

Mark

Organization: Sample Hockey Team  
 Subject ID#: 111-22-3333

|                |          |         |           |
|----------------|----------|---------|-----------|
| Date of birth: | 01/01/86 | Age:    | 19        |
| Gender:        | Male     | Height: | 73 inches |
| Handedness:    | Right    | Weight: | 190 lbs   |

|                          |         |                  |        |
|--------------------------|---------|------------------|--------|
| Native country / region: | Canada  | Second language: | (None) |
| Native language:         | English | Years speaking:  | 0      |

|  |    |                                       |    |
|--|----|---------------------------------------|----|
| Years of education completed excluding kindergarten: | 12 | Received speech therapy:              | No |
| Diagnosed learning disability:                       | No | Problems with ADD/Hyperactivity:      | No |
| Attended special education classes:                  | No | Repeated one or more years of school: | No |

|                               |        |                                 |     |
|-------------------------------|--------|---------------------------------|-----|
| Current sport:                | Hockey | Current level of participation: | OHL |
| Primary position/event/class: | LW/C   | Years experience at this level: | 2   |

|  |   |
|--|---|
| Number of times diagnosed with a concussion (excluding current injury):                            | 1 |
| Concussions that resulted in loss of consciousness:  | 0 |
| Concussions that resulted in confusion:  | 0 |
| Concussions that resulted in difficulty remembering events that occurred immediately after injury: | 0 |
| Concussions that resulted in difficulty remembering events that occurred                           | 0 |
| Total games missed as a result of all concussions combined:  | 0 |

Concussion history: 10/07/2004

|                                       |    |  |    |
|---------------------------------------|----|--|----|
| Treatment for headaches by physician: | No | Treatment for psychiatric condition (depression, anxiety): | No |
| Treatment for epilepsy / seizures:    | No | Treatment for migraine headaches by physician:             | No |
| History of brain surgery:             | No | Treatment for substance/alcohol abuse:                     | No |
| History of meningitis:                | No |  |    |

| Exam Type       | Baseline   | Post-concussion | Post-concussion | Post-concussion | Post-concussion | Post-concussion |
|-----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Date Tested     | 09/21/2004 | 10/08/2004      | 10/12/2004      | 10/15/2004      | 10/19/2004      | 10/27/2004      |
| Last Concussion |            | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      |
| Exam Language   | English    | English         | English         | English         | English         | English         |
| Test Version    | 2.2.729    | 2.2.729         | 2.2.729         | 2.2.729         | 2.2.729         | 2.2.729         |

| Composite Scores *           |       |     |              |     |              |     |              |     |              |     |              |     |
|------------------------------|-------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| Memory composite (verbal)    | 93    | 75% | <b>66</b>    | 1%  | <b>57</b>    | <1% | <b>63</b>    | <1% | <b>87</b>    | 55% | <b>88</b>    | 55% |
| Memory composite (visual)†   | 70    | 23% | <b>41</b>    | <1% | <b>49</b>    | 1%  | <b>47</b>    | <1% | <b>55</b>    | 3%  | <b>66</b>    | 12% |
| Visual motor speed composite | 45.88 | 85% | <b>46.38</b> | 86% | <b>40.13</b> | 65% | <b>38.93</b> | 57% | <b>45.85</b> | 85% | <b>41.90</b> | 72% |
| Reaction time composite      | 0.54  | 46% | <b>0.60</b>  | 22% | <b>0.66</b>  | 6%  | <b>0.54</b>  | 46% | <b>0.62</b>  | 15% | <b>0.54</b>  | 46% |
| Impulse control composite    | 8     |     | <b>14</b>    |     | <b>10</b>    |     | <b>16</b>    |     | <b>10</b>    |     | <b>11</b>    |     |
| Total Symptom Score          | 0     |     | <b>14</b>    |     | <b>3</b>     |     | <b>1</b>     |     | <b>0</b>     |     | <b>0</b>     |     |

\* Scores in bold type indicate scores that exceed the Reliable Change Index score (RCI) when compared to the baseline score. However, scores that do not exceed the RCI index may still be clinically significant. Percentile scores, if available, are listed in small type. Please consult your ImPACT User Manual for more details.

