

Criteria to initiate program:

* Proper alignment and eccentric control with bilateral and unilateral closed chain movements.
* Complete 4 week return to jogging program to build aerobic base to prepare for more intense runs. Athlete should be able to jog for 10 consecutive minutes prior to starting program. Goal is not speed or distance when jogging 10 minutes but having a solid aerobic foundation to build upon.
* Single leg single hop test and single leg press >70% on Limb Symmetry Index.

Key notes:

* Perform program on every other day basis to allow for 24-48 hours recovery time.
* Perform each level 2-3 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. Progression through the phases is combined evaluation and guidance of rehab provider and coach.
* 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 strengthening exercises 2-3 times a week while progressing through program- strengthening exercises may overlap days of program and be performed after; however, must have one complete rest day per week.
* Active warm-up to initiate each session with cooldown following. Ice for 10-15 minutes following session as pain and swelling dictate.

Active warm-up

Pre-running drills (15 yards down and back each): jogging, skipping, side shuffle, backpedal, high knees, butt kicks, grapevine

Dynamic stretching (10 yards down and back each): single leg RDL, quad stretch, side lunge, forward lunge, reverse lunge, knee tucks, glute stretch, inchworms, arm swings

Footwork drills: speed ladder or hurdles

Cool down

 5-10 minutes global upper extremity, trunk, and lower extremity stretching

Ice for 10-15 minutes as pain and swelling dictates

Phase I:

* Goal: build confidence with running, linear running drills with acceleration and deceleration, no participation in team drills
* Limb Symmetry Index: >70% with single leg single hop and single leg press
* Level 1:
	+ 60 yard run at 50-60% intensity x 10 repetitions (20 yard acceleration with 50-60% as top speed and then gradual deceleration), walk back between repetitions for recovery
	+ 10 yards backpedal run at 50% intensity x 10 repetitions
* Level 2:
	+ 60 yard run at 60-75% intensity x 10 repetitions (decrease acceleration distance to 10 yards and deceleration distance to 10 yards), walk back between repetitions for recovery
	+ 10 yard backpedal run at 60-75% intensity x 5 repetitions
	+ Sprint transition at 50% intensity (10 yards forwards/10 yards backwards) x 5
	+ Sprint transition at 50% intensity (10 yards backwards/10 yards forwards) x 5
		- Focus on planting with involved leg during sprint transitions
* Level 3:
	+ 60 yard run at 75% intensity x 10 repetitions (5-10 yard acceleration and deceleration distance), walk back between repetitions for recovery
	+ 20 yard run at 60-75% intensity x 10 repetitions, walk back between repetitions for recovery
	+ 10 yard backpedal run at 60-75% intensity x 5 repetitions
	+ Sprint transitions at 60-75%
		- 10 yards forward/10 yards backwards x 5-10 repetitions
		- 10 yards backwards/10 yards forwards x 5-10 repetitions
	+ Cone drills/cutting at 50% intensity for 15-20 yards x 5-10 repetitions
		- Start with large interval between cones and gradually decrease distance for changing directions
	+ Box drills at 50-60% x 3 repetitions each direction
		- Cones mark box that is 20-25 feet each side
		- Forward, shuffle, backpedal, shuffle

Phase II:

* Goal: speed development and running technique, initiate change in direction with visual stimulus of place to change direction
* Limb Symmetry Index: >80% with single leg single hop and single leg press
* Level 1:
	+ 60 yard run at 80% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 80% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 80% intensity x 8 repetitions, walk back between repetitions for recovery
	+ Sprint transitions at 80% intensity x 5 each direction (forward to backwards and backwards to forwards, each at 10 yard distance)
	+ Cone drills/cutting for 15-20 yards x 4-6 repetitions at 50% intensity
		- Focus on getting low and bending knees to change direction with outside foot. Gradually move cones closer for a sharper angle cut.
	+ Box drills at 60-75% intensity x 3 repetitions each direction
		- Cones mark box that is 20-25 feet each side
		- Forward, shuffle, backpedal, shuffle
	+ Base running drill at 50% intensity x 1-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.
* Level 2:
	+ 60 yard run at 90% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 90% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 90% intensity x 6 repetitions, walk back between repetitions for recovery
	+ Sprint transitions at 90% intensity x 5 each direction (forward to backwards and backwards to forwards, each at 10 yard distance)
	+ Cone drills/cutting for 15-20 yards x 4 repetitions at 60-75% intensity
	+ Box drills at 75% intensity x 3 repetitions each direction
		- Cones mark 20-25 foot box
		- Forward, shuffle, backpedal, shuffle
	+ Base running drill at 60-75% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.
* Level 3:
	+ 60 yard run at 90% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 90% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 90% intensity x 8 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 50% intensity
	+ 50% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 75% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with visual stimulus to change directions
	+ Base running drill at 75% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.
* Level 4:
	+ 60 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 60-75% intensity
	+ 60-75% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 75-85% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with visual stimulus to change directions
	+ Backpedal into turn and run at 50% intensity
	+ 50% run into bent-leg feet first slide
		- Able to start on grassy surface and progress to dirt path
		- Focus on technique
	+ Linear run at 50% into jump stop
		- Start with athlete chosen stop and progress to visual or verbal instruction to stop
	+ Base running drill at 75-85% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.
* Level 5:
	+ 60 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 75-85% intensity
	+ 75% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 75-85% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with auditory stimulus to change directions
	+ Backpedal into turn and run at 60-75% intensity
	+ 60-75% run into bent-leg feet first slide
	+ Linear run at 60-75% into jump stop
		- Start with athlete chosen stop and progress to visual or verbal instruction to stop
	+ Base running drill at 85% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.

