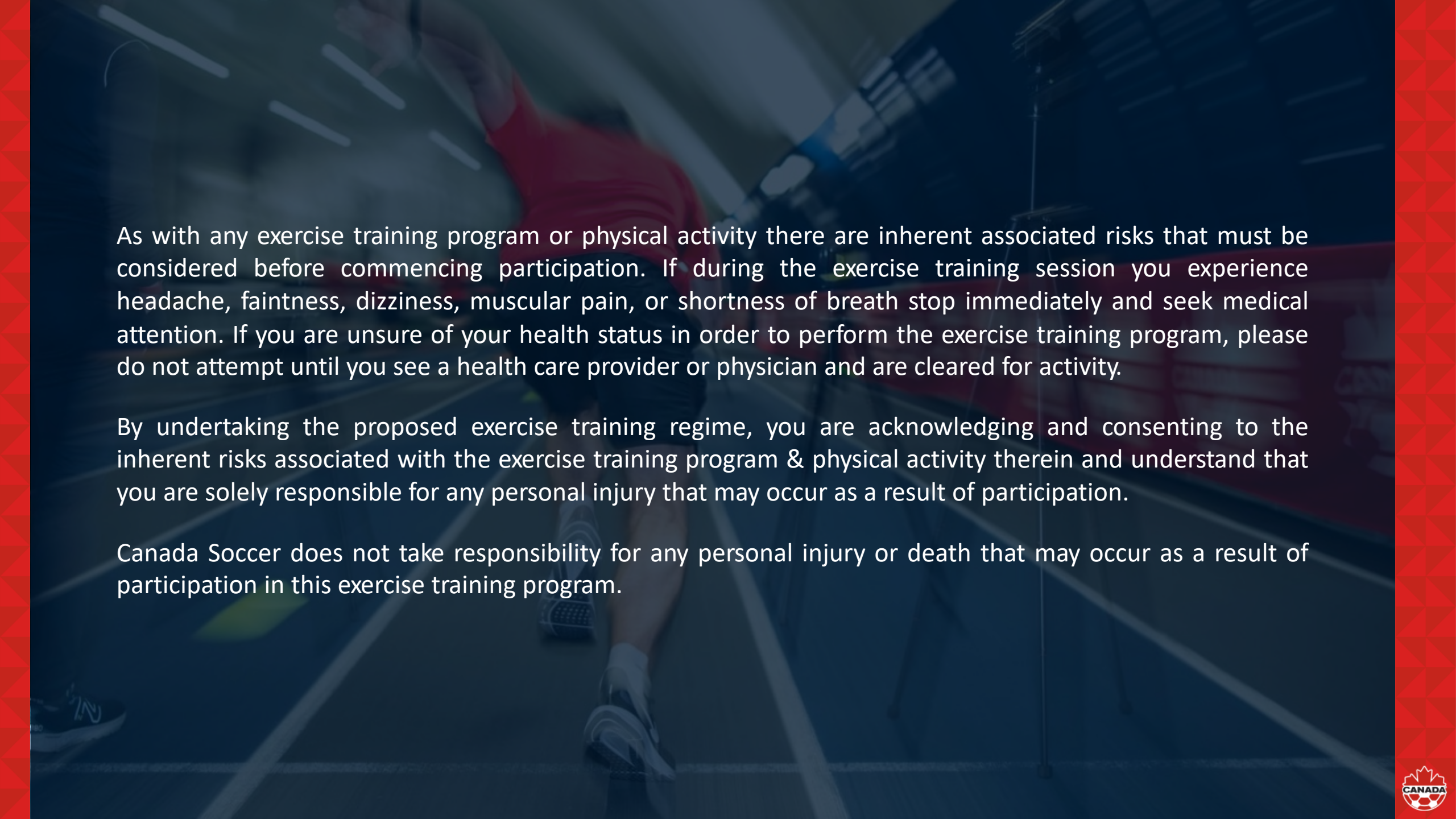




REFEREE TRAINING GUIDE – CONDITIONING

ENDURANCE CONDITIONING, SPEED, AGILITY & COORDINATION



As with any exercise training program or physical activity there are inherent associated risks that must be considered before commencing participation. If during the exercise training session you experience headache, faintness, dizziness, muscular pain, or shortness of breath stop immediately and seek medical attention. If you are unsure of your health status in order to perform the exercise training program, please do not attempt until you see a health care provider or physician and are cleared for activity.

By undertaking the proposed exercise training regime, you are acknowledging and consenting to the inherent risks associated with the exercise training program & physical activity therein and understand that you are solely responsible for any personal injury that may occur as a result of participation.

Canada Soccer does not take responsibility for any personal injury or death that may occur as a result of participation in this exercise training program.

Conditioning Training Guide: Endurance

Training Type	Interval / Duration	Work: Rest Ratio	Speed / Intensity	Repetitions	Perceived Effort (x/10)
LI Conditioning	25 to 45+ mins	Depends if Continuous or Intermittent	<ul style="list-style-type: none"> • 60-75% of HR_{MAX} • 10-12 km/h 	1+ Rep	<ul style="list-style-type: none"> • Low to Easy • RPE = 2-3
MI Conditioning	5 to 30+ mins	Depends if Continuous or Intermittent	<ul style="list-style-type: none"> • 76-85% of HR_{MAX} • 12-16 km/h 	1-6+ Reps	<ul style="list-style-type: none"> • Moderate to Somewhat Hard • RPE = 4-5
HI Conditioning	<ul style="list-style-type: none"> • 10s to 20+ mins • Continuous (e.g., Tempo Run) • Intervals (e.g., Fitness Test) 	<ul style="list-style-type: none"> • 1:1, 1:2 or 2:1, depends on training goal (e.g., 1min HI Run – 1min Jog / Walk) 	<ul style="list-style-type: none"> • 86-93% of HR_{MAX} • 16-18+ km/h 	<ul style="list-style-type: none"> • 1-2+ Sets • 1-10+ Reps 	<ul style="list-style-type: none"> • Hard to Very Hard • RPE = 6-7

Conditioning Training Guide: Speed





Training Type	Interval / Duration	Work : Rest Ratio	Speed / Intensity	Repetitions	Perceived Effort (x/10)
Starting Speed (Short Accelerations)	<ul style="list-style-type: none"> • ~1-3s • 0-20m 	<ul style="list-style-type: none"> • 1:10-15 • (e.g., 2s sprint = 30s Rest) 	As fast as possible (standing or rolling starts)	<ul style="list-style-type: none"> • 2-3+ Sets • 5-10+ Reps 	<ul style="list-style-type: none"> • Easy to Moderate • RPE = 2-3
Repeat Sprint Ability (RSA)	<ul style="list-style-type: none"> • ~2-8s • 10-50m 	<ul style="list-style-type: none"> • 1:5-10 • (e.g., 6s sprint = 60s Rest) 	<ul style="list-style-type: none"> • 95% Sprint Max • Target = 23-25km/h (*May not hit maximal speed due to distance, but aim to be as close as possible)	<ul style="list-style-type: none"> • 2-5+ Sets • 5-8+ Reps (*Depends on duration of sprint – the shorter interval the more sets)	<ul style="list-style-type: none"> • Hard to Very Hard • RPE = 7-8
Maximal Speed	<ul style="list-style-type: none"> • ~5-10s • 20-50m 	<ul style="list-style-type: none"> • 1:10 • (e.g., 4s sprint = 40s Rest) 	<ul style="list-style-type: none"> • 100% Sprint Max • Target = 25+ km/h 	<ul style="list-style-type: none"> • 2-3+ Sets • 5+ Reps 	<ul style="list-style-type: none"> • Moderate • RPE = 3-5
Sprint-Endurance (Long Accelerations)	<ul style="list-style-type: none"> • ~10-20s • 50-100m 	<ul style="list-style-type: none"> • 1:8-10 • (e.g., 10s sprint = 80s Rest) 	<ul style="list-style-type: none"> • 90-95% Sprint Max • Target = 21-25km/h 	<ul style="list-style-type: none"> • 2-3+ Sets • 5+ Reps 	<ul style="list-style-type: none"> • Moderate • RPE = 3-5
Speed-Endurance	<ul style="list-style-type: none"> • 6-30s • 100+ m 	<ul style="list-style-type: none"> • 1:3 • (e.g., 6s sprint = 18s Rest) 	<ul style="list-style-type: none"> • 95% Sprint Max • Target = 23-25km/h (*May not hit maximal speed due to distance, but aim to be as close as possible)	<ul style="list-style-type: none"> • 1-2+ Sets • 5-10+ reps (*Depends on duration of sprint – the shorter interval the more sets)	<ul style="list-style-type: none"> • Very Hard • RPE = 8-9

Conditioning Training Guide: Agility/Coordination

Training Type	Interval / Duration	Work : Rest Ratio	Speed / Intensity	Repetitions	Perceived Effort (x/10)
Agility / SAQ	~4-8	1:6-10 (e.g., 6s sprint = 36-60s Rest)	Progressively increase movement speed	<ul style="list-style-type: none"> • 2-3+ Sets • 5+ Reps 	<ul style="list-style-type: none"> • Easy to Moderate • RPE = 2-3
Coordination	Depends on drill demands, but relatively short	1:6-10 (e.g., 4s sprint = 24-40s Rest)	Intense in execution of drill	<ul style="list-style-type: none"> • 2-3+ Sets • 5-10+ Reps or perform 	<ul style="list-style-type: none"> • Easy to Moderate • RPE = 2-3

• SAQ – Speed, Agility, Quickness

Warm-Up Model: R.A.M.P.

