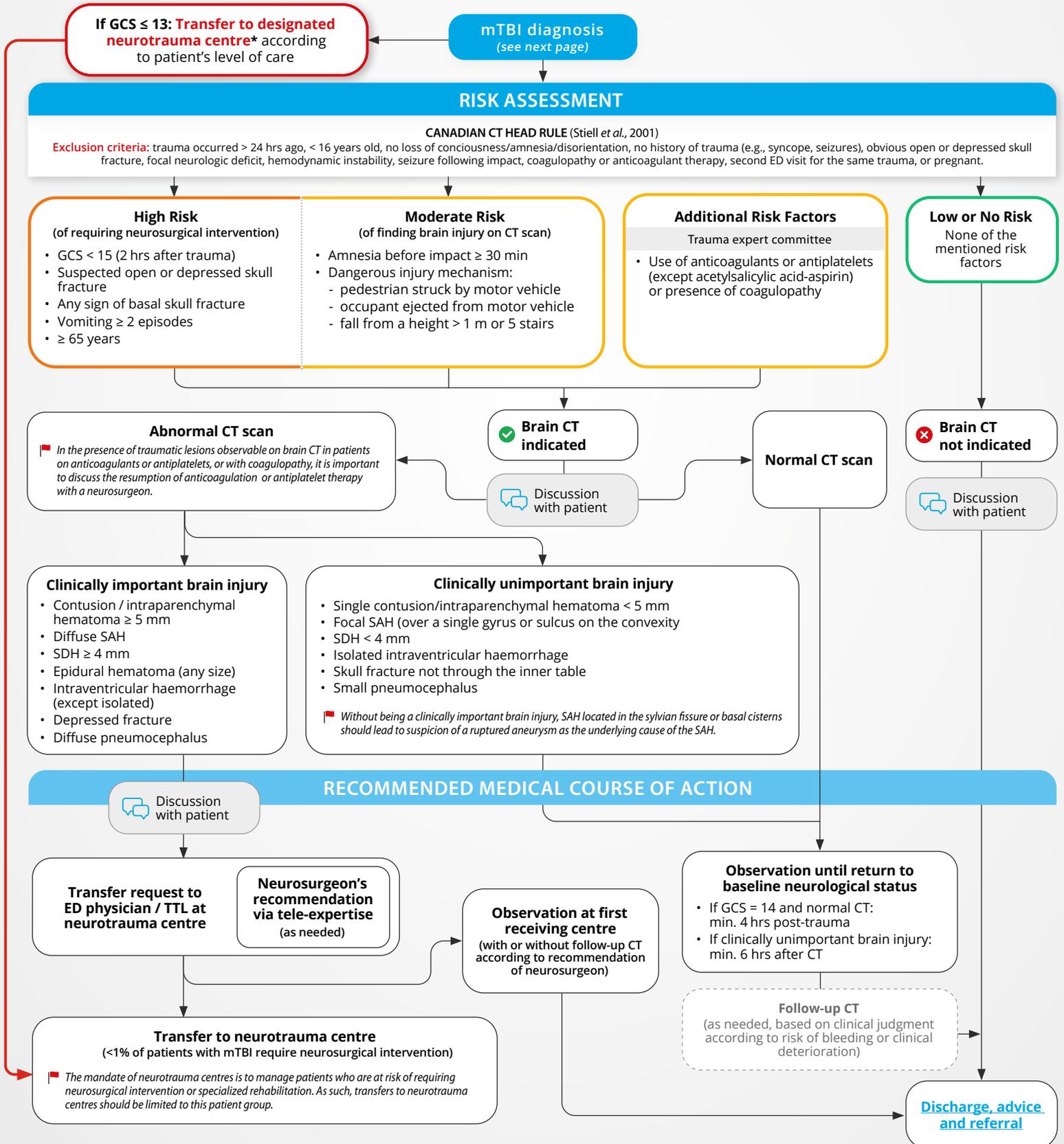


ADULT PATIENTS

Decision-Making Algorithm for Assessing and Managing the Risk of Severe Neurological Complications Following mTBI

(This tool does not replace clinical judgment.)



* **Overriding Rule:** Because many mTBI cases with a GCS score ≤ 13 have an intoxication component, the following override rule applies to facilities for which an air medical evacuation (AME) is required:

1. Neurotrauma patients with a GCS ≤ 13 and who present with a positive CT scan require transfer to neurotrauma services at the designated tertiary centre.
2. Neurotrauma patients with a GCS ≤ 13 and an intoxication component, not associated with a dangerous injury mechanism, and presenting with a normal CT scan require transfer to neurotrauma services at the designated tertiary centre only if there is no improvement in their GCS score after 24 hours of observation.

ADULT PATIENTS

Decision-Making Algorithm for Assessing and Managing the Risk of Severe Neurological Complications Following mTBI

MTBI DIAGNOSIS

1. History of the Accident

- Mechanism of injury (acceleration-deceleration, impact on the skull, velocity, protection, ejection, etc.)

2. Physical Examination

- Objective assessment of at least one of the following:
 - Altered consciousness (confusion, disorientation, *psychomotor retardation*¹).
 - Loss of consciousness < 30 min
 - *Retrograde* or anterograde amnesia (<24 hours)²
 - Any other evidence of transient *central* cause of neurological impairment³ (e.g., seizures, *identified balance/coordination problems*⁴) or intracranial injury not requiring surgery
- A score of 13 to 15 on the Glasgow Coma Scale⁵ 30 minutes or more after the accident, as assessed in the emergency department

¹ *Psychomotor retardation*: e.g., slower verbal response time, slower motor reaction time, etc.

² *Retrograde* amnesia: amnesia of events prior to the accident.
Anterograde amnesia: amnesia of events after the accident.

³ Transient *central* cause of neurological impairment: consider any abnormality with a central neurological appearance – not just lateralizing or very focal signs.

⁴ *Identified balance/coordination problems*: identified abnormality using simple tests (or portions of tests) of static and dynamic balance (e.g., Balance Error Scoring System, straight line walking, unipedal balance, etc.).

⁵ The GCS must be assessed in such a way as to rule out confounding factors (e.g., intoxication).

The words in italics are clinical examples or clarifications suggested by the advisory committee as part of the revision of the Ministerial guidelines on mTBI. The definition of mTBI as presented here will be adjusted as necessary to reflect new guidelines when they are released.