

USASOC GUIDELINES FOR POST-CONCUSSION REHABILITATION

Rehabilitation Stage	Physical Therapy Program	Recommended Exercises
<p>Stage 1</p> <p><u>Target Heart Rate:</u> 30-40% of maximum exertion</p> <p><u>Recommendations:</u> exercise in quiet area; no impact activities; balance and vestibular exercises as needed; limit head movement/position changes; limit concentration activities; 10-15 minutes light cardio</p>	<ul style="list-style-type: none"> - Very light aerobic conditioning - Sub-max isometric strengthening - ROM/Stretching - Low-level balance activities 	<p>Stationary Bike; seated elliptical; treadmill walking (10-15 minutes)</p> <p>Quad sets; Ham sets; light hand weights; resistive band rowing; SLR's; resistive bands ankle strengthening</p> <p>Cervical ROM exercise; trap/LS stretching, pec stretch; hamstring stretching, quad stretching, calf stretching</p> <p>Romberg exercises, single leg balance</p>
<p>Stage 2</p> <p><u>Target Heart Rate:</u> 40-60% of maximum exertion</p> <p><u>Recommendations:</u> exercise in gym areas; use various exercise equipment; allow some positional changes in head movement; low level concentration activities; 20-30 minutes of cardio</p>	<ul style="list-style-type: none"> - Light to moderate aerobic conditioning - Light weight - Active stretching - Moderate balance activities; initiate activities with head position changes 	<p>Treadmill; stationary bike; elliptical (20-30 minutes)</p> <p>Light weight strength exercises, resistive band exercises; wall squats; lunges; step up/downs</p> <p>Any stage 1 stretching; active stretching as tolerated</p> <p>Romberg exercises, VOR exercise (walking with eyes focused and head turns); Swiss ball exercises; single leg balance exercises</p>
<p>Stage 3</p> <p><u>Target Heart Rate:</u> 60-80% of maximum exertion</p> <p><u>Recommendations:</u> any environment ok; integrate strength, conditioning, and balance/proprioceptive exercises; can incorporate concentration challenges; 25-30 minutes of cardio</p>	<ul style="list-style-type: none"> - Moderately aggressive aerobic exercise - All forms of strength exercise - Active stretching exercise - Impact activities (running, plyometrics) - Challenging proprioceptive and dynamic balance; challenging positional changes 	<p>Treadmill (jogging); stationary bike; elliptical (25-30 min)</p> <p>Resistive weight training including free weights; functional squat; dynamic strength activities</p> <p>Active stretching (lunge walks, side to side groin stretching, walking hamstring stretch)</p> <p>Initiate agility drills (zig-zag runs, side shuffle), jumping on blocks</p> <p>Higher level balance activities: ball toss on plyo floor, balance discs, squats and lunges on BOSU ball</p>
<p>Stage 4</p> <p><u>Target Heart Rate:</u> 80% of maximum exertion</p> <p><u>Recommendations:</u> resume aggressive training in all environments</p>	<ul style="list-style-type: none"> - Non-contact physical training - Aggressive strength training - Impact activities/plyometrics - Job-specific physical training 	<p>Program to be designed by unit physical therapist</p> <p>Interval training</p> <p>Job-specific drills/training</p>

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<p>Stage 5</p> <p><u>Target Heart Rate:</u> Full exertion</p> <p><u>Recommendations:</u> Full activities and combat training</p>	<ul style="list-style-type: none">- Resume full physical training with contact- Continue aggressive strength and conditioning exercises- Job-specific activities (shooting, CQB training, fast-roping)	<p>Program to be designed by unit physical therapist</p> <p>Train at full combat intensity</p>
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