

# Warm-up exercises with ball

## What are the benefits of a warm up?

Performance may be improved, as an appropriate warm up will result in an:

- Increased speed of contraction and relaxation of warmed muscles
- Dynamic exercises reduce muscle stiffness
- Greater economy of movement because of lowered viscous resistance within warmed muscles
- Facilitated oxygen utilization by warmed muscles because hemoglobin releases oxygen more readily at higher muscle temperatures
- Facilitated nerve transmission and muscle metabolism at higher temperatures; a specific warm up can facilitate motor unit recruitment required in subsequent all out activity
- Increased blood flow through active tissues as local vascular beds dilate, increasing metabolism and muscle temperatures
- Allows the heart rate to get to a workable rate for beginning exercise
- Mentally focused on the training or competition
- Main part of the training should start as soon as possible after the end of the warm up to gain the full rewards of the warm up

## Warm-up drills

- jogging with arm movements
- shoulders / arms together backwards & forward
- shoulders / arms alternatively backwards & forward
- heel lifts
- knee lifts (medium and high)
- backwards running (while turning head left & right)
- shuffles (forward and backward)
- sideways left & right
- lambada left & right
- grapevine
- tripling (small steps on the forefeet)
- circling of the legs (move forwards)
  
- straight fore-ward accelerating (2x)
- sideways running, followed by fore-ward accelerating (2x)
- backward running, followed by fore-ward accelerating (2x)
- fore-ward running, followed by acceleration in opposite direction (2x)

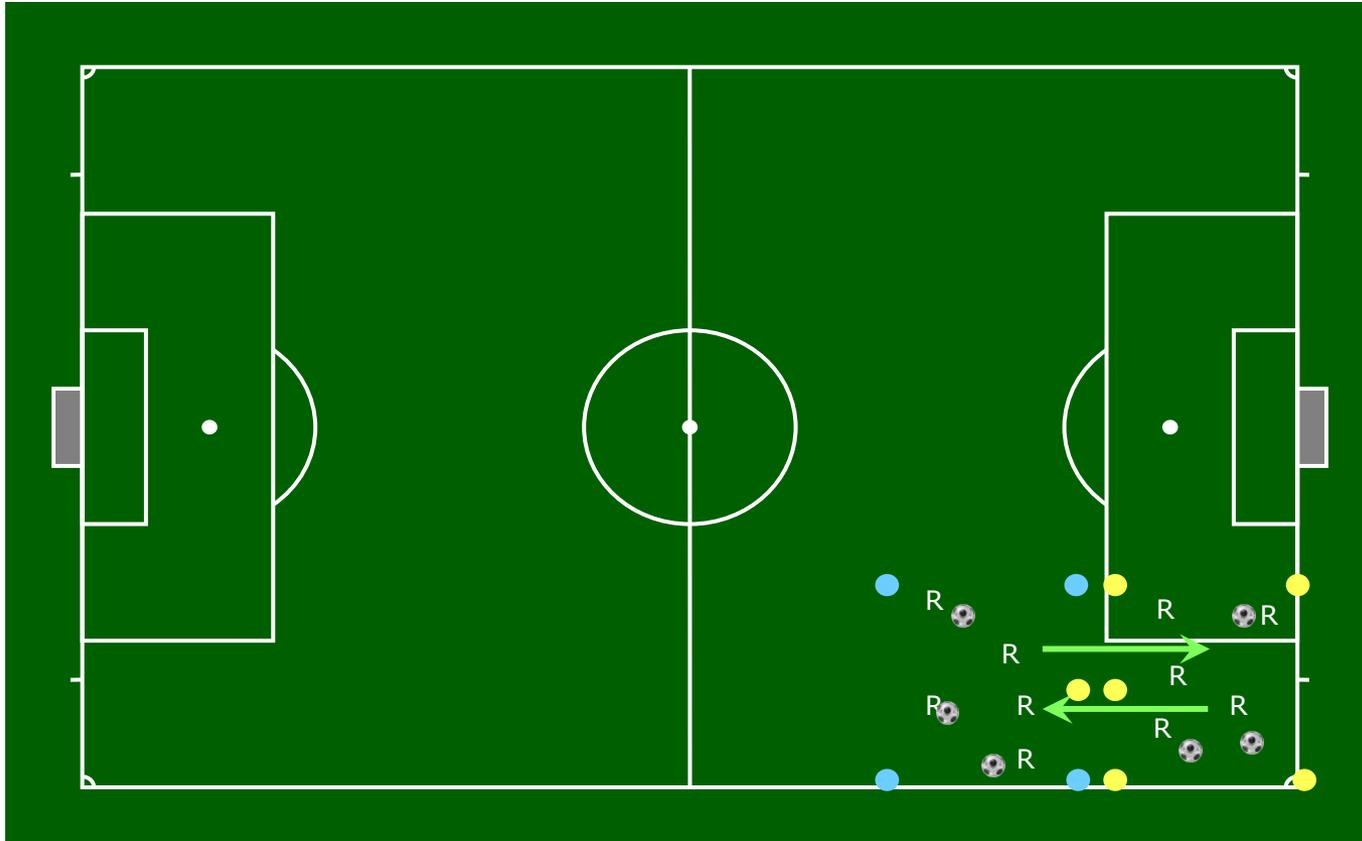
## **dynamic stretching exercises**

adductor

hamstrings

quadriceps

splint muscles



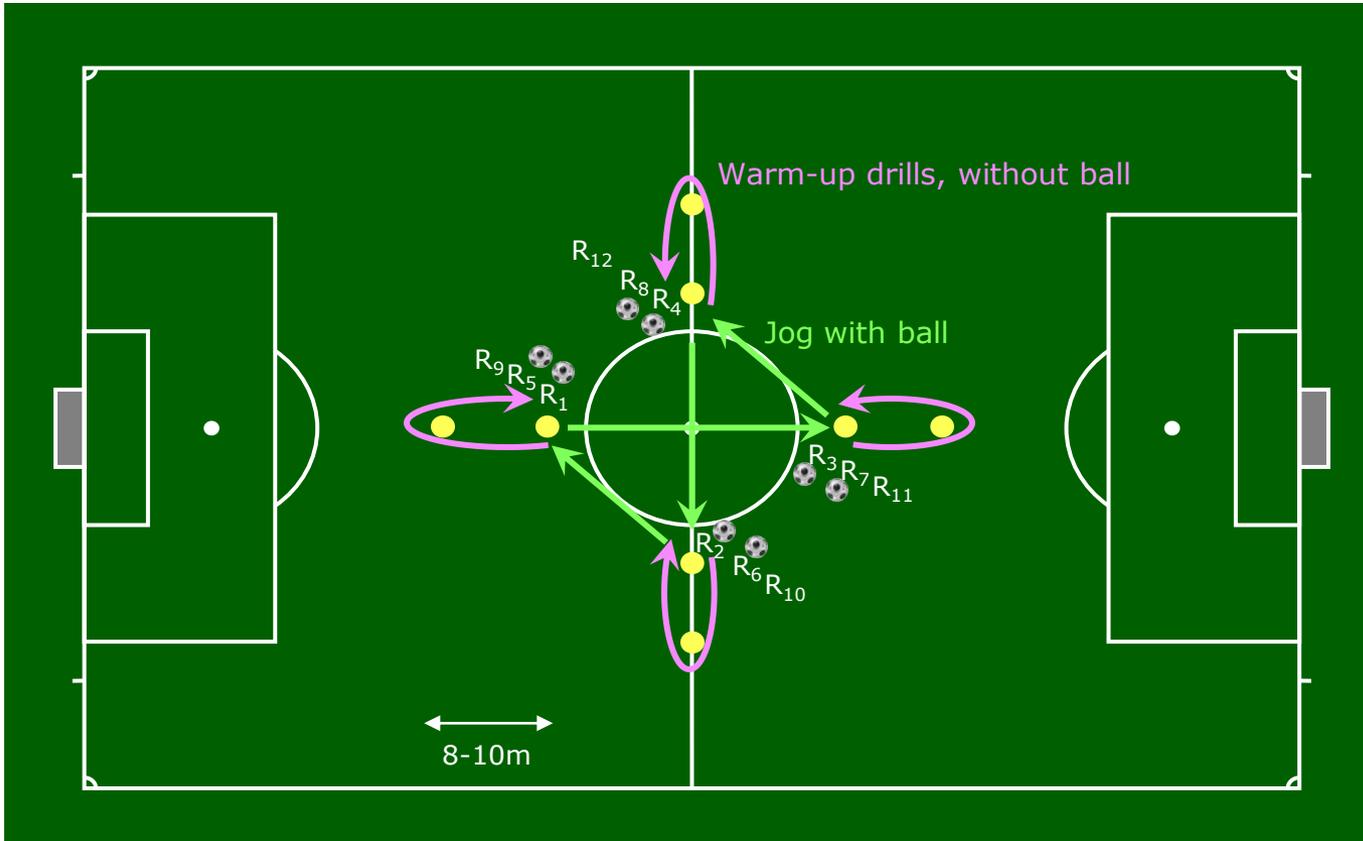
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 2 squares and 3 balls in each square

**Instruction:** (1) Match officials jog around in the square and throw the ball to each other. (2) After throwing the ball, they carry out a warm-up drill. (3) After throwing the ball, they go the other square, the 3 balls should stay in the square



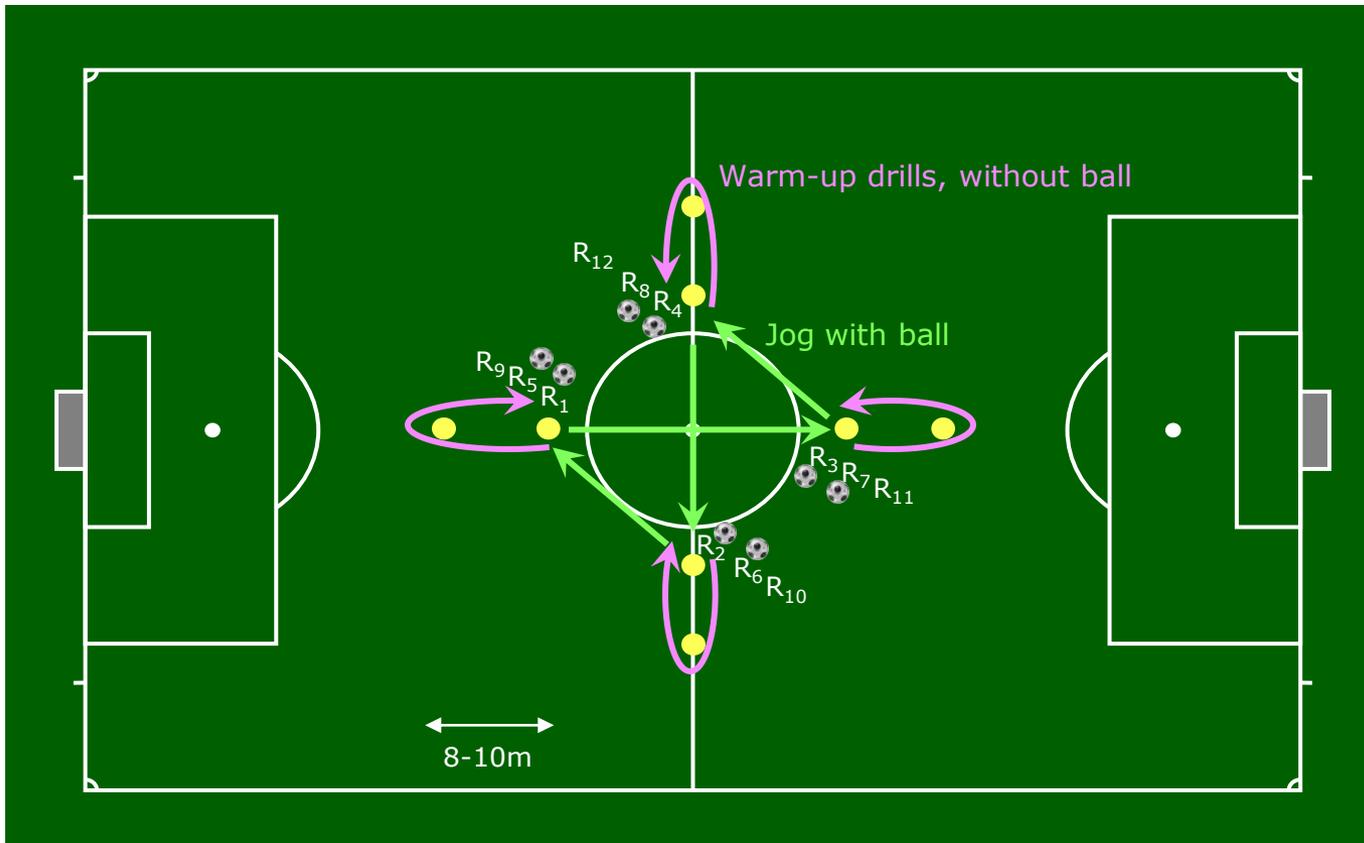
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 4 groups of 4 referees with 3 of these 4 referees carrying a ball.

**Instruction:** Referees R<sub>1</sub> to R<sub>4</sub> start at the same time and carry the ball to the next group as indicated on the picture (in a figure 8). When these referees are in the middle of the square, referees R<sub>5</sub> to R<sub>8</sub> start jogging with the ball. When referees R<sub>1</sub> to R<sub>4</sub> arrive at the next group, they pass the ball to referees R<sub>9</sub> to R<sub>12</sub> and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees R<sub>5</sub> to R<sub>8</sub>. The warm-up is always followed by dynamic stretching exercises.



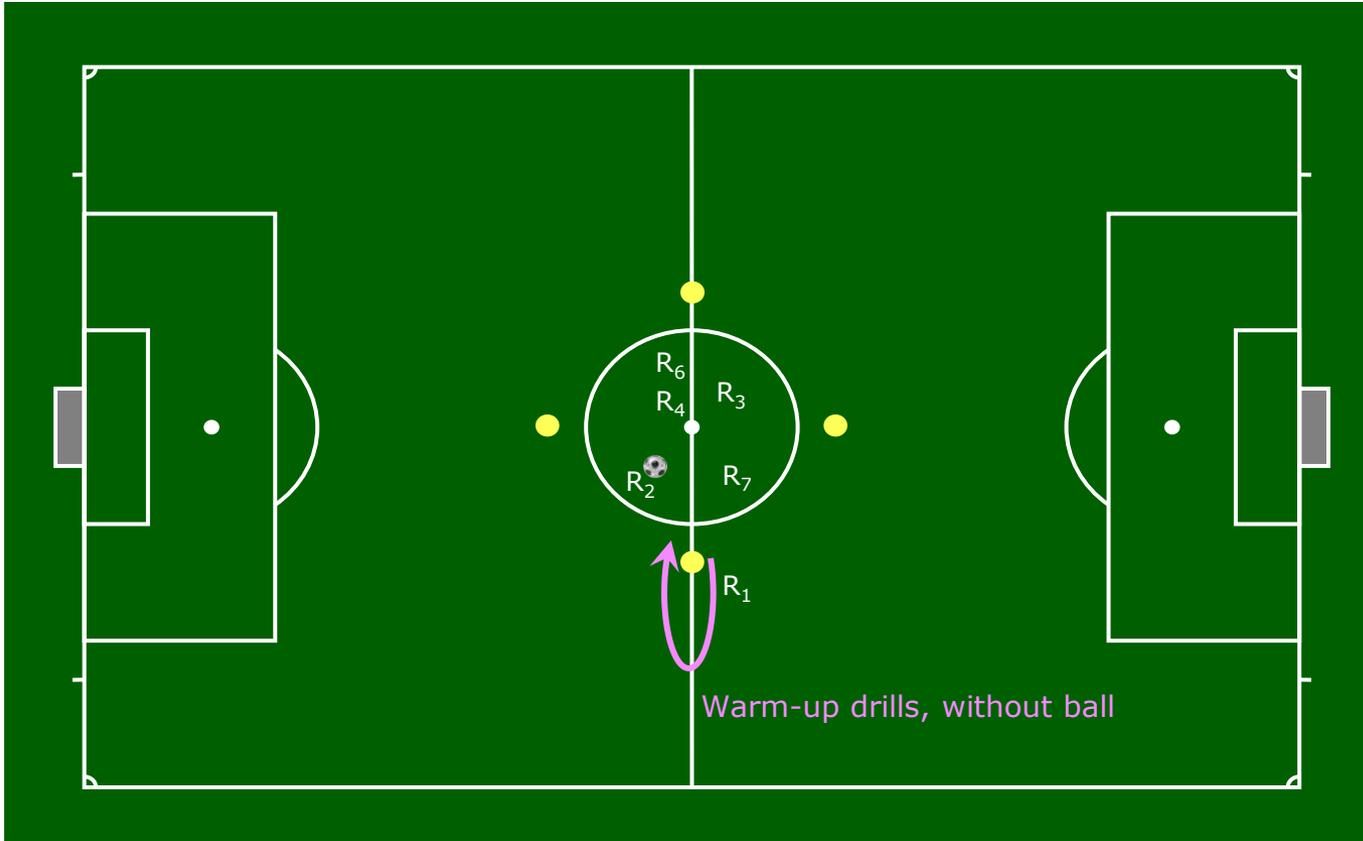
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 4 groups of 4 referees with 3 of these 4 referees carrying a ball.

**Instruction:** Referees R<sub>1</sub> to R<sub>4</sub> start at the same time and carry the ball to the next group as indicated on the picture (in a figure 8). When these referees are in the middle of the square, referees R<sub>5</sub> to R<sub>8</sub> start jogging with the ball. When referees R<sub>1</sub> to R<sub>4</sub> arrive at the next group, they pass the ball to referees R<sub>9</sub> to R<sub>12</sub> and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees R<sub>5</sub> to R<sub>8</sub>. The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in

---

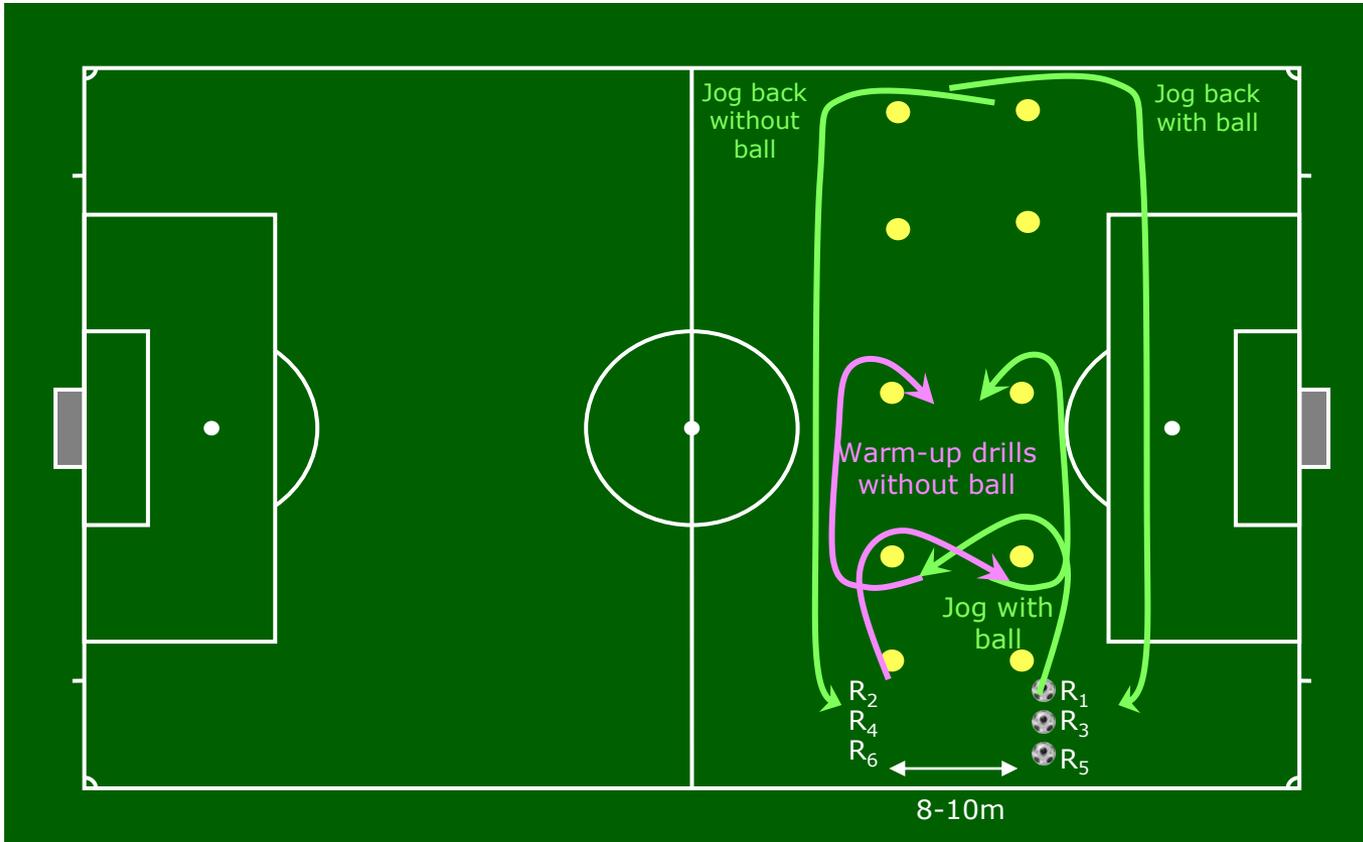
Total duration 20-30 min

---

**Basic organization:** 2 groups from 6 to 8 referees, 1 ball for each group.

**Instruction:** The ball is thrown from one to the other referee in a fixed order. After the ball is thrown to the next referee, they have to run to an outside cone while performing warm-up drills.

