

HIA2 should be completed within 3 hours of the head injury event

Player's name			Player's number	
Date of injury (dd/mm/yy)		Physician's name		
Team		Opposition		
Competition		Round		
Kick off time (24-hour clock)		Assessment time (24-hour clock)		
Time of injury	<input type="checkbox"/> Quarter 1	<input type="checkbox"/> Quarter 2	<input type="checkbox"/> Quarter 3	<input type="checkbox"/> Quarter 4

### Was an HIA1 form completed, and if yes, what was the result? (Select one option)

Yes	<b>PLAYER REMOVED</b>
	<input type="checkbox"/> Criteria 1 sign or symptom confirmed; player removed (no off-field screen needed) <input type="checkbox"/> Off-field HIA1 screen abnormal <input type="checkbox"/> Clinical suspicion despite normal off-field HIA1 screen <input type="checkbox"/> Player removed for another injury <input type="checkbox"/> Under 19 Recognise and Remove
No	<b>PLAYER NOT REMOVED</b>
	<input type="checkbox"/> Player returned after completion of normal off-field HIA1 screen <input type="checkbox"/> Clinical judgement over-ruled abnormal off-field HIA1 screen <input type="checkbox"/> Game finished; player would have returned to play <input type="checkbox"/> Game finished; player would have been removed
No	<input type="checkbox"/> Symptoms appeared after completion of the game
	<input type="checkbox"/> Off-field HIA1 screen not completed despite an indication
	<input type="checkbox"/> Suspicious event identified by video or direct observation after the game
	<input type="checkbox"/> Criteria 1 sign or symptom identified, and player removed but off-field screen not completed. Please confirm Criteria 1 indicator: _____.

## SECTION 1: SYMPTOM CHECKLIST – HAND TO PLAYER TO READ

Ask the player: To read the list of symptoms aloud and identify if they have that symptom or not. Score each symptom, if present, based on how the player feels at the time of questioning, from 1 (very mild) to 6 (the most severe they have ever experienced).

Symptom	Yes	No	Identify the maximum severity of each symptom						Symptom	Yes	No	Identify the maximum severity of each symptom										
			Mild		Moderate		Severe					Mild		Moderate		Severe						
			1	2	3	4	5	6				1	2	3	4	5	6					
Headaches									'Don't feel right'													
'Pressure in head'									Difficulty concentrating													
Neck pain									Difficulty remembering													
Nausea or vomiting									Fatigue or low energy													
Dizziness									Confusion													
Blurred vision									Drowsiness													
Balance problems									Excessive Tiredness													
Sensitivity to light									More Emotional													
Sensitivity to noise									Irritability													
Feeling slowed down									Sadness													
Feeling like 'in a fog'									Nervous or Anxious													

## SECTION 2: COGNITIVE ASSESSMENT – Standardised Assessment of Concussion (SAC)

### IMMEDIATE MEMORY

Choose either List A, B or C

List	Alternative 10-word lists					Trial 1	Trial 2	Trial 3
A	Finger	Penny	Blanket	Lemon	Insect			
	Dollar	Honey	Mirror	Saddle	Anchor			
B	Baby	Monkey	Perfume	Sunset	Iron			
	Candle	Paper	Sugar	Sandwich	Wagon			
C	Jacket	Arrow	Pepper	Cotton	Movie			
	Carpet	Saddle	Elbow	Bubble	Apple			

Immediate memory score: out of 30

Time that last trial was completed:

ORIENTATION (1 point for each correct answer)	Incorrect	Correct
What month is it?		
What is the date today?		
What is the day of the week?		
What year is it?		
What time is it right now? (within 1 hour)		
Orientation score:            out of 5		

CONCENTRATION: DIGITS BACKWARDS (1 point for each correct digit string)							
Lists	Trial 1		Trial 2		Alternative digit lists		
	Incorrect	Correct	Incorrect	Correct			
4-9-3					6-2-9	5-2-6	4-1-5
3-8-1-4					3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1					1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2					5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6
CONCENTRATION: MONTHS IN REVERSE ORDER (1 point for entire sequence correct)							
Dec-Nov-Oct-Sep-Aug-Jul-Jun-May-Apr-Mar-Feb-Jan					Incorrect		Correct
Digits backwards & Months reverse order:            out of 5							

SECTION 3: BALANCE, NEUROLOGICAL SCREEN AND DELAYED RECALL	
BALANCE EXAMINATION	
	No. of errors
Double leg stance	
Single leg stance	
Tandem stance	
<b>Diagnostic abnormal result:</b> More errors than baseline OR if no baseline a score in double leg stance 1 or more errors, tandem stance 4 or more errors, single leg stance 6 or more errors.	

