adj3 (manag\$ or therap\$ or treat\$ or rehab\$ or intervention? or train\$ or retrain\$ or care or program\$ or educat\$ or reeducat\$ or coping or strateg\$ or pacing or environment\$ or information or counsel\$ or exercis\$ or nutrit\$ or distract\$ or relax\$ or refram\$)).ti,ab.
77	(sleep\$ adj3 (manag\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or coping or strateg\$ or environment\$ or information or counsel\$)).ti,ab.
78	((fatigue? or tired\$ or sleep\$) adj3 (low\$ or reduc\$) adj3 stimulat\$.ti,ab.
79	(sleep\$ adj3 (hygiene or habit?)).ti,ab.
80	sleep studies.ti,ab.
81	sleep lab?.ti,ab.
82	or/73-81
83	COGNITIVE REHABILITATION/
84	COGNITIVE DEFECT/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
85	MILD COGNITIVE IMPAIRMENT/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
86	MEMORY DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
87	LANGUAGE DISABILITY/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
88	COMMUNICATION DISORDER/dm, pc, rh, th [Disease management, Prevention, Rehabilitation, Therapy]
89	(cognit\$ adj3 (manag\$ or rehab\$ or train\$ or retrain\$ or educat\$ or reeducat\$ or support\$ or adjust\$ or adapt\$ or remediati\$)).ti,ab.
90	(cognit\$ adj1 (intervention? or program\$)).ti,ab.
91	((rehab\$ or therap\$ or remediati\$) adj2 (attention or memory or executive function\$ or language? or communicat\$)).ti,ab.
92	(psychoeducat\$ adj5 (cognit\$ or attention or memor\$ or executive function\$ or language? or communicat\$)).ti,ab.
93	(memory adj5 (aid? or notebook? or diary or diaries or board? or calendar? or reminder? or alarm? or list? or log? or map? or technolog\$ or device? or phone? or iphone or ipad or image\$ or mnemonic\$)).ti,ab.
94	attention strateg\$.ti,ab.
95	(reduc\$ adj2 distract\$.ti,ab.
96	(short\$ adj1 (work or working)).ti,ab.
97	brain break?.ti,ab.
98	(errorless or error-less).ti,ab.
99	(behavio\$ adj3 (contract? or sticker? or chart?)).ti,ab.
100	(brain adj3 game?).ti,ab.
101	or/83-100
102	PLAY THERAPY/
103	(play\$ adj3 therap\$.ti,ab.
104	or/102-103
105	(EDUCATION/ or SCHOOL/ or HIGH SCHOOL/ or MIDDLE SCHOOL/ or PRIMARY SCHOOL/ or NURSERY SCHOOL/ or KINDERGARTEN/ or DAY CARE/) and (SOCIAL ADAPTATION/ or ADAPTATION/ or ACCLIMATIZATION/ or exp COPING BEHAVIOR/ or ERGONOMICS/ or EQUIPMENT DESIGN/ or SELF HELP DEVICE/ or ASSISTIVE TECHNOLOGY DEVICE/)
106	SCHOOL REENTRY/
107	((return\$ or reentry or re-entry or reintegrat\$ or re-integrat\$ or integrat\$ or transition\$) adj5 (education\$ or school\$ or nurser\$)).ti,ab.
108	((education\$ or school\$ or nurser\$) adj3 (adjust\$ or adapt\$ or acclimati\$ or facilitat\$ or support\$ or equipment or ergonomic\$)).ti,ab.

#	Searches
109	((education\$ or school\$ or nurser\$) adj5 (assist\$ or self help or selfhelp) adj3 (device? or technolog\$ or aid?)).ti,ab.
110	(hospital\$ adj2 (education\$ or school\$ or nurser\$)).ti,ab.
111	or/105-110
112	"SPEECH AND LANGUAGE REHABILITATION"/
113	SPEECH REHABILITATION/
114	SPEECH THERAPY/
115	LANGUAGE THERAPY/
116	((speech\$ or language\$) adj3 (therap\$ or intervention? or train\$ or retrain\$ or program\$ or treat\$ or patholog\$ or audiolog\$)).ti,ab.
117	or/112-116
118	((senses or sensory) adj3 (rehab\$ or intervention? or train\$ or retrain\$ or educat\$ or reeducat\$ or program\$ or treat\$ or therap\$ or stimulat\$ or condition\$)).ti,ab.
119	((sight or vision or hear or hearing or smell\$ or tast\$ or touch\$) adj3 (rehab\$ or intervention? or therap\$)).ti,ab.
120	or/118-119
121	72 and 82
122	72 and 101
123	26 and 72 and 104
124	26 and 72 and 111
125	26 and 72 and 117
126	26 and 72 and 120
127	or/121-126
128	limit 127 to english language
129	limit 128 to yr="1995 -Current"
130	letter.pt. or LETTER/
131	note.pt.
132	editorial.pt.
133	CASE REPORT/ or CASE STUDY/
134	(letter or comment*).ti.
135	or/130-134
136	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
137	135 not 136
138	ANIMAL/ not HUMAN/
139	NONHUMAN/
140	exp ANIMAL EXPERIMENT/
141	exp EXPERIMENTAL ANIMAL/
142	ANIMAL MODEL/
143	exp RODENT/
144	(rat or rats or mouse or mice).ti.
145	or/137-144
146	129 not 145
147	17 and 146

## Database: Cochrane Central Register of Controlled Trials

Date of last search: 16/08/2019

#	Searches
#1	MeSH descriptor: [Economics] this term only
#2	MeSH descriptor: [Value of Life] this term only
#3	MeSH descriptor: [Costs and Cost Analysis] explode all trees
#4	MeSH descriptor: [Economics, Hospital] explode all trees
#5	MeSH descriptor: [Economics, Medical] explode all trees
#6	MeSH descriptor: [Resource Allocation] explode all trees
#7	MeSH descriptor: [Economics, Nursing] this term only
#8	MeSH descriptor: [Economics, Pharmaceutical] this term only
#9	MeSH descriptor: [Fees and Charges] explode all trees
#10	MeSH descriptor: [Budgets] explode all trees
#11	budget*.ti,ab
#12	cost*.ti,ab
#13	(economic* or pharmaco?economic*):ti,ab
#14	(price* or pricing*):ti,ab
#15	(financ* or fee or fees or expenditure* or saving*):ti,ab
#16	(value near/2 (money or monetary)):ti,ab
#17	resourc* allocat*.ti,ab
#18	(fund or funds or funding* or funded):ti,ab
#19	(ration or rations or rationing* or rationed) .ti,ab.
#20	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19

