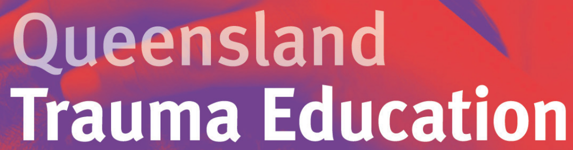

TRAUMATIC BRAIN INJURY

Management of mild closed head injury

Role play

Facilitator resource kit

CSDS
Clinical Skills Development Service

Metro North Health

Queensland Government

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Queensland Trauma Education
Traumatic Brain Injury - Management of mild closed head injury: Role play - Facilitator resource kit
Version 1.0

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Queensland Trauma Education

The resources developed for Queensland Trauma Education are designed for use in any Queensland Health facility that cares for patients who have been injured as a result of trauma. Each resource can be modified by the facilitator and scaled to the learners needs as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

National Safety and Quality Health Service (NSQHS) Standards

About this training resource kit

This resource is for facilitators to explore the discharge management of mild traumatic brain injury (TBI) after initial assessment and treatment.

Target audience

- Emergency department medical and nursing clinicians.
- Allied health clinicians.

Duration

30 minutes.

Group size

Suited to small group participation.

Learning objectives

By the end of this session the participant will be able to:

- Demonstrate knowledge of discharge management for mild traumatic brain injury.
- Communicate appropriate discharge advice to patients following a mild head injury.

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Facilitator guide

1. Facilitator or confederate to play the role of the patient.
2. Provide the case brief and tasks to the learner.
3. Case requires the learner to provide discharge advice to the patient.
4. Question guide prompts to ensure all aspects are covered.
5. Ensure learners do not use medical jargon.

Participant resource kit

- Learning objectives.
- Overview of mild traumatic brain injury.
- Further reading.
- Supporting resources:
  — Canadian CT Head Rule - infographic poster.

Supporting resources

- Canadian CT Head Rule - infographic poster.

Overview of mild traumatic brain injury

Traumatic brain injury (TBI) accounts for 50% of trauma deaths and 70% of all road trauma deaths. TBI is classified based on severity including mild, moderate and severe.

The incidence of mild TBI is far more prevalent accounting for approximately 75% of those who experience brain trauma. Knowledge of appropriate assessment and management strategies for patients with mild TBI is essential to risk stratify this cohort of patients.

Further reading

Queensland Health, Clinical Excellence Division - Emergency Department factsheets:

- Concussion
  https://clinicalexcellence.qld.gov.au/sites/default/files/2018-03/concussion-adult.pdf
- Concussion - returning to work & sport
  https://clinicalexcellence.qld.gov.au/sites/default/files/2018-03/concussion-work-sport.pdf
- Minor head injury without concussion
  https://clinicalexcellence.qld.gov.au/sites/default/files/docs/resourses/emerg-depart/minor-head-injury.pdf

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TRAUMATIC BRAIN INJURY

Canadian CT Head Rule

CT head is only required for minor injury patients with any one of these findings:

High risk (for neurological intervention)

1. GCS score < 15 at 2 hours after injury
2. Suspected open or depressed skull fracture
3. Any sign of basal skull fracture*
4. Vomiting ≥ 2 episodes
5. Age ≥ 65 years

Medium risk (for brain injury on CT)

6. Amnesia before impact ≥ 30 min
7. Dangerous mechanism**
(pedestrian, occupant ejected, fall from elevation)

***Signs of basal skull fracture**

- Hemotympanum, 'racoon' eyes, CSF otorrhea/rhinorrhea, Battle's sign.

****Dangerous mechanism**

- Pedestrian struck by vehicle.
- Occupant ejected from motor vehicle.
- Fall from elevation ≥ 1 metre or 5 stairs.

Rule not applicable if:

- Non-trauma cases.
- GCS < 13.
- Age < 16 years.
- Coumadin or bleeding disorder.
- Obvious open skull fracture.

Adapted from Stiell IG, et al. That Canadian CT Head Rule for Patients with Minor Head Injury. Lancet 2001;357:1391-96

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Role play

Case study

A 23 year old professional football player presents for review following a head clash at training. He was briefly knocked out, with no seizure activity and normal conscious state on arrival of paramedics 5 minutes later.

His vital signs are normal. You assess him and find no external signs of head injury, normal neurological examination, pupils both 3mm and reactive and no bruising or wounds to his head.

You follow the Canadian CT head guidelines and elect not to perform a CT brain.

