

Criteria to initiate program:

* Proper alignment and eccentric control with bilateral and unilateral closed chain movements.
* Perform Upper Extremity Functional Test at >90% to initiate Phase I.
* MMT 5/5 and pain free in all directions.

Key notes:

* Perform program on every other day basis to allow for 24-48 hours of recovery time.
* Perform each level for prescribed number of sessions before moving on to next level- move to next level once able to complete with proper mechanics, good strength, and without symptoms.
* Athletes will progress at different rates through the program dependent upon confidence, degree of inflammation, severity of injury, age, and type of surgical intervention. Pain and swelling are the best guides to determining tolerance at each phase and whether an athlete should progress to the next step.
* Setbacks are common during return to sport progressions and sound judgment should be used regarding an extra rest day(s) or regressing back to prior phase if pain and swelling are problematic.
* Continue with upper extremity, lower extremity and core strengthening exercises 2-3 times a week while progressing program- strengthening exercises may overlap days of swimming program and be performed after; however, must have one complete rest day per week.
* Perform stretching exercises on daily basis.
* Active warm-up to initiate each session with cooldown following. Ice for 10-15 minutes following session as pain and swelling dictate.

Phase I: Transition back into water

Perform each level 3 times prior to moving to next. Freestyle stroke only in Phase I. Focus on stroke technique and restoring normal mechanics.

* Level 1:
	+ Warm up: 2 x 200 yards (30 second rest break)
	+ 4 x 100 yards (20 second rest break)
	+ 4 x 50 yards (15 second rest break)
	+ Perform 1:
		- Upper extremity patient: 6 x 50 yard kick in streamline, swim back (15 second rest break)
		- Lower extremity patient: 6 x 50 yard pull down, swim back (15 second rest break)
	+ Cool down: 2 x 100 yards (20 second rest break)
* Level 2:
	+ Warm up: 400 yards (30 second rest break)
	+ 4 x 100 yards (20 second rest break)
	+ Perform 1:
		- Upper extremity patient: 4 x 50 yard kick in streamline, swim back (15 second rest break)
		- Lower extremity patient: 4 x 50 yard pull down, swim back (15 second rest break)
	+ 2 x 200 yards active recovery (20 second rest break)
	+ 4 x 100 yards (10 second rest break)
	+ Perform 1:
		- Upper extremity patient: 4 x 50 yard kick in streamline, swim back (10 second rest break)
		- Lower extremity patient: 4 x 50 yard pull down, swim back (10 second rest break)
	+ Cool down: 2 x 100 yards (20 second rest break)
* Level 3:
	+ Warm up: 400 yards (30 second rest break)
	+ 4 x 100 yards (20 second rest break)
	+ Perform 1:
		- Upper extremity patient: 4 x 50 yard kick in streamline, swim back (15 second rest break)
		- Lower extremity patient: 4 x 50 yard pull down, swim back (15 second rest break)
	+ 2 x 200 yards active recovery (20 second rest break)
	+ 4 x 100 yards (10 second rest break)
	+ Perform 1:
		- Upper extremity patient: 4 x 50 yard kick in streamline, swim back (10 second rest break)
		- Lower extremity patient: 4 x 50 yard pull down, swim back (10 second rest break)
	+ 2 x 200 yards active recovery (20 second rest break)
	+ 4 x 100 yards (10 second rest break)
	+ Perform 1:
		- Upper extremity patient: 4 x 50 yard kick in streamline, swim back (10 second rest break)
		- Lower extremity patient: 4 x 50 yard pull down, swim back (10 second rest break)
	+ Cool down: 2 x 100 yards (20 second rest break)

Phase II: Technique Restoration

Return to organized practices with swimmer’s team and pre-injury practice session frequency per week. Gradually progress volume with pacing restrictions. Introduce all other strokes within pacing restrictions- use “cap time” (see below). Perform each level for 1 week without symptoms prior to progressing to next level. If symptoms occur, return to previous level.

Establish “cap time”. A “cap time” is a pacing restriction or the maximum speed the swimmer is not permitted to exceed. As a swimmer progresses through the protocol, distance and “cap time” will gradually progress back to full level prior to injury. To determine “cap time” take personal record for 100 yard freestyle or stroke being swam. Divide to single length (25 yards for short course, 50 yards for long course). Add 2 seconds for short course and 4 seconds for long course.

Determine practice yardage.

Practice yardage example for Level 1: 60% of total distance.

Team work out: 10,000 yard total distance

Swimmer: 2,000 yard warm up + 2,000 yard cool down + 2,000 yard remaining distance= 6,000 yards (60% of 10,000 yards)

* Level 1:
	+ Warm up: perform full warm up with team
	+ Practice yardage: participate in 60% of total distance
	+ Short course pace: 100 pace time divided by 4, add 2 seconds
	+ Long course pace: 100 pace time divided by 4, add 4 seconds
	+ Cool down: perform full cool down with team
* Level 2:
	+ Warm up: perform full warm up with team
	+ Practice yardage: participate in 70% of total distance
	+ Short course pace: 100 pace time divided by 4, add 1.5 seconds
	+ Long course pace: 100 pace time divided by 4, add 3 seconds
	+ Cool down: perform full cool down with team
* Level 3:
	+ Warm up: perform full warm up with team
	+ Practice yardage: participate in 80% of total distance
	+ Short course pace: 100 pace time divided by 4, add 1 second
	+ Long course pace: 100 pace time divided by 4, add 2 seconds
	+ Cool down: perform full cool down with team
* Level 4:
	+ Warm up: perform full warm up with team
	+ Practice yardage: participate in 90% of total distance
	+ Short course pace: 100 pace time divided by 4, add 0.5 second
	+ Long course pace: 100 pace time divided by 4, add 1 second
	+ Cool down: perform full cool down with team
* Level 5:
	+ Warm up: perform full warm up with team
	+ Practice yardage: full participation
	+ Short course pace: full participation
	+ Long course pace: full participation
	+ Cool down: perform full cool down with team

Phase III: Doubles Practices

Return to performing two practices in a single day if applicable. Full participation in first practice. Second practice must progress through entire Phase II regarding distance and speed progressions. Slow integration of pull buoys or paddles for upper extremity patients and kickboards and fins for lower extremity patients. Pull buoys, paddles, kickboard, and fins are held until Phase III to allow swimmer to maximize technique without increased extremity loading of affected extremity.