



**P
R
E
H
A
B
I
L
I
T
A
T
I
O
N
F
O
R
A
S
T
M
A
T
R
I
X
A
N
R
E
C
O
V
E
R
Y**

AST Matrix™ Proprietary Progression Protocol for Recovery, Rehabilitation and Optimal Performance

Baseline (Step 0): As the baseline step of the Return to Normal Daily Activities Progression, the athlete/patient needs to have completed physical and cognitive rest and not be experiencing concussion symptoms for a minimum of 24 hours.

Benchmark Analysis (Data Observation and Deviation Reference Points)

The Goal: Neurofeedback & Biofeedback Analysis, Brain Mapping and Neural Network Assessment

The Time: 30 to 90 minutes.

The Activities: LORETA, VARETA QEEG, BCN, BCB, HRV.

Absolutely no cognitive tasking or ATFTM (Active Tactile Feedback).

Step 1: Rest/Relaxed BCN, BCB

The Goal: Increase heart rate, stimulate ANS, Observe RTZ.

The Time: 30 to 90 minutes.

The Activities: Passive Brainwave Optimization with RTZ

Step 2: Low Impact Rehabilitation/Training Protocol

The Goal: Limited head and body movement

The Time: 60 to 90 minutes.

The Activities: Rest/Relaxed Passive Optimization with RTZ, Low Impact Active Tasking with RTZ, Resonant Optimization with RTZ. This stage engages light; Interactive Tasking Protocols, Cognitive Functions, ANS Response, Neuromuscular Function and Active Tactile Feedback.

Step 3: Moderate Impact Rehabilitation/Training Protocol

The Goal: Return to Active Daily Lifestyle/Return to Practice in Controlled Environment

The Time: 60 to 90 minutes.

The Activities: Rest/Relaxed Passive Optimization with RTZ, Moderate Impact Active Tasking with RTZ, Resonant Optimization with RTZ. This stage engages more intense; Interactive Tasking Protocols, Cognitive Functions, ANS Response, Neuromuscular Function and Active Tactile Feedback in addition to the components introduced in Step 2.



Step 4: High Impact Rehabilitation/Training Protocol

The Goal: Return to Active Daily Lifestyle/Return to Practice in Controlled Environment

The Time: 90 minutes.

The Activities: Rest/Relaxed Passive Optimization with RTZ, High Impact Active Tasking with RTZ, Resonant Optimization with RTZ. This stage engages more intense; Interactive Tasking Protocols, Cognitive Functions, ANS Response, Neuromuscular Function and Active Tactile Feedback in addition to the components introduced in Step 3.

Step 5: Optimized Training Protocol

The Goal: Normal Active Daily Lifestyle in Open Environment/Normal Play in Open Competition

The Time: 90 to 120 minutes.

The Activities: Rest/Relaxed Passive Optimization with RTZ, High Impact Active Tasking with RTZ, Resonant Optimization with RTZ. This stage engages more intense; Interactive Tasking Protocols, Cognitive Functions, ANS Response, Neuromuscular Function and Active Tactile Feedback in addition to the components introduced in Step 4.

Note: At any time an athlete/patient should display retrograde progress return to the previous step. Additionally, should an athlete/patient sustain a recurring injury or debilitation return to Step 0 and re-evaluate. It is important to monitor symptoms and cognitive function carefully during each increase of exertion. Athletes should only progress to the next level of exertion if they are not experiencing symptoms at the current level. If symptoms return at any step, an athlete should stop these activities as this may be a sign the athlete is pushing too hard. Only after additional rest, when the athlete is once again not experiencing symptoms for a minimum of 24 hours, should he or she start again at the previous step during which symptoms were experienced.

© **Copyright 2012-2014. Performance Research Sciences-AST, LLC. All Rights Reserved.** Performance Research Sciences-AST®, AST®, AST³®, AST Matrix®, AST³ Matrix®, AST³ Matrix³®, Advanced Simulation Therapy®, Advanced Simulation Training®, Advanced Simulation Treatment®, Variable Impact Active Tactile Feedback®, Low Impact Active Tactile Feedback®, Moderate Impact Active Tactile Feedback®, High Impact Active Tactile Feedback®, Active Tasking Protocol®, Active Tasking Battery®, and Active Tasking Software®, are all registered trademarks of Performance Research Sciences-AST, LLC. Unauthorized usage is in violation of various countries trademark laws. Performance Research Sciences-AST™ et al. is not intended to treat, cure, heal, or diagnose any disease, mental illness or symptom. Performance Research Sciences-AST™ et al. is intended to provide positive outcomes for various neurological disorders and traumatic body and brain injuries. AST™ et al. is intended to reduce recovery times, improve quality of care and provide baseline brainwave and alostatic deviation benchmark data. AST™ et al. is intended to facilitate relaxation and auto-calibration of neural oscillations as well as facilitate active tasking protocols with variable impact active tactile feedback and calibration of neural oscillations. Individual results may vary.



For more information contact 480.305.2087 or email Dr.Southland@PerformanceResearchSciences.com