

The Sports Neuropsychologist: An Essential Concussion Team Member

If you are a Sports Medicine Physician or Neurologist, a Team Physician, a Certified Athletic Trainer, or a Parent, a Sports Neuropsychologist should be included as an integral part of your Concussion Team. Sports Neuropsychologists provide a unique but complementary skill set to help the clinical team deliver best practice sports concussion management. The Sports Neuropsychologist's contribution to protocol and program design, comprehensive evaluation and treatment can help expedite a more complete sports-concussion recovery. Listed below are roles and responsibilities performed by many sport neuropsychologists.

A Sports Neuropsychologist is:

- ❖ A clinical neuropsychologist with education, training and experience in understanding and assessing brain-behavior relationships, as applied to sport concussions;
- ❖ An expert in differential diagnosis of neurologic and psychological causes of cognitive, behavioral or mood problems that arise post sport concussion;
- ❖ An expert in neurocognitive testing of sport concussions, whether computerized or pencil-and-paper, based on extensive training in tests and measurement that allow the sports neuropsychologist to accurately assess the strengths and limitations of each test and interpret test results as applied to a specific injured athlete;
- ❖ A specialist trained in diverse treatment approaches that can expedite sports concussion recovery at all levels of play by harnessing the individual athlete's constellation of available neurocognitive and psychological coping resources.

(Adapted from the Official Position Statement of the Sports Neuropsychology Society)

Why Include a Sports Neuropsychologist on an Interdisciplinary Concussion Management Team?

- Their unique training in brain-behavior relationships, psychosocial factors and clinical psychology can assist the team to identify factors likely to complicate recovery or facilitate good outcome;
- Their expertise in assessment tools and interpretation is critical for individualized concussion management;
- Their expertise in tests and measurement helps the team critically examine research studies to be critical consumers of heavily marketed products, equipment, assessment tools and interventions.
- Their organizational and interdisciplinary experience is critical to working effectively across clinical disciplines to help coordinate the efforts of athletic trainers, physicians, rehab therapists, school personnel, coaches and family members to maximize concussion recovery.

When to include a Sports Neuropsychologist:

Initial Concussion Evaluation & Diagnosis - The Sports Neuropsychologist:

1. Can help create and evaluate appropriate clinical tools for initial evaluation and diagnosis;
2. Can critically review supporting research and assist the treatment team in implementing clinically meaningful procedures using valid assessment and intervention tools;
3. Can assist with protocol development and data collection methods for the clinic, team or school to insure that best practices are in place to properly evaluate, diagnose and initiate individualized treatment for sport-related concussions.

Early Clinical Management - The Sports Neuropsychologist:

1. Is uniquely trained to administer and interpret both computerized and formal neurocognitive testing to assist in diagnosis and formulation of an individualized treatment plan;
2. Can use early data to detect insufficient effort, predict players at-risk for protracted recovery and inform treatment team members if more comprehensive neuropsychological evaluation is needed;
3. Is able to target specialized early interventions to address acute concussion symptoms to help prevent protracted recovery (such as cognitive behavioral therapy, biofeedback and stress management);
4. Can provide clear guidance regarding the balance, progression, and consequences of rest, push & recover;
5. Is uniquely trained to track and interpret progression in order to adjust interventions over the course of the individual athlete's recovery.

Return to Play - The Sports Neuropsychologist:

1. Has the necessary background in science, research and intervention to assist the clinical team in designing, monitoring and modifying individualized treatment plan protocols that progress athletes toward resuming full athletic participation;
2. Is trained to assess biopsychosocial factors that can affect an athlete's rate of recovery across age levels (youth or adult) and player status (amateur or professional), including concussion history, anxiety, pre-existing co-morbidities, and social or family systems stressors;
3. Has training and experience to provide education, counseling and support to concussed athletes experiencing psychological challenges as they progress through the RTP protocol or are faced with decisions regarding retirement from sport.

Return to School/Return to Learn - The Sports Neuropsychologist:

1. Is already recognized by school systems as experts in assessment and management of neurocognitive conditions impacting academic performance and is experienced in helping schools integrate Concussion RTL Plans within the continuum of more traditional special education alternatives;
2. Understands the cognitive demands of school across developmental and academic continuums and can use this knowledge to help determine cognitive readiness to return to school;
3. Is uniquely qualified to use computerized and individualized neurocognitive evaluation instruments to tailor and modify RTL Plans based on the student-athlete's post-concussive deficits and assets from initial school re-entry through the point of full recovery;
4. Can provide supportive treatment interventions (psychotherapy, cognitive remediation, biofeedback) to address neurocognitive, emotional and behavioral factors that could otherwise compromise successful school re-entry.

Treatment for Refractory Post Concussion Syndrome (PCS) - The Sports Neuropsychologist:

1. Can provide assessment to help determine which pre-existing or post-injury factors (cognitive, emotional, physical, motivational) are affecting the path to recovery;
2. Appreciates how the sick role can inadvertently impede progress and produce stress which can hamper recovery;
3. Can help the injured student-athlete cope with changes in identity and self-efficacy that can create emotional distress and successfully navigate important decision-making such as whether/when to return to concussion-risk sports;
4. Can provide effective interventions to help accelerate recovery and remove roadblocks to recovery, such as cognitive rehabilitation, biofeedback training, or individual/family psychotherapy;
5. Can determine appropriate referrals and readiness for treatment, including physical therapy, visual therapy, biofeedback, pain management, medication management or neurology consultation.

Research - The Sports Neuropsychologist:

1. Is up to date on current concussion literature and has a strong foundation in statistical analysis and research methods;
2. Can consult with medical team professionals about how to be critical consumers of research and to more accurately understand the uses and limitations of psychometric tools;
3. Can critically review supporting research and assist the treatment team in implementing clinically meaningful procedures using valid assessment tools, good data collection methods, and best practice interventions;
4. Can serve in the role of Consumer Protection and Advocacy to physicians, ATC's, athletic organizations/ schools, especially with regard to heavily marketed products, equipment, assessment tools and intervention.

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