

# Prognos efter lätt traumatisk hjärnskada



Supplement to

## Archives of Physical Medicine and Rehabilitation

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Results of The International Collaboration on Mild Traumatic  
Brain Injury Prognosis (ICoMP)

# Results of the International Collaboration on Mild Traumatic Brain Injury Prognosis (ICoMP)

- Systematic review of the literature
- Update of a previous systematic review 2002
  - Prognosis for mild traumatic brain injury: results of the WHO Collaborating Centre Task Force on Mild Traumatic Brain Injury, Carroll LJ, *et al*, WHO Collaborating Centre Task Force on Mild Traumatic Brain Injury. 2004
- Authors from Sweden, Denmark, Canada, USA
  - From Sweden:
    - Jörgen Borg, Catharina Nygren-deBoussard, Alison Godbolt, Lena Holm, Britt-Marie Stålnacke, Jean-Luc af Giejerstam

# Methods

- Published protocol before study start
  - Search Strategy
  - Detailed inclusion and exclusion criteria
    - Publication date, Language, Publication type, Study design, Study population, Case Definition, Outcomes
  - Clearly defined methods for assessment of studies

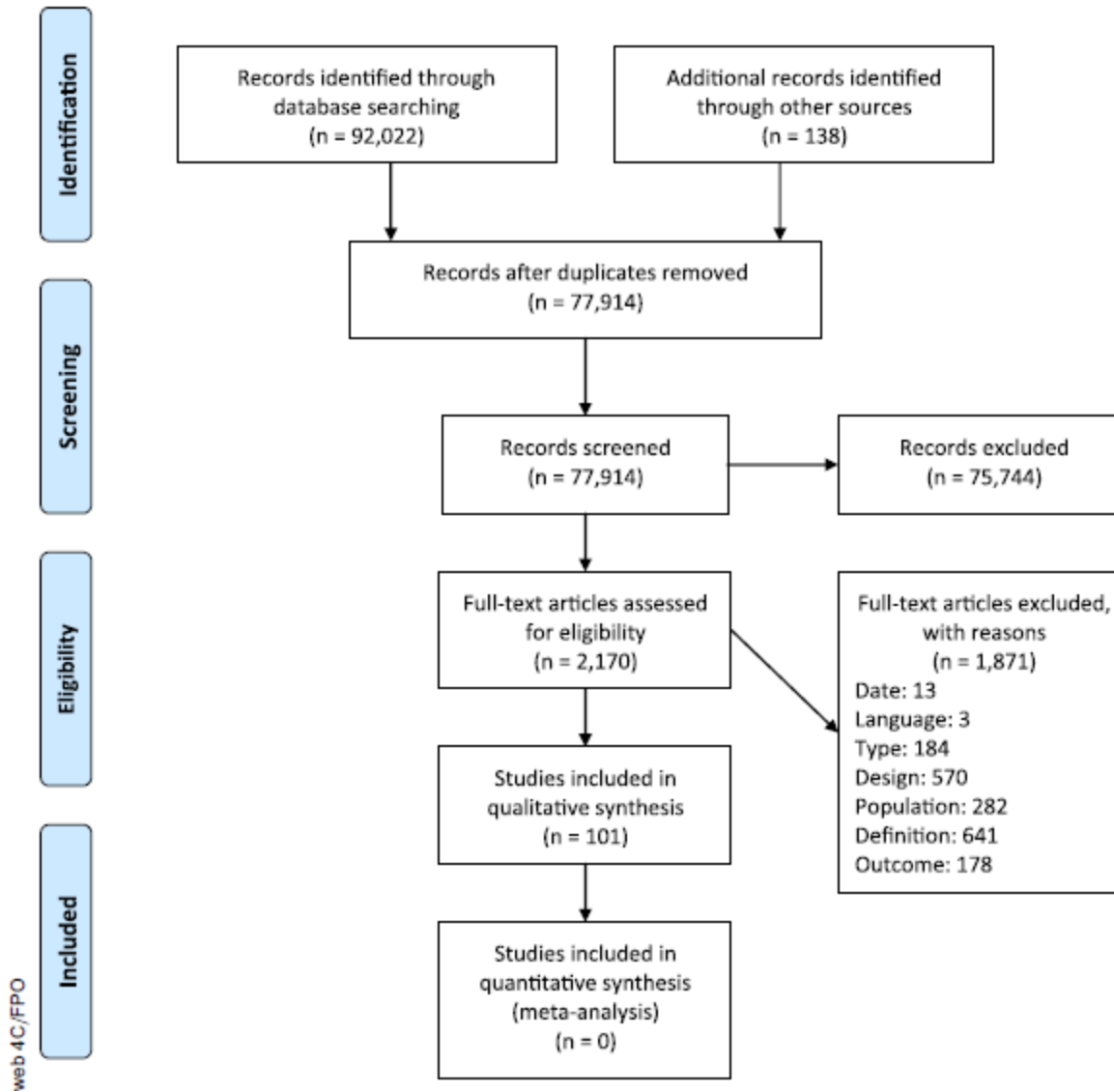


Methodology Checklist 3: Cohort studies

Screening item	Inclusion criteria	Exclusion criteria
Case Definition	<ul style="list-style-type: none"> <li>• Concussion or MTBI</li> <li>• Glasgow Coma Scale Score of 13-15</li> <li>• Fractured skull</li> <li>• Comply with WHO Task Force definition of MTBI<sup>7</sup> (see below)</li> <li>• Comply with CDC definition: an Abbreviated Injury Severity (AIS) score of 2 for the head region; specific ICD-9-CM codes (see codes below)</li> </ul>	<ul style="list-style-type: none"> <li>• Neck fractures and open or penetrating head injury</li> <li>• Non-traumatic brain injury</li> <li>• Shaken baby syndrome</li> <li>• Intentional MTBI</li> </ul>

### **WHO Task Force definition**

“MTBI is an acute brain injury resulting from mechanical energy to the head from external physical forces. Operational criteria for clinical identification include: (i) one or more of the following: confusion or disorientation, loss of consciousness for 30 minutes or less, post-traumatic amnesia for less than 24 hours, and/or other transient neurological abnormalities such as focal signs, seizure, and intracranial lesion not requiring surgery; (ii) Glasgow Coma Scale score of 13 – 15 after 30 minutes post-injury or later upon presentation for healthcare. These manifestations of MTBI must not be due to drugs, alcohol, medications, caused by other injuries or treatment for other injuries (e.g. systemic injuries, facial injuries or intubation), caused by other problems (e.g. psychological trauma, language barrier or coexisting medical conditions) or caused by penetrating craniocerebral injury” (Carroll et al., J Rehabil Med, 2004, p. 115).