	<p>RAISE Low-intensity activities, aim to get body moving</p>	<ul style="list-style-type: none"> • ↑ Body Temperature • ↑ Heart Rate • ↑ Blood Flow • ↑ Respiration Rate
	<p>ACTIVATE Exercises targeting key muscle groups (e.g., Glutes, Hip stabilizers, Calf, Hamstring etc.)</p>	<ul style="list-style-type: none"> • Mini-band drills • Glute bridge • Hamstring curl • Calf raise
	<p>MOBILISE Dynamic movement & ranges of motion to be used in training focus</p>	<ul style="list-style-type: none"> • Focus on movement • Movement Specificity • Mobility & Stability
	<p>POTENTIATION Activities that improve effectiveness of subsequent performance, e.g., training speed, match speed etc.</p>	<ul style="list-style-type: none"> • ↑ Intensity & Excitation • Post-Activation Potentiation (PAP) / Enhanced Performance • ↑ Strength & Power

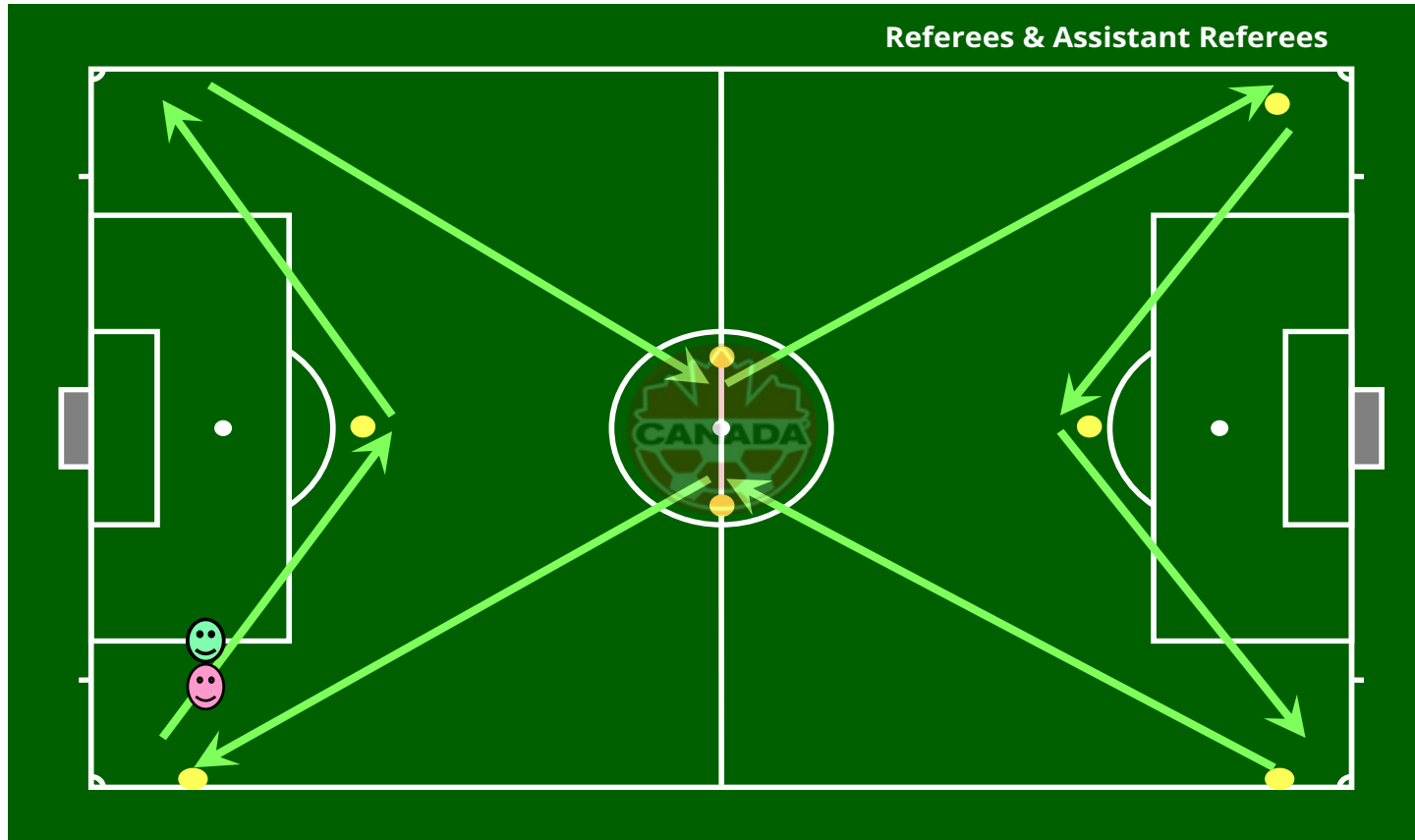
Warm-Up & Cool Down

- Warm-Up and Cool Down should be performed at each training session
- Warming up (15-25 minutes) Example plan:

Intro (5 min)	Mobility (5-10 min)	Dynamic stretching (5 min)	Agility & Coordination (2-5 min)	Speed (2-5 min)
Jogging	<ul style="list-style-type: none"> • Jogging with arm movements • Turning arms while jogging • Heel lifts • Knee lifts • Backwards jogging • Sideways L & R • 'lambada' L & R • Cycling in & outside • ... 	<ul style="list-style-type: none"> • Adductors • Abductors • Hamstrings • Quadriceps • Calves • ... 	<ul style="list-style-type: none"> • Exercises 'through' cones (e.g. 2 touches forwards, sideways L & R) • One high knee L or R (dynamic) • One heel lift L or R (dynamic) • ... 	<ul style="list-style-type: none"> • Short accelerations 5-10-15 m • With dynamic starts • ...

- Cooling down (10-15 minutes)
 - Walking, jogging and stretching
 - **Note:** take your time to stretch! Flexibility is important to keep the range of motion functional high to prevent injuries and recover faster from intense exercises

LI Conditioning



Exercise

Set 1: 30 min continuous jogging

- Pace should be between 10-12 km/h, but can vary depending upon your feeling
- Alternative:
 - Treadmill – Set to appropriate speed of 10-12 km/h on treadmill
 - Track – Use watch to keep track of lap times for pacing (~2-3-mins per lap)

1 Set of 30-minutes

Set 1	30 min
Recovery	10 min
Total duration	± 40 min

Walking	W	---
Jogging	J	± 5500m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	---
Sprint	S	---
Total distance		± 5500m

Note: This workout should be high quality, but non-fatiguing.

If no access to a field, then you can modify this workout accordingly using the running speed (10-12km/h) and adjust to your available environment (i.e., Track, Road or Treadmill).

LI Conditioning

Alternative LI Conditioning / MD (+1) – Active Recovery

Aim: **Endurance – Continuous running – Low Intensity (LI)**

Exercise:

- 30 min continuous jogging at low pace (10-12 km/h)
- A short acceleration of 100m (16-18 km/h) every 5 min

Note:

- Straight running without too much changes of direction
- This session can be done on different surfaces, not necessarily a field, but can be performed on other surfaces (e.g., Road, Trail, Track or Treadmill etc.)

Individualized activity:

- *If you feel fatigue or tiredness from the previous training (or match) then can replace the running training with an alternative activity (e.g., biking, rowing, swimming etc.).*

Cycling

- HR 70% Hrmax
- Total duration: +/- 90 min



Swimming

- 20 min nonstop as target (3 sets)
- Total duration: +/- 60 min activity



Gym

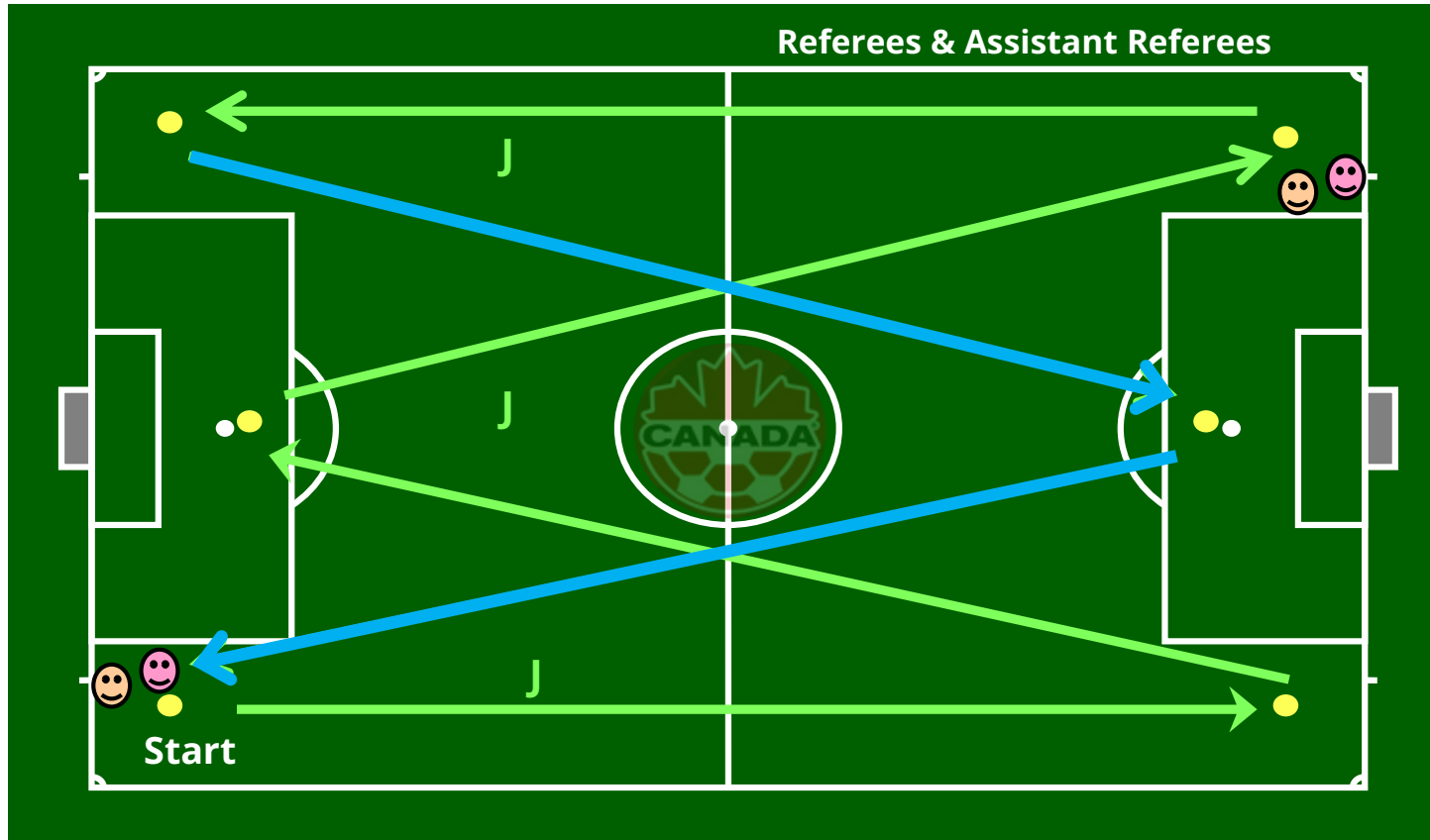
- HR 75% Hrmax
- Total duration: +/- 45 min activity



- ✓ Crosswalker 15 min
- ✓ Rowing 15 min
- ✓ Step or Stairs 15 min



MI Conditioning



Exercise – MI – Interval

- 7x (3-min running at MI to HI, followed by 2-min Recovery (Jog / Walk))
- Running at MI to HI (13-15 km/h) during 3-min, followed by 2-min walking-jogging
- Repeat same exercise: 7 Sets in total