Phase III:

* Goal: build repeated sprint ability, introduce sport-specific demands with participation in team drills, change in direction with reactive or auditory stimulus, linear speed at 90-100% intensity, multidirectional speed at 80-100%
* Level 1:
	+ 60 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 100% intensity x 6 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 80-90% intensity
	+ 80-90% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 80-90% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with auditory stimulus to change directions
	+ Backpedal into turn and run at 75-85% intensity
	+ 60-75% run into bent-leg feet first slide
	+ 50% run into pop-up slide
	+ Linear run at 75% intensity into jump stop
	+ Lateral shuffle at 50% intensity into jump stop
	+ Backpedal at 50% into jump stop
		- Start with athlete chosen stop and progress to visual or verbal instruction to stop
	+ Base running drill at 90-100% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.
* Level 2:
	+ 60 yard run at 100% intensity x 6-8 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 100% intensity x 6-8 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 100% intensity x 6-8 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 90-100% intensity
	+ 80-90% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 90-100% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with auditory stimulus to change directions
	+ Backpedal into turn and run at 80-90% intensity
	+ 80-90% run into bent-leg feet first slide
	+ 60-75% run into pop-up slide
	+ 50% run into head-first slide (low volume, ex. 2 sets of 3-5 repetitions)
	+ Linear run at 80% intensity into jump stop
	+ Lateral shuffle at 60-75% intensity into jump stop
	+ Backpedal at 60-75% into jump stop
		- Start with athlete chosen stop and progress to visual or verbal instruction to stop
	+ Base running drill at 90-100% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home
* Level 3:
	+ 60 yard run at 100% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 40 yard run at 100% intensity x 8 repetitions, walk back between repetitions for recovery
	+ 20 yard run at 100% intensity x 8 repetitions, walk back between repetitions for recovery
	+ Backpedal run into forward sprint with reacting to direction (lateral, forward, forward angle) at 90-100% intensity
	+ 90-100% intensity for line shuttle (5 yard-10 yard-5 yard) x 4 repetitions
	+ Box drills at 100% intensity (20-25 foot box; forward, shuffle, backpedal, shuffle) with auditory stimulus to change directions
	+ Backpedal into turn and run at 90-100% intensity
	+ 90-100% run into bent-leg feet first slide
	+ 80-90% run into pop-up slide
	+ 60-75% run into head-first slide (low volume of repetitions/sets)
	+ Linear run at 90-100% intensity into jump stop
	+ Lateral shuffle at 75-85% intensity into jump stop
	+ Backpedal at 75-85% into jump stop
		- Start with athlete chosen stop and progress to visual or verbal instruction to stop
	+ Base running drill at 100% intensity x 2-3 repetitions
		- Start at home and run to 1st base, walk to 2nd base. Normal lead off 2nd base and run to home, walk to 1st base. Normal lead off 1st and run to 3rd base, walk to home. Run to 2nd base, walk to 3rd. Normal lead off 3rd, run to home, walk to 1st base. Normal lead off 1st base and run to home.

Phase IV:

* Goal: maximal speed including changes in direction, acceleration, and deceleration, technical skills progression and participation in team drills
* Limb Symmetry Index: >90% on single leg single hop and single leg press
* Participation in team conditioning at full intensity

Phase V:

* Goal: full intensity in training sessions in all scenarios with limited playing time initially progressed to unlimited playing time to prepare for game play
* Participation in team conditioning at full intensity