#	Searches
#21	[mh ^ADOLESCENT]
#22	[mh ^MINORS]
#23	(adolescen* or teen* or youth* or young or juvenile* or minors or highschool*):ti,ab
#24	[mh CHILD]
#25	(child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid* or kindergar* or boy* or girl*):ti,ab
#26	[mh INFANT]
#27	(infan* or neonat* or newborn* or baby or babies):ti,ab
#28	[mh PEDIATRICS]
#29	[mh PUBERTY]
#30	(pediatric* or paediatric* or pubert* or prepubert* or pubescen* or prepubescen*):ti,ab
#31	#21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30
#32	([mh "WOUNDS AND INJURIES"] not ([mh ^ASPHYXIA] or [mh ^"BATTERED CHILD SYNDROME"]) or [mh "BIRTH INJURIES"] or [mh "BITES AND STINGS"] or [mh DROWNING] or [mh ^"EXTRAVASATION OF DIAGNOSTIC AND THERAPEUTIC MATERIALS"] or [mh ^FROSTBITE] or [mh "HEAT STRESS DISORDERS"] or [mh "RADIATION INJURIES"] or [mh ^RETROPNEUMOPERITONEUM] or [mh ^"SURGICAL WOUND"])
#33	([mh ^HOSPITALIZATION] or [mh ^"PATIENT ADMISSION"] or [mh ^"ADOLESCENT, HOSPITALIZED"] or [mh ^"CHILD, HOSPITALIZED"] or [mh HOSPITALS] or [mh "EMERGENCY SERVICE, HOSPITAL"] or [mh "INTENSIVE CARE UNITS"] or [mh ^"REHABILITATION CENTERS"])
#34	#32 and #33
#35	(hospitalised or hospitalized or hospitalistion* or hospitalization* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*)):ti,ab
#36	#32 and #35
#37	((hospitalised or hospitalized or hospitalistion* or hospitalization*) near/10 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#38	((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or "intensive care" or ICU* or PICU* or NICU* or department* or centre* or center*) near/5 (injur* or wound* or trauma* or burn* or burned or fractur* or accident*)):ti,ab
#39	(patient* near/5 trauma*):ti,ab
#40	(patient* near/3 (burn* or burned or fractur*)):ti,ab
#41	"wound* patient*":ti,ab
#42	"injur* patient*":ti,ab
#43	"accident* patient*":ti,ab
#44	trauma*:ti,ab
#45	#32 and #44
#46	[mh "MULTIPLE TRAUMA"]
#47	[mh ^TRAUMATOLOGY]
#48	(trauma* near/5 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#49	((complex* or multiple or critical*) near/3 (injur* or wound* or burn* or burned or fractur*)):ti,ab
#50	(trauma* near/3 (severe or severely or major or multiple)):ti,ab
#51	((injur* or wound* or burn* or burned or fractur*) near/2 (severe or severely or major or multiple)):ti,ab
#52	((physical* or body or bodily) near/3 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#53	(acute near/1 (injur* or trauma* or wound* or burn* or burned or fractur*)):ti,ab
#54	(polytrauma* or poly-trauma*):ti,ab
#55	traumatolog*:ti,ab
#56	([mh ^ACCIDENTS] or [mh ^"ACCIDENTAL FALLS"] or [mh ^"ACCIDENTS, HOME"] or [mh ^"ACCIDENTS, OCCUPATIONAL"] or [mh ^"ACCIDENTS, TRAFFIC"])
#57	#32 and #56
#58	(injur* or wound* or trauma* or burn* or burned or fractur*):ti,ab
#59	#56 and #58
#60	(accident* near/5 (injur* or wound* or trauma* or burn* or burned or fractur*)):ti,ab
#61	(accident* near/3 (serious* or severe or severely or major)):ti,ab
#62	#33 and #56
#63	(hospitalised or hospitalized or hospitalistion* or hospitalization* or ((admi* or stay* or stayed or treat* or present*) near/5 (hospital* or unit* or intensive care or ICU* or PICU* or NICU* or department* or centre* or center*)):ti,ab
#64	#56 and #63
#65	[mh ^"SPINAL CORD INJURIES"] or [mh ^"SPINAL CORD COMPRESSION"]
#66	[mh "THORACIC INJURIES"] or [mh ^"ACUTE LUNG INJURY"]
#67	[mh ^"PERIPHERAL NERVE INJURIES"] or [mh "CRANIAL NERVE INJURIES"]
#68	[mh AMPUTATION] or [mh ^"AMPUTATION, TRAUMATIC"] or [mh ^AMPUTEES] or [mh ^"AMPUTATION STUMPS"] or [mh ^"LIMB SALVAGE"]
#69	((spinal* or spine* or chest* or thoracic* or nerve*) near/3 injur*):ti
#70	((spinal* or spine*) near/3 cord* near/3 compress*):ti
#71	((Flail* or stove in) near/3 chest*):ti
#72	(rib* near/3 fractur*):ti
#73	((brachial or lumbosacral or lumba or sacral or cervical or coccygeal) near/3 plexus near/3 injur*):ti
#74	(amputat* or amputee*):ti
#75	(limb* near/3 (loss or losing or lost or salvag* or re-construct* or reconstruct*)):ti
#76	[mh ^"HEAD INJURIES, CLOSED"] or [mh ^"HEAD INJURIES, PENETRATING"]
#77	(head near/3 injur*):ti
#78	#34 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51 or

#	Searches
	#52 or #53 or #54 or #55 or #57 or #59 or #60 or #61 or #62 or #64 or #65 or #66 or #67 or #68 or #69 or #70 or #71 or #72 or #73 or #74 or #75 or #76 or #77
#79	[mh "BRAIN INJURIES"]
#80	(brain near/3 injur*):ti,ab
#81	#79 or #80
#82	#78 not #81
#83	[mh ^FATIGUE/pc]
#84	[mh ^FATIGUE/rh]
#85	[mh ^FATIGUE/th]
#86	[mh ^"MENTAL FATIGUE"/pc]
#87	[mh ^"MENTAL FATIGUE"/rh]
#88	[mh ^"MENTAL FATIGUE"/th]
#89	[mh ^"SLEEP WAKE DISORDERS"/pc]
#90	[mh ^"SLEEP WAKE DISORDERS"/rh]
#91	[mh ^"SLEEP WAKE DISORDERS"/th]
#92	[mh ^"SLEEP HYGIENE"]
#93	((fatigue* or tired*) near/3 (manag* or therap* or treat* or rehab* or intervention* or train* or retrain* or care or program* or educat* or reeducat* or coping or strateg* or pacing or environment* or information or counsel* or exercis* or nutrit* or distract* or relax* or refram*)):ti,ab
#94	(sleep* near/3 (manag* or intervention* or train* or retrain* or educat* or reeducat* or coping or strateg* or environment* or information or counsel*)):ti,ab
#95	((fatigue* or tired* or sleep*) near/3 (low* or reduc*) near/3 stimulat*):ti,ab
#96	(sleep* near/3 (hygiene or habit*)):ti,ab
#97	"sleep studies":ti,ab
#98	"sleep lab*":ti,ab
#99	#83 or #84 or #85 or #86 or #87 or #88 or #89 or #90 or #91 or #92 or #93 or #94 or #95 or #96 or #97 or #98
#100	[mh ^"COGNITION DISORDERS"/pc]
#101	[mh ^"COGNITION DISORDERS"/rh]
#102	[mh ^"COGNITION DISORDERS"/th]
#103	[mh ^"COGNITIVE DYSFUNCTION"/pc]
#104	[mh ^"COGNITIVE DYSFUNCTION"/rh]
#105	[mh ^"COGNITIVE DYSFUNCTION"/th]
#106	[mh ^"MEMORY DISORDERS"/pc]
#107	[mh ^"MEMORY DISORDERS"/rh]
#108	[mh ^"MEMORY DISORDERS"/th]
#109	[mh ^"LANGUAGE DISORDERS"/pc]
#110	[mh ^"LANGUAGE DISORDERS"/rh]
#111	[mh ^"LANGUAGE DISORDERS"/th]
#112	[mh ^"COMMUNICATION DISORDERS"/pc]
#113	[mh ^"COMMUNICATION DISORDERS"/rh]
#114	[mh ^"COMMUNICATION DISORDERS"/th]
#115	(cognit* near/3 (manag* or rehab* or train* or retrain* or educat* or reeducat* or support* or adjust* or adapt* or remediat*)):ti,ab
#116	(cognit* near/1 (intervention* or program*)):ti,ab
#117	((rehab* or therap* or remediat*) near/2 (attention or memory or "executive function*" or language* or communicat*)):ti,ab
#118	(psychoeducat* near/5 (cognit* or attention or memor* or "executive function*" or language* or communicat*)):ti,ab
#119	(memory near/5 (aid* or notebook* or diary or diaries or board* or calendar* or reminder* or alarm* or list* or log* or map* or technolog* or device* or phone* or iphone or ipad or image* or mmenomic*)):ti,ab
#120	"attention strateg*":ti,ab
#121	(reduc* near/2 distract*):ti,ab
#122	(short* near/1 (work or working)):ti,ab
#123	"brain break*":ti,ab
#124	(errorless or error-less):ti,ab
#125	(behavio* near/3 (contract* or sticker* or chart*)):ti,ab
#126	(brain near/3 game*):ti,ab
#127	#100 or #101 or #102 or #103 or #104 or #105 or #106 or #107 or #108 or #109 or #110 or #111 or #112 or #113 or #114 or #115 or #116 or #117 or #118 or #119 or #120 or #121 or #122 or #123 or #124 or #125 or #126
#128	[mh ^"PLAY THERAPY"]
#129	(play* near/3 therap*):ti,ab
#130	#128 or #129
#131	([mh ^EDUCATION] or [mh ^SCHOOLS] or [mh ^"SCHOOLS, NURSERY"] or [mh NURSERIES] or [mh ^"CHILD DAY CARE CENTERS"]) and ([mh ^"SOCIAL ADJUSTMENT"] or [mh ^"ADAPTATION, PHYSIOLOGICAL"] or [mh ^ACCLIMATIZATION] or [mh "ADAPTATION, PSYCHOLOGICAL"] or [mh ^ERGONOMICS] or [mh ^"EQUIPMENT DESIGN"] or [mh ^"SELF-HELP DEVICES"])
#132	((return* or reentry or re-entry or reintegrat* or re-integrat* or integrat* or transition*) near/5 (education* or school* or nurser*)):ti,ab
#133	((education* or school* or nurser*) near/3 (adjust* or adapt* or acclimati* or facilitat* or support* or equipment or ergonomic*)):ti,ab
#134	((education* or school* or nurser*) near/5 (assist* or "self help" or selfhelp) near/3 (device* or technolog* or aid*)):ti,ab