7 Sets of 5-min

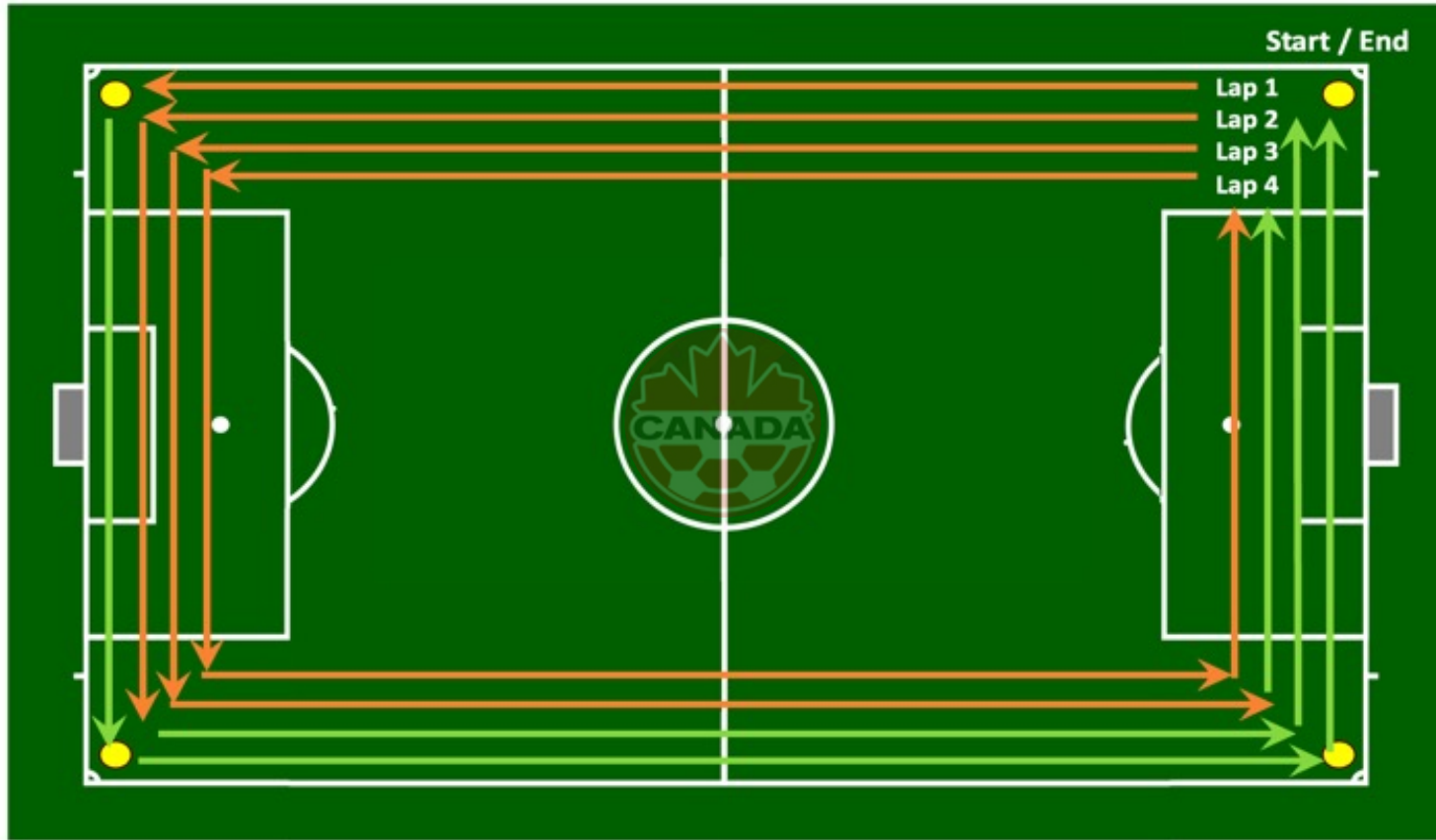
Set 1	3 min
Recovery	2 min
Set 2 – 7	18 min
Recovery	12 min
Total duration	± 35 min

Per set

Walking	W	200m
Jogging	J	650m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	---
Sprint	S	---
Total distance		± 850m

Note: If no access to a field, then you can modify this workout accordingly using the running speed (~13-15km/h) and adjust to your available environment (i.e., Track, Road or Treadmill).

MI Conditioning



Exercise – MI – Interval

Set 1

- Lap 1 = ~20-25s Run at 85-90% HR_{MAX} (~100m), 85s recovery Jog
- Lap 2 = ~40s Run at 85-90% HR_{MAX} (~170-200m), 60s recovery Jog
- Lap 3 = ~60s Run at 85-90% HR_{MAX} (~240-300m), 25s recovery Jog
- Lap 4 = ~80s Run at 85-90% HR_{MAX} (~340-400m)

Recovery: 4-min per Set

3 Sets of 4 Laps

Set 1 (4 laps)	~6-6.5 min
Recovery	4 min
Set 2 (4 laps)	~6-6.5 min
Recovery	4 min
Set 3 (4 laps)	~6-6.5 min
Total duration	± 27 min

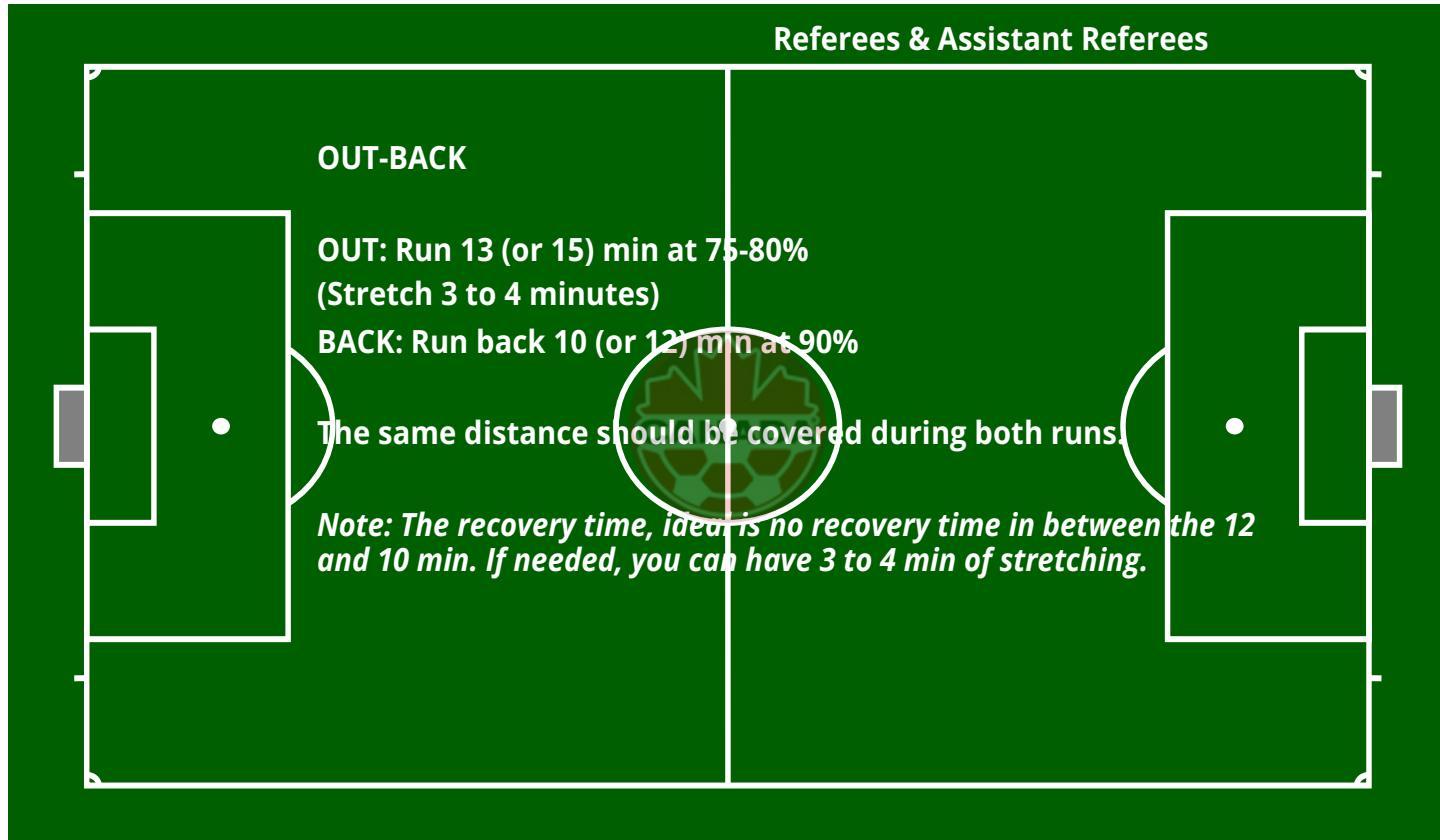
Per Set:

Walking	W	---
Jogging	J	1440 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	2640 m
Sprint	S	---

Total distance ± 4080 m

Note: This session can be performed on any surface (e.g., Road, Track or Treadmill).

MI Conditioning



Exercise – MI – Duration

- This session is a combination of MI-Jogging (~75% HRMAX) OUT for 13-15 min and MI to HI- Tempo run BACK in 10-12 min (~85-90% HRMAX). The same distance should be covered during both runs.
- Proposed running speeds:
 - OUT – 10-12 km/h
 - BACK – 12-16 km/h

Out & Back Run

Set 1	12-15 min
Recovery	4 min
Set 2	10-12 min
Total duration	± 26-31 min

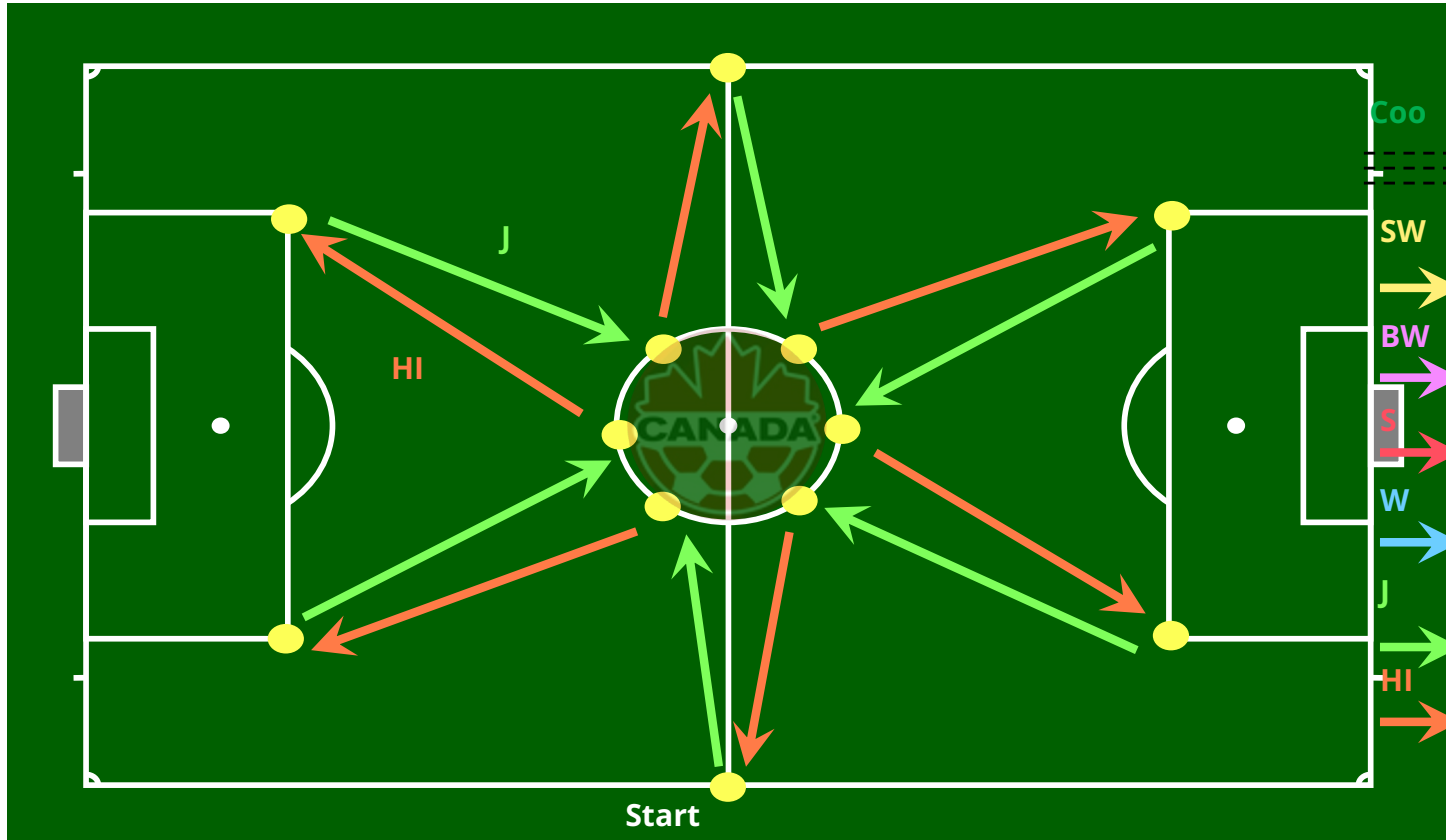
Per Set:

Walking	W	---
Jogging	J	2800 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	2800 m
Sprint	S	---

Total distance	± 5600 m
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Note: Training intensity for this session on the 'Back' run should Moderate Intensity (MI), i.e., below FIFA Interval Test running speed. Keep an eye on your HR monitor for HR & Speed to ensure Moderate Intensity. This session can be performed on any surface (e.g., Road, Track, Field or Treadmill).

HI Conditioning



Exercise

- 3 Sets of 8-min of the exercise
- Run the exercise as shown for 8-min (HI Run / Jog).
 - Women run pace = ~16-18 km/h
 - Men run pace = ~18-20 km/h

Recovery: 2-min per Set

2 Sets of 8 Minutes

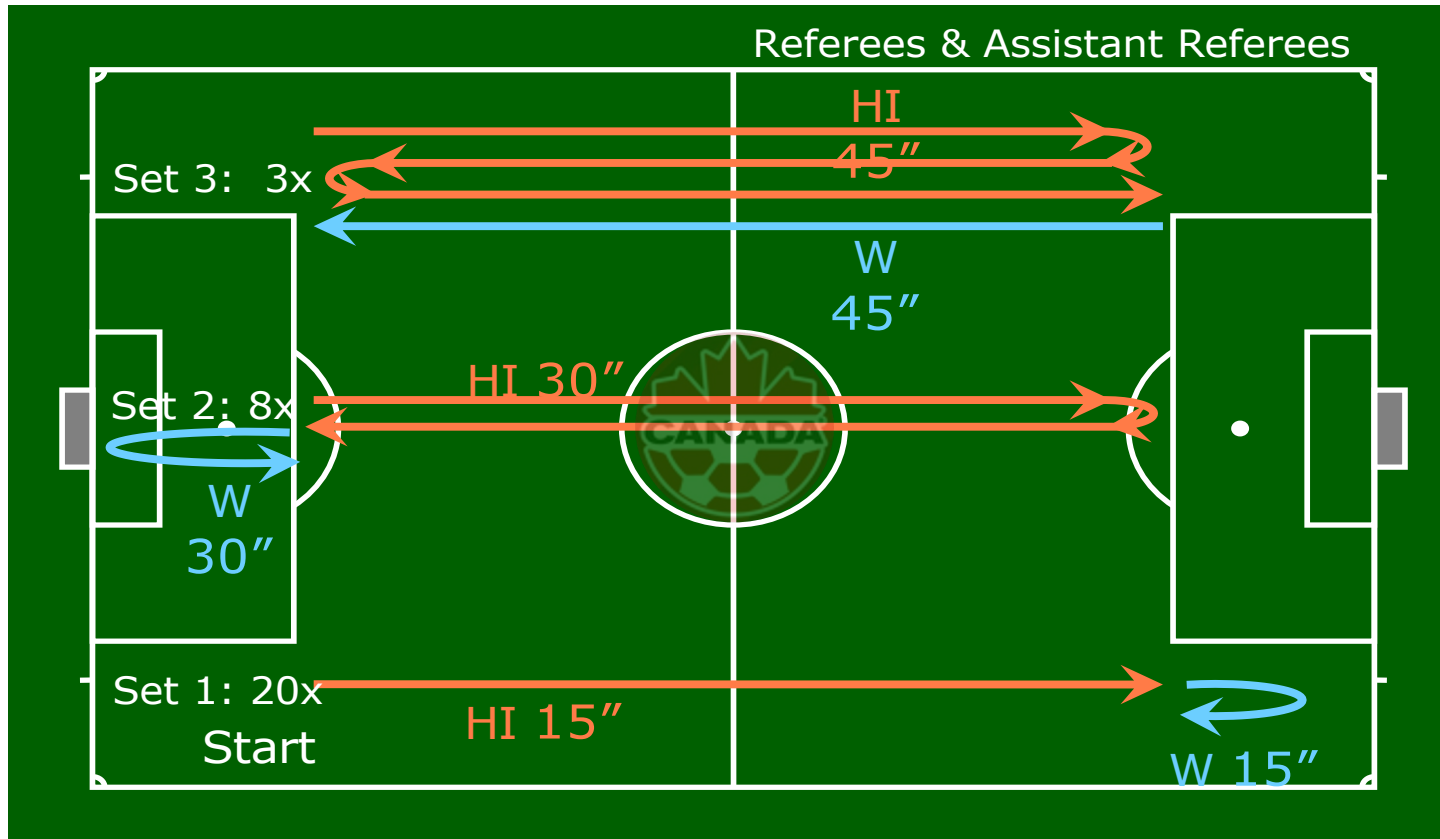
Set 1	8 min
Set 2	8 min
Set 3	8 min
Recovery	2 min per Set
Total duration	± 30 min

Per Set:

Walking	W	---
Jogging	J	180 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	180 m
Sprint	S	---
Total distance		± 360 m

Note: Ideally perform this drill on a marked field with center circle. If no access to a field, then you can modify this workout accordingly using the running speed and adjust to your available environment (i.e., Track, Road or Treadmill).

HI Conditioning



- **Set 1:** Run from one penalty area to the other in 12-15sec (~18 km/h). Walk to goal area line and back in 15sec. Repeat x20 times = 10 min. (20 x75m)
- **Recovery:** 3-4 min
- **Set 2:** Run twice from penalty area to penalty area in 30sec (~18 km/h). Walk from penalty area to goal line & back in 30sec. Repeat x8 times = 8 min. (8 x150m)
- **Recovery:** 3-4 min
- **Set 3:** Run three times from penalty area to penalty area in 45sec (~18 km/h). Walk, from one penalty area to the other in 45-sec. Repeat x3 times = 4.5 min. (3 x225m)

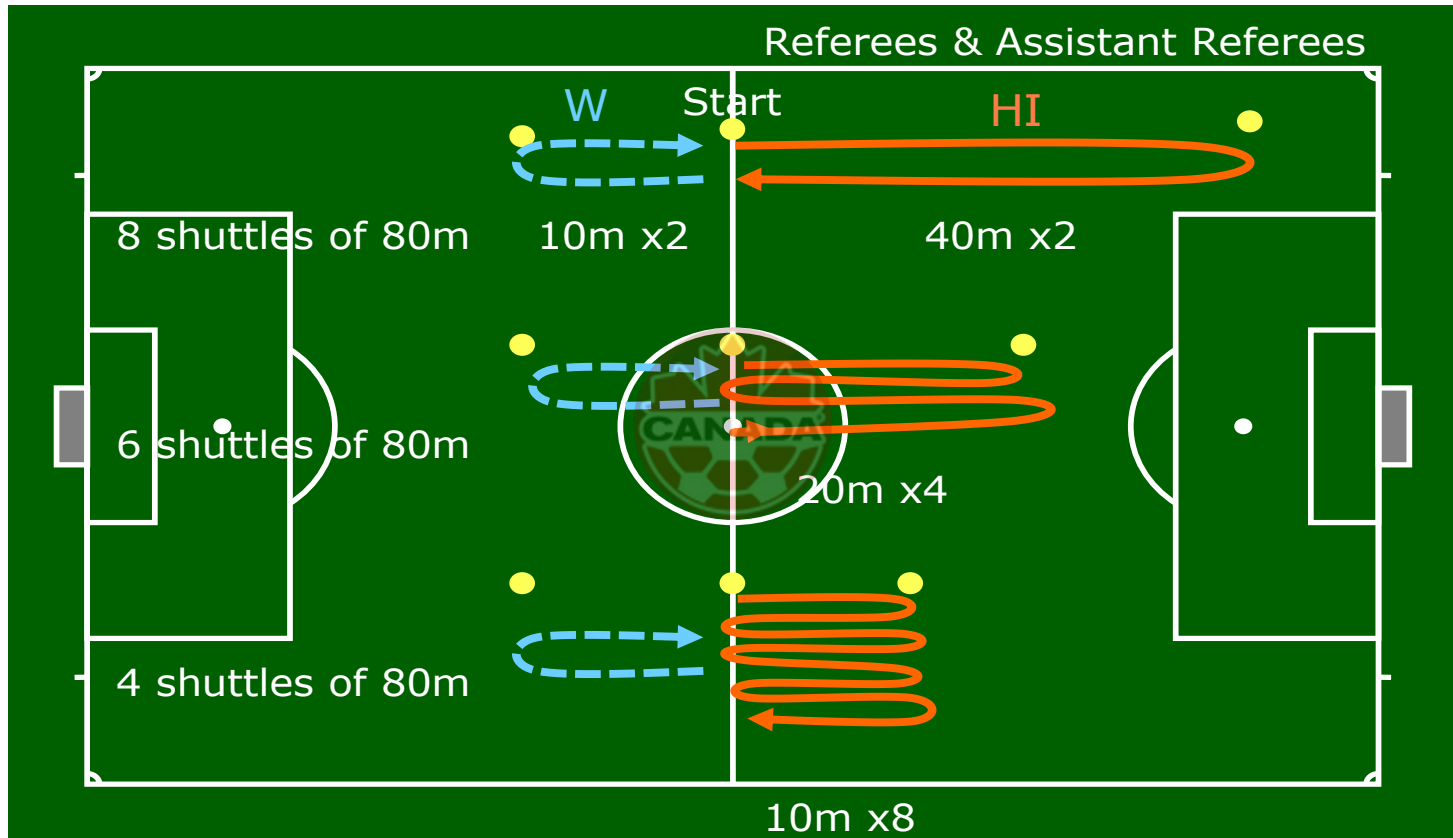
3 Sets of HI Runs

Set 1 (20 reps)	10 min
Recovery	3-4 min
Set 2 (8 reps)	8 min
Recovery	3-4 min
Set 3 (3 reps)	4.5 min
Total duration	± 31 min

Walking	W	835m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	3375m
Sprint	S	---
Total distance		4210m

Note: Always ideal to train out on the field, but if no access to a field, then you can modify this workout accordingly using the running speed (~18km/h) & the run durations (i.e., 15s, 30s, 45s) to adjust to your available environment (i.e., Track, Road or Treadmill).

