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| **Variable** | **Lateral Agility (LA) Screen: Side-Shuffling Movements to Right & Left** | **Units** |
| LA\_RT\_Avg | Reaction Time Average of Right and Left Directions | .001 s |
| LA\_RT\_R | Reaction Time Right (Avg. of 4 Repetitions: Center to Right Target) | .001 s |
| LA\_RT\_L | Reaction Time Left (Avg. of 4 Repetitions: Center to Left Target) | .001 s |
| LA\_RT\_Asym | Reaction Time Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LA\_Spd\_Avg | Speed Average of Right and Left Directions | m/s |
| LA\_Spd\_R | Speed Right (Avg. of 4 Repetitions: Center to Right Target) | m/s |
| LA\_Spd\_L | Speed Left (Avg. of 4 Repetitions: Center to Left Target) | m/s |
| LA\_Spd\_Asym | Speed Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LA\_Acc\_Avg | Acceleration Average of Right and Left Directions | m/s2 |
| LA\_Acc\_R | Acceleration Right (Avg. of 4 Repetitions: Center to Right Target) | m/s2 |
| LA\_Acc\_L | Acceleration Left (Avg. of 4 Repetitions: Center to Left Target) | m/s2 |
| LA\_Acc\_Asym | Acceleration Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LA\_Dec\_Avg | Deceleration Average of Right and Left Directions | m/s2 |
| LA\_Dec\_R | Deceleration Right (Avg. of 4 Repetitions: Center to Right Target) | m/s2 |
| LA\_Dec\_L | Deceleration Left (Avg. of 4 Repetitions: Center to Left Target) | m/s2 |
| LA\_Dec\_Asym | Deceleration Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LA\_Asym\_Avg | Reaction Time, Speed, Acceleration, Deceleration Average Asymmetry | .00 |
| LA\_TotalDist | Total Distance (Start-Finish for 8 Targets – 4 Right & 4 Left) | m |
| LA\_Duration | Test Duration (Start-Finish for 8 Targets – 4 Right & 4 Left) | s |
| **Variable** | **Lateral Agility Screen + Flanker Test (LF)** | **Units** |
| LF\_RT\_Avg | Reaction Time Average of Right and Left Directions | .001 s |
| LF\_RT\_R | Reaction Time Right (Avg. of 4 Repetitions: Center to Right Target) | .001 s |
| LF\_RT\_L | Reaction Time Left (Avg. of 4 Repetitions: Center to Left Target) | .001 s |
| LF\_RT\_Asym | Reaction Time Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LF\_Spd\_Avg | Speed Average of Right and Left Directions | m/s |
| LF\_Spd\_R | Speed Right (Avg. of 4 Repetitions: Center to Right Target) | m/s |
| LF\_Spd\_L | Speed Left (Avg. of 4 Repetitions: Center to Left Target) | m/s |
| LF\_Spd\_Asym | Speed Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LF\_Acc\_Avg | Acceleration Average of Right and Left Directions | m/s2 |
| LF\_Acc\_R | Acceleration Right (Avg. of 4 Repetitions: Center to Right Target) | m/s2 |
| LF\_Acc\_L | Acceleration Left (Avg. of 4 Repetitions: Center to Left Target) | m/s2 |
| LF\_Acc\_Asym | Acceleration Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LF\_Dec\_Avg | Deceleration Average of Right and Left Directions | m/s2 |
| LF\_Dec\_R | Deceleration Right (Avg. of 4 Repetitions: Center to Right Target) | m/s2 |
| LF\_Dec\_L | Deceleration Left (Avg. of 4 Repetitions: Center to Left Target) | m/s2 |
| LF\_Dec\_Asym | Deceleration Asymmetry (Absolute R-L Difference relative to Best) | .00 |
| LF\_Asym\_Avg | Reaction Time, Speed, Acceleration, Deceleration Average Asymmetry | .00 |
| LF\_TotalDist | Total Distance (Start-Finish for 8 Targets – 4 Right & 4 Left) | m |
| LF\_Duration | Test Duration (Start-Finish for 8 Targets – 4 Right & 4 Left) | s |
