



What is ImPACT Testing?

What is ImPACT Testing?

- ImPACT stands for-Immediate Post-Concussion Assessment and Cognitive Testing
- It is an online test given in a controlled environment.
- There are two parts to the test:
 - baseline testing (everyone gets this)
 - post-injury testing (if you have a head injury)
- The baseline testing is recommended to be completed every year
- The post-injury testing is used to decide when a student can safely return to play
 - Repeat testing may be needed after a head injury to ensure at least an improvement to 80% of the baseline test

ImPACT Pediatric vs Pediatric

- ImPACT Pediatric ages 5-11
 - Parental assistance is required to answer questions
 - 10 minute test on Ipad
 - Test given 1:1 with child and test giver
- ImPACT ages 12-59
 - Parental assistance is not required
 - 25 minute test on computer or Ipad
 - Test is given in a group setting

Parts to the ImPACT Test


- Memory
 - Using words, numbers, symbols, and designs
- Reaction time
- Visual motor speed
- Impulse control
- Symptoms
 - Before testing and after testing

Sample Question: Design Memory

Design Memory


You have completed 1 of 6 modules.

Next, a number of designs will be presented one at a time. Try to remember each of these designs EXACTLY as it is shown as you will be asked about them later. For example:




This is a sample design

Was this one of the designs?



Answer:
Yes

Was this one of the designs?



Answer:
No










We will start with a sample of the test to familiarize you with the process.

Click the button below when you are ready to begin the sample.


Continue

Sample Question:

Symbol Search

								
1	2	3	4	5	6	7	8	9

Click on the number that corresponds to the following symbol:



Sample Question:

Three Letters

Click each of these buttons in BACKWORD ORDER.

Start with 25 and count down to 1

AS FAST AS YOU CAN

15	8	22	24	2
16	18	10	21	17
19	4	9	1	3
11	13	12	20	23
14	25	6	5	7

If you make a mistake, use the 'Go Back' button to clear the buttons you have already clicked, one at a time.

<< Go back



ImPACT™ Clinical Report

Organization:	University of the Incarnate Word		
Date of Birth:	11/07/1989	Age:	20
Gender:	Male	Height:	76 inches
Handedness:	Right	Weight:	210 lbs
Native Country:		United States	
Native Language:		English	
Second Language:			
Years Speaking:			
Years of education completed:	14	Repeated one or more years of school: No	
Received speech therapy:	No	Diagnosed learning disability:	No
Attended special education classes:	No	Problems with ADD/hyperactivity:	No
Current sport:	Football	Current level of participation:	Collegiate
Primary position:	Sophomore	Years experience at this level:	1
Number of times diagnosed with a concussion (excluding current injury): 2			
Concussions that resulted in loss of consciousness: 0			
Concussions that resulted in confusion: 2			
Concussions that resulted in difficulty remembering events that occurred immediately after injury: 2			
Concussions that resulted in difficulty remembering events that occurred: 0			
Total games missed as a result of all concussions combined: 0			
Concussion history: September/2006 September/2010			
Treatment for headaches:	No	History of meningitis:	No
Treatment for migraine:	No	Treatment for substance/alcohol abuse:	No
Treatment for epilepsy/seizures:	No	Treatment for psychiatric condition (depression, anxiety):	No
Treatment brain surgery:	No		
Diagnosed with ADD/ADHD:		Diagnosed with Autism:	
Diagnosed with Dyslexia:		Strenuous exercise in the last 3 hours:	

History of headaches, past injuries, learning disabilities, depression, anxiety, ADD/ADHD etc can affect the length of time the brain heals.



ImPACT™ Clinical Report

Sample report.
Red numbers show
deficits in visual
motor speed due
to head injury.

Exam Type	Baseline	Post-Injury 1	Post-Injury 2		
Date Tested	08/7/2010	09/20/2010	09/22/2010		
Last Concussion	09/07/2006	09/18/2010	09/18/2010		
Exam Language	English	English	English		
Test Version	2.0	2.0	2.0		

Composite Scores	Percentile scores if available are listed in small type.				
Memory composite (verbal)	100	99	99		
Memory composite (visual)	71	70	70		
Visual motor speed composite	46.83	41.5	46.9		
Reaction time composite	0.56	0.61	0.56		
Impulse control composite	2	7	2		
Total Symptom Score	0	1	0		

Cognitive Efficiency Index: 0.48 0.52 0.54

The Cognitive efficiency Index measures the interaction between accuracy (percentage correct) and speed (reaction time) in seconds on the Symbol Match test. This score was not developed to make return to play decisions but can be helpful in determining the extent to which the athlete tried to work very fast on symbol match (decreasing accuracy) or attempted to improve their accuracy by taking a more deliberate and slow approach (jeopardizing speed). The range of scores is from approximately zero to approximately .70 with a mean of .34. A higher score indicates that the athlete did well in both the speed and memory domains on the symbol match test. A low score (below .20) means that they performed poorly on both the speed and accuracy component. If this score

Scores in **bold RED** type exceed the Reliable Change Index (RCI) when compared to the baseline score. However, scores that do not exceed to RCI index may still be clinically significant. Percentile scores if available are listed in small type.