† Clinical composite score is available only for exams taken in ImPACT version 2.0 or later.

| Concussion Details                               |  |
|--|--|
| Date of concussion                               | 10/07/2004   |
| Loss of consciousness                            | None   |
| Retrograde amnesia                               | None   |
| Anterograde amnesia                              | None   |
| Confusion / disorientation                       | None   |
| Returned to play                                 | Did not return   |
| Taken to hospital                                |  |
| CT/MRI scan of head                              | None   |
| Point of impact                                  |  |
| Mouthguard type                                  | Vacuum form  |
| Mouthguard condition                             | Good   |
| Mouthguard manufacturer                          |  |
| Helmet manufacturer                              |  |
| Helmet model                                     |  |
| Helmet size                                      |  |
| Symptoms   | headache, dizziness or balance problems  |
| Description of injury and additional information | Was hit from behind into the boards by an opposing player. He went in almost head first. |

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Consultation is recommended to help facilitate proper interpretation of the information provided by this report. For initial post-injury consultation you are urged to contact Dr. Mark Lovell or Dr. Micky Collins at ImPACT Applications. To reinforce proper interpretation of the test data, there will be no charge for the initial post-injury consultation.

Dr. Mark Lovell can be reached at:  
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 412-432-3681 (Secretary)  
 lovellmr@upmc.edu

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 412-958-6714 (Pager)  
 collinsmw@upmc.edu

| Exam Type       | Baseline   | Post-concussion | Post-concussion | Post-concussion | Post-concussion | Post-concussion |
|-----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Date Tested     | 09/21/2004 | 10/08/2004      | 10/12/2004      | 10/15/2004      | 10/19/2004      | 10/27/2004      |
| Last Concussion |            | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      |

| Word Memory                  | WG = 1 | WG = 2 | WG = 3 | WG = 4 | WG = 5 | WG = 4 |
|------------------------------|--------|--------|--------|--------|--------|--------|
| Hits (immediate)             | 12     | 11     | 9      | 11     | 11     | 12     |
| Correct distractors (immed.) | 12     | 11     | 10     | 12     | 12     | 12     |
| Learning percent correct     | 100%   | 92%    | 79%    | 96%    | 96%    | 100%   |
| Hits (delay)                 | 11     | 9      | 8      | 4      | 5      | 10     |
| Correct distractors (delay)  | 8      | 6      | 5      | 10     | 7      | 7      |
| Delayed memory pct. correct  | 79%    | 63%    | 54%    | 58%    | 50%    | 71%    |
| Total percent correct        | 90%    | 77%    | 67%    | 77%    | 73%    | 85%    |

| Design Memory                |     |     |     |     |     |     |
|------------------------------|-----|-----|-----|-----|-----|-----|
| Hits (immediate)             | 8   | 7   | 9   | 5   | 8   | 11  |
| Correct distractors (immed.) | 9   | 9   | 5   | 8   | 9   | 10  |
| Learning percent correct     | 71% | 67% | 58% | 54% | 71% | 88% |
| Hits (delay)                 | 9   | 9   | 8   | 7   | 9   | 8   |
| Correct distractors (delay)  | 9   | 2   | 5   | 5   | 7   | 6   |
| Delayed memory pct. correct  | 75% | 46% | 54% | 50% | 67% | 58% |
| Total percent correct        | 73% | 56% | 56% | 52% | 69% | 73% |

| X's and O's                    |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|
| Total correct (memory)         | 8    | 3    | 5    | 5    | 5    | 7    |
| Total correct (interference)   | 115  | 107  | 93   | 105  | 110  | 112  |
| Avg. correct RT (interference) | 0.45 | 0.45 | 0.64 | 0.47 | 0.48 | 0.46 |
| Total incorrect (interference) | 7    | 14   | 8    | 14   | 8    | 10   |
| Avg. incorrect RT (interfer.)  | 0.37 | 0.37 | 0.50 | 0.40 | 0.44 | 0.37 |

| Symbol Match              |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|------|
| Total correct (visible)   | 27   | 27   | 27   | 27   | 27   | 26   |
| Avg. correct RT (visible) | 1.19 | 1.42 | 1.39 | 1.19 | 1.29 | 1.22 |
| Total correct (hidden)    | 8    | 5    | 4    | 6    | 8    | 7    |
| Avg. correct RT (hidden)  | 1.06 | 1.38 | 1.18 | 1.52 | 1.38 | 1.08 |

| Color Match         |      |      |      |      |      |      |
|---------------------|------|------|------|------|------|------|
| Total correct       | 9    | 9    | 8    | 9    | 9    | 9    |
| Avg. correct RT     | 0.78 | 0.87 | 0.89 | 0.76 | 0.94 | 0.75 |
| Total commissions   | 1    | 0    | 2    | 2    | 2    | 1    |
| Avg. commissions RT | 0.57 | 0.00 | 1.68 | 0.54 | 0.49 | 0.99 |