The warm-up is always followed by dynamic stretching exercises.



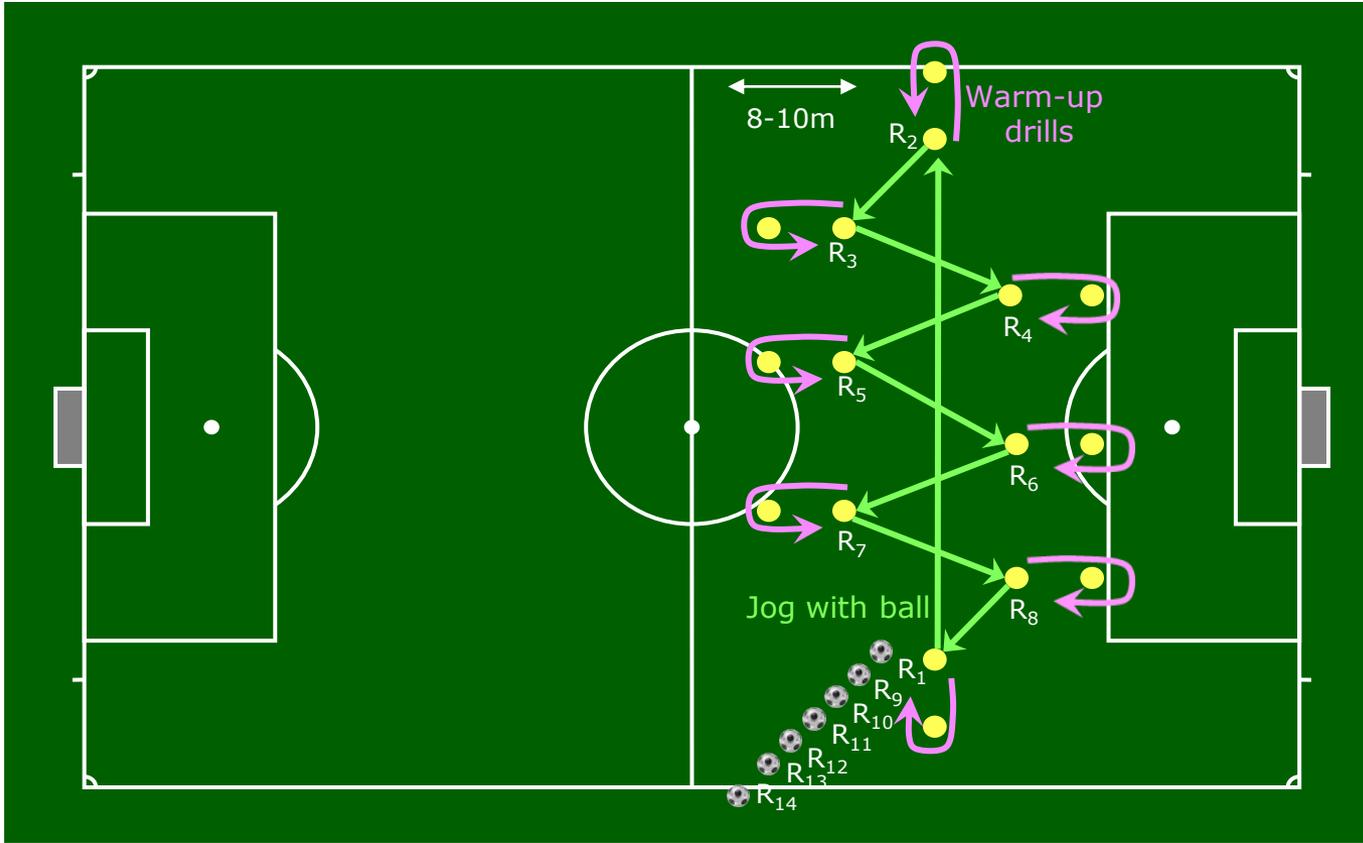
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Sideways and accelerate
- Backwards and accelerate
- Accelerations

Total duration	20-30 min
----------------	-----------

**Basic organization:** the referees work 2 by 2 with 1 of the 2 referees carrying a ball.

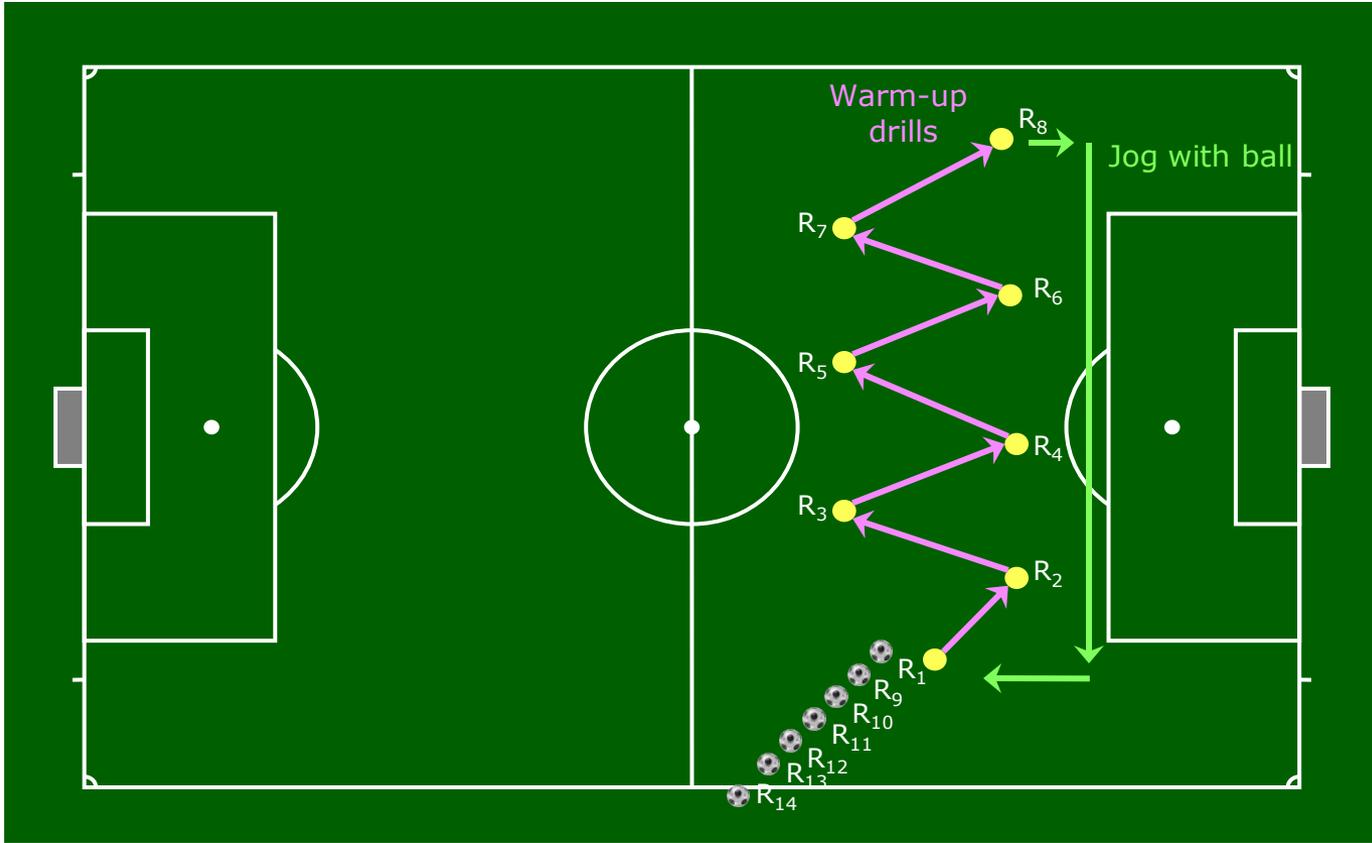
**Instruction:** Referees  $R_1$  and  $R_2$  start at the same time and  $R_1$  carries the ball. Both referees follow the trajectory as indicated on the picture.  $R_1$  jogs with the ball and  $R_2$  does some warm-up drills. When the referees cross in the middle of the square,  $R_1$  passes the ball to referee  $R_2$ . Then  $R_1$  does the warm-up while  $R_2$  is jogging while carrying the ball. The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration out - jogging in
  - Sideways out - acceleration in
  - Backwards out - acceleration in
  - Accelerate with the ball
- 
- Total duration 20-30 min

**Instruction:** Referee 1 runs with the ball to the opposite side and passes the ball to referee 2. Then, the referees come back in zigzag as indicated in the figure (R<sub>2</sub> to R<sub>3</sub> to R<sub>4</sub>...). After the ball has been passed, the referees go around the cone on the outside and perform warm-up drills. The warm-up is always followed by dynamic stretching exercises.

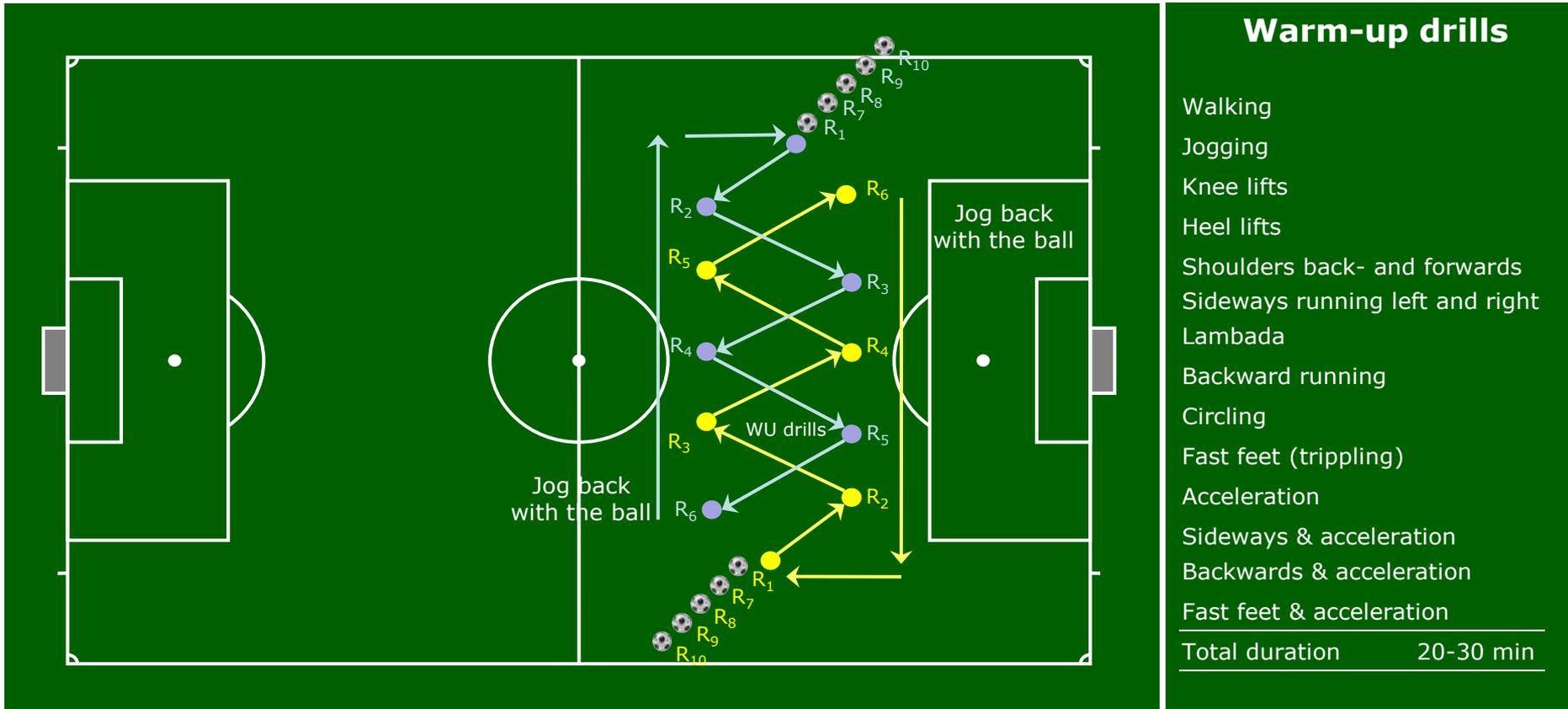


## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration
  - Sideways & acceleration
  - Backwards & acceleration
  - Fast feet & acceleration
- 
- |                |           |
|----------------|-----------|
| Total duration | 20-30 min |
|----------------|-----------|

**Instruction:** Referee 1 runs with the ball to referee 2 passes. Referee 2 goes to referee 3 and passes the ball... Referee 8 jogs back with the ball to the starting position. After the ball has been passed, the referees wait at the cone for the next ball. The warm-up is always followed by dynamic stretching exercises.

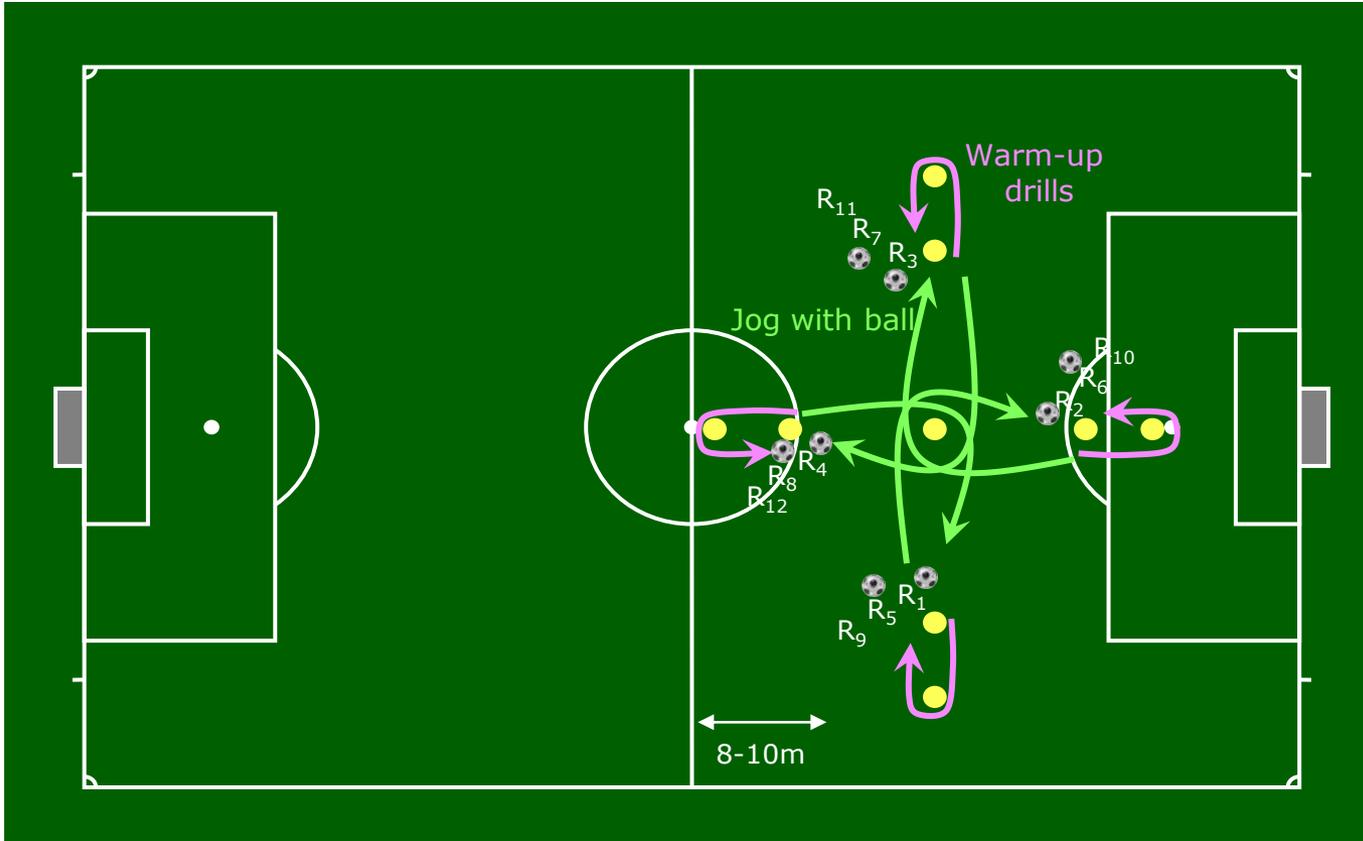
# Warm-up with ball



## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration
  - Sideways & acceleration
  - Backwards & acceleration
  - Fast feet & acceleration
- 
- |                |           |
|----------------|-----------|
| Total duration | 20-30 min |
|----------------|-----------|

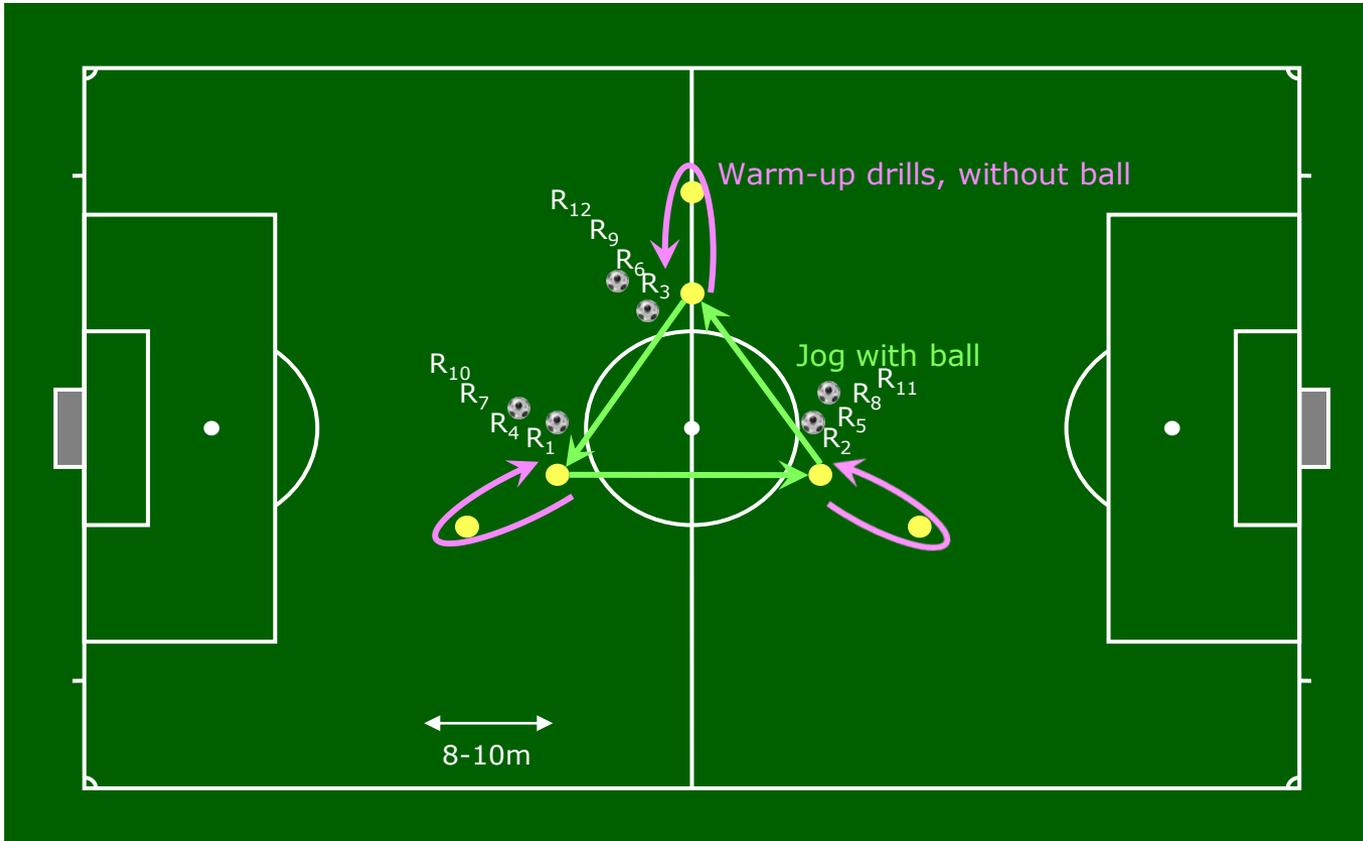
**Instruction:** Referee 1 runs with the ball to referee 2 passes. Referee 2 goes to referee 3 and passes the ball... Referee 8 jogs back with the ball to the starting position. After the ball has been passed, the referees wait at the cone for the next ball. The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration out - jogging in
  - Sideways out - acceleration in
  - Backwards out - acceleration in
  - Accelerate with the ball
- 
- Total duration 20-30 min

**Instruction:** Referee 1, 2, 3 and 4 start to jog at the same time with the ball in the hand to the cone in the middle and then they all turn to the right and pass the ball to the next referee. Referees 5, 6, 7 and 8 start to jog with the ball in the hand when the first group is in the middle. After the ball has been passed, the referees go around the cone on the outside and perform warm-up drills. The warm-up is always followed by dynamic stretching exercises.