HI Conditioning



Yo-Yo based exercise: shuttles of 80m

- **Set 1:** 8 shuttles (40m x 2 = 80m) to be completed in 17s / 30s recovery walk
- **Recovery:** 3-min
- **Set 2:** 6 shuttles (20m x 4 = 80m) to be completed in 19s / 30s recovery walk
- **Recovery:** 3-min
- **Set 3:** 4 shuttles (10m x 8 = 80m) to be completed in 21s / 30s recovery walk

3 Sets of Shuttle Runs

Set 1	6.5 min
Set 2	5 min
Set 3	3.5 min
Recovery	3 min per Set
Total duration	± 21 min

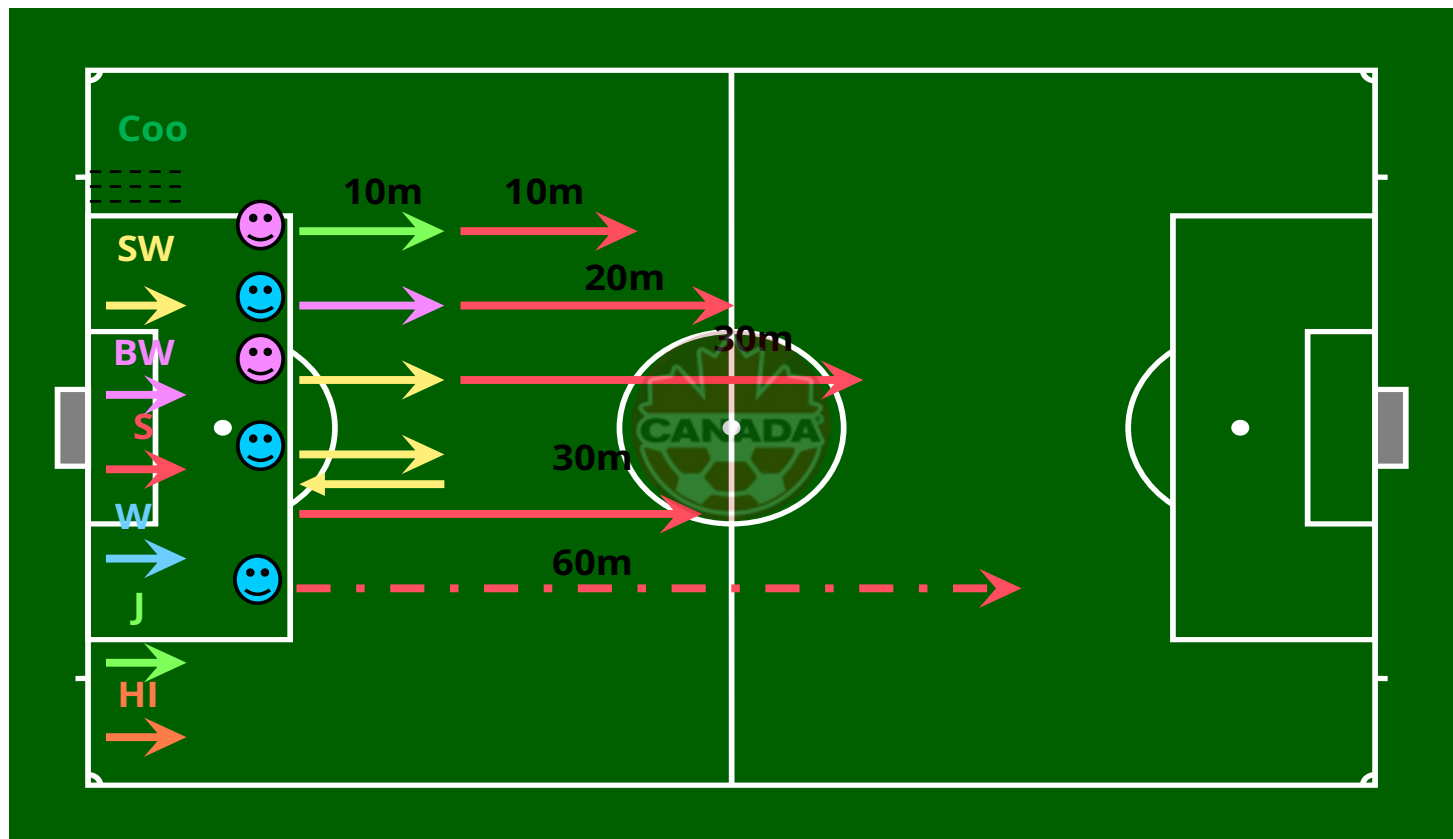
Per Set:

Walking	W	360 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	1440 m
Sprint	S	---

Total distance	± 1800 m
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Note: Ideally perform this drill on marked field, but this can be modified to a space that has enough space for the running distance.

Starting Speed



Exercise

- **Set 1:** Perform the following sprints at near maximal effort x3 reps for each exercise:
 - 10m Jogging, 10m Sprint / 10m BW / 20m Sprint
 - 10m SW-right, turn, 30m Sprint / 10m SW-right, 10m SW-left, turn, 30m Sprint
 - 60m – progressive accelerations (building up speed, but not reaching top-speed), focus on control of body and focusing on running technique

Recovery: 5-10 mins of Active recovery / Cool-down stretching

1 Set of 5 Exercises

Set 1 (4 reps) ± 14 min

Recovery 4 min

Total duration ± 18 min

Walking W 200 m

Jogging J 10 m

Backwards BW 10 m

Sideways SW 30 m

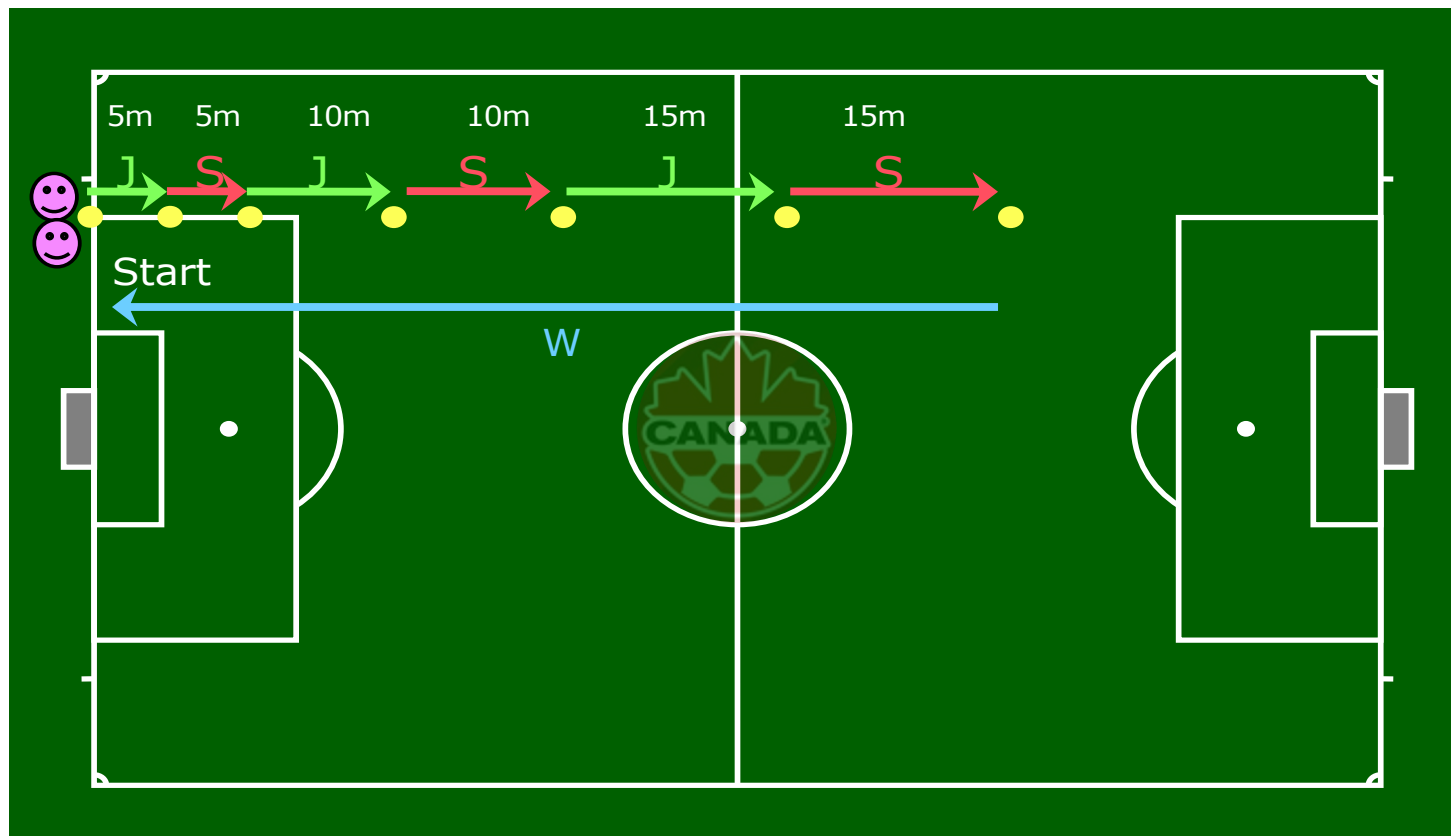
High Intensity HI ---

Sprint S 150 m

Total distance ± 500 m

Note: Use your watch to determine the recovery time between reps. Your HR should be +/- 120 bpm or ~60-65% HR_{MAX} before starting the next repetition. Important to try to have each sprint near full effort. Ideally perform on a field, but can be performed on any dry, flat surface (e.g., Track, Road).

Starting Speed



Exercise

- **Set 1:** Jog to the first cone, Sprint to the 2nd cone, Jog to the 3rd cone, Sprint to the 4th cone, Jog to the 5th cone, Sprint to the 6th cone. Walk back to the start.
- 4 laps in total
- **Variation:** Instead of Jogging, Run Backwards or Side-ways.