| Three Letters                 |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|
| Total sequence correct        | 5    | 2    | 2    | 1    | 5    | 5    |
| Total letters correct         | 15   | 10   | 9    | 7    | 15   | 15   |
| Pct. of total letters correct | 100% | 67%  | 60%  | 47%  | 100% | 100% |
| Avg. time to first click      | 1.95 | 2.42 | 1.89 | 1.70 | 1.21 | 1.91 |
| Avg. counted                  | 21.2 | 22.0 | 20.0 | 19.2 | 21.2 | 21.2 |
| Avg. counted correctly        | 21.0 | 22.0 | 19.0 | 17.2 | 21.4 | 18.6 |

| Exam Type                | Baseline   | Post-concussion | Post-concussion | Post-concussion | Post-concussion | Post-concussion |
|--------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Date Tested              | 09/21/2004 | 10/08/2004      | 10/12/2004      | 10/15/2004      | 10/19/2004      | 10/27/2004      |
| Last Concussion          |            | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      | 10/07/2004      |
| Headache                 | 0          | 2               | 1               | 0               | 0               | 0               |
| Nausea                   | 0          | 0               | 0               | 0               | 0               | 0               |
| Vomiting                 | 0          | 0               | 0               | 0               | 0               | 0               |
| Balance Problems         | 0          | 0               | 0               | 0               | 0               | 0               |
| Dizziness                | 0          | 1               | 0               | 0               | 0               | 0               |
| Fatigue                  | 0          | 2               | 0               | 0               | 0               | 0               |
| Trouble falling asleep   | 0          | 2               | 0               | 0               | 0               | 0               |
| Sleeping more than usual | 0          | 0               | 0               | 0               | 0               | 0               |
| Sleeping less than usual | 0          | 2               | 0               | 0               | 0               | 0               |
| Drowsiness               | 0          | 0               | 0               | 0               | 0               | 0               |
| Sensitivity to light     | 0          | 0               | 0               | 0               | 0               | 0               |
| Sensitivity to noise     | 0          | 1               | 0               | 0               | 0               | 0               |
| Irritability             | 0          | 2               | 0               | 0               | 0               | 0               |
| Sadness                  | 0          | 0               | 0               | 0               | 0               | 0               |
| Nervousness              | 0          | 0               | 0               | 0               | 0               | 0               |
| Feeling more emotional   | 0          | 0               | 0               | 0               | 0               | 0               |
| Numbness or tingling     | 0          | 0               | 0               | 0               | 0               | 0               |
| Feeling slowed down      | 0          | 1               | 0               | 0               | 0               | 0               |
| Feeling mentally foggy   | 0          | 1               | 1               | 0               | 0               | 0               |
| Difficulty concentrating | 0          | 0               | 1               | 1               | 0               | 0               |
| Difficulty remembering   | 0          | 0               | 0               | 0               | 0               | 0               |
| Visual problems          | 0          | 0               | 0               | 0               | 0               | 0               |
| Total Symptom Score      | 0          | 14              | 3               | 1               | 0               | 0               |

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|                 |                        |  |
|-----------------|------------------------|--|
| Baseline        | Hours slept last night | 8.0  |
| 09/21/2004      | Medication             |  |
|                 | Subject comments       | ENVIRONMENT:<br>constant noise in background |
|                 | Supervisor comments    |  |
| Post-concussion | Hours slept last night | 6.0  |
| 10/08/2004      | Medication             |  |
|                 | Subject comments       | ENVIRONMENT:<br>background noise             |
|                 | Supervisor comments    |  |
| Post-concussion | Hours slept last night | 8.0  |
| 10/12/2004      | Medication             |  |
|                 | Subject comments       | ENVIRONMENT:<br>background noise             |
|                 | Supervisor comments    |  |
| Post-concussion | Hours slept last night | 8.0  |
| 10/15/2004      | Medication             |  |
|                 | Subject comments       |  |
|                 | Supervisor comments    |  |
| Post-concussion | Hours slept last night | 9.0  |
| 10/19/2004      | Medication             |  |
|                 | Subject comments       | ENVIRONMENT:<br>constant interruptions       |
|                 | Supervisor comments    |  |
| Post-concussion | Hours slept last night | 9.0  |
| 10/27/2004      | Medication             |  |
|                 | Subject comments       |  |
|                 | Supervisor comments    |  |