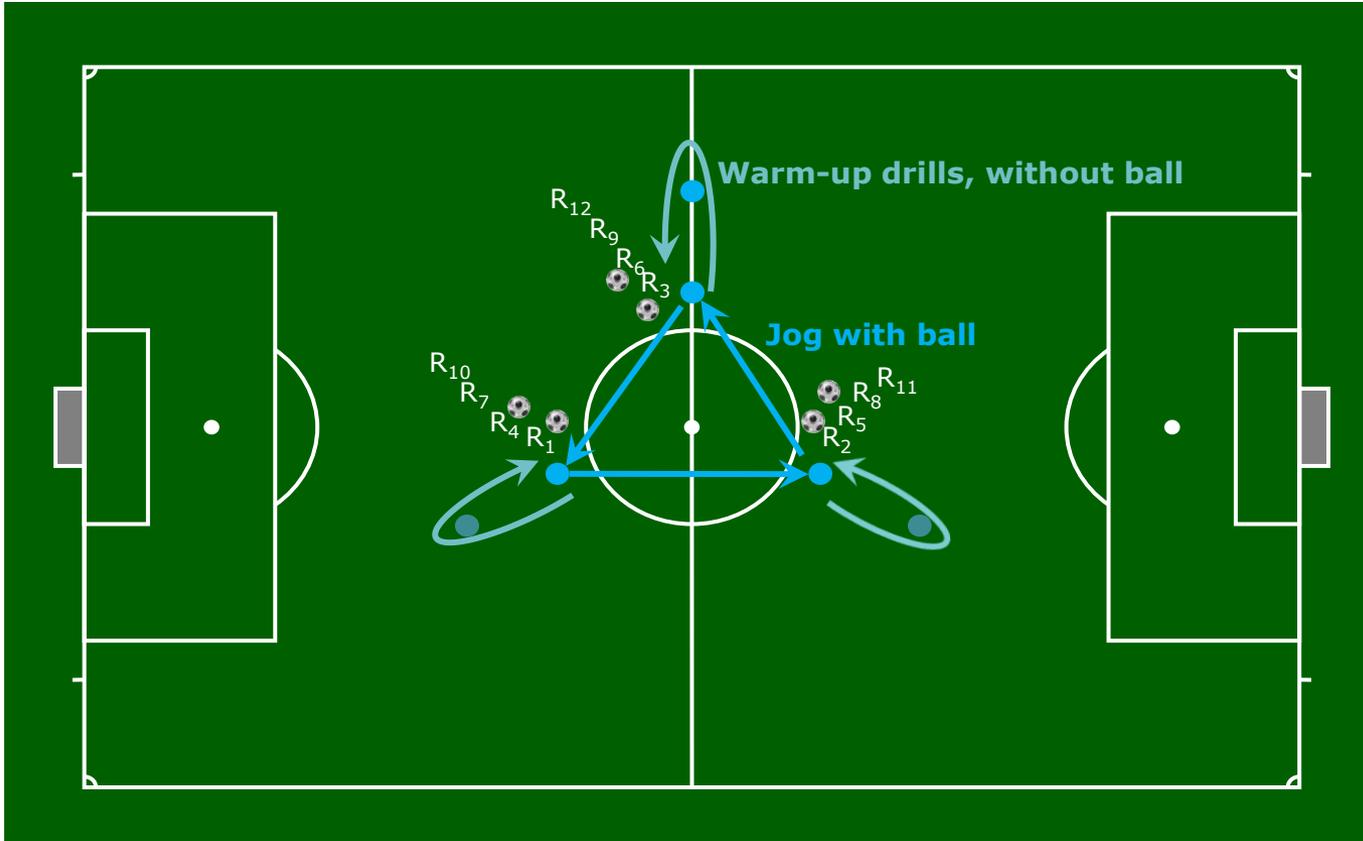
## Warm-up drills 4 times each

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 3 groups of 4 referees with 2 of these referees carrying a ball.

**Instruction:** Referees R<sub>1</sub> to R<sub>3</sub> start at the same time and carry the ball to the next group as indicated on the picture (in a triangle). When these referees are in the middle, referees R<sub>4</sub> to R<sub>6</sub> start jogging with the ball. When referees R<sub>1</sub> to R<sub>3</sub> arrive at the next group, they pass the ball to referees R<sub>7</sub> to R<sub>9</sub> and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees R<sub>4</sub> to R<sub>6</sub>. The warm-up is always followed by dynamic stretching exercises.



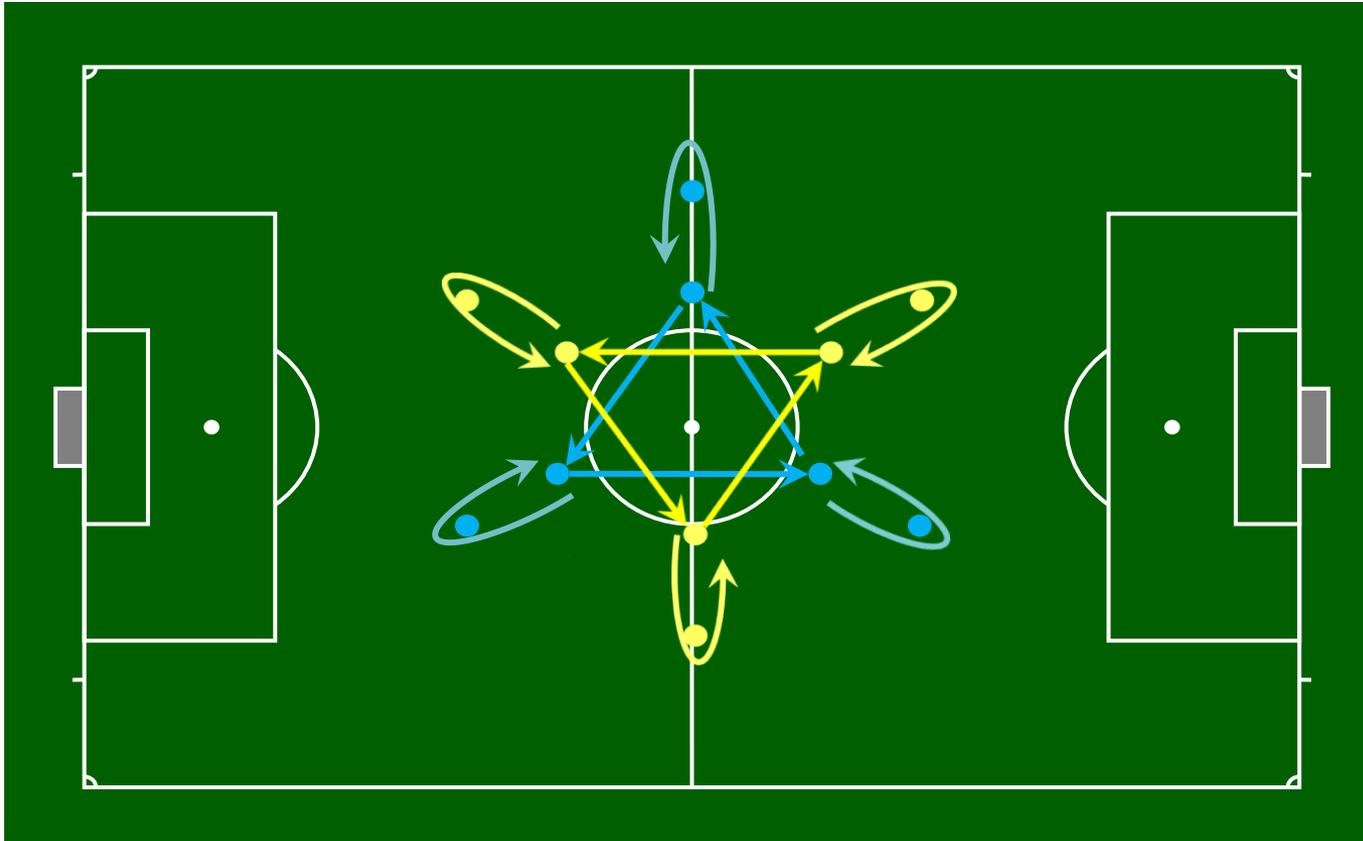
## Warm-up drills 4 times each

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 3 groups of 4 referees with 2 of these referees carrying a ball.

**Instruction:** Referees R<sub>1</sub> to R<sub>3</sub> start at the same time and carry the ball to the next group as indicated on the picture (in a triangle). When these referees are in the middle, referees R<sub>4</sub> to R<sub>6</sub> start jogging with the ball. When referees R<sub>1</sub> to R<sub>3</sub> arrive at the next group, they pass the ball to referees R<sub>7</sub> to R<sub>9</sub> and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees R<sub>4</sub> to R<sub>6</sub>. The warm-up is always followed by dynamic stretching exercises.

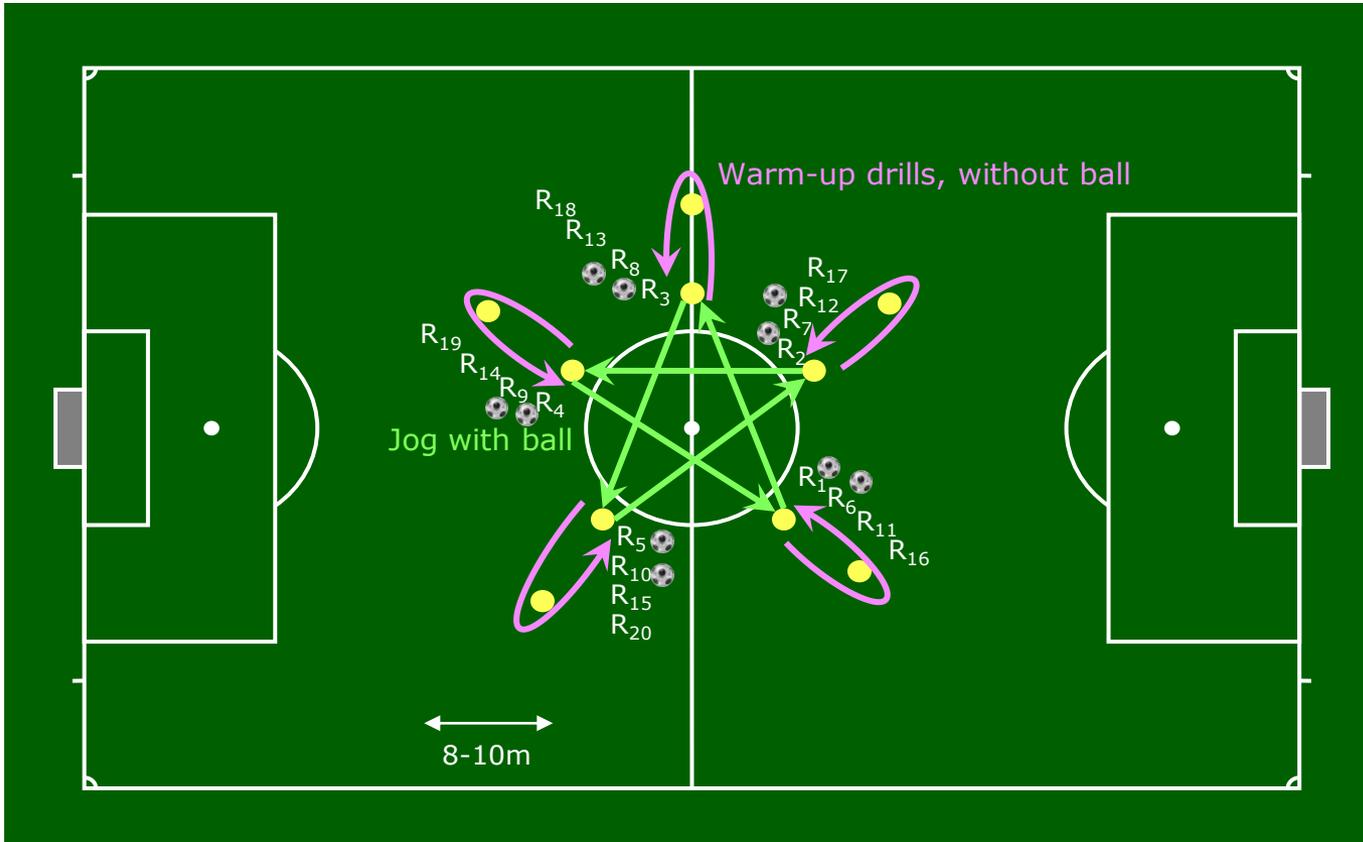


## Warm-up drills 4 times each

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration out - jogging in
  - Sideways out - acceleration in
  - Backwards out - acceleration in
  - Accelerations with the ball
- |                |           |
|----------------|-----------|
| Total duration | 20-30 min |
|----------------|-----------|

**Basic organization:** 3 groups of 4 referees with 2 of these referees carrying a ball.

**Instruction:** Referees  $R_1$  to  $R_3$  start at the same time and carry the ball to the next group as indicated on the picture (in a triangle). When these referees are in the middle, referees  $R_4$  to  $R_6$  start jogging with the ball. When referees  $R_1$  to  $R_3$  arrive at the next group, they pass the ball to referees  $R_7$  to  $R_9$  and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees  $R_4$  to  $R_6$ . The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills 4 times each

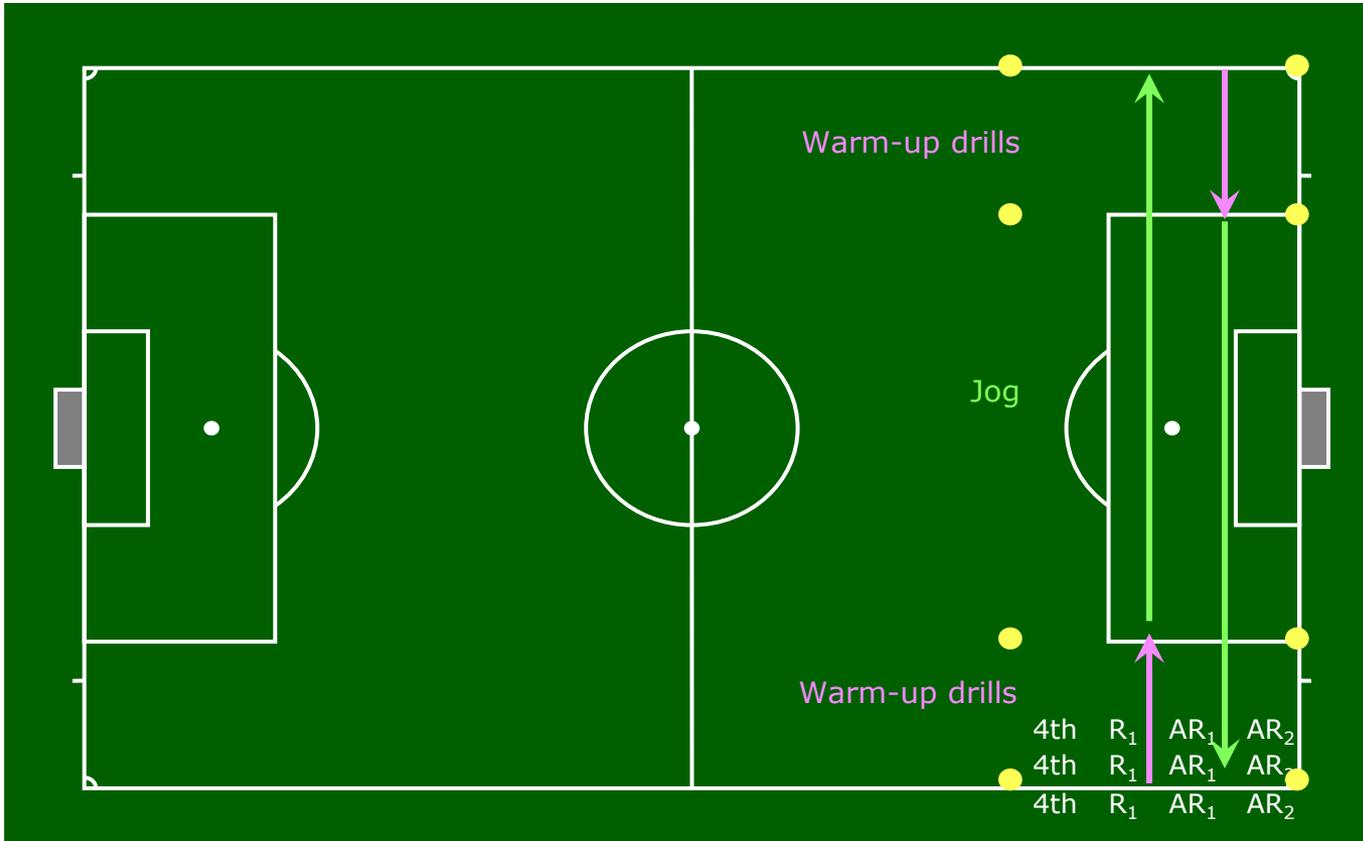
- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration out - jogging in
- Sideways out - acceleration in
- Backwards out - acceleration in
- Accelerations with the ball

Total duration	20-30 min
----------------	-----------

**Basic organization:** 5 groups of 4 referees with 2 of these 4 referees carrying a ball.

**Instruction:** Referees R<sub>1</sub> to R<sub>5</sub> start at the same time and carry the ball to the next group as indicated on the picture (in a pentagon figure). When these referees are in the middle of the square, referees R<sub>6</sub> to R<sub>10</sub> start jogging with the ball. When referees R<sub>1</sub> to R<sub>5</sub> arrive at the next group, they pass the ball to referees R<sub>11</sub> to R<sub>15</sub> and make a loop around the cone by doing some warming-up drills. Afterwards these referees receive the ball of referees R<sub>6</sub> to R<sub>10</sub>. The warm-up is always followed by dynamic stretching exercises.