#	Searches
#135	(hospital* near/2 (education* or school* or nurser*)):ti,ab
#136	#131 or #132 or #133 or #134 or #135
#137	[mh ^"SPEECH THERAPY"]
#138	[mh ^"LANGUAGE THERAPY"]
#139	((speech* or language*) near/3 (therap* or intervention* or train* or retrain* or program* or treat* or patholog* or audiolog*)):ti,ab
#140	#137 or #138 or #139
#141	((senses or sensory) near/3 (rehab* or intervention* or train* or retrain* or educat* or reeducat* or program* or treat* or therap* or stimulat* or condition*)):ti,ab
#142	((sight or vision or hear or hearing or smell* or tast* or touch*) near/3 (rehab* or intervention* or therap*)):ti,ab
#143	#141 or #142
#144	#82 and #99
#145	#82 and #127
#146	#31 and #82 and #130
#147	#31 and #82 and #136
#148	#31 and #82 and #140
#149	#31 and #82 and #143
#150	#144 or #145 or #146 or #147 or #148 or #149
#151	#144 or #145 or #146 or #147 or #148 or #149 with Publication Year from 1995 to 2019, in Trials
#152	#20 and #151



## Appendix C – Clinical evidence study selection

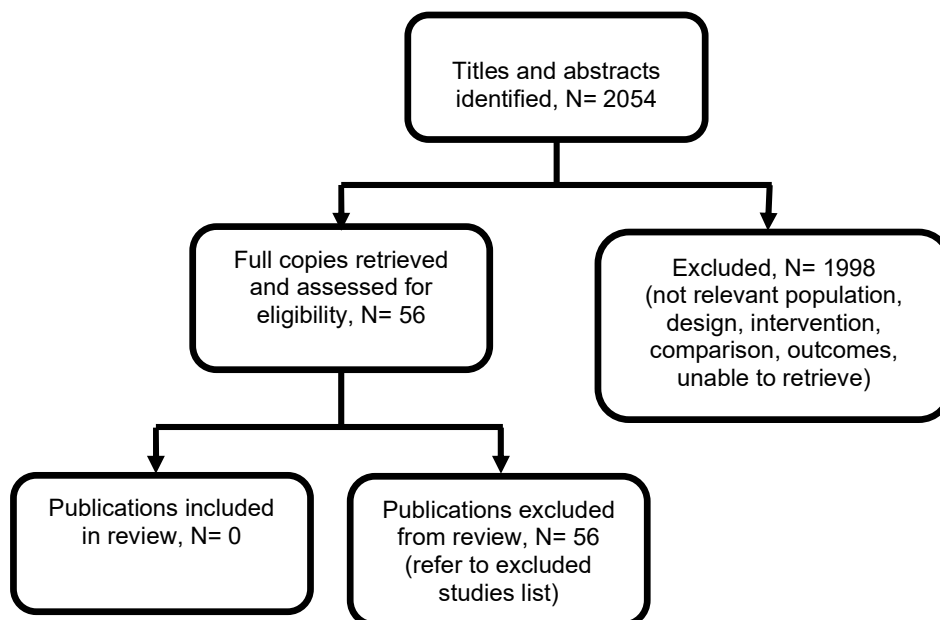
### Clinical study selection for review questions:

**B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

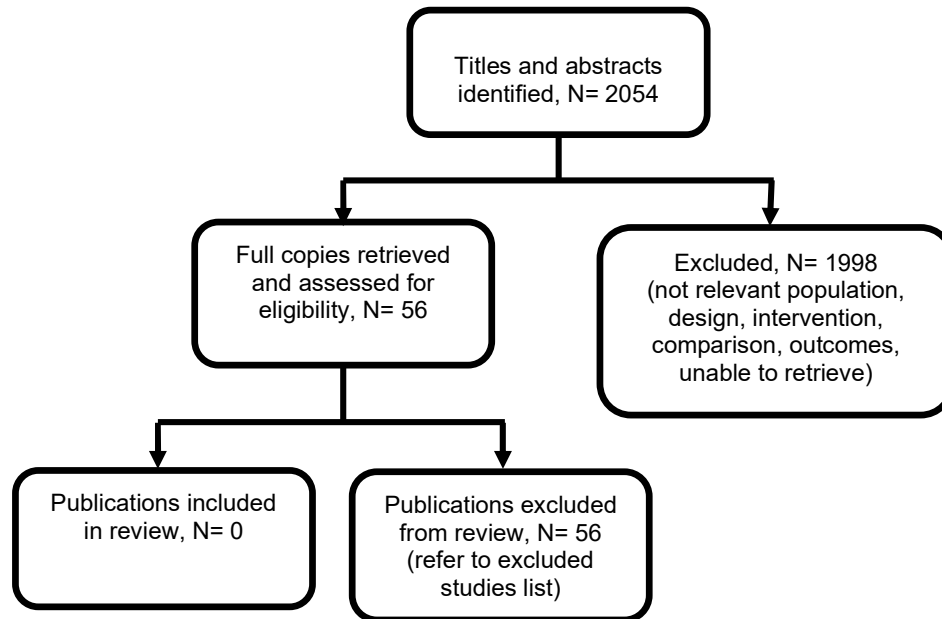
**B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

*A combined search was conducted for both review questions.*

**Figure 1: Study selection flow chart: Adults**



**Figure 2: Study selection flow chart: Children and young people**



## **Appendix D – Clinical evidence tables**

### **Clinical evidence tables for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No evidence was identified which was applicable to this review question.

### **Clinical evidence tables for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No evidence was identified which was applicable to this review question.

## **Appendix E – Forest plots**

### **Forest plots for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No meta-analyses were performed as no evidence was identified which was applicable to this review question.

### **Forest plots for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No meta-analyses were performed as no evidence was identified which was applicable to this review question.

## **Appendix F – GRADE tables**

### **GRADE tables for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No evidence was identified which was applicable to this review question.

### **GRADE tables for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No evidence was identified which was applicable to this review question.

## Appendix G – Economic evidence study selection

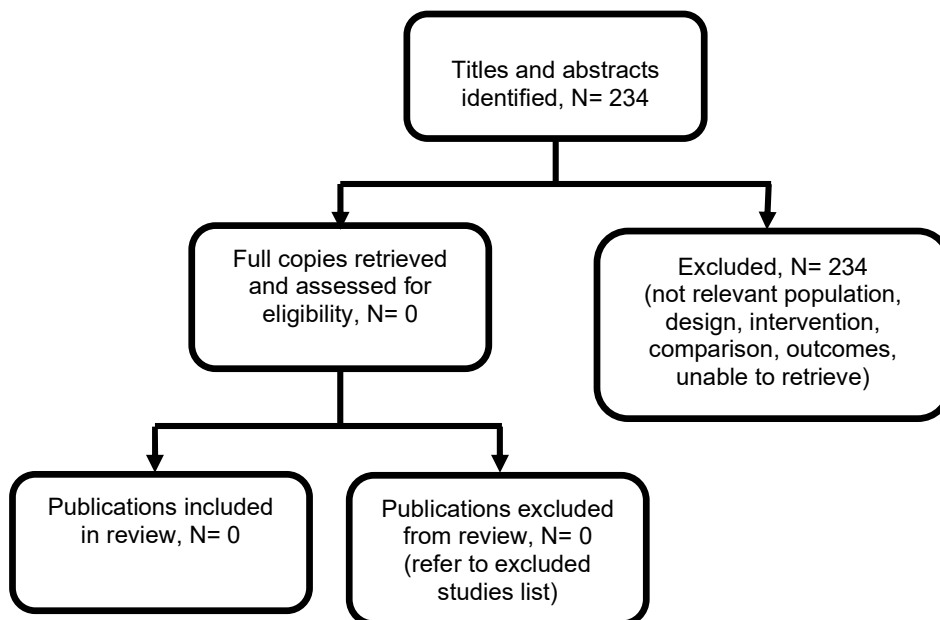
### Economic study selection for review questions:

**B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

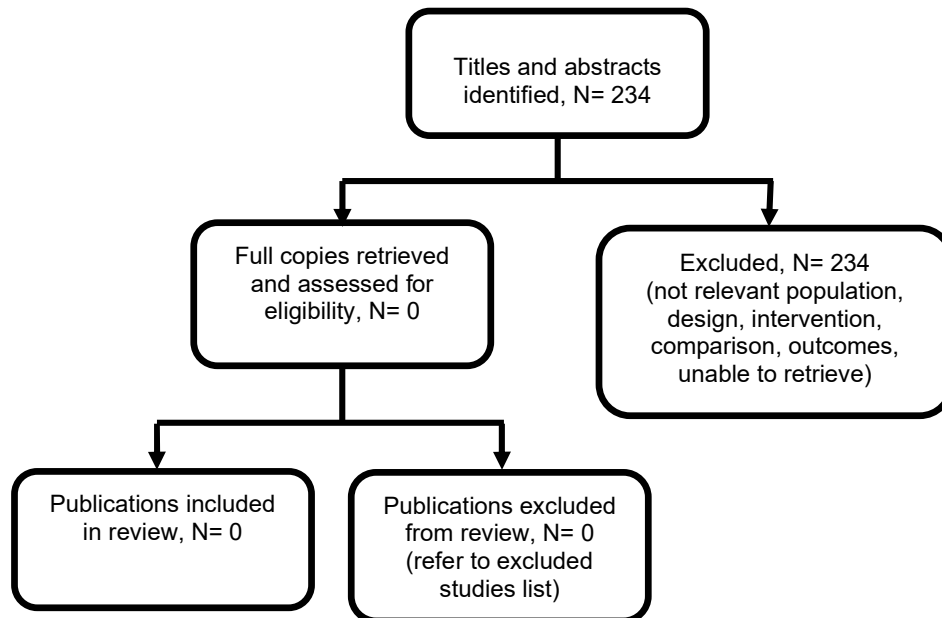
**B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

*A combined search was conducted for both review questions.*

**Figure 3: Study selection flow chart: Adults**



**Figure 4: Study selection flow chart: Children and young people**



## **Appendix H – Economic evidence tables**

### **Economic evidence tables for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No economic studies were identified which were applicable to this review question.

### **Economic evidence tables for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No economic studies were identified which were applicable to this review question.



## **Appendix I – Economic evidence profiles**

### **Economic evidence profiles for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No economic studies were identified which were applicable to this review question.

### **Economic evidence profiles for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No economic studies were identified which were applicable to this review question.

## **Appendix J – Economic analysis**

### **Economic evidence tables for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No economic analysis was undertaken for this review question.

### **Economic evidence tables for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No economic analysis was undertaken for this review question.

## Appendix K – Excluded studies

### Excluded clinical and economic studies for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?

#### Clinical studies

**Table 5: Excluded studies and reasons for their exclusion**

Study	Reason for Exclusion
Abrahamsen, J. F., Engtro, E., Haugland, C., Nilsen, R. M., Ranhoff, A. H., Predictors for return to own home after acute hospitalization and intermediate care in nursing home, <i>European Geriatric Medicine</i> , 4, S103, 2013	Published as abstract only
Acorn, S., Assisting families of head-injured survivors through a family support programme, <i>Journal of advanced nursing</i> , 21, 872-7, 1995	Population not in PICO (family members of head injury survivors)
Actrn,, Hospital-Based Early Intervention for Posttraumatic Stress Disorder, <a href="http://www.who.int/trialssearch/trial2.aspx?Trialid=actrn12615000355572">http://www.who.int/trialssearch/trial2.aspx?Trialid=actrn12615000355572</a> , 2015	Protocol, no results posted
Aitken, M. E., Korehbandi, P., Parnell, D., Parker, J. G., Stefans, V., Tompkins, E., Schulz, E. G., Experiences from the development of a comprehensive family support program for pediatric trauma and rehabilitation patients, <i>Archives of Physical Medicine and Rehabilitation</i> , 86, 175-179, 2005	Narrative review/no relevant data
Anonymous,, Sleep complaints. Whenever possible, avoid the use of sleeping pills, <i>Prescrire International</i> , 17, 206-212, 2008	Narrative review
Arshad, Sira N., Gaskell, Sarah L., Baker, Charlotte, Ellis, Nicola, Potts, Jennie, Coucill, Theresa, Ryan, Lynn, Smith, Jan, Nixon, Anna, Greaves, Kate, Monk, Rebecca, Shelmerdine, Teresa, Leach, Alison, Shah, Mamta, Measuring the impact of a burns school reintegration programme on the time taken to return to school: A multi-disciplinary team intervention for children returning to school after a significant burn injury, <i>Burns : journal of the International Society for Burn Injuries</i> , 41, 727-34, 2015	Non-randomised study with N=23 in intervention group
Azarmi, S., Farsi, Z., Roy's adaptation model-guided education and promoting the adaptation of veterans with lower extremities amputation, <i>Iranian Red Crescent Medical Journal</i> , 17, 1-7, 2015	Interventions not in PICO
Bajorek, Alexander J., Slocum, Chloe, Goldstein, Richard, Mix, Jacqueline, Niewczyk, Paulette, Ryan, Colleen M., Hendricks, Carla Tierney, Zafonte, Ross, Schneider, Jeffrey C., Impact of Cognition on Burn Inpatient Rehabilitation Outcomes, <i>PM &amp; R : the journal of injury, function, and rehabilitation</i> , 9, 1-7, 2017	No intervention
Beals, K., Fitness, training, cognitive and hormonal characteristics associated with musculoskeletal injury and physical performance in Special Operation Forces-An international perspective, <i>Journal of Science and Medicine in Sport</i> , 20, S87, 2017	Population not in PICO: No traumatic injury
Ben-Zion, Z., Fine, N. B., Keynan, N. J., Admon, R., Green, N., Halevi, M., Fonzo, G. A., Achituv, M., Merin, O., Sharon, H., Halpern, P., Liberzon, I., Etkin, A., Hendler, T., Shalev, A. Y., Cognitive flexibility predicts PTSD symptoms: Observational and interventional studies, <i>Frontiers in Psychiatry</i> , 9, 477, 2018	Outcomes not in PICO
Bombardier, C., Fann, J. R., Ehde, D., Reyes, M. R., Hoffman, J. M., Collaborative care for pain, depression and physical inactivity in	Published as abstract only

Study	Reason for Exclusion
an outpatient SCI clinic: The sci-care study, Archives of Physical Medicine and Rehabilitation, 97, e78-e79, 2016	
Crotty, M., Unroe, K., Cameron, I. D., Miller, M., Ramirez, G., Couzner, L., Rehabilitation interventions for improving physical and psychosocial functioning after hip fracture in older people, Cochrane Database of Systematic Reviews, 2010	Interventions not in PICO: interventions aimed at improving physical and psychosocial functioning
Cunha, R. G., Da-Silva, P. J., Dos Santos Couto Paz, C. C., da Silva Ferreira, A. C., Tierra-Criollo, C. J., Influence of functional task-oriented mental practice on the gait of transtibial amputees: a randomized, clinical trial, Journal of NeuroEngineering and Rehabilitation, 14, 28, 2017	Outcomes not in PICO
Devineni, T., Blanchard, E. B., Hickling, E. J., Buckley, T. C., Effect of psychological treatment on cognitive bias in motor vehicle accident-related Posttraumatic Stress Disorder, Journal of Anxiety Disorders, 18, 211-231, 2004	Population not in PICO: People with PTSD
Donaghey, C. L., McMillan, T. M., O'Neill, B., Errorless learning is superior to trial and error when learning a practical skill in rehabilitation: a randomized controlled trial, Clinical Rehabilitation, 24, 195-201, 2010	Population not in PICO: 27/30 had amputations due to peripheral arterial disease +/- diabetes mellitus
Gillies, D., Taylor, F., Gray, C., O'Brien, L., D'Abrew, N., Psychological therapies for the treatment of post-traumatic stress disorder in children and adolescents (Review), Evidence-Based Child Health, 8, 1004-1116, 2013	Population not in PICO: Patients with PTSD
Gillies, Donna, Maiocchi, Licia, Bhandari, Abhishta P., Taylor, Fiona, Gray, Carl, O'Brien, Louise, Psychological therapies for children and adolescents exposed to trauma, The Cochrane database of systematic reviews, 10, CD012371, 2016	Systematic review, included studies checked for relevance
Handoll, H. H. G., Elliott, J., Rehabilitation for distal radial fractures in adults, Cochrane Database of Systematic Reviews, 2015	Systematic review, included studies checked for relevance
Hartley, Naomi A., Spinal cord injury (SCI) rehabilitation: systematic analysis of communication from the biopsychosocial perspective, Disability and rehabilitation, 1-10, 2015	Comparison (intervention) not in PICO / Descriptive systematic review on communication in spinal cord injury (â In order to be included in the final analysis, literature needed to include a measure (and/or report findings) specifically relating to communication following SCI.â )
Hauer, K., Ullrich, P., Dutzi, I., Beurskens, R., Kern, S., Bauer, J., Schwenk, M., Effects of Standardized Home Training in Patients with Cognitive Impairment following Geriatric Rehabilitation: a Randomized Controlled Pilot Study, Gerontology, 63, 495â 506, 2017	Intervention (physical training/exercise) not in PICO
Heutink, M., Post, M. W., Bongers-Janssen, H. M., Dijkstra, C. A., Snoek, G. J., Spijkerman, D. C., Lindeman, E., The CONECISI trial: results of a randomized controlled trial of a multidisciplinary cognitive behavioral program for coping with chronic neuropathic pain after spinal cord injury, Pain, 153, 120â 128, 2012	Intervention not in PICO: Pain management program
Houlihan, B. V., Jette, A., Friedman, R. H., Paasche-Orlow, M., Ni, P., Wierbicky, J., Williams, K., Ducharme, S., Zazula, J., Cuevas, P., Rosenblum, D., Williams, S., A pilot study of a telehealth intervention for persons with spinal cord dysfunction, Spinal Cord, 51, 715-20, 2013	Intervention not in PICO: âCareCallâ <sup>TM</sup> is an automated, interactive voice response system that combines patient education, cognitive behavioral