| LF\_EI\* | Efficiency Index = Reaction Time Average / Correct Proportion | .001 s |
| LF\_CE\*\* | Conflict Effect = Incongruent-Congruent RT Diff. (Correct or Incorrect) | .001 s |
| LF\_CRI\*\* | Conflict Resolution Index = (IncRT/CorrectProp) – (ConRT/CorrectProp) | .001 s |
| \* Data missing for 17 cases \*\* Data currently unavailable for any cases | | |
| **Variable** | **Diagonal Agility (DA) Screen: Movements Back/Right & Back/Left** | **Units** |
| DA\_RT\_Avg | Reaction Time Average of Back/Right and Back/Left Directions | .001 s |
| DA\_RT\_R | Reaction Time Right (Avg. of 4 Repetitions: Center to Back/Right) | .001 s |
| DA\_RT\_L | Reaction Time Left (Avg. of 4 Repetitions: Center to Back/Left) | .001 s |
| DA\_RT\_Asym | Reaction Time Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DA\_Spd\_Avg | Speed Average of Back/Right and Back/Left Directions | m/s |
| DA\_Spd\_R | Speed Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s |
| DA\_Spd\_L | Speed Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s |
| DA\_Spd\_Asym | Speed Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DA\_Acc\_Avg | Acceleration Average of Back/Right and Back/Left Directions | m/s2 |
| DA\_Acc\_R | Acceleration Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s2 |
| DA\_Acc\_L | Acceleration Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s2 |
| DA\_Acc\_Asym | Acceleration Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DA\_Dec\_Avg | Deceleration Average of Back/Right and Back/Left Directions | m/s2 |
| DA\_Dec\_R | Deceleration Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s2 |
| DA\_Dec\_L | Deceleration Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s2 |
| DA\_Dec\_Asym | Deceleration Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DA\_Asym\_Avg | Reaction Time, Speed, Acceleration, Deceleration Average Asymmetry | .00 |
| DA\_TotalDist | Total Distance (Start-Finish for 8 Targets – 4 Back/Right & 4 Back/Left) | m |
| DA\_Duration | Test Duration (Start-Finish for 8 Targets – 4 Right & 4 Left) | s |
| **Variable** | **Diagonal Agility Screen + Flanker Test (DF)** | **Units** |
| DF\_RT\_Avg | Reaction Time Average of Back/Right and Back/Left Directions | .001 s |
| DF\_RT\_R | Reaction Time Right (Avg. of 4 Repetitions: Center to Back/Right) | .001 s |
| DF\_RT\_L | Reaction Time Left (Avg. of 4 Repetitions: Center to Back/Left) | .001 s |
| DF\_RT\_Asym | Reaction Time Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DF\_Spd\_Avg | Speed Average of Back/Right and Back/Left Directions | m/s |
| DF\_Spd\_R | Speed Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s |
| DF\_Spd\_L | Speed Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s |
| DF\_Spd\_Asym | Speed Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DF\_Acc\_Avg | Acceleration Average of Back/Right and Back/Left Directions | m/s2 |
| DF\_Acc\_R | Acceleration Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s2 |
| DF\_Acc\_L | Acceleration Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s2 |
| DF\_Acc\_Asym | Acceleration Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DF\_Dec\_Avg | Deceleration Average of Back/Right and Back/Left Directions | m/s2 |
| DF\_Dec\_R | Deceleration Right (Avg. of 4 Repetitions: Center to Back/Right) | m/s2 |
| DF\_Dec\_L | Deceleration Left (Avg. of 4 Repetitions: Center to Back/Left) | m/s2 |
| DF\_Dec\_Asym | Deceleration Asymmetry (Absolute B/R-B/L Diff. relative to Best) | .00 |