# Warm-up exercises without ball

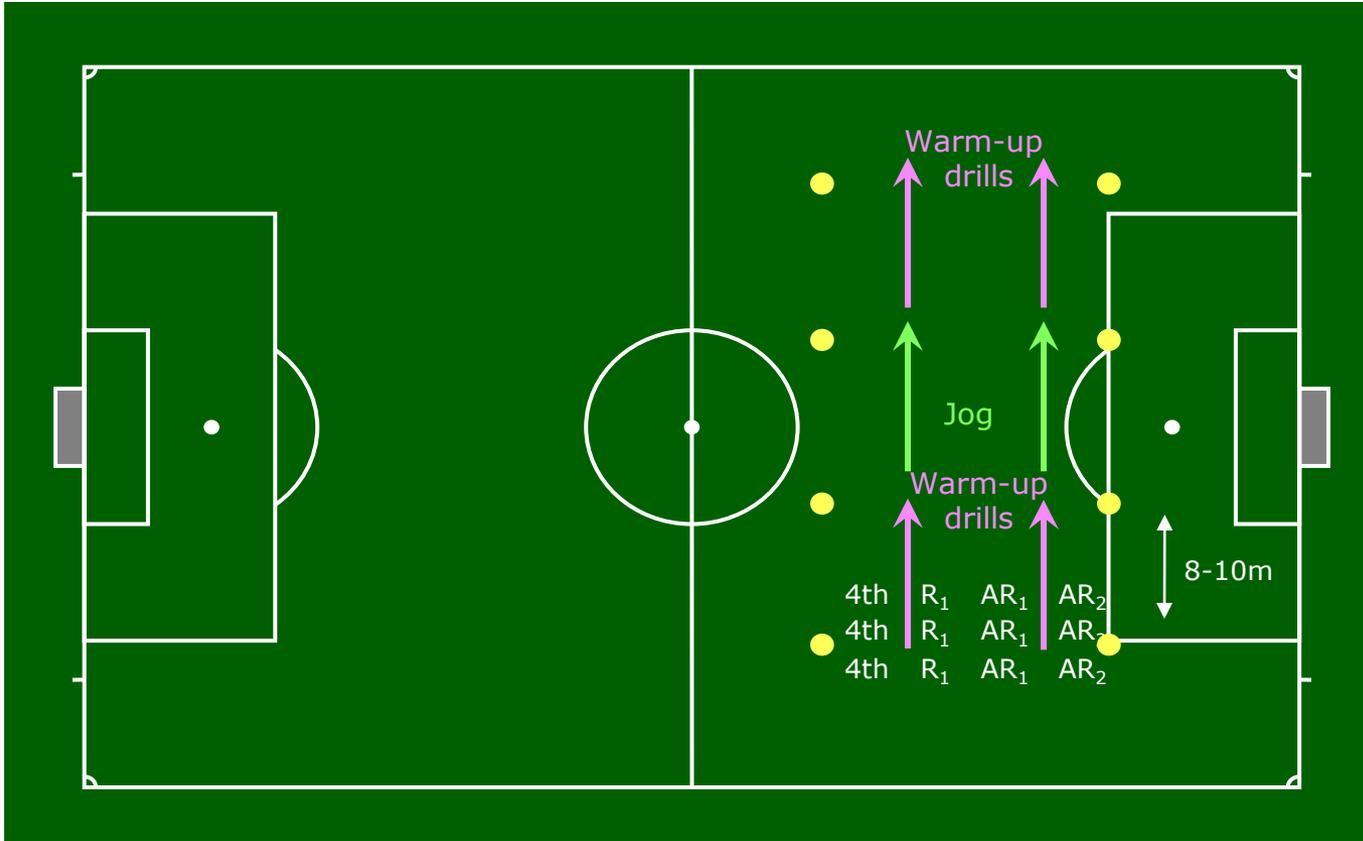


## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration (15m)
- Sideways & acceleration (15m)
- Backwards & acceleration (15m)
- Acceleration (30m)

Total duration	20 min
----------------	--------

**Instruction:** The match officials line up at the sideline (the referee, the two assistant referees and the 4<sup>th</sup> official) and they need to stay at the same level. They perform warm-up drills from the sideline to the penalty box, followed by jogging to the other side of the pitch and come back in the same set-up. The warm-up is always followed by dynamic stretching exercises.



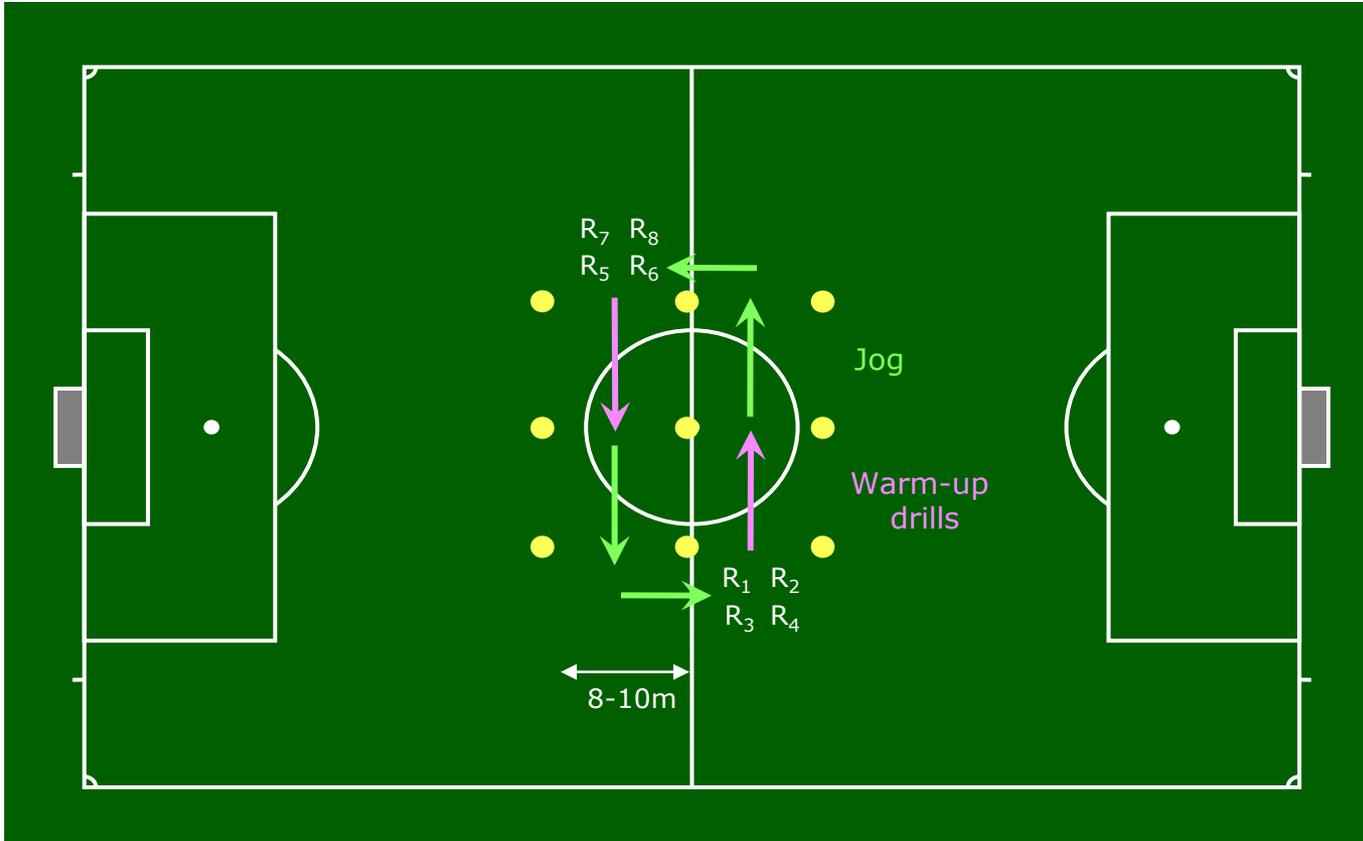
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration (10m)
- Acceleration (20m)
- Acceleration (30m)

---

Total duration 20 min

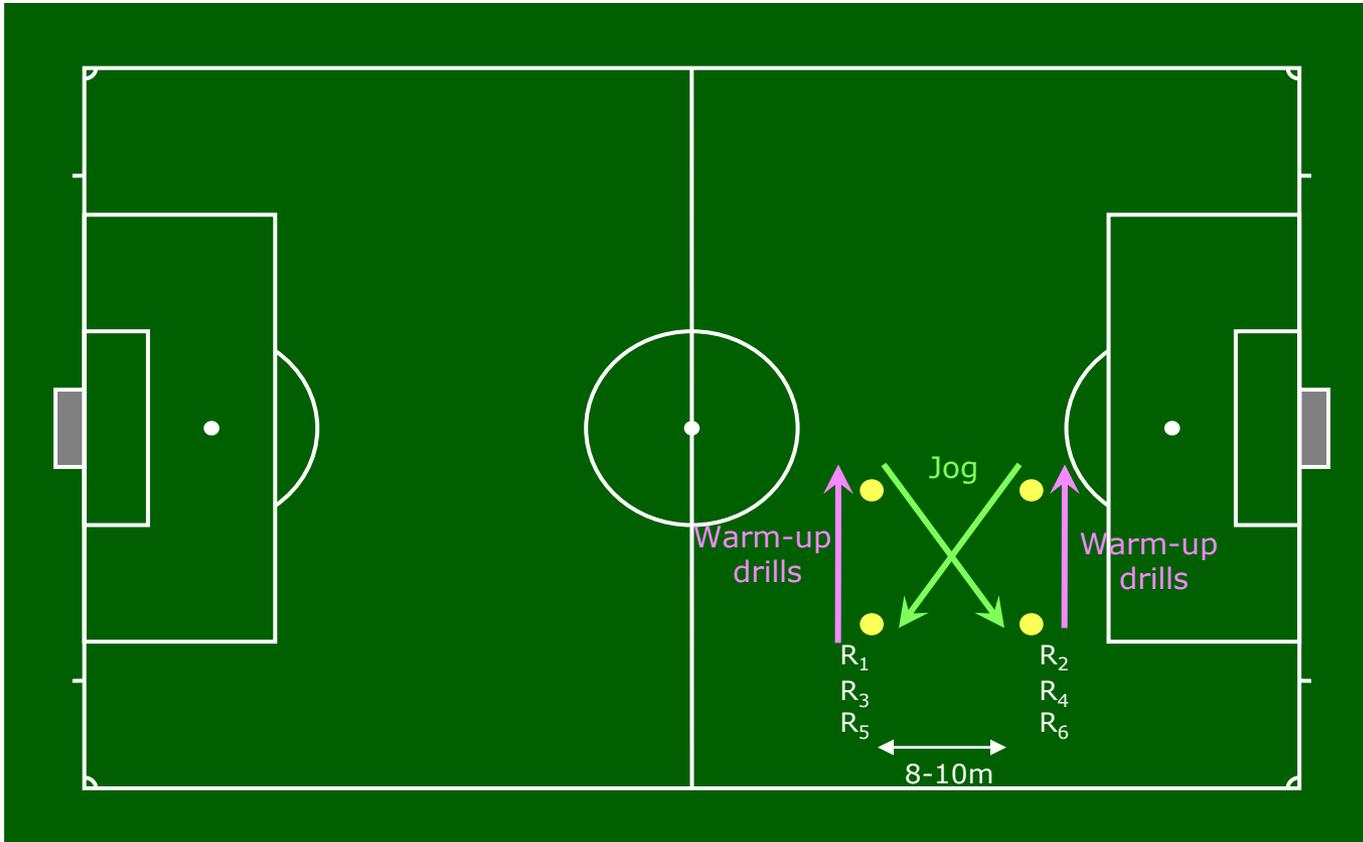
**Instruction:** The match officials line up as a team (the referee, the two assistant referees and the 4<sup>th</sup> official) and they need to stay at the same level. They perform warm-up drills in the first part, the jog in the middle part and they do the same warm-up drills in the last part. They jog back to the beginning and start again. The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration out - jogging in
  - Sideways out - acceleration in
  - Backwards out - acceleration in
  - Accelerations with the ball
- 
- |                |           |
|----------------|-----------|
| Total duration | 20-30 min |
|----------------|-----------|

**Instruction:** The match officials work 2 by 2. In the first square they do warm-up drills, followed by jogging in the second square. Then, they turn left and return in the same way to the starting position. To make it more difficult, the referees can do the warm-up drills in a synchronized way. The warm-up is always followed by dynamic stretching exercises. The warm-up is always followed by dynamic stretching exercises.

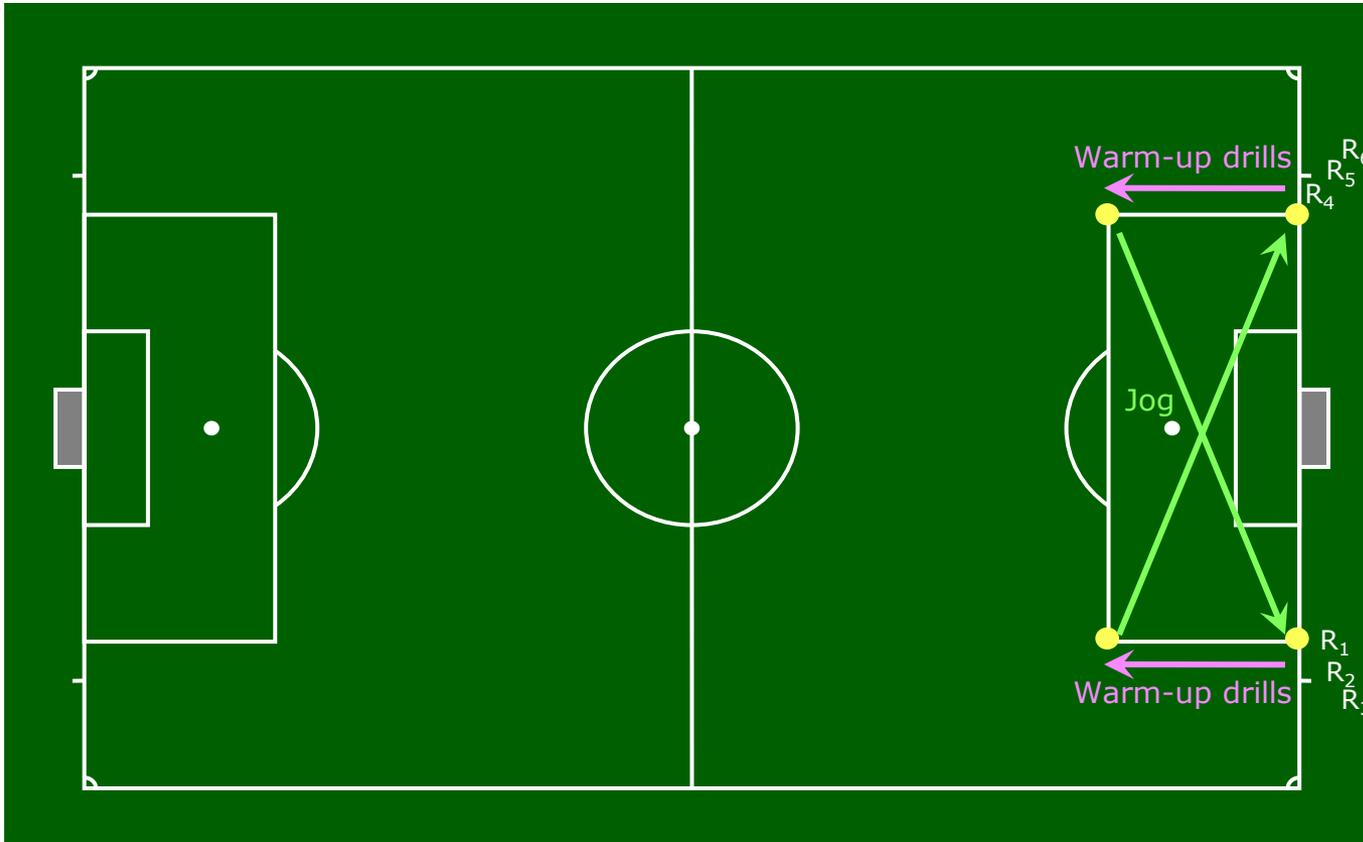


## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration
  - Sideways & acceleration
  - Backwards & acceleration
  - Accelerate 1 lap
- 
- Total duration 20-30 min

**Basic organization:** 2 groups of referees.

**Instruction:** The match officials work 2 by 2. In the length of the square they do warm-up drills. They jog back on the diagonal to the other corner. The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

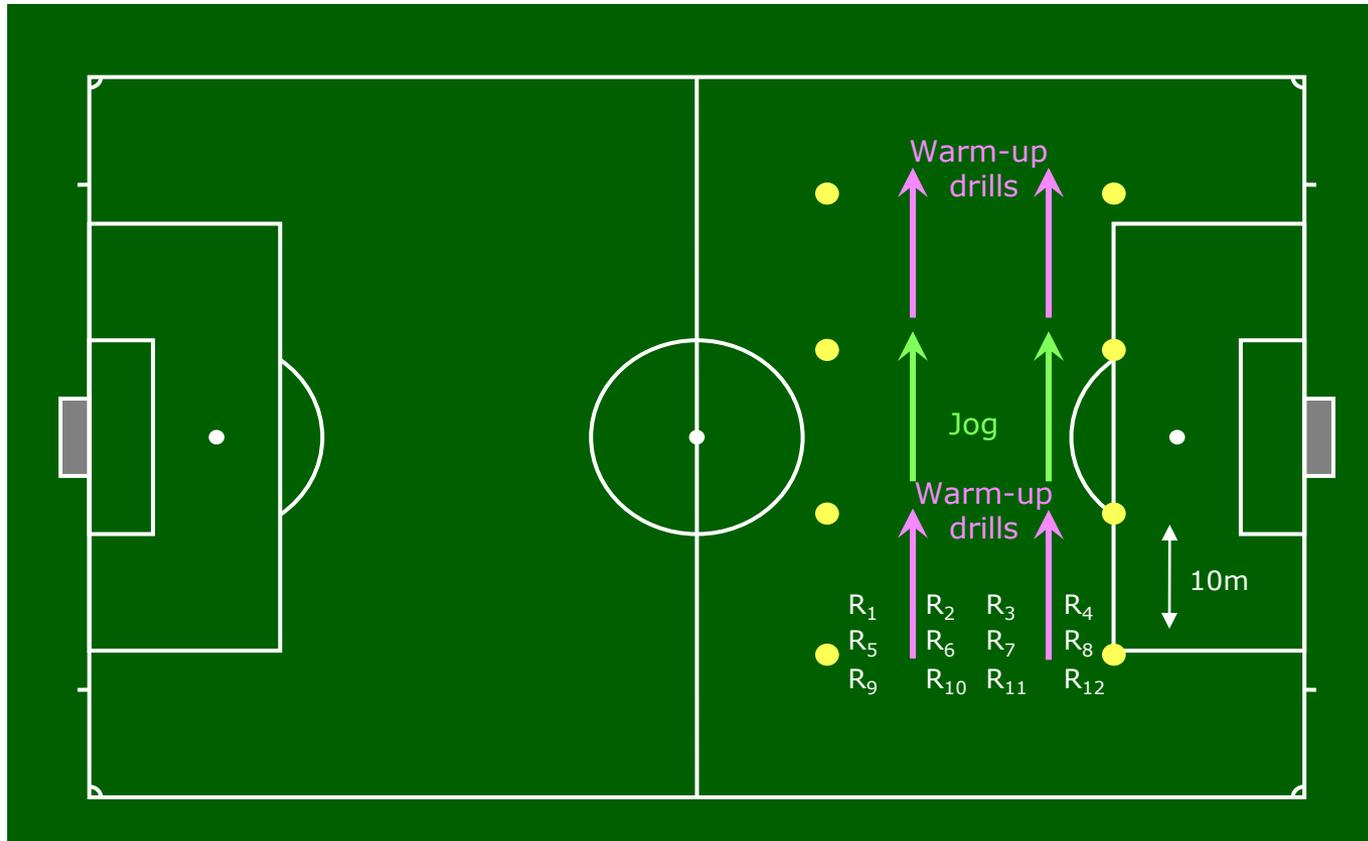
- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration
  - Sideways and acceleration
  - Backwards & acceleration
  - Acceleration on the diagonal
- 
- Total duration 20-30 min

### Instruction:

10 min: The match officials work 2 by 2 (e.g.  $R_1$  and  $R_4$ ) and they need to stay at the same level. They perform **warm-up drills** from the goal line to the end of the penalty box, followed by jogging on the diagonal to the other side of the penalty box.