Recovery: 5-10 mins of Active recovery / Cool-down stretching

1 Set of 4 Laps

One Lap ± 2.5 min

Set 1 (4 laps) 10 min

Total duration ± 10 min

Walking W 240 m

Jogging J 120 m

Backwards BW ---

Sideways SW ---

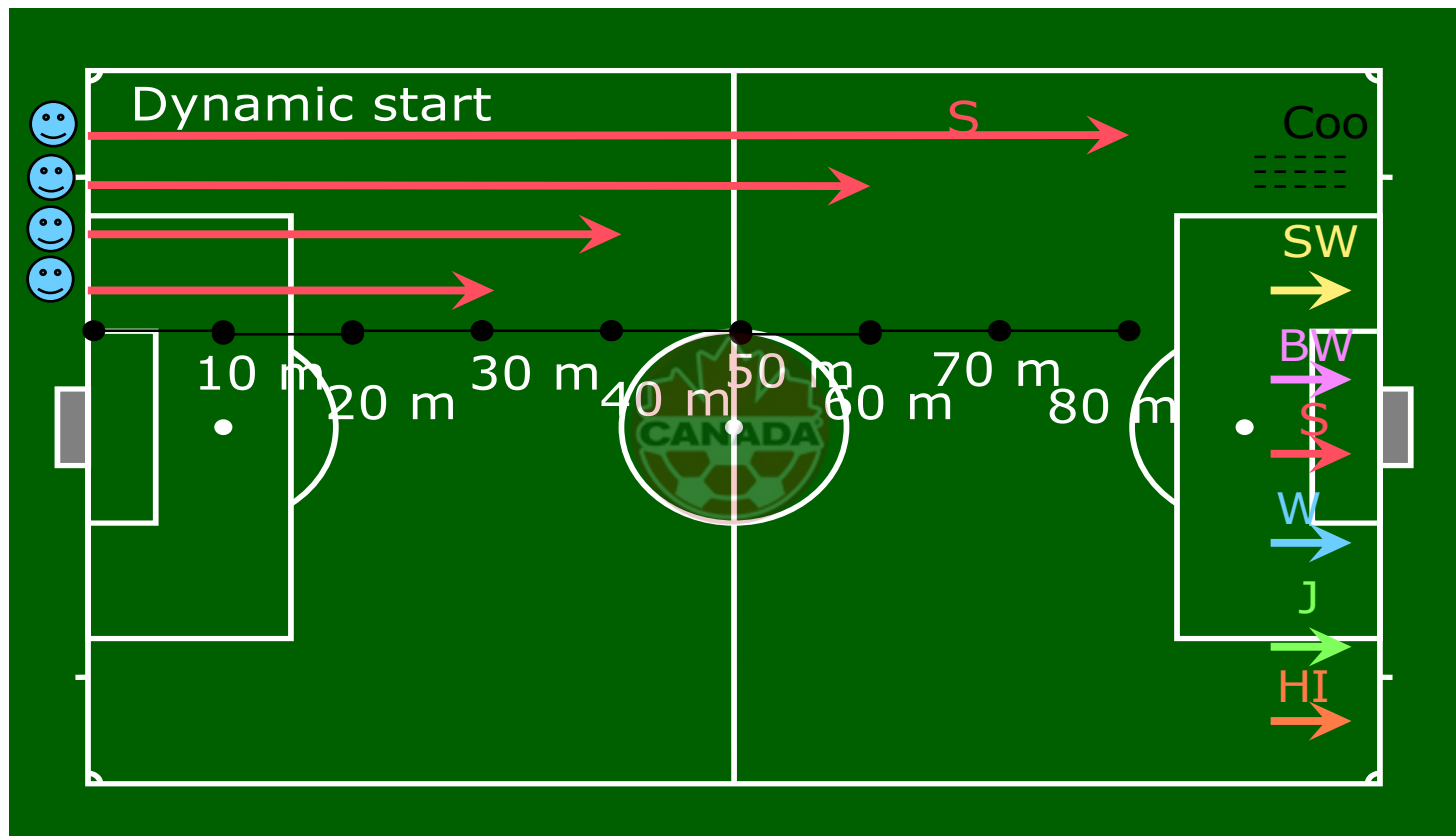
High Intensity HI ---

Sprint S 120 m

Total distance ± 480 m

Note: Ideally perform on a field, but can be performed on any dry, flat surface (e.g., Track, Road).

Speed – RSA



Exercise

- **Set 1:** 6 sprints x 80m ($\pm 12s$), 1:6 recovery; ~ 7.5 to 8 min total
- **Set 2:** 6 sprints x 60m ($\pm 9s$), 1:6 recovery; ~ 6 min total
- **Set 3:** 6 sprints x 40m ($\pm 6s$), 1:6 recovery; ~ 4 min total
- **Set 4:** 6 sprints x 30m ($\pm 4.5s$), 1:6 recovery; ~ 4 min total

Recovery: 2-min recovery between each Set

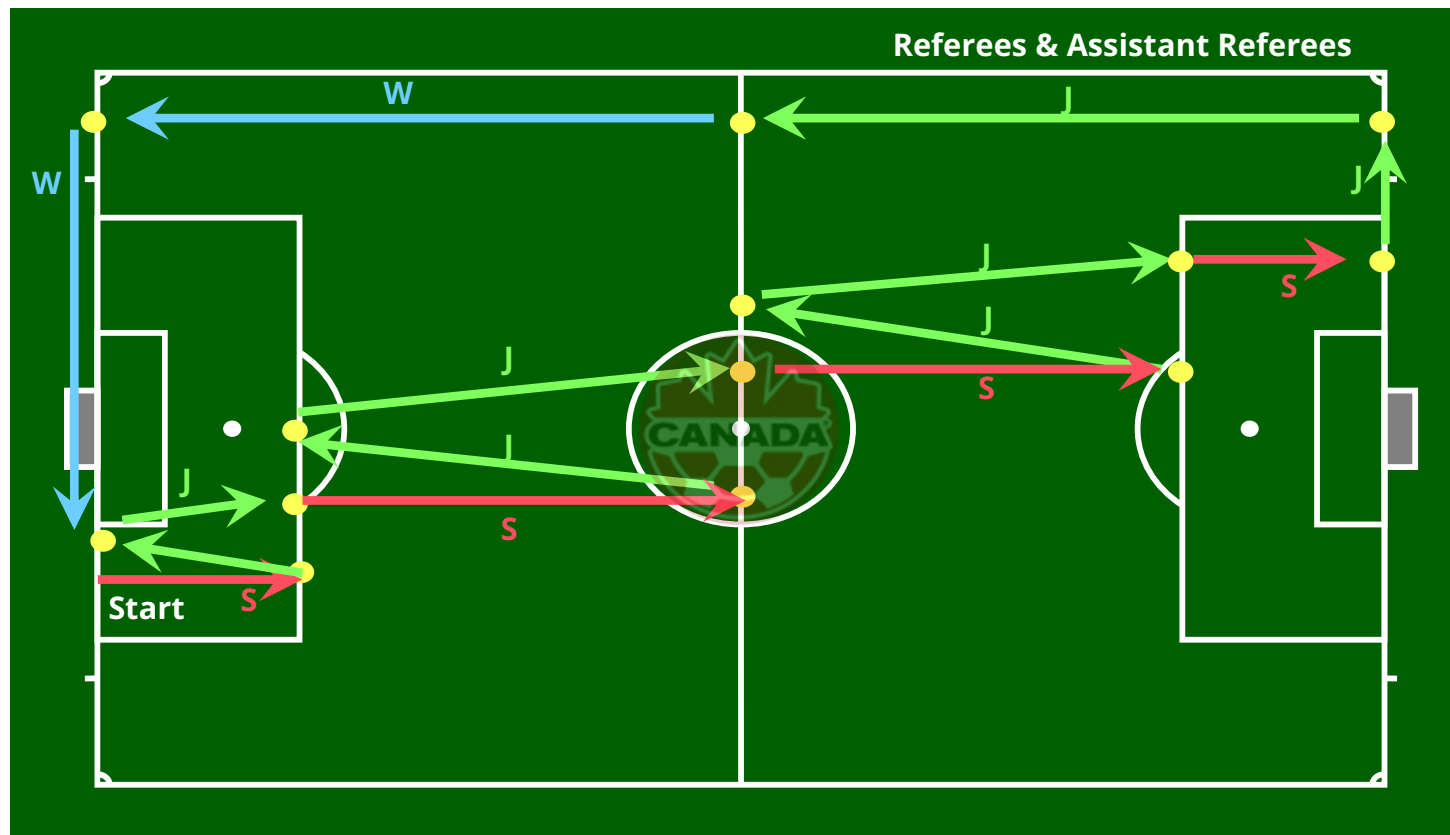
4 Sets of Sprints

Set 1 (6 x 80 m)	~ 8 min
Set 2 (6 x 60 m)	6 min
Set 3 (6 x 40 m)	~ 4 min
Set 4 (6 x 30 m)	~ 4 min
Recovery	2 min
Total duration	± 20 min

Walking	W	660 m
Jogging	J	660 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	---
Sprint	S	1320 m
Total distance		± 2640 m

Note: Ideally perform on a field, but can be performed on any surface (e.g., Track, Road).

Speed – RSA



Exercise

- **Set 1:** Run 4 laps of the Repeated Sprint Ability (RSA – Sprint – Jog – Jog) drill
- **Set 2:** Repeat