Study	Reason for Exclusion
	interventions, screening and referrals, with alerts to a nurse telerehabilitation coordinator for direct non-emergent phone follow up.â (p. 715)
Imam, Bitu, Miller, William C., Finlayson, Heather, Eng, Janice J., Jarus, Tal, A randomized controlled trial to evaluate the feasibility of the Wii Fit for improving walking in older adults with lower limb amputation, <i>Clinical Rehabilitation</i> , 31, 82-92, 2017	Comparison not in PICO (Wii.n.Walk versus Wii Big Brain Acadaey degree; 15/24 participants in PICO, data not presented separately for them)
Jeffs, L., Jiang, D., Wilson, G., Ferris, E., Cardiff, B., Lanceta, M., White, P., Pringle, D., Linking HOBIC measures with length of stay and alternate levels of care: implications for nurse leaders in their efforts to improve patient flow and quality of care, <i>Nursing leadership (Toronto, Ont.)</i> , 25, 48-62, 2012	Mixed population unclear how many were in PICO, no intervention applied
Jobory, A., Rolfson, O., Akesson, K. E., Arvidsson, C., Nilsson, I., Rogmark, C., Hip precautions not meaningful after hemiarthroplasty due to hip fracture. Cluster-randomized study of 394 patients operated with direct anterolateral approach, <i>Injury</i> , 2019	Interventions not in PICO: Physical post-operative mobility interventions
Jonsson, A., Gustafson, Y., Scholl, M., Hansen, F. R., Saarela, M., Nygaard, H., Laake, K., Jonsson, P. V., Valvanne, J., Dehlin, O., Geriatric rehabilitation as an integral part of geriatric medicine in the Nordic countries, <i>Danish Medical Bulletin</i> , 50, 439-445, 2003	Article in Danish
Jurdi, S., Montaner, J., Garcia-Sanjuan, F., Jaen, J., Nacher, V., A systematic review of game technologies for pediatric patients, <i>Computers in Biology and Medicine</i> , 97, 89-112, 2018	Descriptive systematic review about purpose and use of gaming in hospitals
Kornor, Hege, Winje, Dagfinn, Ekeberg, Oivind, Johansen, Kjell, Weisaeth, Lars, Ormstad, Sari S., Steiro, Asbjorn K., Fretheim, Atle, 2007	Summary/abstract of SR, with full text in Norwegian.
Leung, P., Kinzie, D., Riley, C., Kinzie, E., Lawrence, L., Mental health care to traumatized patients in resource poor environments, <i>Asia-Pacific Psychiatry, Conference</i> , 2010	Published as abstract only
Li, X., The impact of TCM holistic nursing intervention on sleep quality of the patients after the operation of bone fracture, <i>Western journal of traditional chinese medicine [xi bu zhong yi yao]</i> , 28, 149â 150, 2015	Article in Chinese
Li, Yan, Bressington, Daniel, Chien, Wai Tong, Systematic Review of Psychosocial Interventions for People With Spinal Cord Injury During Inpatient Rehabilitation: Implications for Evidence-Based Practice, <i>Worldviews on evidence-based nursing</i> , 14, 499-506, 2017	Systematic review, included studies checked for relevance
Lovas, J., Tran, Y., Middleton, J., Bartrop, R., Moore, N., Craig, A., Managing pain and fatigue in people with spinal cord injury: a randomized controlled trial feasibility study examining the efficacy of massage therapy, <i>Spinal Cord</i> , 55, 162-166, 2017	Interventions/comparison not in PICO: Swedish massage versus guided-imagery relaxation
Malfliet, Anneleen, Kregel, Jeroen, Coppieters, Iris, De Pauw, Robby, Meeus, Mira, Roussel, Nathalie, Cagnie, Barbara, Danneels, Lieven, Nijs, Jo, Aaronson, Butler Correa Crombez Desikan Dolphens Farrar Fischer Fischl Glomsrod Goubert Gwilym Hassan Keller Kernan Kregel Kregel Louw Malfliet Mlekusch Monticone Moseley Murray Neblett Ng Nijs Picavet Rivest Roelofs Roussel Seminowicz Shahidi Soer Soukup Sullivan Talati Van Oosterwijck Van Oosterwijck, Effect of pain neuroscience education combined with cognition-targeted motor control training on chronic spinal pain: A randomized clinical trial, <i>JAMA Neurology</i> , 75, 808-817, 2018	Population not in PICO: Patients with nonspecific chronic spinal pain

Study	Reason for Exclusion
Martín-Martín, L. M., Valenza-Demet, G., Jiménez-Moleón, J. J., Cabrera-Martos, I., Revelles-Moyano, F. J., Valenza, M. C., Effect of occupational therapy on functional and emotional outcomes after hip fracture treatment: a randomized controlled trial, <i>Clinical Rehabilitation</i> , 28, 541â551, 2014	Intervention not in PICO: Occupational therapy
McGinnis, Katrina, Lunn, Melen, School re-entry after pediatric spinal cord injury, <i>SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses</i> , 21, 222-3, 2004	Unavailable
Milders, M., Deelman, B., Berg, I., Rehabilitation of memory for people's names, <i>Memory (Hove, England)</i> , 6, 21-36, 1998	Population not in PICO: closed-head-injured patients and healthy controls
Perkes, Sarah J., Bowman, Julia, Penkala, Stefania, Psychological therapies for the management of co-morbid depression following a spinal cord injury: a systematic review, <i>Journal of health psychology</i> , 19, 1597-612, 2014	Systematic review, included studies checked for relevance
Perry, Kathryn Nicholson, Nicholas, Michael K., Middleton, James W., Comparison of a pain management program with usual care in a pain management center for people with spinal cord injury-related chronic pain, <i>The Clinical journal of pain</i> , 26, 206-16, 2010	Non-randomised study with N=36
Pourmand, Ali, Davis, Steven, Lee, Danny, Barber, Scott, Sikka, Neal, Emerging Utility of Virtual Reality as a Multidisciplinary Tool in Clinical Medicine, <i>Games for health journal</i> , 6, 263-270, 2017	Narrative review
Ramani, P. S., Challenges for neuro-rehabilitation in India, <i>Neurorehabilitation and Neural Repair</i> , 32, 353-354, 2018	Published as abstract only
Rice, Sydney A., Allaire, Janet, Elgin, Kevin, Farrell, Walter, Conaway, Mark, Blackman, James A., Effect of shortened length of stay on functional and educational outcome after pediatric rehabilitation, <i>American journal of physical medicine &amp; rehabilitation</i> , 83, 27-32, 2004	Non-comparative study/no intervention
Roberts, N. P., Kitchiner, N. J., Kenardy, J., Bisson, J. I., Multiple session early psychological interventions for the prevention of post-traumatic stress disorder, <i>Cochrane Database of Systematic Reviews</i> , 2009	Population/intervention not in PICO: Multiple session early psychological interventions for the prevention of post-traumatic stress disorder
Roberts, N. P., Kitchiner, N. J., Kenardy, J., Bisson, J. I., Early psychological interventions to treat acute traumatic stress symptoms, <i>Cochrane Database of Systematic Reviews</i> , 2010	Population/intervention not in PICO: Early psychological interventions to treat acute traumatic stress symptoms
Russell, H. F., Richardson, E. J., Bombardier, C. H., Dixon, T. M., Huston, T. A., Rose, J., Sheaffer, D., Smith, S. A., Ullrich, P. M., Professional standards of practice for psychologists, social workers, and counselors in SCI rehabilitation, <i>Journal of Spinal Cord Medicine</i> , 39, 127-145, 2016	Professional standards for rehabilitation staff
Shearer, H. M., Carroll, L. J., Wong, J. J., Cote, P., Varatharajan, S., Southerst, D., Sutton, D. A., Randhawa, K. A., Yu, H., Mior, S. A., van der Velde, G. M., Nordin, M. C., Stupar, M., Taylor-Vaisey, A. L., Are psychological interventions effective for the management of neck pain and whiplash-associated disorders? A systematic review by the Ontario Protocol for Traffic Injury Management (OPTIma) Collaboration, <i>Spine Journal</i> , 16, 1566-1581, 2016	Systematic review, included studies checked for relevance
Shyu, Y. I., Tsai, W. C., Chen, M. C., Liang, J., Cheng, H. S., Wu, C. C., Su, J. Y., Chou, S. W., Two-year effects of an interdisciplinary intervention on recovery following hip fracture in older Taiwanese with cognitive impairment, <i>International Journal of Geriatric Psychiatry</i> , 27, 529â538, 2012	Intervention not in PICO: Multidisciplinary, but not cognitive rehabilitation or fatigue management (same patients as in Shyu 2013)