10 min: The match officials jog from the goal line to the end of the penalty box, followed by running technique and **coordination exercises** on the diagonal.

The warm-up is always followed by dynamic stretching exercises.



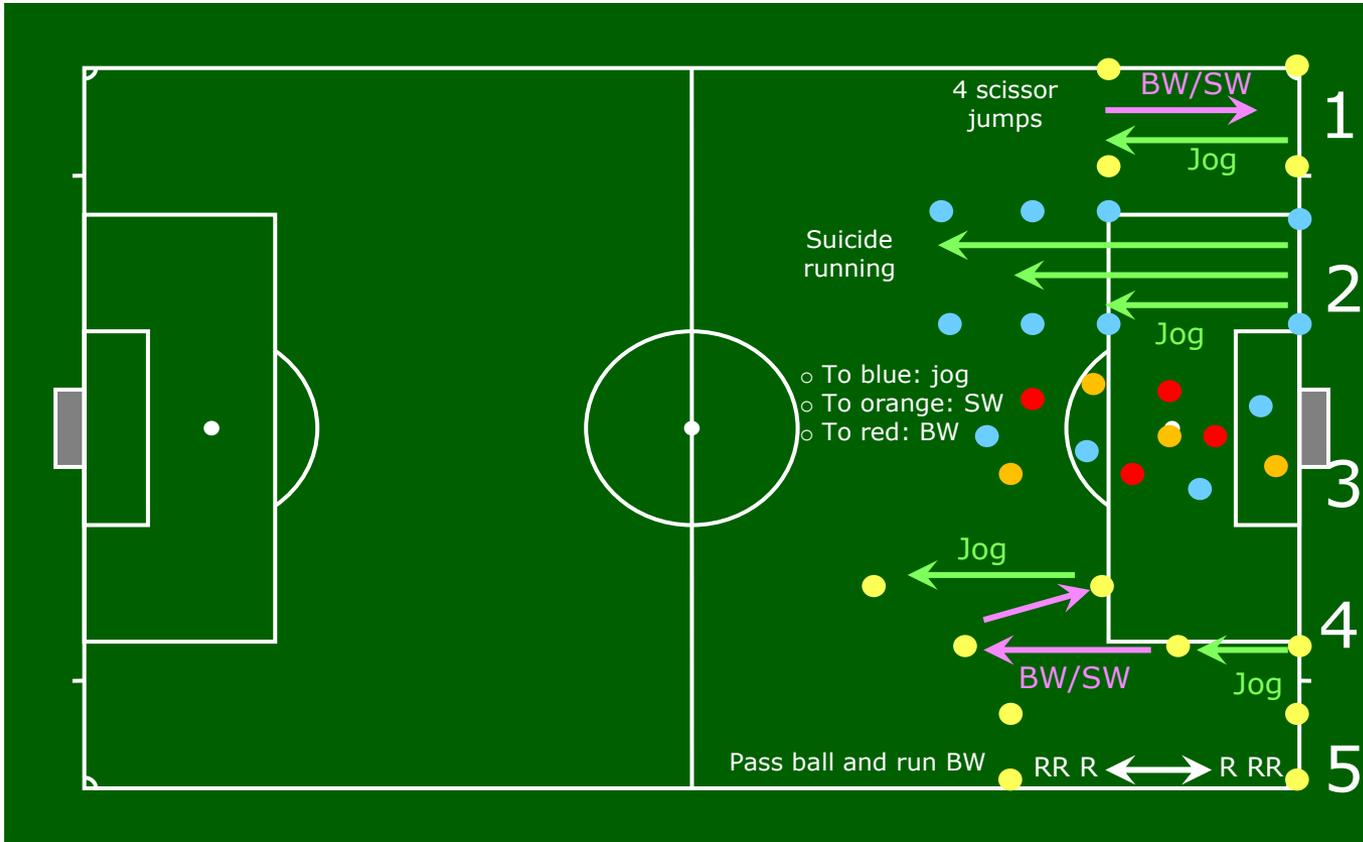
## Warm-up drills

- Walking
- Jogging
- Knee lifts
- Heel lifts
- Shoulders back- and forwards
- Sideways running left and right
- Lambada
- Backward running
- Circling
- Fast feet (tripling)
- Acceleration (10m)
- Acceleration (20m)
- Acceleration (30m)

---

Total duration 20-30 min

**Instruction:** The match officials line up by 4 and during the exercises they need to stay at the same level. In the first square the match officials do warm-up drills, in the middle square they jog and in the last square they repeat the same exercise. Every warm-up drill is done twice. After this a dynamic stretching is done and then 3 more sprints are carried out (10 – 20 – 30m) after a dynamic start (knee lifts). The warm-up is always followed by dynamic stretching exercises.



## Warm-up drills

- Walking
  - Jogging
  - Knee lifts
  - Heel lifts
  - Shoulders back- and forwards
  - Sideways running left and right
  - Lambada
  - Backward running
  - Circling
  - Fast feet (tripling)
  - Acceleration (15m)
  - Sideways & acceleration (15m)
  - Backwards & acceleration (15m)
  - Acceleration (30m)
- |                |        |
|----------------|--------|
| Total duration | 20 min |
|----------------|--------|

**Instruction:** 5 stations, 1min and 30 sec at each station and 30 sec to rotate

# High intensity exercises

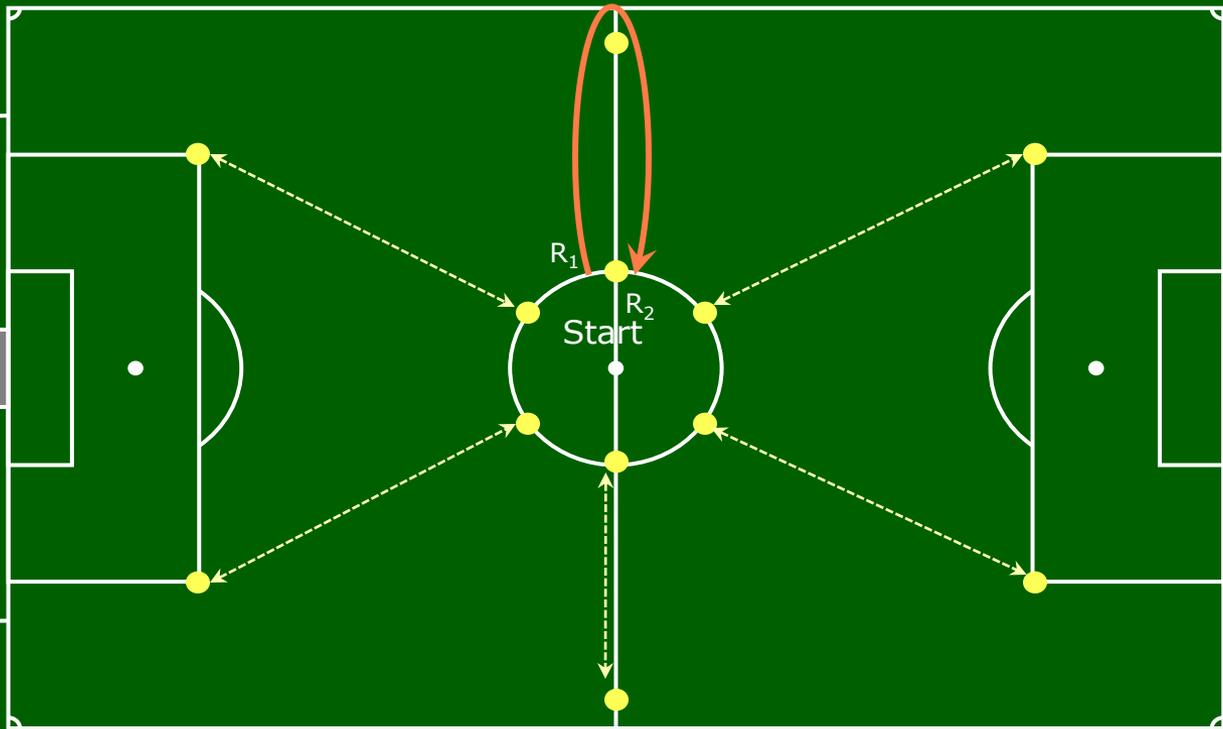
## High intensity training (HI), Tuesday

- > aim: - to **increase capacity** to **repeated** exercise at **HI**  
- to recover faster from HI-exercise

duration	recuperation	intensity	repetitions
2-4 min	1-2 min	<90% HRmax (85-95%) ± 160-180 bpm	1-10

> examples: progression over week 1 to 4

- 8 min run at 90% HRmax, 4 min jogging, 2 repetitions
- 4 min run at 90% HRmax, 2 min jogging, 4 repetitions
- 1 min run at 90% HRmax, 30 sec jogging, 8 repetitions, 2 sets
- 30 sec run at 90% HRmax, 15 sec jogging, 12 repetitions, 2 sets



## 2 sets of 18 HI runs

Set 1 (18 HI runs)	7 min
Recovery	4 min
Set 2 (18 HI runs)	7 min

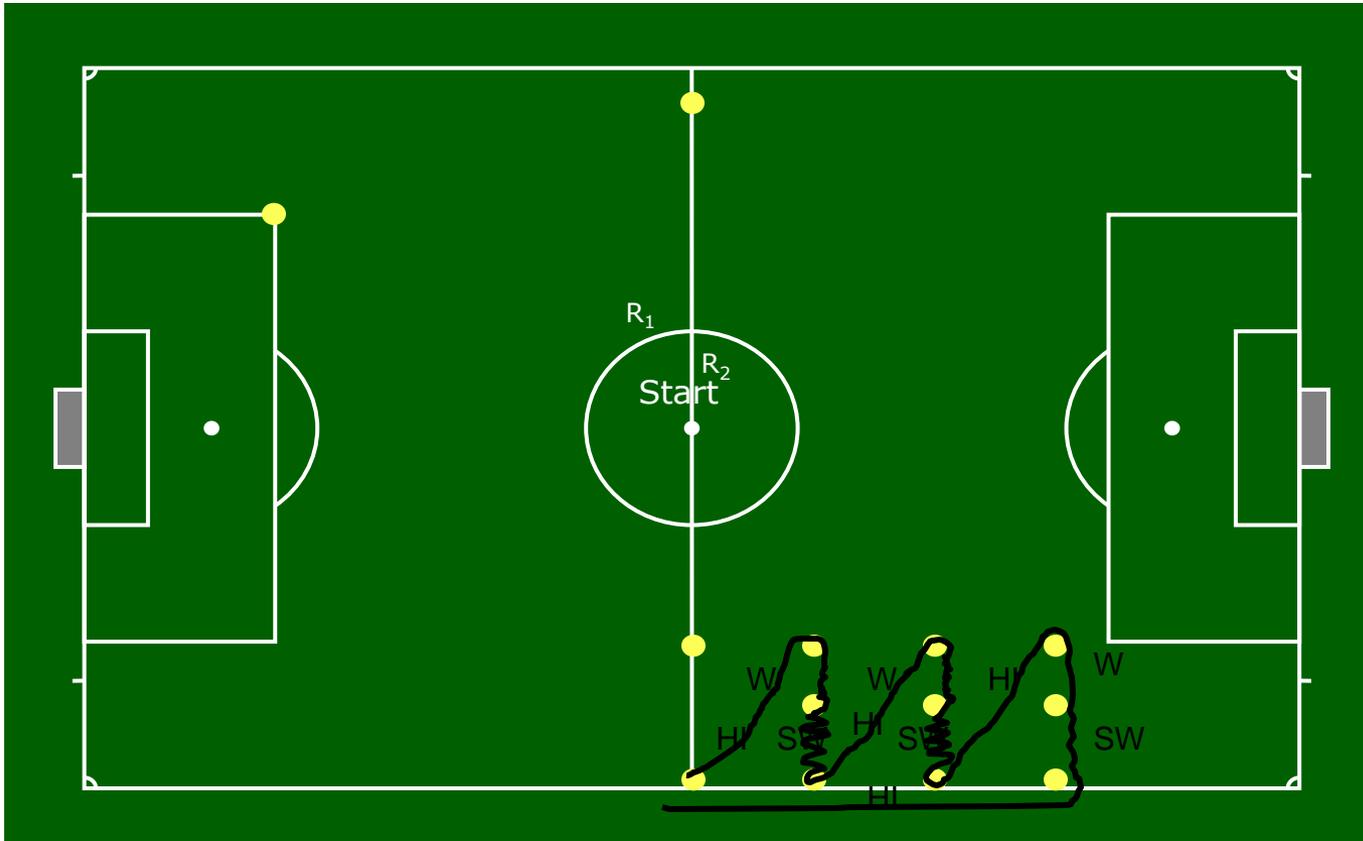
Total duration	18 min
----------------	--------

Walking	W	---
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1680 m
Sprint	S	---
Total distance		1680 m

**Set 1:** The referees work in pairs. The start of the exercise is always in the center circle. R<sub>1</sub> carries a bib and runs in high speed outwards, turns around the cone and give the bib to R<sub>2</sub> who does the same run. Then, R<sub>1</sub> runs around the next cone in a clockwise order and they go on until both referees have completed 3 full laps (18 high intensity runs).

**Recovery:** 4 min

**Set 2:** Again 3 full laps, both now counterclockwise



## 2 sets of 18 HI runs

Set 1 (18 HI runs)	7 min
Recovery	4 min
Set 2 (18 HI runs)	7 min

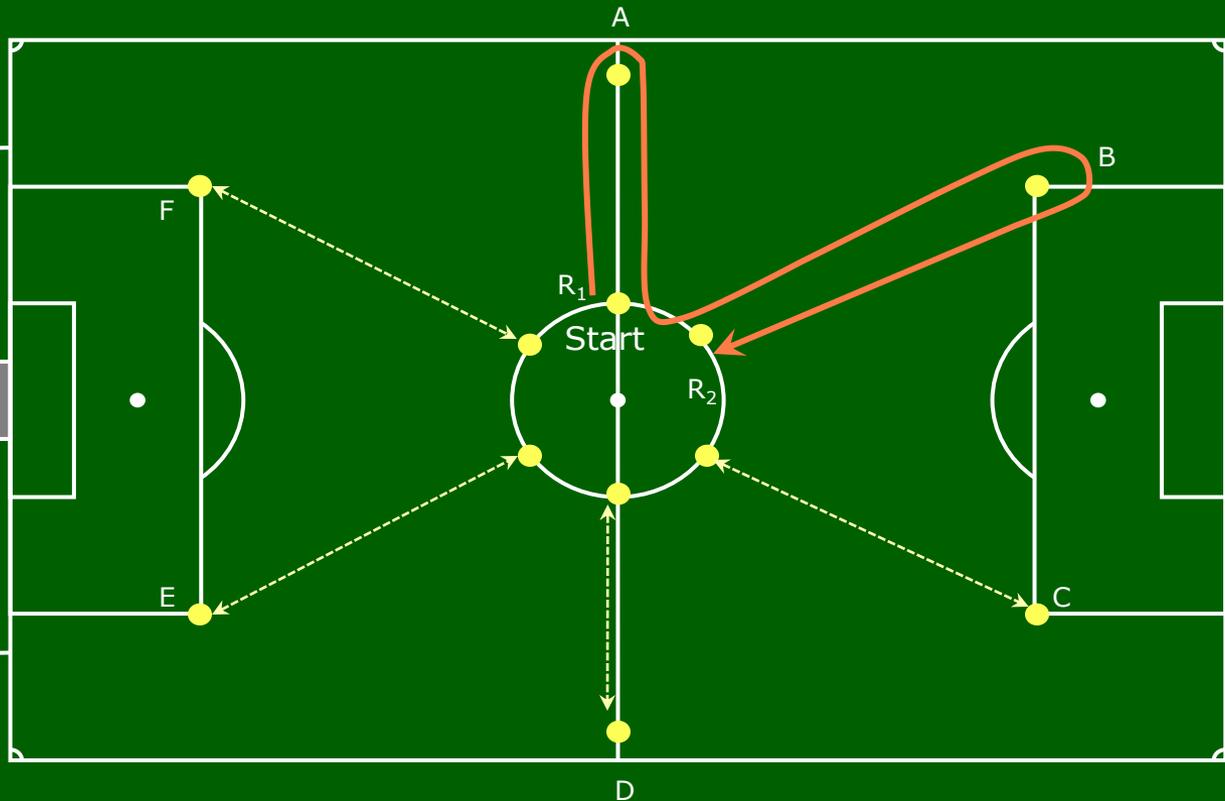
Total duration	18 min
----------------	--------

Walking	W	---
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1680 m
Sprint	S	---
Total distance		1680 m

**Set 1:** The assistant referees work in pairs. The start of the exercise is always in the center circle.  $R_1$  carries a bib and runs in high speed outwards, turns around the cone and give the bib to  $R_2$  who does the same run. Then,  $R_1$  runs around the next cone in a clockwise order and they go on until both referees have completed 3 full laps (18 high intensity runs).