Recovery: 2 to 4 min in between Sets

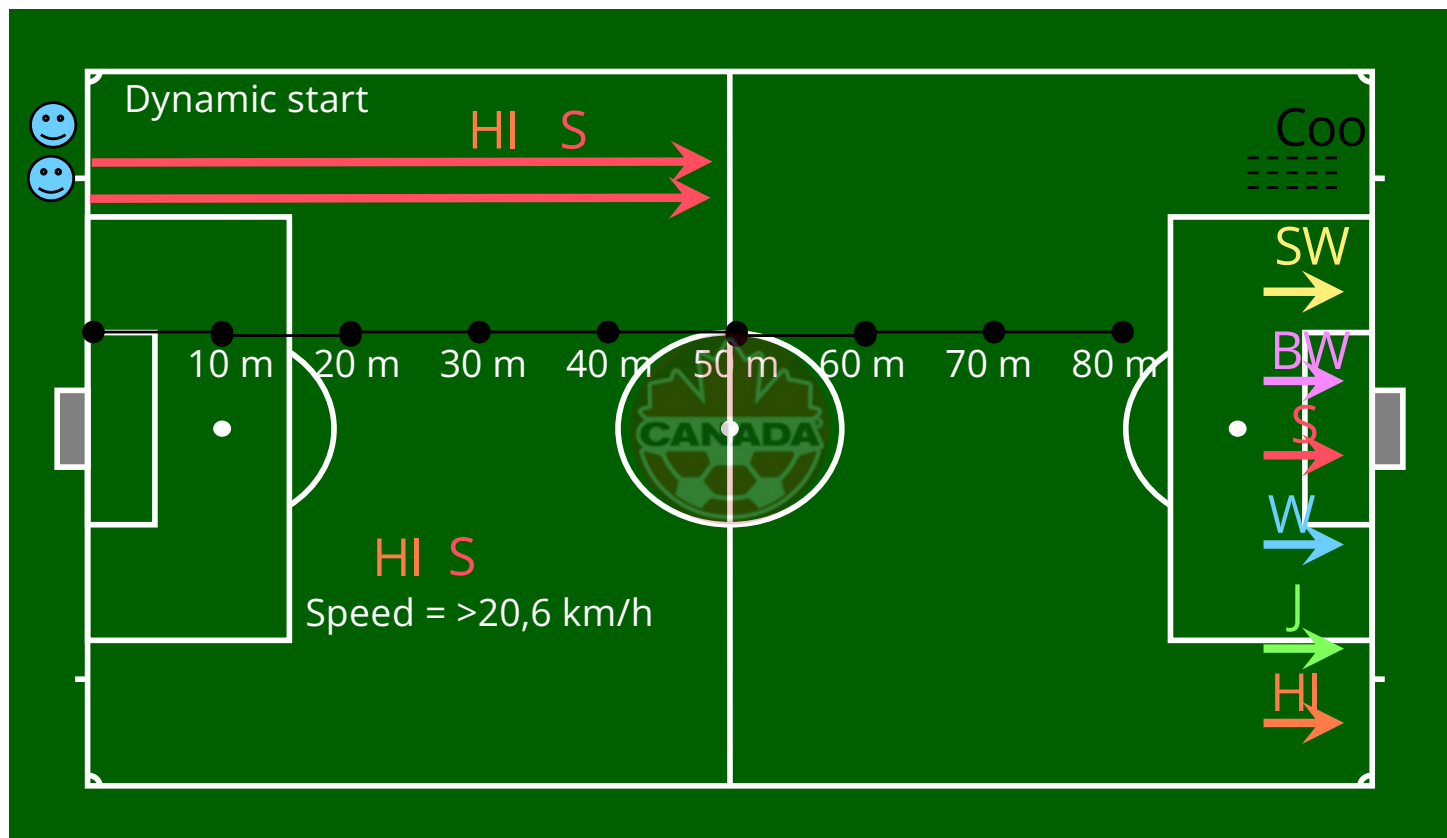
2 Sets of 4 Laps

One rep	~2.5 min
Set 1 (4 laps)	10 min
Recovery	4 min
Set 2 (4 laps)	10 min
Total duration	± 20 min

Walking	W	90 m
Jogging	J	250 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	---
Sprint	S	100 m
Total distance		± 440 m

Note: Important to try to have each sprint near full effort. Ideally perform on a field, but can be performed on any dry, flat surface (e.g., Track, Road).

Speed – Max



Exercise

- **Set 1:** 5 accelerations x50m in <8s (20-22 km/h) with 60s recovery walk after each acceleration
- **Set 2:** 5 accelerations x50m in <8s (20-22 km/h) with 60s recovery walk after each acceleration

Recovery: 2-min recovery between each Set

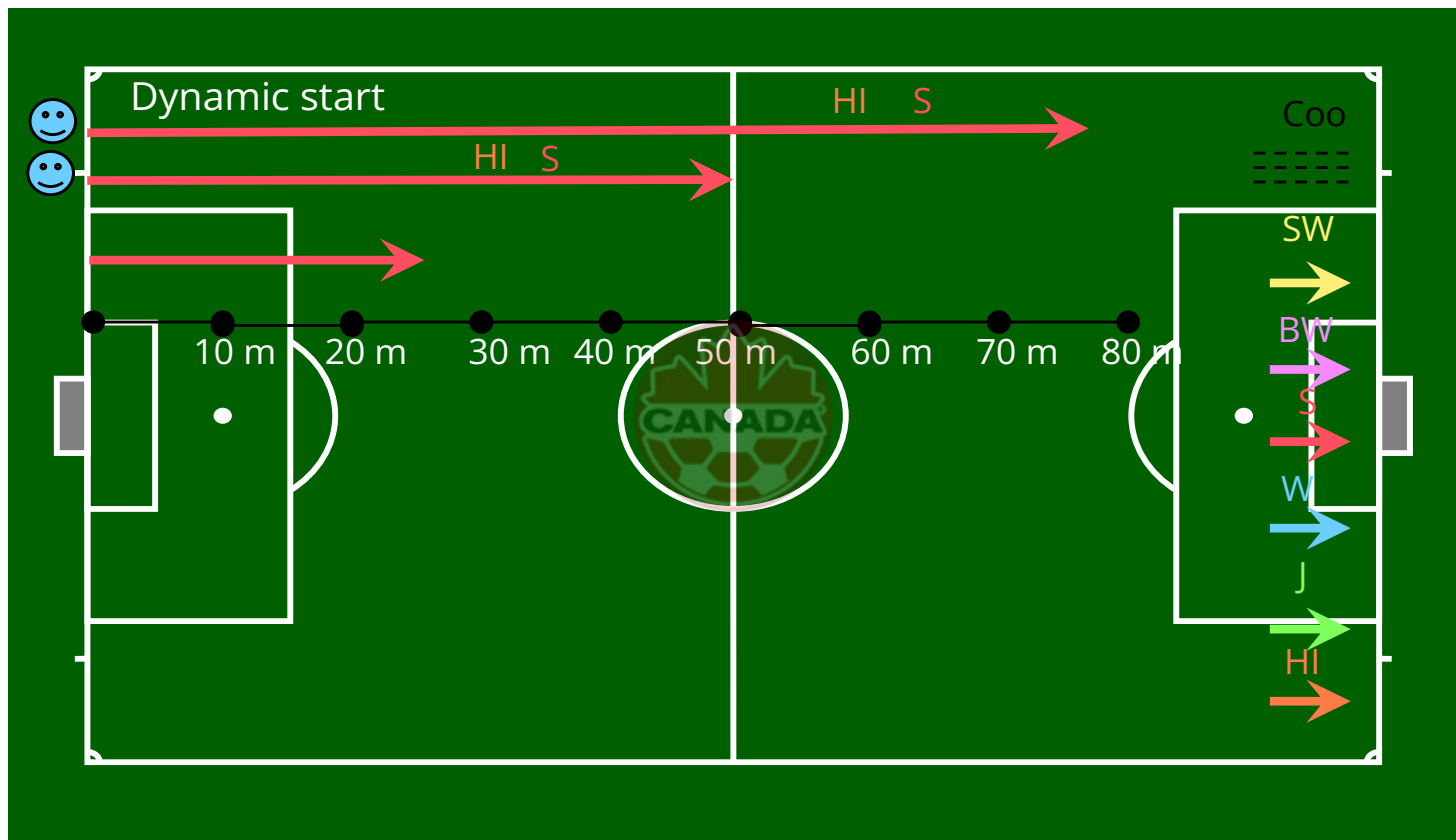
2 Sets of Accelerations

Set 1 (5 x 50 m)	5 min
Set 2 (5 x 50 m)	5 min
Recovery	2 min
Total duration	± 12 min

Walking	W	250 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	---
Sprint	S	250 m
Total distance		± 500 m

Note: Ideally perform on a field, but can be performed on any surface (e.g., Track, Road).

Speed – Endurance



Exercise

- **Set 1:** x4 Tempo runs x25m in ~5s (18-20 km/h) with 30s recovery after each run
- **Set 2:** x4 Tempo runs x50m in ~10s (18-20 km/h) with 45s recovery after each run
- **Set 3:** x4 Tempo runs x75m in ~15s (18-20 km/h) with 60s recovery after each run

Recovery: 2-min recovery between each Set

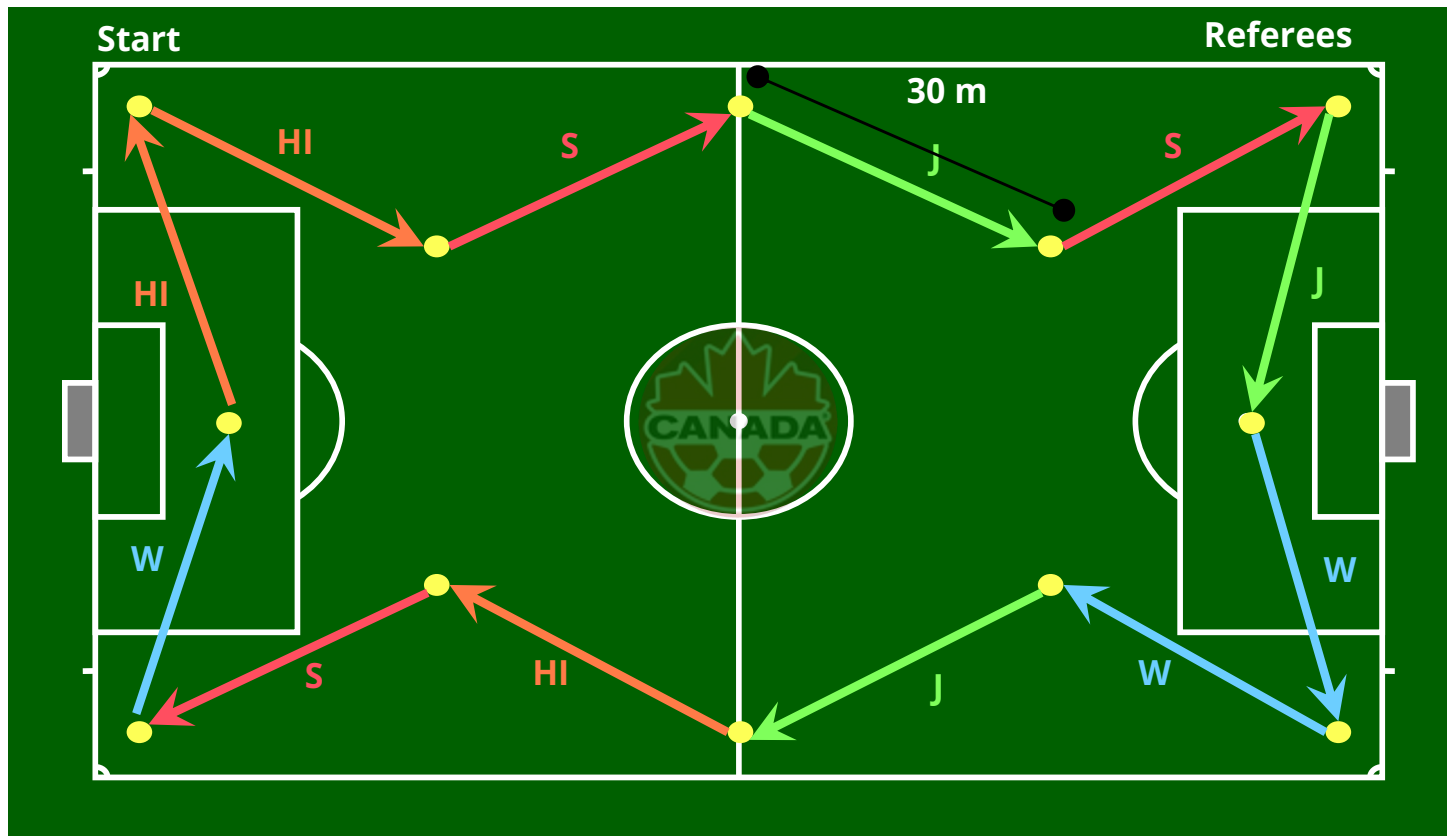
3 Sets of Tempo Runs

Set 1 (4 x 25 m)	~2.5 min
Set 2 (4 x 50 m)	~3.5 min
Set 3 (4 x 75 m)	5 min
Recovery	2 min
Total duration	± 10 min

Walking	W	600 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	600 m
Sprint	S	---
Total distance		± 1200 m

Note: Ideally perform on a field, but can be performed on any surface (e.g., Track, Road).