Study	Reason for Exclusion
Shyu, Y. I., Tseng, M. Y., Liang, J., Tsai, W. C., Wu, C. C., Cheng, H. S., Interdisciplinary intervention decreases cognitive impairment for older Taiwanese with hip fracture: 2-year follow-up, <i>International Journal of Geriatric Psychiatry</i> , 28, 1222â1231, 2013	Intervention not in PICO: Multidisciplinary, but not cognitive rehabilitation or fatigue management (same patients as in Shyu 2012)
South, R., Wallis, D., Therapy groups for trauma experienced in childhood, <i>Australasian Psychiatry</i> , 11, 292-294, 2003	Population not in PICO: Patients with a variety of psychological disorders
Stallard, P., Psychological interventions for post-traumatic reactions in children and young people: A review of randomised controlled trials, <i>Clinical Psychology Review</i> , 26, 895-911, 2006	(Semi-)systematic review, included studies checked for relevance
Stromberg, L., Ohlen, G., Nordin, C., Lindgren, U., Svensson, O., Postoperative mental impairment in hip fracture patients. A randomized study of reorientation measures in 223 patients, <i>Acta orthopaedica Scandinavica</i> , 70, 250-5, 1999	Study conducted before 1995 (1991-1992)
Tamrat, R., Goyal, M., Huynh-Le, M. P., Systematic review of non-pharmacologic interventions to improve the sleep of hospitalized patients, <i>Journal of General Internal Medicine</i> , 28, S191, 2013	Published as abstract only
Task Force on Community Preventive Services, Recommendations to reduce psychological harm from traumatic events among children and adolescents, <i>American journal of preventive medicine</i> , 35, 314-6, 2008	Guideline/recommendations based on Wethington systematic review which is excluded
Wells, Jennie L., Seabrook, Jamie A., Stolee, Paul, Borrie, Michael J., Knoefel, Frank, State of the art in geriatric rehabilitation. Part II: clinical challenges, <i>Archives of physical medicine and rehabilitation</i> , 84, 898-903, 2003	Systematic review, included studies checked for relevance
Wethington, Holly R., Hahn, Robert A., Fuqua-Whitley, Dawna S., Sipe, Theresa Ann, Crosby, Alex E., Johnson, Robert L., Liberman, Akiva M., Moscicki, Eve, Price, Leshawndra N., Tuma, Farris K., Kalra, Geetika, Chattopadhyay, Sajal K., Task Force on Community Preventive Services, The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review, <i>American journal of preventive medicine</i> , 35, 287-313, 2008	Systematic review, included studies checked for relevance
Wong, Eliza Mi-Ling, Chan, Sally Wai-Chi, Chair, Sek-Ying, Carr, Coll Engels Freeman Johansson Lin Wong, The effect of educational intervention on pain beliefs and postoperative pain relief among Chinese patients with fractured limbs, <i>Journal of Clinical Nursing</i> , 19, 2652-2655, 2010	Intervention (education about pain management) not in PICO
Zatzick, Douglas, Jurkovich, Gregory, Rivara, Frederick P., Russo, Joan, Wagner, Amy, Wang, Jin, Dunn, Chris, Lord, Sarah Peregrine, Petrie, Megan, O'Connor, Stephen S., Katon, Wayne, A randomized stepped care intervention trial targeting posttraumatic stress disorder for surgically hospitalized injury survivors, <i>Annals of surgery</i> , 257, 390-9, 2013	Population/condition not in PICO (PTSD)

## Economic studies

All studies were excluded at the initial title and abstract screening stage. See appendix G for further information.

## Excluded clinical and economic studies for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?

### Clinical studies

**Table 6: Excluded studies and reasons for their exclusion**

Study	Reason for Exclusion
Abrahamsen, J. F., Engtro, E., Haugland, C., Nilsen, R. M., Ranhoff, A. H., Predictors for return to own home after acute hospitalization and intermediate care in nursing home, <i>European Geriatric Medicine</i> , 4, S103, 2013	Published as abstract only
Acorn, S., Assisting families of head-injured survivors through a family support programme, <i>Journal of advanced nursing</i> , 21, 872-7, 1995	Population not in PICO (family members of head injury survivors)
Actrn,, Hospital-Based Early Intervention for Posttraumatic Stress Disorder, <a href="http://www.who.int/trialsearch/trial2.aspx?Trialid=actrn12615000355572">Http://www.who.int/trialsearch/trial2.aspx?Trialid=actrn12615000355572</a> , 2015	Protocol, no results posted
Aitken, M. E., Korehbandi, P., Parnell, D., Parker, J. G., Stefans, V., Tompkins, E., Schulz, E. G., Experiences from the development of a comprehensive family support program for pediatric trauma and rehabilitation patients, <i>Archives of Physical Medicine and Rehabilitation</i> , 86, 175-179, 2005	Narrative review/no relevant data
Anonymous,, Sleep complaints. Whenever possible, avoid the use of sleeping pills, <i>Prescrire International</i> , 17, 206-212, 2008	Narrative review
Arshad, Sira N., Gaskell, Sarah L., Baker, Charlotte, Ellis, Nicola, Potts, Jennie, Coucill, Theresa, Ryan, Lynn, Smith, Jan, Nixon, Anna, Greaves, Kate, Monk, Rebecca, Shelmerdine, Teresa, Leach, Alison, Shah, Mamta, Measuring the impact of a burns school reintegration programme on the time taken to return to school: A multi-disciplinary team intervention for children returning to school after a significant burn injury, <i>Burns : journal of the International Society for Burn Injuries</i> , 41, 727-34, 2015	Non-randomised study with N=23 in intervention group
Azarmi, S., Farsi, Z., Roy's adaptation model-guided education and promoting the adaptation of veterans with lower extremities amputation, <i>Iranian Red Crescent Medical Journal</i> , 17, 1-7, 2015	Interventions not in PICO
Bajorek, Alexander J., Slocum, Chloe, Goldstein, Richard, Mix, Jacqueline, Niewczyk, Paulette, Ryan, Colleen M., Hendricks, Carla Tierney, Zafonte, Ross, Schneider, Jeffrey C., Impact of Cognition on Burn Inpatient Rehabilitation Outcomes, <i>PM &amp; R : the journal of injury, function, and rehabilitation</i> , 9, 1-7, 2017	No intervention
Beals, K., Fitness, training, cognitive and hormonal characteristics associated with musculoskeletal injury and physical performance in Special Operation Forces-An international perspective, <i>Journal of Science and Medicine in Sport</i> , 20, S87, 2017	Population not in PICO: No traumatic injury
Ben-Zion, Z., Fine, N. B., Keynan, N. J., Admon, R., Green, N., Halevi, M., Fonzo, G. A., Achituv, M., Merin, O., Sharon, H., Halpern, P., Liberzon, I., Etkin, A., Hendler, T., Shalev, A. Y., Cognitive flexibility predicts PTSD symptoms: Observational and interventional studies, <i>Frontiers in Psychiatry</i> , 9, 477, 2018	Outcomes not in PICO
Bombardier, C., Fann, J. R., Ehde, D., Reyes, M. R., Hoffman, J. M., Collaborative care for pain, depression and physical inactivity in an outpatient SCI clinic: The sci-care study, <i>Archives of Physical Medicine and Rehabilitation</i> , 97, e78-e79, 2016	Published as abstract only
Crotty, M., Unroe, K., Cameron, I. D., Miller, M., Ramirez, G.,	Interventions not in PICO:



Study	Reason for Exclusion
Couzner, L., Rehabilitation interventions for improving physical and psychosocial functioning after hip fracture in older people, Cochrane Database of Systematic Reviews, 2010	interventions aimed at improving physical and psychosocial functioning
Cunha, R. G., Da-Silva, P. J., Dos Santos Couto Paz, C. C., da Silva Ferreira, A. C., Tierra-Criollo, C. J., Influence of functional task-oriented mental practice on the gait of transtibial amputees: a randomized, clinical trial, Journal of NeuroEngineering and Rehabilitation, 14, 28, 2017	Outcomes not in PICO
Devineni, T., Blanchard, E. B., Hickling, E. J., Buckley, T. C., Effect of psychological treatment on cognitive bias in motor vehicle accident-related Posttraumatic Stress Disorder, Journal of Anxiety Disorders, 18, 211-231, 2004	Population not in PICO: People with PTSD
Donaghey, C. L., McMillan, T. M., O'Neill, B., Errorless learning is superior to trial and error when learning a practical skill in rehabilitation: a randomized controlled trial, Clinical Rehabilitation, 24, 195-201, 2010	Population not in PICO: 27/30 had amputations due to peripheral arterial disease /- diabetes mellitus
Gillies, D., Taylor, F., Gray, C., O'Brien, L., D'Abrew, N., Psychological therapies for the treatment of post-traumatic stress disorder in children and adolescents (Review), Evidence-Based Child Health, 8, 1004-1116, 2013	Population not in PICO: Patients with PTSD
Gillies, Donna, Maiocchi, Licia, Bhandari, Abhishta P., Taylor, Fiona, Gray, Carl, O'Brien, Louise, Psychological therapies for children and adolescents exposed to trauma, The Cochrane database of systematic reviews, 10, CD012371, 2016	Systematic review, included studies checked for relevance
Handoll, H. H. G., Elliott, J., Rehabilitation for distal radial fractures in adults, Cochrane Database of Systematic Reviews, 2015	Systematic review, included studies checked for relevance
Hartley, Naomi A., Spinal cord injury (SCI) rehabilitation: systematic analysis of communication from the biopsychosocial perspective, Disability and rehabilitation, 1-10, 2015	Comparison (intervention) not in PICO / Descriptive systematic review on communication in spinal cord injury (â œ In order to be included in the final analysis, literature needed to include a measure (and/or report findings) specifically relating to communication following SCI.â )
Hauer, K., Ullrich, P., Dutzi, I., Beurskens, R., Kern, S., Bauer, J., Schwenk, M., Effects of Standardized Home Training in Patients with Cognitive Impairment following Geriatric Rehabilitation: a Randomized Controlled Pilot Study, Gerontology, 63, 495â 506, 2017	Intervention (physical training/exercise) not in PICO
Heutink, M., Post, M. W., Bongers-Janssen, H. M., Dijkstra, C. A., Snoek, G. J., Spijkerman, D. C., Lindeman, E., The CONECSE trial: results of a randomized controlled trial of a multidisciplinary cognitive behavioral program for coping with chronic neuropathic pain after spinal cord injury, Pain, 153, 120â 128, 2012	Intervention not in PICO: Pain management program
Houlihan, B. V., Jette, A., Friedman, R. H., Paasche-Orlow, M., Ni, P., Wierbicky, J., Williams, K., Ducharme, S., Zazula, J., Cuevas, P., Rosenblum, D., Williams, S., A pilot study of a telehealth intervention for persons with spinal cord dysfunction, Spinal Cord, 51, 715-20, 2013	Intervention not in PICO: â œCareCallâ ™ is an automated, interactive voice response system that combines patient education, cognitive behavioral interventions, screening and referrals, with alerts to a nurse telerehabilitation

Study	Reason for Exclusion
	coordinator for direct non-emergent phone follow up.â (p. 715)
Imam, Bitu, Miller, William C., Finlayson, Heather, Eng, Janice J., Jarus, Tal, A randomized controlled trial to evaluate the feasibility of the Wii Fit for improving walking in older adults with lower limb amputation, <i>Clinical Rehabilitation</i> , 31, 82-92, 2017	Comparison not in PICO (Wii.n.Walk versus Wii Big Brain Acadaey degree; 15/24 participants in PICO, data not presented separately for them)
Jeffs, L., Jiang, D., Wilson, G., Ferris, E., Cardiff, B., Lanceta, M., White, P., Pringle, D., Linking HOBIC measures with length of stay and alternate levels of care: implications for nurse leaders in their efforts to improve patient flow and quality of care, <i>Nursing leadership (Toronto, Ont.)</i> , 25, 48-62, 2012	Mixed population unclear how many were in PICO, no intervention applied
Jobory, A., Rolfson, O., Akesson, K. E., Arvidsson, C., Nilsson, I., Rogmark, C., Hip precautions not meaningful after hemiarthroplasty due to hip fracture. Cluster-randomized study of 394 patients operated with direct anterolateral approach, <i>Injury</i> , 2019	Interventions not in PICO: Physical post-operative mobility interventions
Jonsson, A., Gustafson, Y., Scholl, M., Hansen, F. R., Saarela, M., Nygaard, H., Laake, K., Jonsson, P. V., Valvanne, J., Dehlin, O., Geriatric rehabilitation as an integral part of geriatric medicine in the Nordic countries, <i>Danish Medical Bulletin</i> , 50, 439-445, 2003	Article in Danish
Jurdi, S., Montaner, J., Garcia-Sanjuan, F., Jaen, J., Nacher, V., A systematic review of game technologies for pediatric patients, <i>Computers in Biology and Medicine</i> , 97, 89-112, 2018	Descriptive systematic review about purpose and use of gaming in hospitals
Kornor, Hege, Winje, Dagfinn, Ekeberg, Oivind, Johansen, Kjell, Weisaeth, Lars, Ormstad, Sari S., Steiro, Asbjorn K., Fretheim, Atle, 2007	Summary/abstract of SR, with full text in Norwegian.
Leung, P., Kinzie, D., Riley, C., Kinzie, E., Lawrence, L., Mental health care to traumatized patients in resource poor environments, <i>Asia-Pacific Psychiatry, Conference</i> , 2010	Published as abstract only
Li, X., The impact of TCM holistic nursing intervention on sleep quality of the patients after the operation of bone fracture, <i>Western journal of traditional chinese medicine [xi bu zhong yi yao]</i> , 28, 149â 150, 2015	Article in Chinese
Li, Yan, Bressington, Daniel, Chien, Wai Tong, Systematic Review of Psychosocial Interventions for People With Spinal Cord Injury During Inpatient Rehabilitation: Implications for Evidence-Based Practice, <i>Worldviews on evidence-based nursing</i> , 14, 499-506, 2017	Systematic review, included studies checked for relevance
Lovas, J., Tran, Y., Middleton, J., Bartrop, R., Moore, N., Craig, A., Managing pain and fatigue in people with spinal cord injury: a randomized controlled trial feasibility study examining the efficacy of massage therapy, <i>Spinal Cord</i> , 55, 162-166, 2017	Interventions/comparison not in PICO: Swedish massage versus guided-imagery relaxation
Malfliet, Anneleen, Kregel, Jeroen, Coppieters, Iris, De Pauw, Robby, Meeus, Mira, Rousset, Nathalie, Cagnie, Barbara, Danneels, Lieven, Nijs, Jo, Aaronson, Butler Correa Crombez Desikan Dolphens Farrar Fischer Fischl Glomsrod Goubert Gwilym Hassan Keller Kernan Kregel Kregel Louw Malfliet Malfliet Mlekusch Monticone Moseley Murray Neblett Ng Nijs Picavet Rivest Roelofs Rousset Seminowicz Shahidi Soer Soukup Sullivan Talati Van Oosterwijck Van Oosterwijck, Effect of pain neuroscience education combined with cognition-targeted motor control training on chronic spinal pain: A randomized clinical trial, <i>JAMA Neurology</i> , 75, 808-817, 2018	Population not in PICO: Patients with nonspecific chronic spinal pain
Martín-Martín, L. M., Valenza-Demet, G., Jiménez-Moleón, J. J., Cabrera-Martos, I., Revelles-Moyano, F. J., Valenza, M. C., Effect of	Intervention not in PICO: Occupational therapy