# Reviews on many aspects of prognosis after mild traumatic brain injury

- Self-reported Prognosis
- Cognitive, Psychiatric and Mortality Outcomes
- Prognosis for children
- Psychosocial consequences
- Return to work
- Return to play (sports)
- Mild TBI in the military
- Mild TBI and risk for Parkinson's disease
- Mild TBI and risk for dementia and chronic cognitive impairment
- Nonsurgical interventions for mild TBI
- Methodological issues and research recommendations

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# Self-reported prognosis

## 23 accepted studies

- Common postconcussion symptoms are
  - not specific to mild TBI / concussion
  - occur after other non-head injuries
- Poor recovery associated with
  - More injury-related stress
  - Poorer premorbid mental and physical health
- Most recover over 1 year
  - But persistent symptoms more likely with more acute symptoms and more emotional stress



# Objective outcomes: Cognitive, Psychiatric and Mortality

21 accepted studies

- ***Most evidence*** for
  - Cognitive deficits in the first 2 weeks
- ***Some evidence*** that
  - Complete recovery may take 6 months or a year
- ***A little evidence*** that
  - Mild TBI increases risk of psychiatric illness and suicide

# Risk of dementia after mild TBI: *only one methodologically acceptable study*

- Helmes E, *et al*, Brain Inj 2011;25:338-47
- history of mild TBI was not associated with a future diagnosis of dementia or with other cognitive outcomes.
- insufficient evidence to draw any conclusion about a potential risk of dementia after mild TBI (either single or repetitive injury).

# Risk of chronic cognitive impairment after mild TBI

Definition: Cognitive impairment at  $\geq 1$  year

- No studies in adults
- 6 studies in children

# Risk of chronic cognitive impairment after mild TBI

- no evidence of cognitive impairment (neuropsych) 1 year after injury in school-aged children with MTBI and normal MRI
- children with abnormal MRI had worse cognition a year after injury than those with normal MRI
- Mixed evidence regarding chronic cognitive symptoms

# Nonsurgical interventions for mild TBI

- 7 studier 8 publikationer handlade om intervention och MTBI
- 2 studier (RCTs) accepterades:

Författare	Intervention	Kontroll grupp	Uppföljning	Resultat
Bell et al, 2008	Telefonkontakt, 3 mån efter skadan + skriftlig info	Vanligt infoblad	6 mån	- Färre symtom i interventionsgrupp - dock ingen påverkan på generell hälsa
De Kruijk et al, 2002	6 dagars sängläge	Begränsad sängläge	2v, 3 och 6 mån	- ingen signifikant skillnad avseende symtom eller livstillfredsställelse vid tre månader eller 6 månader.

# Faktorer att beakta i studier avseende intervention

- RCT
- Tydligt beskriva randomisering, drop-out
- Prediktionsmodeller
- Fokus på behandlingsbara prognostiska faktorer

- Tack!