Speed – Endurance



Exercise

- **Set 1:** Run 6 laps (~12-mins) of the field specific exercise
- **Recovery:** 4-min
- **Set 2:** Repeat

Alternative:

- Track – Divide a 400m track into ~30m sections and perform the drill pattern as displayed starting with HI run

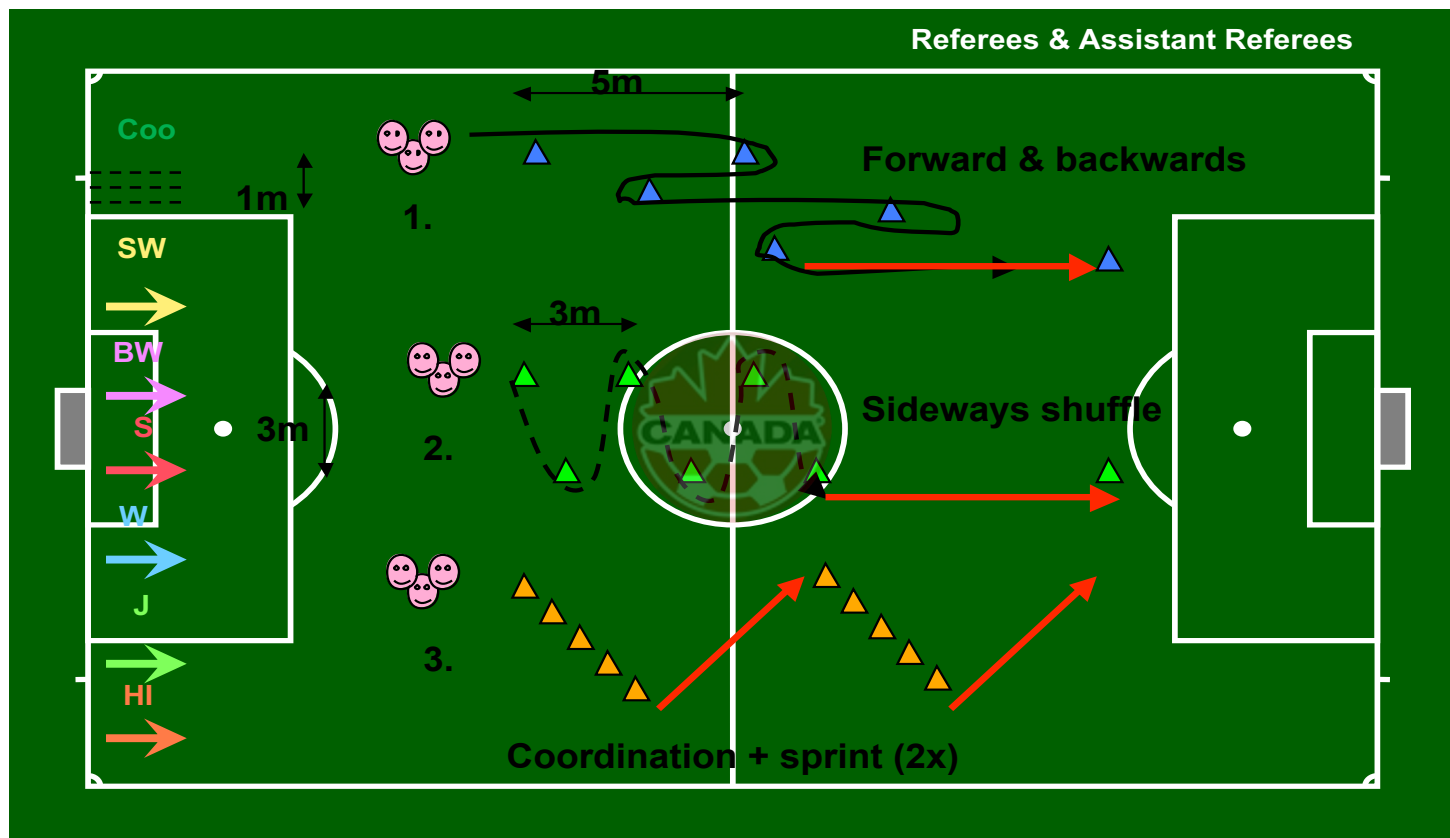
2 Sets of 6 Laps

One lap	2 min
Set 1 (6 laps)	12 min
Recovery	4 min
Set 2 (6 laps)	12 min
Total duration	± 28 min

Walking	W	90 m
Jogging	J	90 m
Backwards	BW	---
Sideways	SW	---
High Intensity	HI	90 m
Sprint	S	90 m
Total distance		± 360 m

Note: Important that sprint sections of drill are performed ~95% of sprint speed.

SAQ / Agility



Exercise

- **Set 1:** 3 different Speed-Agility-Quickness exercises + short Sprint = 1 Set
 - Forwards & Backwards moving + Sprint (15m) / Sideways shuffle + Sprint (15m) / Fast feet in between cones (Coordination) + Sprint (2x 10m)
- **Set 2:** Repeat

Recovery: 3-4 min stretching in between Sets

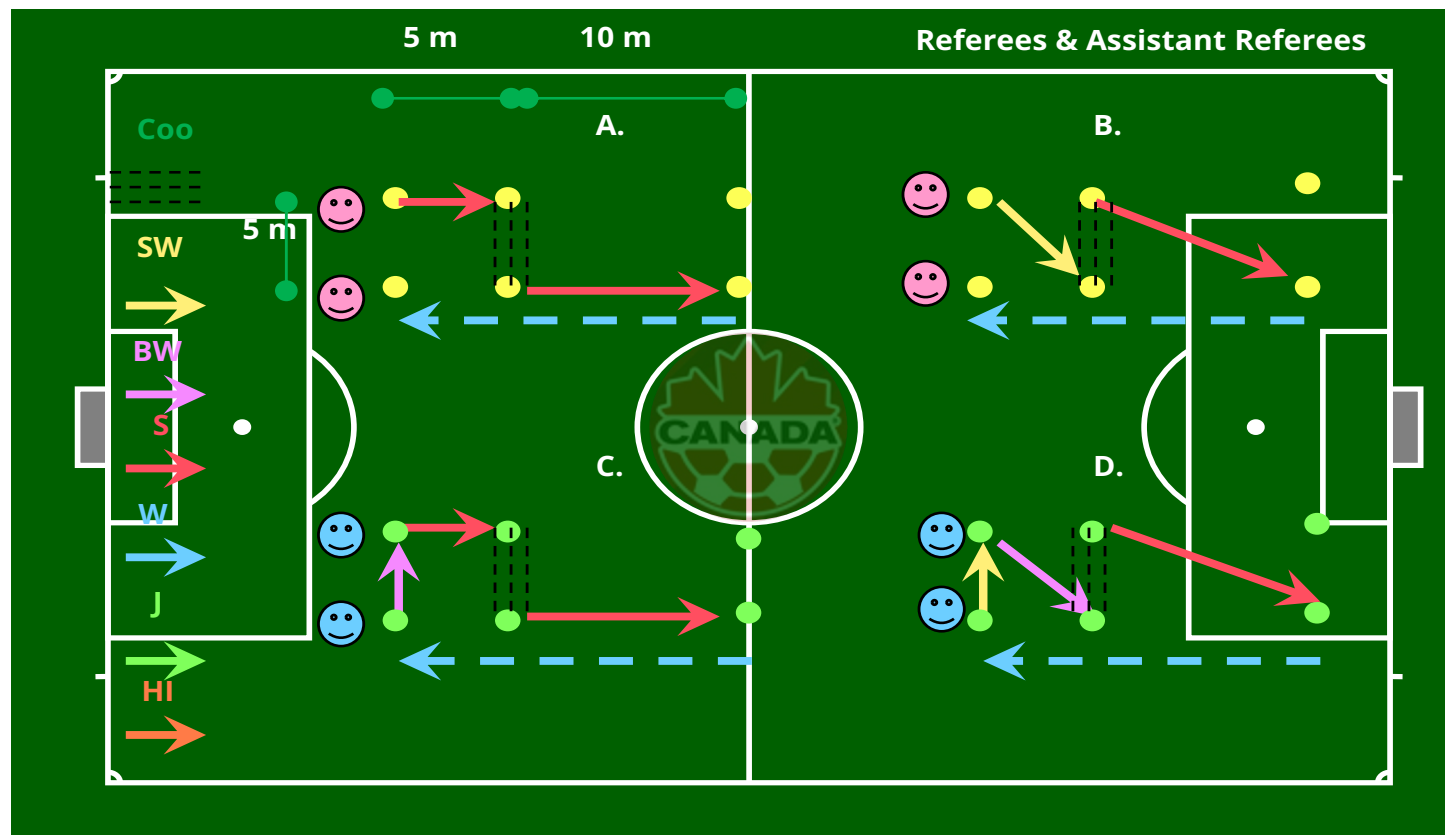
2 Sets of 3 Exercises

Set 1 (3 Ex.)	± 3 min
Recovery	4 min
Set 2 (3 Ex.)	± 3 min
Total duration	± 10 min

Walking	W	90 m
Jogging	J	---
Backwards	BW	10 m
Sideways	SW	25 m
High Intensity	HI	---
Sprint	S	50 m
Total distance		± 175 m

Note: All exercises must be performed near maximal effort in to gain physiological training benefit. This work should be quality and non-fatiguing. Ideally perform on a field, but can be performed on any dry, flat surface (e.g., Track, Road).

SAQ / Agility



Exercise

- **Set 1:** Short movements combined with short Sprints. A – B – C – D; repeat each exercise twice (1 Set = 8 reps). Full Recovery by walking back to starting position. In the ladder (Coordination), you can choose your own Coordination exercises.
- **Set 2 & 3:** Repeat

Recovery: 1-2 min extra Active Recovery in between Sets

2 Sets of 4 Exercises

One Rep	30 sec
Set 1 (8 raps)	4 min
Recovery	1 min
Set 2 & 3	-- min
Total duration	± 15 min

Per Set:

Coordination	Coo	20 m
Walking	W	40 m
Jogging	J	---
Backwards	BW	10 m
Sideways	SW	10 m
High Intensity	HI	---
Sprint	S	50 m

Total distance	± 130 m
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Note: Speed combined with Agility. All exercises must be performed near maximal effort in to gain physiological training benefit. This work should be quality and non-fatiguing. Your HR should be +/- 120 bpm or ~60-65% HR_{MAX} before starting the next repetition.