| DF\_Asym\_Avg | Reaction Time, Speed, Acceleration, Deceleration Average Asymmetry | .00 |
| DF\_TotalDist | Total Distance (Start-Finish for 8 Targets – 4 Back/Right & 4 Back/Left) | m |
| DF\_Duration | Test Duration (Start-Finish for 8 Targets – 4 Back Right & 4 Back/Left) | s |
| DF\_EI\* | Efficiency Index = Reaction Time Average / Proportion Correct | .001 s |
| DF\_CE\*\* | Conflict Effect = Incongruent-Congruent RT Diff. (Correct + Incorrect) | .001 s |
| DF\_CRI\*\* | Conflict Resolution Index = (IncRT/CorrectProp) – (ConRT/CorrectProp) | .001 s |
| \* Data missing for 17 cases \*\* Data currently unavailable for any cases | | |

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| **Variable** | **Sport Fitness Index (Low Values = Impaired Sport Fitness)** | **Units** |
| SFI\_1 | Ability to participate fully in sport-related activities – injury limitation | 5-0 |
| SFI\_2 | Overall sport performance capabilities – pain limitation | 5-0 |
| SFI\_3 | Speed, power output, and/or endurance – muscle/joint limitation | 5-0 |
| SFI\_4 | Weightlifting and/or explosive force output – pain limitation | 5-0 |
| SFI\_5 | Performance of sport-specific skills – pain limitation | 5-0 |
| SFI\_6 | Activities of daily living – spasms, stiffness, aching limitation | 5-0 |
| SFI\_7 | Rapid and forceful movements – giving-way or sudden pain limitation | 5-0 |
| SFI\_8 | Sport-specific activities – aching, stiffness, or swelling limitation | 5-0 |
| SFI\_9 | Joint function – locking, catching, grinding, or chronic aching limitation | 5-0 |
| SFI\_10 | Daily responsibilities – life events and emotional response interference | 5-0 |
| SFI\_11 | Symptoms of repeated head impacts or concussion – severity | 5-0 |
| SFI\_Score | Score = Sum of responses (5-0) for Items #1 to #10 X 2 (100 to 0 Scale) | 100-0 |
| **Variable** | **Injury History** | **Units** |
| Cx\_Hx | Concussion history: 0=No, 1=Yes | 0-1 |
| Cx\_Number | Number of concussions sustained in the past | Sum |
| Cx\_Hx\_2orMore | History or 2 or more concussions: 0=No, 1=Yes | 0-1 |
| Sx\_RHIorCx | Symptoms of Repeated Head Impacts or Concussion (Any Extent) | 0-1 |
| AnyInj\_12moHx | Any musculoskeletal injury during previous 12 months: 0=No, 1=Yes | 0-1 |
| Any\_TL\_12moHx | Any time-loss MSK injury during previous 12 months: 0=No, 1=Yes | 0-1 |
| CLEI\_12moHx | Any core or lower extremity injury previous 12 months: 0=No, 1=Yes | 0-1 |
| CLEI\_TL\_12moHx | Any time-loss core or LE injury previous 12 months: 0=No, 1=Yes | 0-1 |
| **Variable** | **Overall Wellness Index (Low Values = Impaired Wellness)** | **Units** |
| OWI\_1 | Physical problems (11) – frequency, most recent occurrence | 5-0 |
| OWI\_2 | Sleep/stamina problems (6) – frequency, most recent occurrence | 5-0 |
| OWI\_3 | Muscle control problems (10) – frequency, most recent occurrence | 5-0 |
| OWI\_4 | Balance/perception problems (7) – frequency, most recent occurrence | 5-0 |
| OWI\_5 | Altered sensations (5) – frequency, most recent occurrence | 5-0 |
| OWI\_6 | Emotional problems (6) – frequency, most recent occurrence | 5-0 |
| OWI\_7 | Behavior control (13) – frequency, most recent occurrence | 5-0 |
| OWI\_8 | Memory-related problems (4) – frequency, most recent occurrence | 5-0 |
| OWI\_9 | Thinking-related problems (9) – frequency, most recent occurrence | 5-0 |
| OWI\_10 | Language-related problems (11) – frequency, most recent occurrence | 5-0 |
