



AUT TRAUMATIC BRAIN INJURY NETWORK



Brain Injury Screening Tool (BIST-2)

A guide for traumatic brain injury assessment

The BIST was developed to be a brief tool for use on initial presentation after injury to guide health care pathway decision making and to monitor symptoms and recovery over time. Its purpose is to help guide the clinical assessment by operationalising current international best practice guidelines.¹

The BIST was developed for health professionals working across primary and secondary health care and for sports and other contexts where traumatic brain injuries (TBI) can occur.

The BIST facilitates clinical decision making through identification of people who are at low, medium or high risk of longer-term difficulties.

This tool should be used in addition to clinical judgment and other assessments such as the Vestibular/Oculomotor Motor Screening (VOMS), King-Devick or the Romberg's test. Additional questioning to add to the clinical picture is encouraged.

The first 12 questions in the BIST are designed to assist if there are clinical indicators that the person is at high risk of complications or poor recovery and requires hospital evaluation. The symptom scale is designed to assist in identifying patients at moderate risk of poor recovery who may benefit from early specialist treatment and low risk patients who are likely to recover well, supported within primary care.

Date of Injury:

Time of Injury:

Date of Consultation:

Age¹:

Gender/Sex:

1. If over 65 years with one additional risk factor, consider referral to the Emergency Department

Ethnicity:

If your answer is OTHER please specify:

1. Please tell me about what happened

2. Are there high risk indicators such as suspicion of skull fracture, focal neurological deficit, high speed, focal blunt trauma or fall from height (e.g. >5 stairs)²

Yes No

2. If high risk indicators present, consider referral to Emergency Department or Concussion Service

3. Did the incident occur in traumatic circumstances which could result in emotional or psychological reactions (e.g., assault, domestic violence, fatalities in a car accident)?³

Yes No

3. If psychological trauma likely, consider referral to Concussion Service

4. Did anyone with you at the time of the injury say anything else about what happened?

Yes No

5. Were you sick or did you vomit?⁴

Yes No a. If yes, how many times

4. If > 1 vomiting episode, consider referral to Emergency Department

6. Were you knocked out (or did you lose consciousness)?⁵

Yes No Unknown a. If yes, how long hrs mins

5. If loss of consciousness >brief, consider referral to Emergency Department or Concussion Service.

7. Did you have a fit or seizure straight afterwards? E.g. go stiff or shake violently?⁶

Yes No Unknown

6. If yes, and it's within a few days of the injury consider referral to Emergency Department.

8. Are you feeling better, worse or about the same since the injury?⁷

Better Worse About the same

7. If symptoms have worsened within the first few days of injury, consider referral to Emergency Department or Concussion Service.

9. Have you had a concussion or brain injury before?⁸

Yes **No** If **yes**, (i) how many times?

(ii) When was the last injury?

(iii) How long did it take you to
recover from your last injury?

Days

Weeks

Months

8. If multiple, recent or unrecovered previous injury refer to Emergency Department or Concussion Service.

10. Are you currently taking any medications that thin the blood e.g. anticoagulants?

Yes⁹ **No**

9. If yes, consider referral to Emergency Department if injury recently sustained within past few days

11. Have you ever experienced any difficulties with your mental health?

Yes¹⁰ **No**

10. If yes, the person may be at moderate risk of poor recovery and early specialist input may be required. If not recovered by 7 days consider referral to Concussion Service.





12. Do you have a history of migraine (severe headache with vomiting or extreme sensitivity to light and sound)

Yes¹¹ **No**

11. If yes, if not recovered by 7 days consider referral to Concussion Service

Please ask the patient the following question.

Compared with before the accident, please rate how much you experience the following symptoms

												
		Not at all	Mild (a little)			Moderate (quite bad)				Severe (very bad)		
		0	1	2	3	4	5	6	7	8	9	10
Physical	Headache (my head hurts) ¹²											
	My neck hurts											
	I don't like bright lights											
	I don't like loud noises											
Total physical score (out of 40)												
Vestibular-ocular	I feel dizzy or like I could be sick											
	If I close my eyes, I feel like I am at sea											
	I have trouble with my eyesight (vision)											
	I feel clumsy (bumping into things or dropping things more than usual)											
Total vestibular score (out of 40)												
Cognitive	It takes me longer to think											
	I forget things											
	I get confused easily											
	I have trouble concentrating											
Total cognitive score (out of 40)												
If more than 24 hours post-injury, please also rate these physical symptoms												
	I get angry or irritated easily											
	I just don't feel right											
	I feel tired during the day											
	I need to sleep a lot more or find it hard to sleep at night											

12. If severe headache within a few days of the injury, consider referral to Emergency Department. If more than 7 days after injury, consider referral to Concussion Service

Total symptom severity score within 24 hours (out of 120¹³)		Total symptom severity score >24 hours (out of 160¹⁴)	
Number of symptoms endorsed within 24 hours (out of 12)		Number of symptoms endorsed >24 hours (out of 16)	
What is the dominant symptom cluster? (High proportion or most severe symptoms reported (e.g. physical, vestibular or cognitive?)¹⁵			

13. If 50 or more consider referral to Concussion Service, as this person is likely to be at moderate risk of poor recovery. If <50 this person is at low risk, monitor and follow up in 7-10 days.

14. If 66 or more consider referral to Concussion Service, as this person is likely to be at moderate risk of poor recovery. If <66 this person is at low risk, monitor and follow up in 7-10 days. If minimal improvement in scores since previous visit, consider referral to Concussion Service.

15. If vestibular cluster score is highest, there is combination of vestibular symptoms and head/neck pain symptoms or a vestibular item is rated >8 at 7-10 days post-injury, consider referral to a physiotherapist or Concussion Service.

Injuries to the brain can affect how a person feels, behaves, thinks and how able they are to do everyday tasks.

On a scale of 0 to 10, how much do you feel your injury is impacting on you? Where 0 means that the injury has not had any impact on you and 10 means you feel that injury impacts on everything you do.



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Reference

Silverberg ND, et al on behalf of the American Congress of Rehabilitation Medicine Brain Injury Interdisciplinary Special Interest Group Mild TBI Task Force. Management of Concussion and Mild Traumatic Brain Injury: A Synthesis of Practice Guidelines. Archives of Physical Medicine and Rehabilitation, 2020, 101; 382-393

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