### Phase 1

**Target HR:** 30-40% of maximum exertion  
**Recommendations:**  
- 10-15 minutes of cardio exercise, low stimulus environment  
- no impact/contact activities  
- balance and vestibular treatment (pm)  
- limit head movement/position change  
- limit concentration activities  
**Activity:** very light aerobic conditioning  
- sub-max strengthening  
- ROM/stretching  
- very low-level balance activity

### Phase 2

**Target HR:** 40-60% of maximum exertion  
**Recommendations:**  
- 20-30 minutes of cardio exercise  
- exercise in gym areas  
- use various exercise equipment  
- allow some positional changes and head movement  
- low level concentration activities  
**Activity:** moderate aerobic conditioning  
- light weight strength exercises  
- stretching (active stretching initiated)  
- low-level balance activity

### Phase 3

**Target HR:** 50-80% of maximum exertion  
**Recommendations:**  
- any environment is okay for exercise (indoor/outdoor)  
- integrate strength, conditioning, and balance/proprionception exercises  
- incorporate concentration challenges  
**Activity:** moderately aggressive aerobic conditioning  
- all forms of strength exercise (80% max)  
- active stretching exercises  
- impact activities, running, plyometrics (no contact)  
- challenging proprio-balance activities

### Phase 4: Sport Performance Training

**Target HR:** 80-90% of maximum exertion  
**Recommendations:**  
- continue to avoid contact activity  
- resume aggressive training in all environments  
**Activity:** non-contact physical training  
- aggressive strength exercises  
- impact activities/plyometrics  
- sport-specific training activities

### Phase 5: Sport Performance Training

**Target HR:** Full exertion  
**Recommendations:**  
- Initiate contact activities as appropriate to sport activity  
- full exertion for sport  
**Activity:** resume full physical training with contact
continue aggressive strength/conditioning exercise
sport-specific activity

1 ImPACT (2009) ImPACT™ The best approach to concussion management.