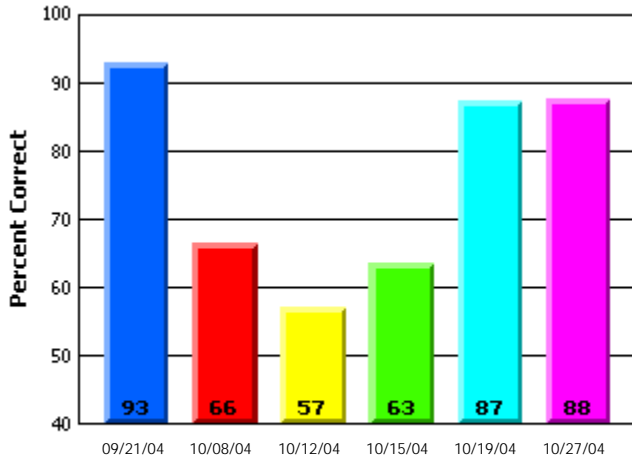
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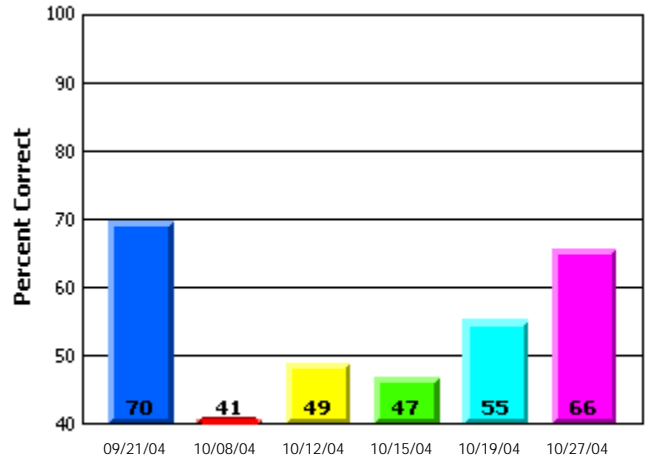
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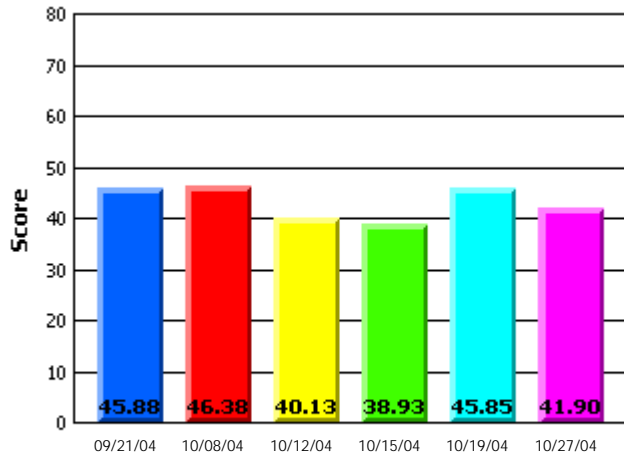
Memory Composite (Verbal)



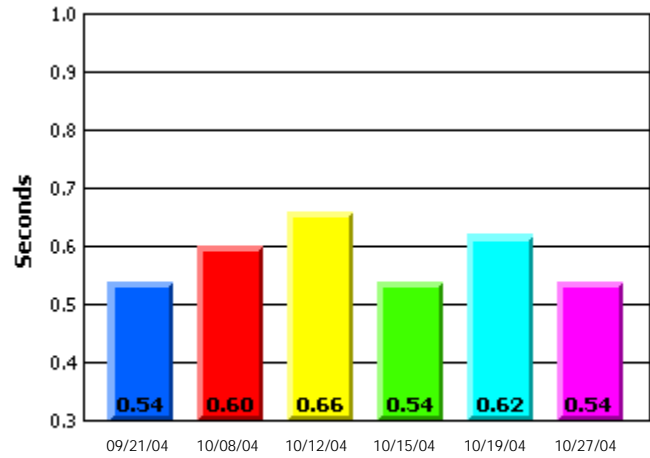
Memory Composite (Visual)



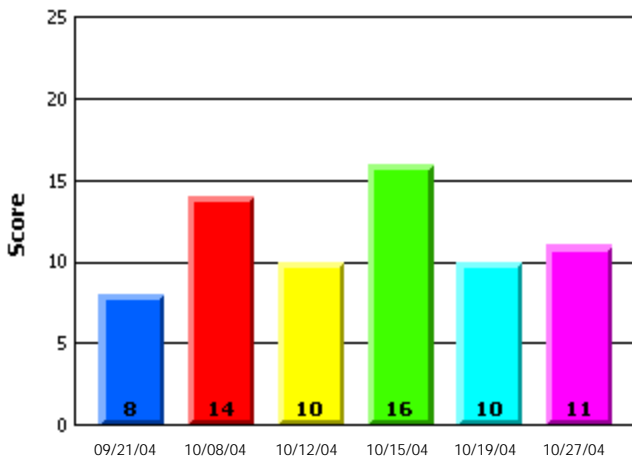
Visual Motor Speed Composite



Reaction Time Composite



Impulse Control Composite



Symptom Score