## SECTION 3 (continued)

NEUROLOGICAL SCREEN	Yes	No
Can the patient read aloud (e.g. symptom checklist) and follow instructions without difficulty?		
Does the patient have a full and of pain-free PASSIVE cervical spine movement?		
Without moving their head or neck, can the patient look side-to-side and up-and-down without double vision?		
Can the patient perform the finger nose coordination test normally?		
Can the patient perform tandem gait normally?		

### SAC – DELAYED RECALL – must be asked at least 5 minutes after Immediate Memory test

Number of words from Immediate memory test remembered (10-word list)? out of 10

## SECTION 4: MODE RESULTS

Symptoms present (number 0-22)	
Symptoms severity (0-132)	
Orientation	out of 5
Immediate Memory: 10-word list	out of 30
Concentration: Digits backwards & Months reverse order	out of 5
Double leg stance errors recorded	
Single leg stance errors recorded	
Tandem stance errors recorded	
Delayed recall - 10-word list	out of 10
Neuro exam: normal/abnormal	

### NORMATIVE DATA

Players with baseline SCAT should be assessed against their own baseline. For players where no baseline is available the following results are indicative of a concussion

1. Orientation score of less than 4
2. Immediate memory score less than 16.
3. Concentration score (digits backwards and months reverse order) less than 3
4. Delayed recall result less than 4.
5. Balance testing: double leg stance 1 or more errors, tandem stance 4 or more errors, single leg stance 6 or more errors

### SECTION 5: CLINICAL SUMMARY

HIA2 Results:

- HIA2 – Normal, concussion not confirmed
- HIA2 – Normal but clinical suspicion supports a concussion
- HIA2 – Abnormal, concussion confirmed
- HIA2 – Concussion not confirmed; doctor’s clinical judgement overruled abnormal HIA2
- HIA2 – Abnormal due to non-concussive injury or illness

**An ABNORMAL HIA2 is identified by abnormal symptoms, abnormal cognitive assessment (SAC), an abnormal balance assessment OR an abnormal neurological screen**

Diagnosis to date:

- Concussion confirmed (as identified by presence of Criteria 1, an abnormal HIA2 or clinical suspicion)
- Concussion not confirmed

If the injured player has symptoms not usually experienced following a rugby match or training and your diagnosis is NOT concussion, please provide an explanation (below) for not confirming a diagnosis of concussion. If a concussion is confirmed due to criteria 1 or clinical suspicion, outline reasons for same

**Note: The presence of any symptom in the symptom list which is not usually experienced following a rugby match or training is a strong indicator of concussion.**

### Notes on implementation

The symptoms score is determined by counting the number of individual symptoms reported. The result should be compared to each individual's baseline score. **For athletes without a baseline score**, if any symptom is declared in the symptom list which is not usually experienced by the player following a Rugby match or training, this is strongly indicative of concussion.

#### IMMEDIATE MEMORY

*"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."*

Trials 2 and 3: *"I am going to repeat the same list again.*

*Repeat back as many words as you can remember in any order, even if you said the word before."*

Complete all three trials regardless of score on trial 1 and 2. Read the words at a rate of one per second. Score one point for each correct response. Total score equals sum across all three trials. Do not inform the athlete that delayed recall will be tested.

#### CONCENTRATION

##### Digits backward:

*"I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7."*

Start with the 3-digit string length from trial 1. If correct, move to increasing string lengths, scoring one point for each correct sequence. If an incorrect sequence is given, move onto the same digit length in the next trial. Stop the test if incorrect answers are given in two consecutive trials.

##### Months in reverse order:

*"Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November ... Go ahead."*

Score one point for entire sequence correct.

#### BALANCE TEST

This balance testing is based on a modified version of the Balance Error Scoring System (BESS). A stopwatch or watch with a second hand is required for this testing.

*"I am now going to test your balance. Please take your shoes off, roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of three twenty second tests with different stances."*

##### Double leg stance:

*"The first stance is standing with your feet together with your hands on your hips and with your eyes closed. You should try to maintain stability in that position for 20 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes."*

##### Single leg stance:

*"If you were to kick a ball, which foot would you use? [This will be the dominant foot.] Now stand on your non-dominant foot. The dominant leg should be held in approximately 30 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your*

*eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

##### Tandem stance:

*"Now stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed.*

*I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

##### An error in the balance test is any one of the following:

- Hands off hips
- Opens eyes
- Stumbles or falls
- Lifts forefoot or heel or remains out of test position for more than five seconds.

#### UPPER LIMB CO-ORDINATION

##### Finger-to-nose (FTN) task:

*"I am going to test your co-ordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger-to-nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible."*

Scoring: Unable to complete 5 correct repetitions in less than 4 seconds = 1 point

Athletes fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions. Failure should be scored as 1.

#### DELAYED RECALL

The delayed recall should be performed after completion of the balance and co-ordination examination.

*"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."* Score one point for each correct response.

### THIS TOOL MUST BE USED FOR POST-MATCH, SAME DAY DIAGNOSIS