CLINICAL PRACTICE GUIDELINE
PHYSICAL THERAPY EVALUATION AND TREATMENT AFTER CONCUSSION/MILD TRAUMATIC BRAIN INJURY

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ACADEMY OF NEUROLOGIC PHYSICAL THERAPY
www.neuorpt.org

INTERVENTIONS

Grades of Recommendation	
• A (strong evidence)	Must: benefits substantially outweigh harms; Should: benefits moderately outweigh harms; May: benefits minimally outweigh harms or benefit-harm ratio is value dependent; Should not: harms minimally or moderately outweigh benefits or evidence of no effect; Must not: harms largely outweigh benefits
• B (moderate evidence)	Should: benefits substantially outweigh harms; May: benefits moderately or minimally outweigh harms or benefit-harm ratio is value dependent; Should not: evidence that harms outweigh benefits or evidence of no effect
◊ C (weak evidence)	Should: benefits substantially outweigh harms; May: benefits moderately or minimally outweigh harms or benefit-harm ratio is value dependent; Should not: harms minimally or moderately outweigh benefits
◊ D (conflicting evidence)	May: conflicting evidence; the benefit-harm ratio is value dependent
∇ E (Theoretical/Foundational)	May: in the absence of evidence from clinical studies, theoretical and/or foundational evidence supports benefit; Should not: in the absence of evidence from clinical studies, theoretical and/or foundational evidence suggests risk of harms
∇ F (Expert Opinion)	Must: strongly supported by consensus-based best practice/standard of care; Should: moderately supported by best practice/standard of care; May: supported by expert opinion in the absence of consensus; Should not: best practice/standard of care indicates potential harms; Must not: potential harms are strongly supported by consensus-based best practice/standard of care

COMMUNICATION AND EDUCATION

Physical therapists **must educate** patients and their families/caregivers about the various symptoms, impairments, and functional limitations that are associated with concussion, and stress that most patients with concussion recover relatively quickly.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event.

Physical therapists **must educate** patients about self-management of symptoms, the importance of relative rest (rest as needed) instead of strict rest, the benefits of progressive re-engagement in activities, the importance of sleep, safe return-to-activity pacing strategies, and potential signs and symptoms of the need to follow-up care with a physician, physical therapist, or other health care provider.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event.

MOVEMENT-RELATED IMPAIRMENTS

Physical therapists **should design** a personalized intervention plan that aligns interventions with patient's identified impairments, functional limitations, participation limitations, self-management capabilities, and levels of irritability.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event and have movement related impairments.

Physical therapists **should refer** patients for further consultation and follow-up with other health care providers as indicated.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event.

MOVEMENT-RELATED IMPAIRMENTS – cont.

Physical therapists **should use** findings from the examination to triage patients into 1 of 2 categories: (1) patients with movement-related impairments and dysfunction who are good candidates for physical therapy interventions, or (2) patients with no identified movement related impairments of dysfunction.

- ∇ **Level of Evidence: F**
- ∇ **Patient presentation:** Experienced a concussive event.

CERVICAL MUSCULOSKELETAL

Physical therapists **should implement** interventions aimed at addressing cervical and thoracic spine dysfunction.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event with cervical musculoskeletal impairments.

VESTIBULO-OCULOMOTOR

Physical therapists **should use** canalith repositioning interventions.

- **Level of Evidence: A**
- **Patient presentation:** BPPV identified as a potential impairment.

Physical therapists with appropriate expertise in vestibular and oculomotor rehabilitation **should implement** an individualized vestibular and oculomotor rehabilitation plan.

- **Level of Evidence: B**
- **Patient presentation:** Experienced a concussive event.

Level of Evidence Legend

∇ Green – circle 1. Yellow – Diamond ◊ Orange - Triangle

ANPT Knowledge Translation Task Force: Bara Alsalaheen, PT, PhD and Naseem Chatiwala, PT, DPT, MS (Co-chairs) Annie Fangman, PT; Michelle Gutierrez, PT, DSc; John Heick, PT, DPT, PhD; Ethan Hood, PT, DPT, MBA; Victoria Kochick, PT, DPT; Lindsay Walston, PT, DPT

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VESTIBULO-OCULOMOTOR - cont

Physical therapists **may also** provide an individualized visual-motion habituation program.

- **Level of Evidence:** B
- **Patient presentation:** Experienced a concussive event and exhibits visual vertigo/visual motion sensitivity (dizziness provoked by repetitive or moving visual environments)

Physical therapists who lack appropriate training in vestibular and oculomotor rehabilitation **should refer** patients to a clinician with appropriate expertise.

∇ **Level of Evidence: F**

∇ **Patient presentation:** Experienced a concussive event and exhibit vestibular and/or oculomotor impairments.

EXERTIONAL TOLERANCE AND AEROBIC EXERCISE

Physical therapists **should implement** a symptom-guided, progressive aerobic exercise training program for patients who are planning to return to vigorous physical activity levels.

- **Level of Evidence:** A
- **Patient presentation:** Experienced a concussive event and exhibit exertional intolerance.

Physical Therapists **may implement** progressive aerobic training for all patients in order to reduce risk for deconditioning, promote functional brain healing, and provide a nonpharmaceutical option to improve mental health.

- **Level of Evidence: E**
- **Patient presentation:** Experienced a concussive event and exhibit exertional intolerance, including those who do not exhibit exertional intolerance and those who do not intend to engage in vigorous physical activity.

MOTOR FUNCTION

Physical therapist **should implement** motor function interventions that help progress the patient toward higher-level functional performance goals.

◊ **Level of Evidence: C**

◊ **Patient presentation:** Experienced a concussive event and identified or suspect motor function impairments.

MONITORING AND PROGRESSING PATIENTS

Physical therapists **should regularly** document symptoms, provide reassessments of movement-related impairments, and administer selected outcome measures as needed or indicated.

∇ **Level of Evidence: F**

∇ **Patient presentation:** Movement-related impairments post-concussion.

Level of Evidence Legend

∇ Green – circle 1. Yellow – Diamond ◊ Orange - Triangle

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