**Recovery:** 4 min

**Set 2:** Again 3 full laps, both now counterclockwise



## 2 sets of 9 HI runs

Set 1 (9 HI runs)	7 min
Recovery	4 min
Set 2 (9 HI runs)	7 min

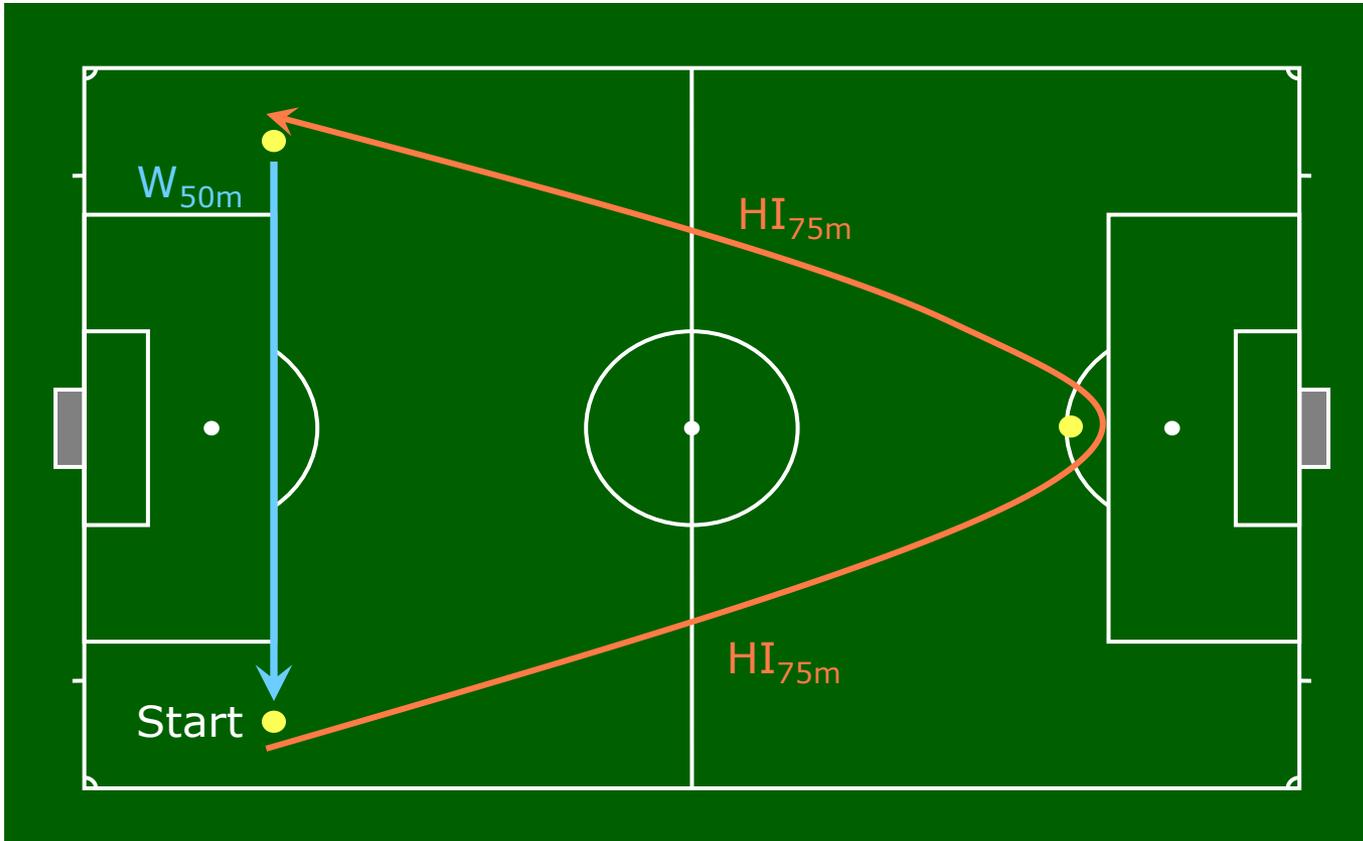
Total duration	18 min
----------------	--------

Walking	W	---
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1680 m
Sprint	S	---
Total distance		1680 m

**Set 1:** The referees work in pairs. The start of the exercise is always in the center circle. R<sub>1</sub> carries a bib and runs in high speed outwards, turns around cone A and returns to the center circle and runs immediately around cone B. Then he gives the bib to R<sub>2</sub> who does the same run. Then, R<sub>1</sub> runs around the next cone in a clockwise order and they go on until both referees have completed 3 full laps (9 high intensity runs).

**Recovery:** 4 min

**Set 2:** Again 3 full laps, both now counterclockwise



## 2 sets of 10 HI runs

One lap	1'05"
Set 1 (10 HI runs)	10' 50"
Recovery	4 min
Set 2 (10 HI runs)	10'50"

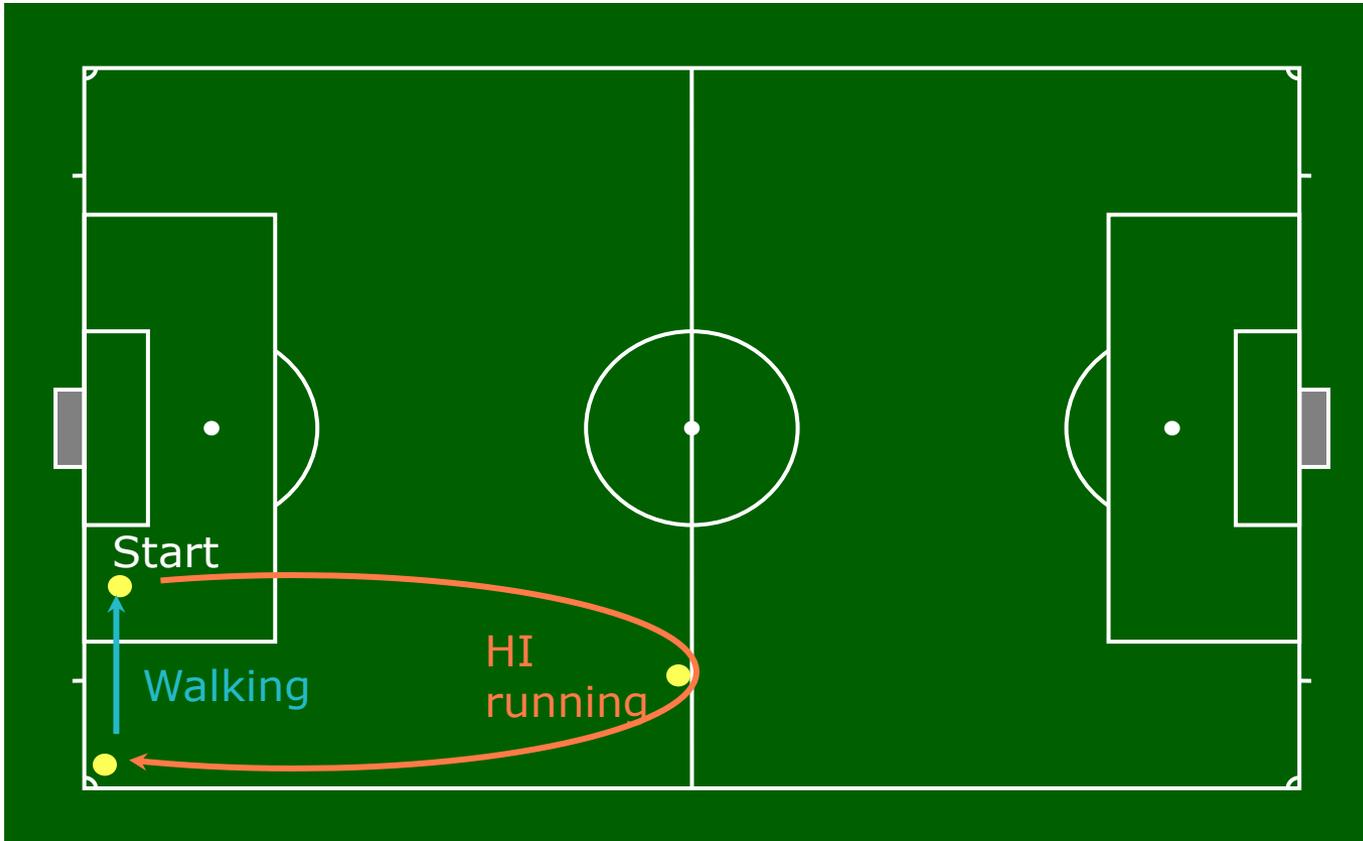
Total duration	21'40"
----------------	--------

Walking	W	1000 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	3000 m
Sprint	S	---
Total distance		4000 m

**Set 1:** From the start, run at high intensity to the other side of the pitch, turn around the cone and return at high intensity (150 m in total in 30 sec) as indicated in the picture, afterwards walk back to the start (50 m in 35 sec) and repeat this 20 to 24 times.

**Recovery:** 4 min

**Set 2:** Same as set 1, however, run in the other direction.



## 2 sets of 10 HI runs

One lap	1'05"
Set 1 (10 HI runs)	10' 50"
Recovery	4 min
Set 2 (10 HI runs)	10'50"

---

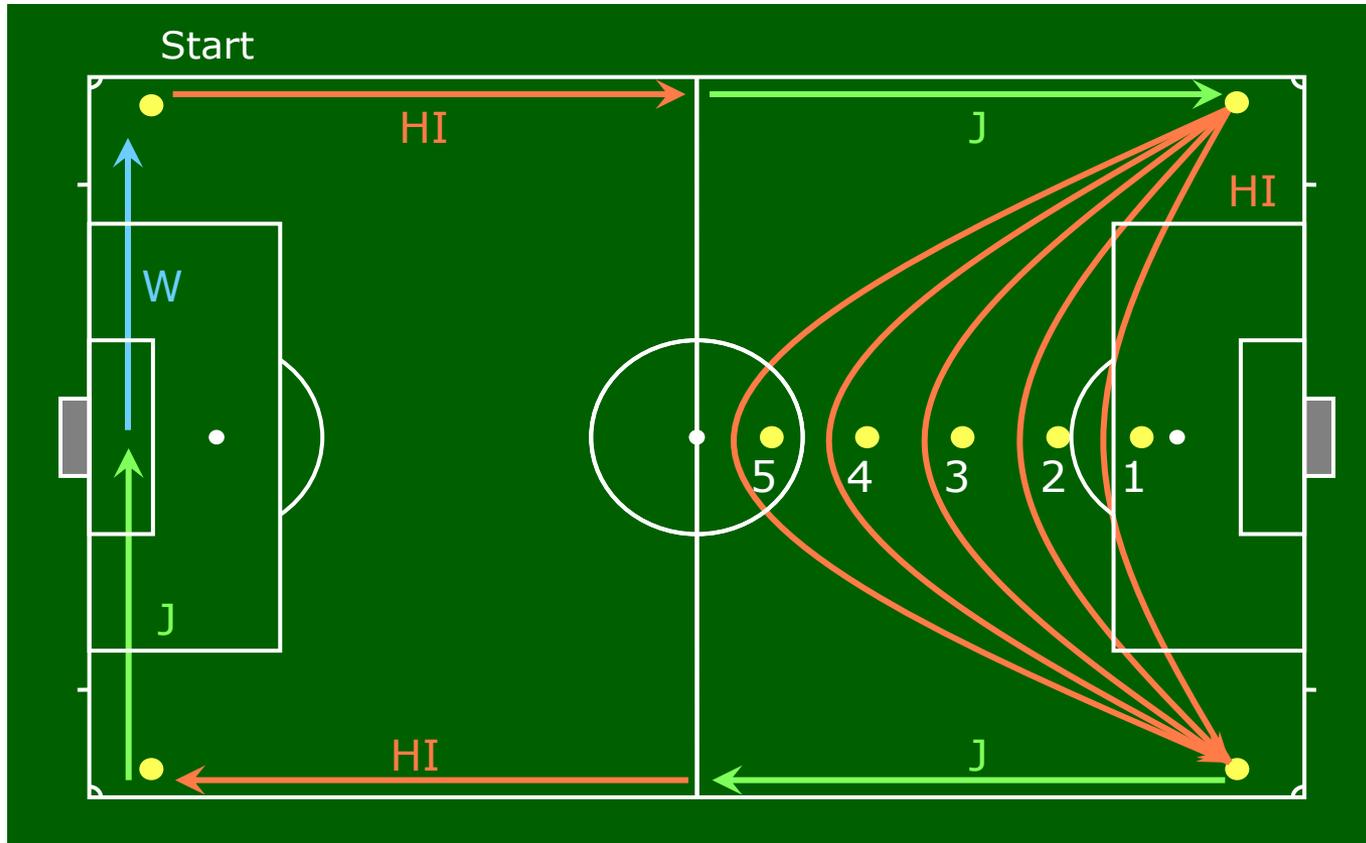
Total duration	21'40"
----------------	--------

---

Walking	W	1000 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	3000 m
Sprint	S	---
Total distance		4000 m

---

**Set 1: j**



## 2 sets of 5 laps

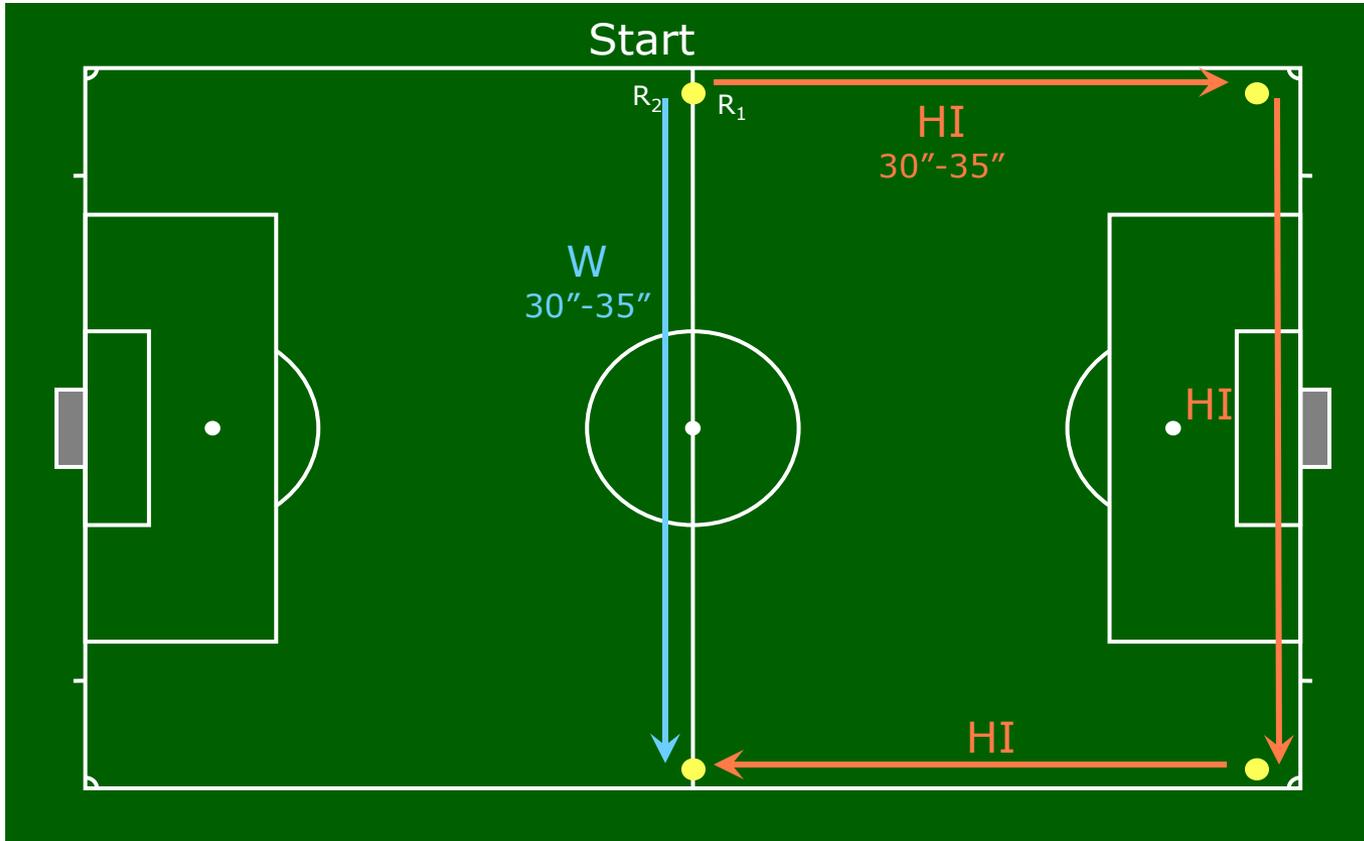
One lap	±2 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>± 24 min</b>

Walking	W	300 m
Jogging	J	1300 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1800 m
Sprint	S	---
<b>Total distance</b>		<b>3400 m</b>

**Set 1:** From the start, run at the indicated intensity. For the first lap 1, run around cone 1, for the second lap, run around cone 2 and so on up to cone 5 for lap 5, thus increasing the run distance at high intensity with each subsequent lap. The high intensity running should be at 80% of the maximal running speed.

**Recovery:** 4 min

**Set 2:** Now run around cone 5 on lap 1, and work down to cone 1 on lap 5, thus decreasing the run distance with each subsequent lap.



## 2 sets of 10 laps

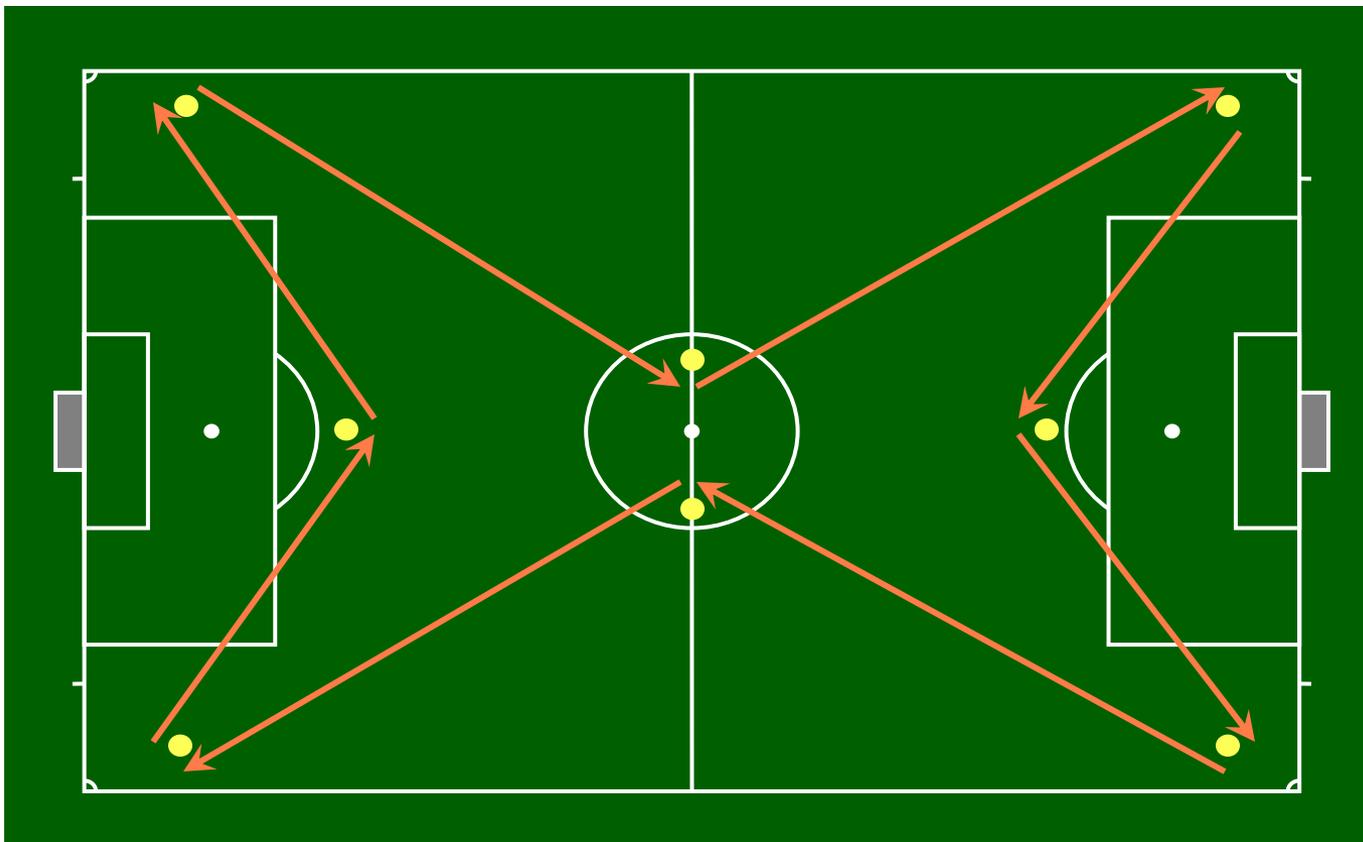
One lap	±1 min
Set 1 (10 laps)	10 min
Recovery	4 min
Set 2 (10 laps)	10 min
<b>Total duration</b>	<b>± 24 min</b>

Walking	W	1200 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	3200 m
Sprint	S	---
<b>Total distance</b>		<b>4400 m</b>

**Set 1:** The referees work in pairs. From the start, R<sub>1</sub> runs around half of the pitch in 30 to 35 sec. At the same time, R<sub>2</sub> walks along the midline. R<sub>1</sub> and R<sub>2</sub> need to arrive at the same time at the sideline and then R<sub>2</sub> runs around half of the pitch and R<sub>1</sub> walks back along the midline to the start. Repeat this 10 times.