You have diagnosed this patient as having a mild traumatic brain injury and are going to ensure the patient is ready for discharge.

Please provide the patient with discharge advice and answer any questions that they may have.

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Question and answer guide

Facilitator or confederate to play the role of the patient. The following questions to be asked if not provided with the initial discharge advice given.

Question 1

Patient	I understand that I am ok to go home. I don't have anyone with me, it's alright if I just get an Uber?
Recommended response	Required to stay with someone responsible for 24 hours.

Question 2

Patient	I've still got a bit of a headache, when will it go away?
Recommended response	In most cases symptoms may last only a few days. If it continues more than a week you need further review and I suggest you see your GP.

Question 3

Patient	Could I get any other problems/symptoms? What should I do for them? Is there any medicine I should not have?
Recommended response	Symptom control - Rest, ice packs, paracetamol (avoid Ibuprofen), avoid sedatives. Limit screen time and any alcohol/drugs. Need to avoid any activity in which head strike may occur.

Question 4

Patient	What symptoms should I look out for?
Recommended response	Return immediately if you develop frequent vomiting, severe headache, drowsiness, seizure activity, confusion, weakness or incoordination.

Question 5

Patient	When can I drive?
Recommended response	You will need to be completely symptom free and so I suggest you see your general practitioner for clearance once your symptoms have completely resolved. Until then you can not drive or operate machinery.

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Question 6

Patient	When can I go back to training or play a game?
Recommended response	• In general, return to sport is dictated by symptoms. You should not return to sport until all symptoms have resolved. This is because your reaction times are slower, and you may be at risk of further injury. Also, the risk of significant secondary injury increases if there is not enough healing time for the brain. • Each sporting code has a specific guideline on their website regarding return to sport (playing and training). • There are 6 structured steps to follow with functional exercise at each step. No step should be skipped and if symptoms return you'll need to go back one step and take the progression slower. • Your GP should review you to provide medical clearance between progressing from training drills with passing and progressive resistance to normal training activities.

Question 7

Patient	My mate was knocked out and he had a cat scan. I'm worried if I don't have one that something will go wrong.
Recommended response	• With mild TBI most (90%) patients have a normal CT brain. • In the 10% of CT positive cases, with mild traumatic brain injury (GCS 13-15) the number of neurosurgical important lesions (ones that need an operation) is 1-2%.

Question 8

Patient	Can I go to work tomorrow?
Recommended response	No, your brain needs time to rest. I advise that you gradually increase daily activity level to ensure symptoms don't worsen.

Question 9

Facilitator: The patient presents 2 weeks later complaining of an ongoing headache and dizziness. What follow up should be arranged?

Recommended response	Needs higher level care to manage his post-concussion syndrome. May require vestibular-ocular assessment and personalised plans with a neurologist/neurosurgeon, OT and physiotherapist.

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Debriefing guide

Role play objectives

- Understand the clinical presentation in traumatic brain injury.
- Demonstrate effective communication using clear and appropriate instructions to a patient being discharged with mild TBI.
- Understand management principles of mild TBI and provide appropriate discharge advice.
- Utilise supported documentation to provide clinical information for patient centred care.

Example questions

Exploring diagnosis

- Explain your thought process in assessing a trauma patient for severity of traumatic brain injury.
- Do you have a system for assessment following a traumatic brain injury?
- How do you classify mild/moderate/severe traumatic brain injury?
- Why would you opt to NOT perform a CT head for this patient?

Discussing management

- How do you decide if a patient is safe for discharge from the ED following TBI?
- Where can you locate resources to provide the patient/relative who is being discharged with mild TBI?
- How do you effectively communicate discharge advice to a patient with a mild TBI? Is there anything different you would do to provide the information?
- Do you see any challenges/barriers that may exist when communicating with a patient following TBI?
- How do you manage the patient/relative who is insisting on having a CT Head performed despite your recommendations?

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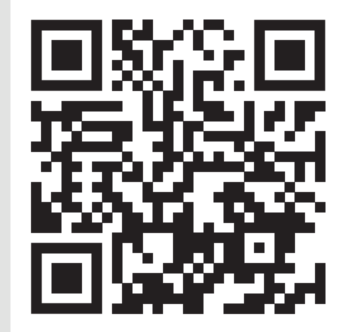

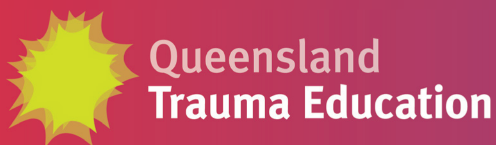

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