Study	Reason for Exclusion
occupational therapy on functional and emotional outcomes after hip fracture treatment: a randomized controlled trial, <i>Clinical Rehabilitation</i> , 28, 541â551, 2014	
McGinnis, Katrina, Lunn, Melen, School re-entry after pediatric spinal cord injury, <i>SCI nursing : a publication of the American Association of Spinal Cord Injury Nurses</i> , 21, 222-3, 2004	Unavailable
Milders, M., Deelman, B., Berg, I., Rehabilitation of memory for people's names, <i>Memory (Hove, England)</i> , 6, 21-36, 1998	Population not in PICO: closed-head-injured patients and healthy controls
Perkes, Sarah J., Bowman, Julia, Penkala, Stefania, Psychological therapies for the management of co-morbid depression following a spinal cord injury: a systematic review, <i>Journal of health psychology</i> , 19, 1597-612, 2014	Systematic review, included studies checked for relevance
Perry, Kathryn Nicholson, Nicholas, Michael K., Middleton, James W., Comparison of a pain management program with usual care in a pain management center for people with spinal cord injury-related chronic pain, <i>The Clinical journal of pain</i> , 26, 206-16, 2010	Non-randomised study with N=36
Pourmand, Ali, Davis, Steven, Lee, Danny, Barber, Scott, Sikka, Neal, Emerging Utility of Virtual Reality as a Multidisciplinary Tool in Clinical Medicine, <i>Games for health journal</i> , 6, 263-270, 2017	Narrative review
Ramani, P. S., Challenges for neuro-rehabilitation in India, <i>Neurorehabilitation and Neural Repair</i> , 32, 353-354, 2018	Published as abstract only
Rice, Sydney A., Allaire, Janet, Elgin, Kevin, Farrell, Walter, Conaway, Mark, Blackman, James A., Effect of shortened length of stay on functional and educational outcome after pediatric rehabilitation, <i>American journal of physical medicine &amp; rehabilitation</i> , 83, 27-32, 2004	Non-comparative study/no intervention
Roberts, N. P., Kitchiner, N. J., Kenardy, J., Bisson, J. I., Multiple session early psychological interventions for the prevention of post-traumatic stress disorder, <i>Cochrane Database of Systematic Reviews</i> , 2009	Population/intervention not in PICO: Multiple session early psychological interventions for the prevention of post-traumatic stress disorder
Roberts, N. P., Kitchiner, N. J., Kenardy, J., Bisson, J. I., Early psychological interventions to treat acute traumatic stress symptoms, <i>Cochrane Database of Systematic Reviews</i> , 2010	Population/intervention not in PICO: Early psychological interventions to treat acute traumatic stress symptoms
Russell, H. F., Richardson, E. J., Bombardier, C. H., Dixon, T. M., Huston, T. A., Rose, J., Sheaffer, D., Smith, S. A., Ullrich, P. M., Professional standards of practice for psychologists, social workers, and counselors in SCI rehabilitation, <i>Journal of Spinal Cord Medicine</i> , 39, 127-145, 2016	Professional standards for rehabilitation staff
Shearer, H. M., Carroll, L. J., Wong, J. J., Cote, P., Varatharajan, S., Southerst, D., Sutton, D. A., Randhawa, K. A., Yu, H., Mior, S. A., van der Velde, G. M., Nordin, M. C., Stupar, M., Taylor-Vaisey, A. L., Are psychological interventions effective for the management of neck pain and whiplash-associated disorders? A systematic review by the Ontario Protocol for Traffic Injury Management (OPTiMa) Collaboration, <i>Spine Journal</i> , 16, 1566-1581, 2016	Systematic review, included studies checked for relevance
Shyu, Y. I., Tsai, W. C., Chen, M. C., Liang, J., Cheng, H. S., Wu, C. C., Su, J. Y., Chou, S. W., Two-year effects of an interdisciplinary intervention on recovery following hip fracture in older Taiwanese with cognitive impairment, <i>International Journal of Geriatric Psychiatry</i> , 27, 529â538, 2012	Intervention not in PICO: Multidisciplinary, but not cognitive rehabilitation or fatigue management (same patients as in Shyu 2013)
Shyu, Y. I., Tseng, M. Y., Liang, J., Tsai, W. C., Wu, C. C., Cheng, H. S., Interdisciplinary intervention decreases cognitive impairment	Intervention not in PICO: Multidisciplinary, but not

Study	Reason for Exclusion
for older Taiwanese with hip fracture: 2-year follow-up, International Journal of Geriatric Psychiatry, 28, 1222â1231, 2013	cognitive rehabilitation or fatigue management (same patients as in Shyu 2012)
South, R., Wallis, D., Therapy groups for trauma experienced in childhood, Australasian Psychiatry, 11, 292-294, 2003	Population not in PICO: Patients with a variety of psychological disorders
Stallard, P., Psychological interventions for post-traumatic reactions in children and young people: A review of randomised controlled trials, Clinical Psychology Review, 26, 895-911, 2006	(Semi-)systematic review, included studies checked for relevance
Stromberg, L., Ohlen, G., Nordin, C., Lindgren, U., Svensson, O., Postoperative mental impairment in hip fracture patients. A randomized study of reorientation measures in 223 patients, Acta orthopaedica Scandinavica, 70, 250-5, 1999	Study conducted before 1995 (1991-1992)
Tamrat, R., Goyal, M., Huynh-Le, M. P., Systematic review of non-pharmacologic interventions to improve the sleep of hospitalized patients, Journal of General Internal Medicine, 28, S191, 2013	Published as abstract only
Task Force on Community Preventive Services, Recommendations to reduce psychological harm from traumatic events among children and adolescents, American journal of preventive medicine, 35, 314-6, 2008	Guideline/recommendations based on Wethington systematic review which is excluded
Wells, Jennie L., Seabrook, Jamie A., Stolee, Paul, Borrie, Michael J., Knoefel, Frank, State of the art in geriatric rehabilitation. Part II: clinical challenges, Archives of physical medicine and rehabilitation, 84, 898-903, 2003	Systematic review, included studies checked for relevance
Wethington, Holly R., Hahn, Robert A., Fuqua-Whitley, Dawna S., Sipe, Theresa Ann, Crosby, Alex E., Johnson, Robert L., Liberman, Akiva M., Moscicki, Eve, Price, Leshawndra N., Tuma, Farris K., Kalra, Geetika, Chattopadhyay, Sajal K., Task Force on Community Preventive Services, The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review, American journal of preventive medicine, 35, 287-313, 2008	Systematic review, included studies checked for relevance
Wong, Eliza Mi-Ling, Chan, Sally Wai-Chi, Chair, Sek-Ying, Carr, Coll Engels Freeman Johansson Lin Wong, The effect of educational intervention on pain beliefs and postoperative pain relief among Chinese patients with fractured limbs, Journal of Clinical Nursing, 19, 2652-2655, 2010	Intervention (education about pain management) not in PICO
Zatzick, Douglas, Jurkovich, Gregory, Rivara, Frederick P., Russo, Joan, Wagner, Amy, Wang, Jin, Dunn, Chris, Lord, Sarah Peregrine, Petrie, Megan, O'Connor, Stephen S., Katon, Wayne, A randomized stepped care intervention trial targeting posttraumatic stress disorder for surgically hospitalized injury survivors, Annals of surgery, 257, 390-9, 2013	Population/condition not in PICO (PTSD)

## Economic studies

All studies were excluded at the initial title and abstract screening stage. See appendix G for further information.

## **Appendix L – Research recommendations**

### **Research recommendations for review question: B.2a What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?**

No research recommendations were made for this review question.

### **Research recommendations for review question: B.2b What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?**

No research recommendations were made for this review question.