**Recovery:** 4 min

**Set 2:** Same as set 1, however, run in the opposite direction.



## 2 sets of 12 min

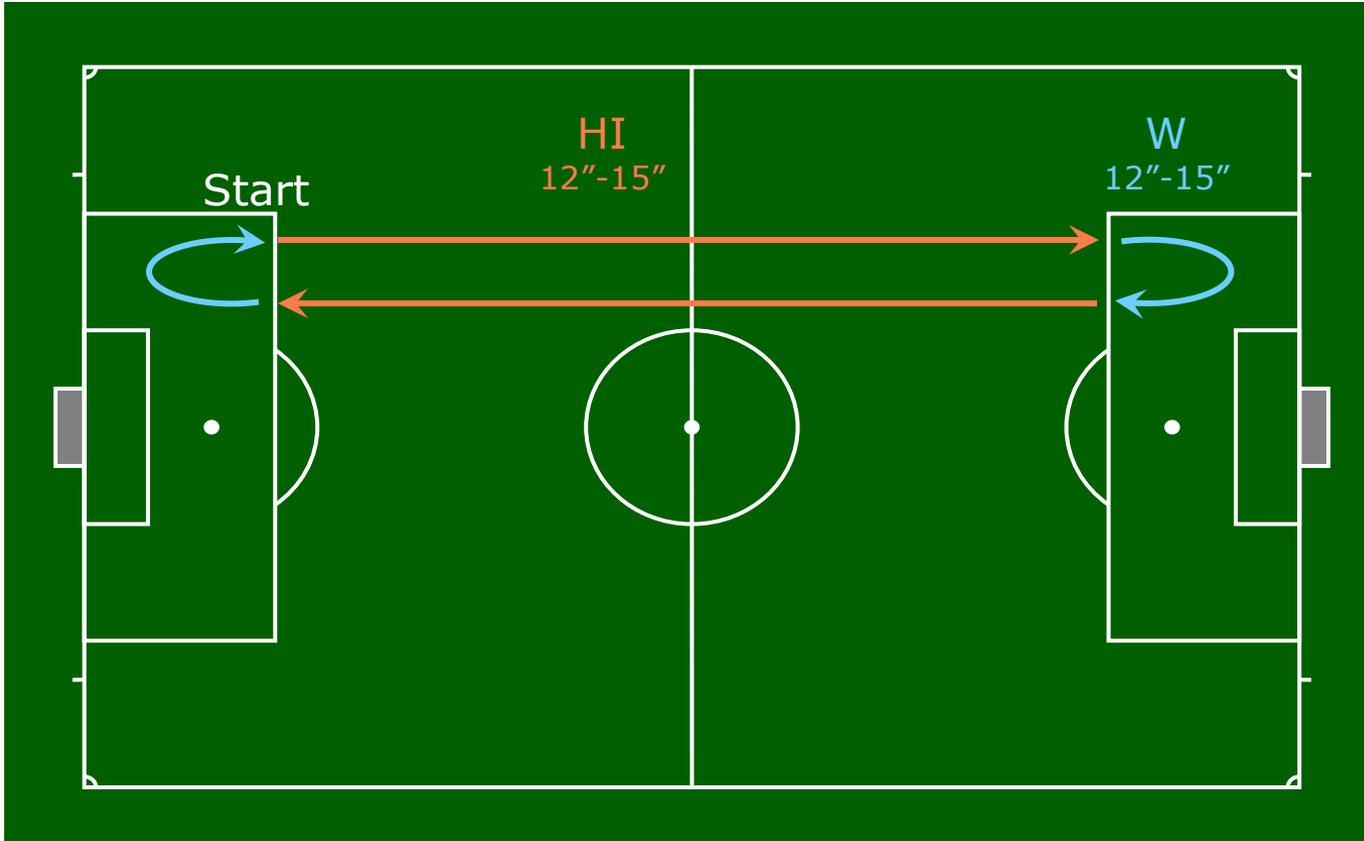
Set 1	12 min
Recovery	4 min
Set 2	12 min
<b>Total duration</b>	<b>28 min</b>

Walking	W	---
Jogging	J	1600 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	4800 m
Sprint	S	---
<b>Total distance</b>		<b>6400 m</b>

**Set 1:** Run around the pitch as indicated in the picture. Run for 20 sec at high intensity (HI), followed by 20 sec of jogging (J). Then, 40 sec HI and 20 sec J; 60 sec HI and 20 sec J; 2 min HI and 1 min J; 2 min HI and 1 min J; 60 sec HI and 20 sec J; 40 sec HI and 20 sec J; 20 sec HI and 20 sec J.

**Recovery:** 4 min

**Set 2:** Same exercise as set 1 but now in the other direction.



## 2 sets of 10 HI runs

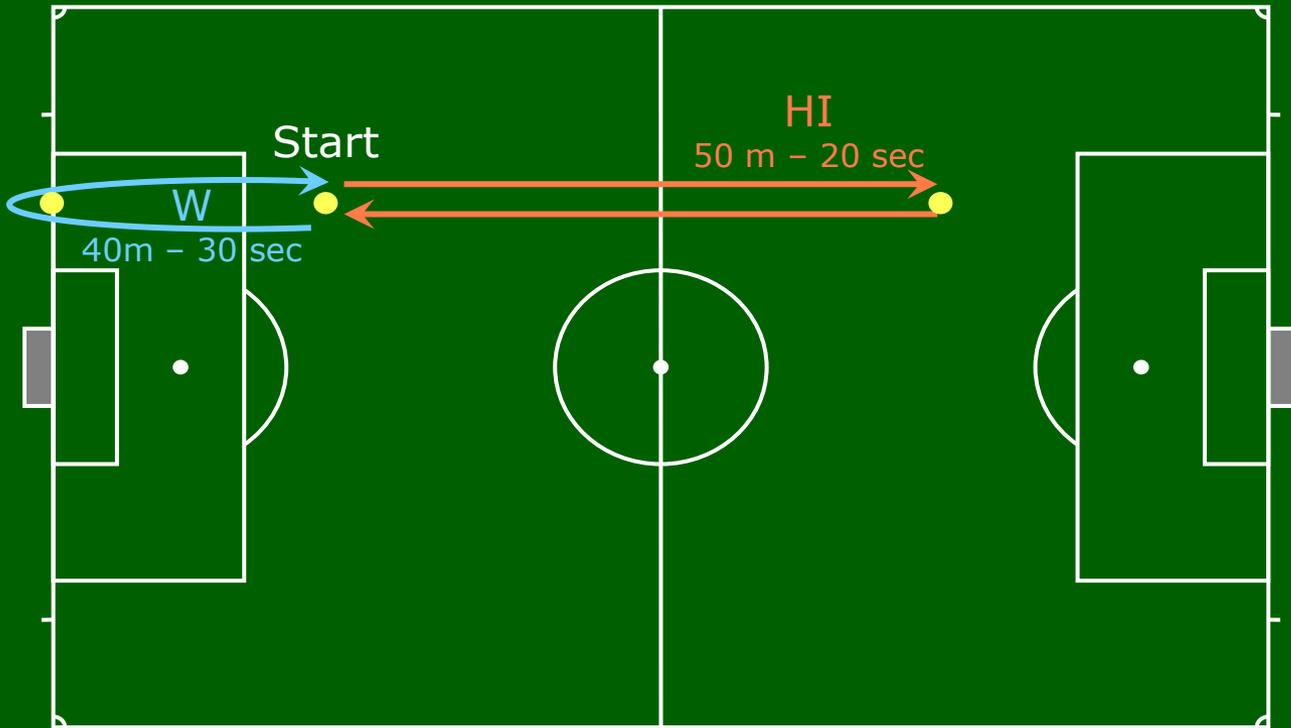
Set 1 (10 HI runs)	5 min
Recovery	2 min
Set 2 (10 HI runs)	5 min
Total duration	± 12 min

Walking	W	220 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1500 m
Sprint	S	---
Total distance		1720 m

**Set 1:** Run from one penalty box to the other at high intensity in 12 to 15 sec (between 18 and 20 km/h). Then, walk to the goal area line and back in 12 to 15 sec and run again to the other penalty box. Run 10 times from penalty box to penalty box.

**Recovery:** 4 min

**Set 2:** Repeat the same exercise.



## 2 sets of 10 HI runs

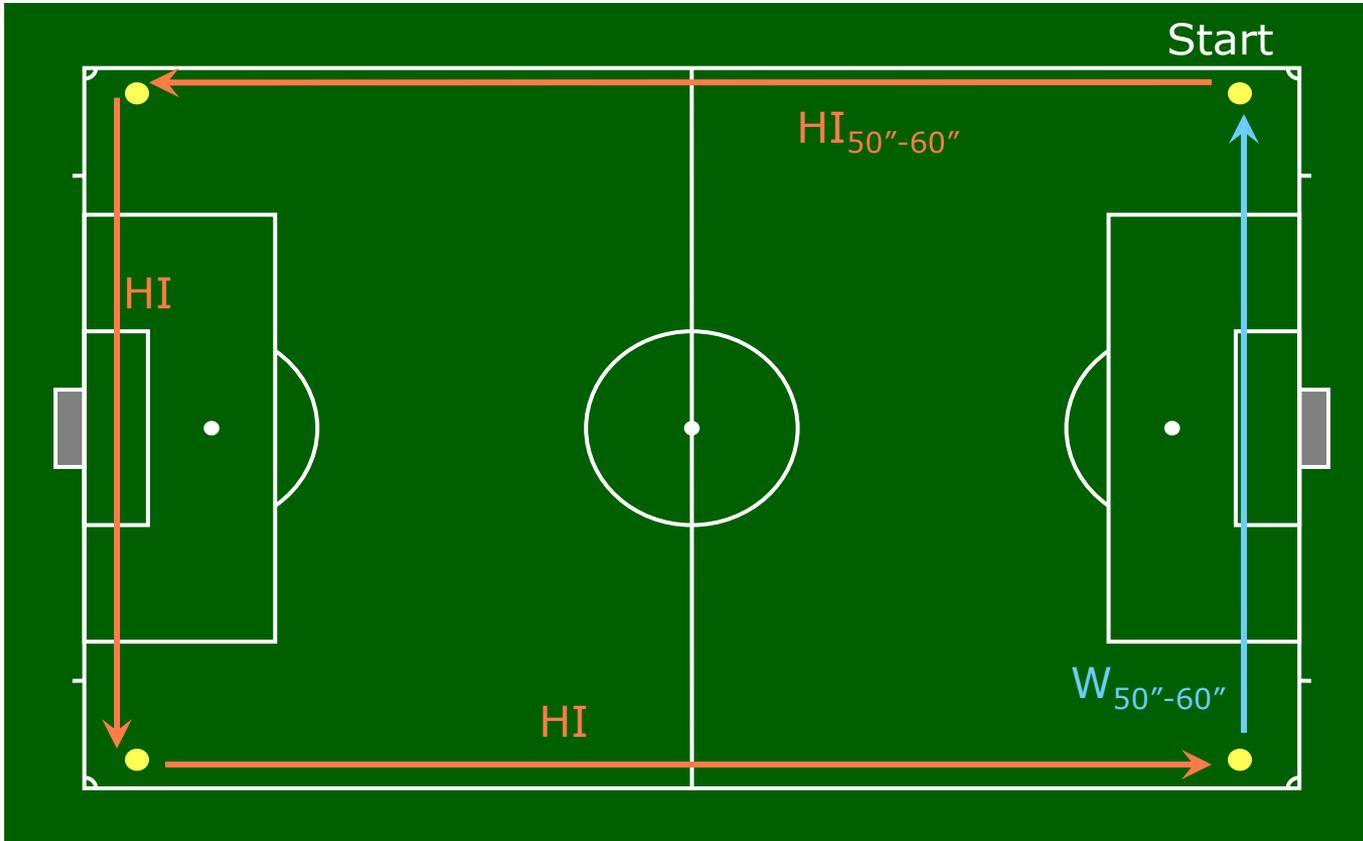
Set 1 (10 HI runs)	5 min
Recovery	2 min
Set 2 (10 HI runs)	5 min
Total duration	± 12 min

Walking	W	220 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1500 m
Sprint	S	---
Total distance		1720 m

**Set 1:** Run from one penalty box to the other at high intensity in 12 to 15 sec (between 18 and 20 km/h). Then, walk to the goal area line and back in 12 to 15 sec and run again to the other penalty box. Run 10 times from penalty box to penalty box.

**Recovery:** 4 min

**Set 2:** Repeat the same exercise.



## 2 sets of 7 laps

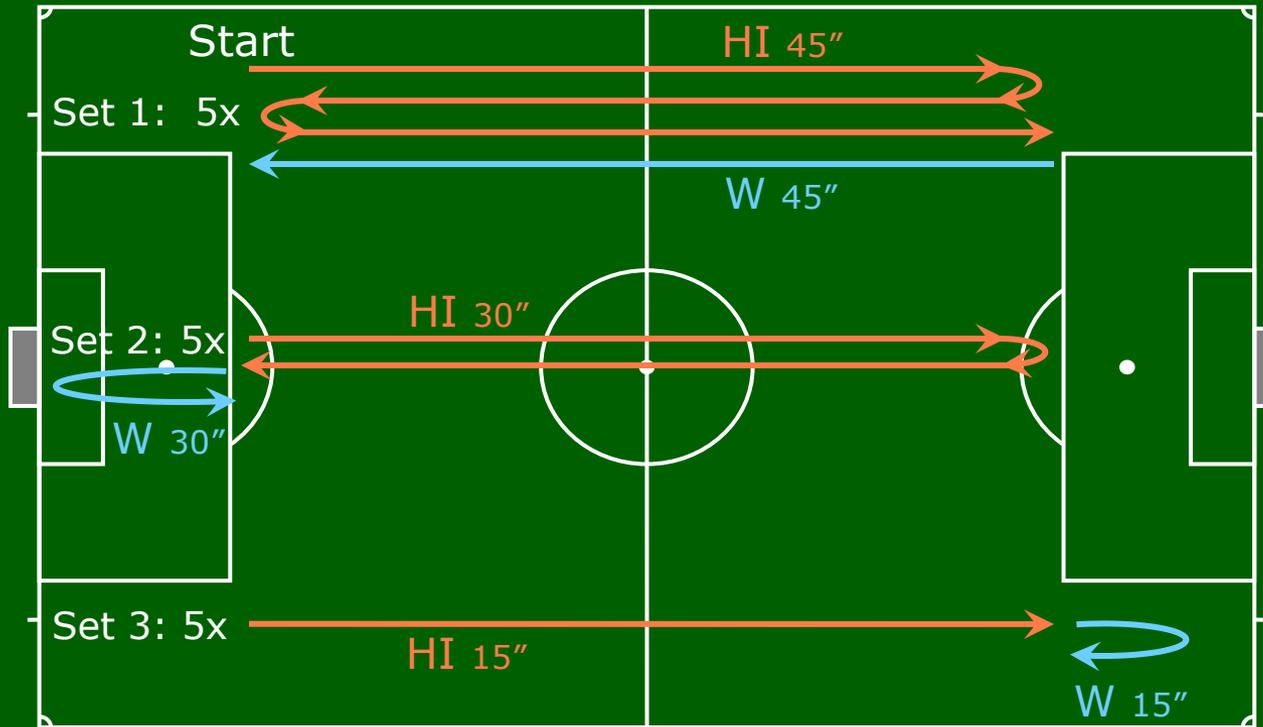
One lap	2 min
Set 1 (7 laps)	14 min
Recovery	5 min
Set 2 (7 laps)	14 min
<b>Total duration</b>	<b>33 min</b>

Walking	W	840 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	3640 m
Sprint	S	---
<b>Total distance</b>		<b>4480 m</b>

**Set 1:** Run around the pitch at high intensity on the field of play (or 300 m on an athletic track) in 50 to 60 sec. Then, walk the remaining distance to the start in 50 to 60 sec. If it is not possible to perform this exercise on a field of play or a track then the run can easily be performed in the forest or on a treadmill.

**Recovery:** 5 min

**Set 2:** The start of set 2 is on the opposite side so that referees turn on the other shoulder.



## 3 sets of 5 HI runs

Set 1 (5 HI runs)	7.5 min
Recovery	2 min
Set 2 (5 HI runs)	5 min
Recovery	2 min
Set 3 (5 HI runs)	2.5 min
<b>Total duration</b>	<b>± 19 min</b>

Walking	W	465 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2250 m
Sprint	S	---
<b>Total distance</b>		<b>2715 m</b>

**Set 1:** Run three times from penalty box to penalty box in 45 sec (at a speed of 18 km/h). Then, walk from one penalty box to the other in 45 sec. Repeat this 5 times.

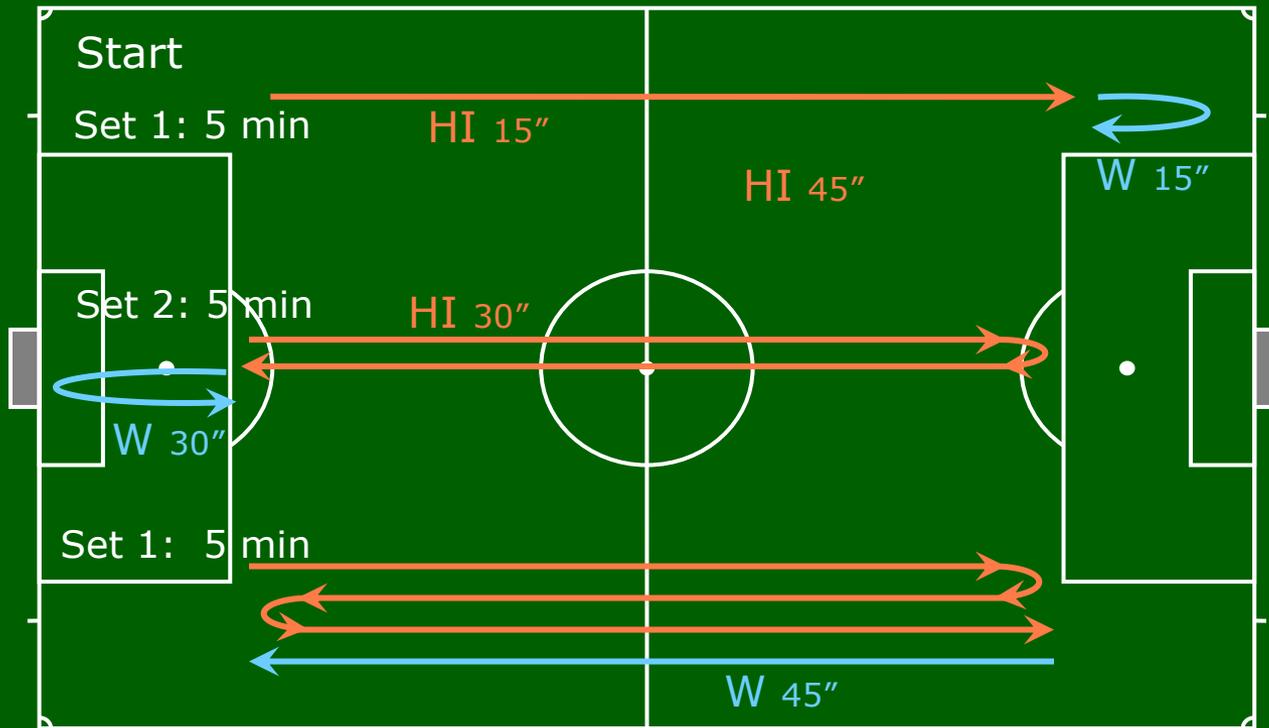
**Recovery:** 2 min

**Set 2:** Run twice from penalty box to penalty box in 30 sec (at a speed of 18 km/h). Then, walk from the penalty box to the goal line and back in 30 sec. Repeat this 5 times.

**Recovery:** 2 min

**Set 3:** Run from one penalty box to the other penalty box in 12 to 15 sec (at a speed of 18 km/h). Then, walk to the goal area line and back in 12 to 15 sec. Repeat this 5 times.