| OWI\_Score | Score = Sum of responses (5-0) for Items #1 to #10 X 2 (100 to 0 Scale) | 100-0 |
| OWI\_SxNumber | Total number of symptoms reported for all categories (max=84) | Sum |
| **Variable** | **Player Attributes** | **Units** |
| Ht\_m | Height (meters) | m |
| Wt\_kg | Weight (kg) | kg |
| BMI | Body Mass Index | kg / m2 |
| MMOI | Mass Moment of Inertia | kg X m2 |
| PosCat\_1 | Position Category: 0=Line (OL,DL) 1=Back (QB,RB,WR,TE,DB,LB,DE,K) | 0-1 |
| PosCat\_2 | Position Category: 0=Line (OL,TE,DL,DE) 1=Back (QB,RB,WR,DB,LB,K) | 0-1 |
| Hand\_Dom | Hand Dominance: 0=Equal, 1=Right, 2=Left | 0-1-2 |
| Eye\_Dom | Eye Dominance: 1=Right, 2=Left | 1-2 |

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| **Variable** | **Pre-Season Participation & Injury Occurrence** | **Units** |
| PreS\_Start\_End | Participation throughout Pre-Season Period: 0=No, 1=Yes | 0-1 |
| AnyInj\_PreS | Any musculoskeletal injury during Pre-Season period | 0-1 |
| NoInj\_PreSDays | Days of injury avoidance (day of first practice through week of game 1) | Sum |
| CLEI\_PreS | Core or lower extremity injury during Pre-Season period | 0-1 |
| NoCLEI\_PreSDays | Days of CLEI avoidance (day of first practice through week of game 1) | Sum |
| **Variable** | **Visual-Motor Responses (Go – No Go)** | **Units** |
| VM\_Accuracy | Avg. distance of manual board contacts to centers of targets | mm |
| VM\_Precision | Avg. distance between manual board contacts for given targets | mm |
| VM\_Latency\_L | Left Elapsed time from visual stimulus to manual release from board | .001 s |
| VM\_Latency\_R | Right Elapsed time from visual stimulus to manual release from board | .001 s |
| VM\_Motor\_L | Left Elapsed time from manual release from board to target contact | .001 s |
| VM\_Motor\_R | Right Elapsed time from manual release from board to target contact | .001 s |
| VM\_LatMot\_L | Left Latency + Motor Time | .001 s |
| VM\_LatMot\_R | Right Latency + Motor Time | .001 s |
| VM\_Correct\_Avg | Proportion of “Correct” manual releases (responses to target color) | .00-1.0 |
| VM\_Latency\_Avg | Avg. Elapsed time from visual stimulus to manual release from board | .001 s |
| VM\_Motor\_Avg | Avg. Elapsed time from manual release from board to target contact | .001 s |
| VM\_LatMot\_Avg | Avg. Latency + Motor Time | .001 s |
| VM\_LatMot\_EI | Efficiency Index = Avg. Latency + Motor Time / Proportion Correct | .001 s |
| **Variable** | **Phone App Flanker Test** | **Units** |
| App\_RT\_Avg | Avg. Reaction Time (10 Congruent and 10 Incongruent trials combined) | .001 s |
| App\_Cor\_Prop | Proportion of “Correct” manual responses (center arrow direction) | .00-1.0 |
| App\_EI | Efficiency Index = Avg. Reaction Time / Proportion Correct | .001 s |
| App\_RT\_Cong | Avg. Reaction Time for 10 Congruent Trials (<<<<< or >>>>>) | .001 s |
| App\_RT\_Incon | Avg. Reaction Time for 10 Incongruent Trials (<<><< or >><>>) | .001 s |
| App\_CE | Conflict Effect: Incongruent Avg. RT minus Congruent Avg. RT | .001 s |
| AppCongCorProp | Proportion of “Correct” Congruent responses | .00-1.0 |
| AppInconCorProp | Proportion of “Correct” Incongruent responses | .00-1.0 |
| App\_Cong\_EI | Congruent Efficiency Index = Avg. Reaction Time / Proportion Correct | .001 s |
| App\_Incon\_EI | Incongruent Efficiency Index = Avg. Reaction Time / Proportion Correct | .001 s |
| App\_CRI | Conflict Resolution Index = Incongruent EI / Congruent EI | .001 s |