Hours slept last night	7	7.5	7		
Medication					

The information provided by this report should be viewed as only one source of information regarding an individual's level of [neurocognitive] functioning. Even though impact is based on demonstrated scientific principles and research, external factors such as improper test administration or improper test taking environment may result in inaccurate test results. These factors and others must be considered in making return-to-play decision. The information provided by this report is of a general nature and does not represent medical advice, a diagnosis, or prescription for treatment. Additionally, diagnostic or return to play decisions should not be based solely on the data generated by this report, but on an in-person evaluation made by a professional trained in concussion management in accordance with usual and standard medical practice. An individual suspected of suffering traumatic brain injury or concussion should immediately seek the advice of qualified and trained personnel for interpretation of test results and should be monitored closely for the emergence of symptoms. Impact is not responsible for any decisions based on information contained in the report. A test-taker's qualified and trained personnel has the sole responsibility for establishing diagnosis and suggesting appropriate treatment.



ImPACT® Clinical Report

Exam Type	Baseline	Post-Injury 1	Post-Injury 2	Post-Injury 4	
Date Tested	09/12/2013	09/27/2013	09/30/2013	11/20/2013	
Last Concussion	06/14/2008	09/25/2013	09/25/2013	09/18/2013	
Exam Language	English	English	English	English	
Test Version	2.1	2.1	2.1	2.1	

Composite Scores	Percentile scores if available are listed in small type.							
Memory composite (verbal)	78	22%	55	<1%	68	4%	81	32%
Memory composite (visual)	91	93%	47	4%	53	12%	63	21%
Visual motor speed composite	36.23	31%	29.73	2%	30.88	7%	41.13	55%
Reaction time composite	0.48	92%	0.72	5%	0.65	12%	0.51	80%
Impulse control composite	13		23		13		13	
Total Symptom Score	1		49		52		0	

Cognitive Efficiency Index: 0.43 0.26 0.32 0.3

The **Cognitive efficiency Index** measures the interaction between accuracy (percentage correct) and speed (reaction time) in seconds on the Symbol Match test. This score was not developed to make return to play decisions but can be helpful in determining the extent to which the athlete tried to work very fast on symbol match (decreasing accuracy) or attempted to improve their accuracy by taking a more deliberate and slow approach (jeopardizing speed). The range of scores is from approximately zero to approximately .70 with a mean of .34. A higher score indicates that the athlete did well in both the speed and memory domains on the symbol match test. A low score (below .20) means that they performed poorly on both the speed and accuracy component. If this score

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Sample report
2. Shows
gradual
improvement in
memory, visual
motor speed,
reaction time,
and symptoms

Who Sees the ImPACT Test Results?

- Parents and Students
 - By request only
- Healthcare Provider
 - Used to help decide when player returns to play or if further treatment is needed
- Physical Therapist
 - Used for guiding therapy
- Rehabilitation Specialist (Dr .Vermuelen)
 - -if further care is needed
- Neurologist
 - -if further care is needed

Who Does Not See ImPACT Test Results

- Coaches
- Referees
- Teachers
- Other Students
- Principal

Why ImPACT Test?

- After head injury, testing helps to guide Physical Therapy treatment based on student's needs
- Helps eliminate guessing that student is being truthful of symptoms or lack of symptoms
- Once student has no symptoms and is at 80% of their baseline test result, they must return to their Healthcare Provider for release back to play
- If student does not improve on testing or if symptoms continue, referrals will be placed to Dr. Vermeulen Physical Medicine and Rehabilitation Specialist and/or Neurologist

Cost of Baseline ImPACT Testing

- At this time there is no cost to students between the ages of 12-19. Schoolcraft Memorial Hospital, Manistique Area Schools Booster Club, and St Francis de Sales PTO are covering this cost of ImPACT.
- MAS testing will be in Computer Lab 266 during seminar hours September 23, 24, 25, and 27
- St. Francis testing will be in the Library at 1pm on October 1.
- Pediatric ImPACT testing (ages 5-11) can be completed per request through the Schoolcraft Rural Health Clinic by appointment (Fee required).

HEAD INJURY:
REMOVAL FROM PLAY



**RETURN TO
PLAY**



MEDICAL EVALUATION:
CLEARANCE FROM PRIMARY
PROVIDER
VS
REFERRAL TO DR RICHARD
VERMEULEN



MEDICAL EVALUATION:
HEALTHCARE
PROFESSIONAL, POST-
INJURY ImPACT TESTING



PHYSICAL THERAPY:
RETURN TO PLAY PROTOCOL
ALONG WITH ImPACT RETESTING