# High intensity exercise



## 3 sets of 5 min

Set 1	5 min
Set 2	5 min
Set 3	5 min
Total duration	5 min

Walking	W	465 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2250 m
Sprint	S	---
Total distance		2715 m

**Set 1:** Run three times from penalty box to penalty box in 45 sec (at a speed of 18 km/h). Then, walk from one penalty box to the other in 45 sec. Repeat this 5 times.

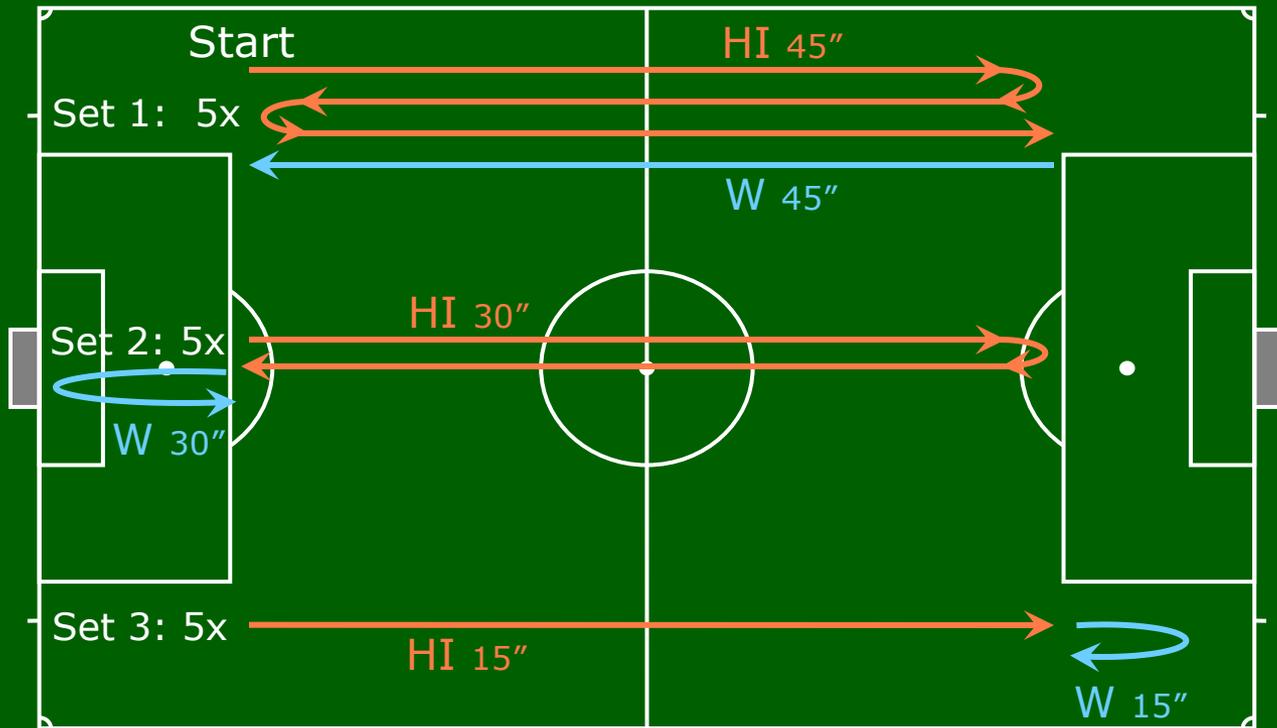
**Recovery:** 2 min

**Set 2:** Run twice from penalty box to penalty box in 30 sec (at a speed of 18 km/h). Then, walk from the penalty box to the goal line and back in 30 sec. Repeat this 5 times.

**Recovery:** 2 min

**Set 3:** Run from one penalty box to the other penalty box in 12 to 15 sec (at a speed of 18 km/h). Then, walk to the goal area line and back in 12 to 15 sec. Repeat this 5 times.

# High intensity exercise



## 3 sets of 5 HI runs

Set 1 (5 HI runs)	7.5 min
Recovery	2 min
Set 2 (5 HI runs)	5 min
Recovery	2 min
Set 3 (5 HI runs)	2.5 min
<b>Total duration</b>	<b>± 19 min</b>

Walking	W	465 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2250 m
Sprint	S	---
<b>Total distance</b>		<b>2715 m</b>

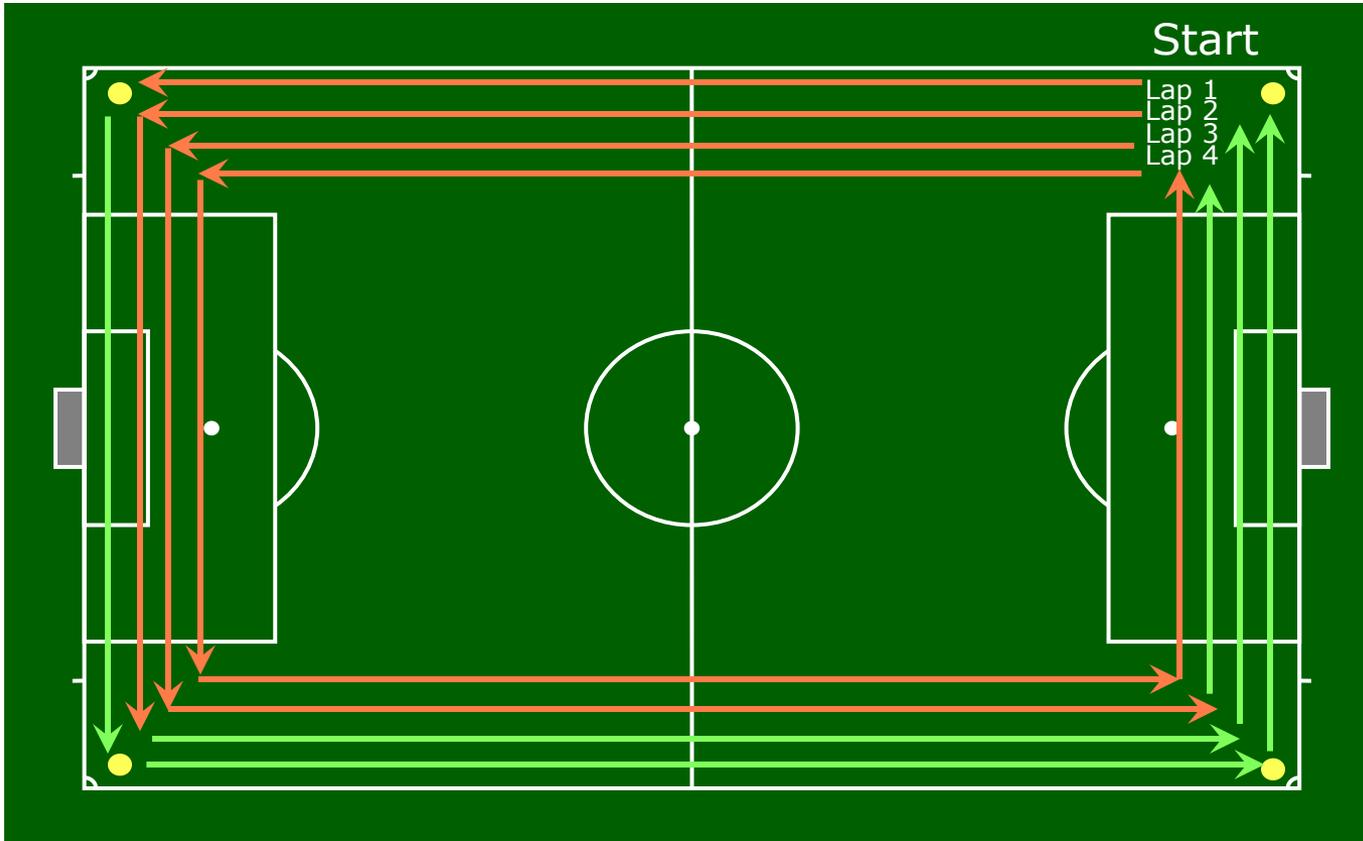
**Set 1:** Run three times from penalty box to penalty box in 45 sec (at a speed of 18 km/h). Then, walk from one penalty box to the other in 45 sec. Repeat this 5 times.

**Recovery:** 2 min

**Set 2:** Run twice from penalty box to penalty box in 30 sec (at a speed of 18 km/h). Then, walk from the penalty box to the goal line and back in 30 sec. Repeat this 5 times.

**Recovery:** 2 min

**Set 3:** Run from one penalty box to the other penalty box in 12 to 15 sec (at a speed of 18 km/h). Then, walk to the goal area line and back in 12 to 15 sec. Repeat this 5 times.



## 3 sets of 4 laps

Set 1 (4 laps)	6 min
Recovery	3 min
Set 2 (4 laps)	6 min
Recovery	3 min
Set 3 (4 laps)	6 min
<b>Total duration</b>	<b>± 24 min</b>

Walking	W	---
Jogging	J	1320 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2520 m
Sprint	S	---
<b>Total distance</b>		<b>3840 m</b>

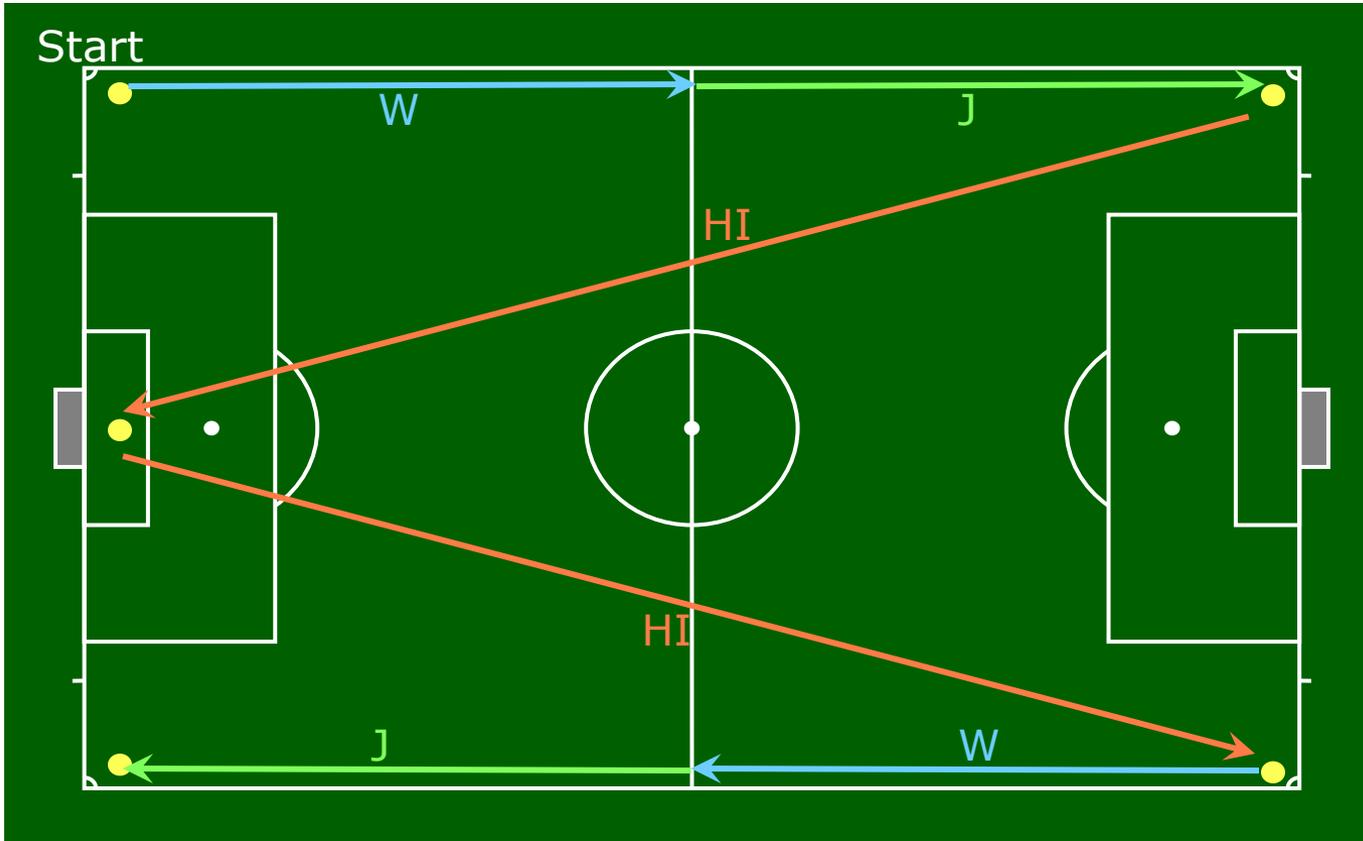
**Set 1:** Run around the pitch as indicated in the picture. The distance of high intensity running increases every lap. In total, run 4 laps around the pitch.

**Recovery:** 3 min.

**Set 2:** Now start with 1 full lap of high intensity running (lap 4) and then work down to run one length of high intensity (lap 1).

**Recovery:** 3 min.

**Set 3:** Same as set 1.



## 2 sets of 4 laps

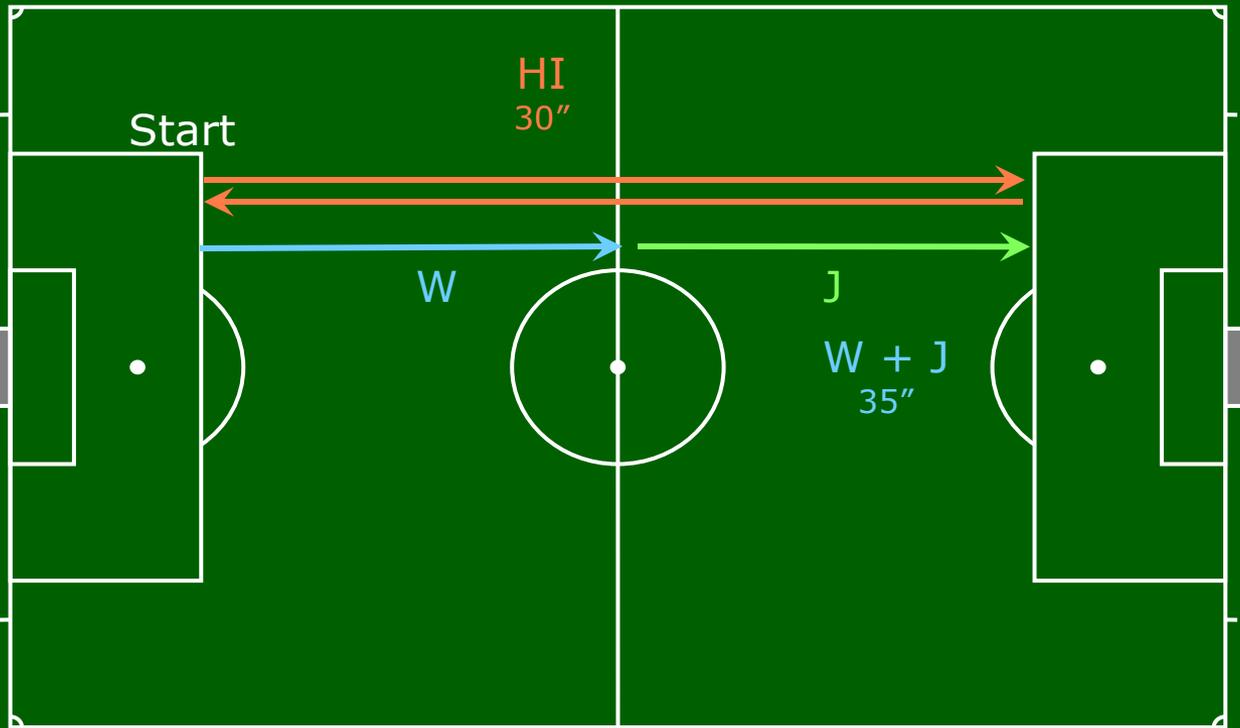
One lap	2.5 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	800 m
Jogging	J	800 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1920 m
Sprint	S	---
<b>Total distance</b>		<b>3520 m</b>

**Set 1:** Run 4 laps of the high intensity exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Repeat the same exercise.



## 2 sets of 8 HI runs

Set 1 (8 HI runs)	10 min
Recovery	4 min
Set 2 (8 HI runs)	10 min
<b>Total duration</b>	<b>± 24 min</b>

Walking	W	600 m
Jogging	J	600 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2400 m
Sprint	S	---
<b>Total distance</b>		<b>3600 m</b>

**Set 1:** Run from one penalty box to the other and back at high intensity in 30 sec. Then, walk to the midline and continue jogging to the penalty area (45 sec). Repeat 8 times.

**Recovery:** 4 min

**Set 2:** Repeat the same exercise.

# Speed endurance exercises

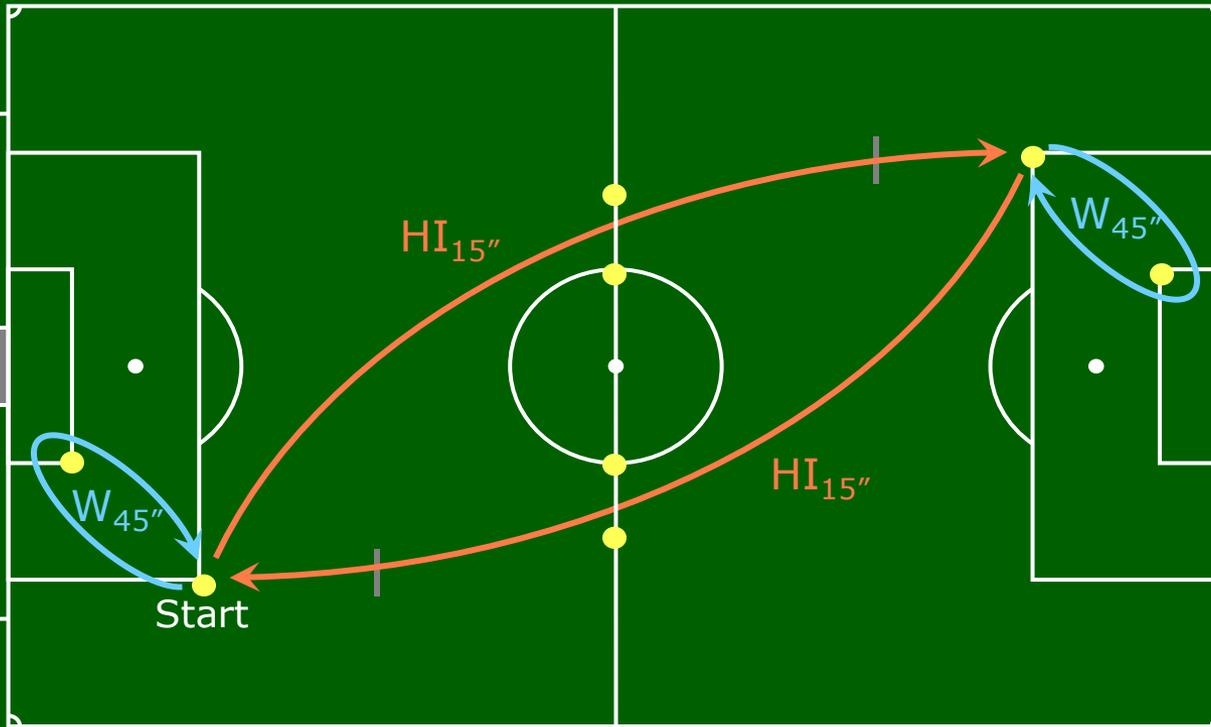
## Speed endurance training (a-cyclic, lactic), Thursday

- > aim:
  - to **simulate game conditions**
  - to rapidly and continuously produce power & energy
  - to alternate periodically between aerobic endurance (recovery) and intermittent interval activities
  - to improve repeated sprint ability (RSA)

duration	recuperation	intensity	repetitions
10-30 sec	>5 times (reps) 6+ min (sets)	>95% HRmax	4-6 reps 1-2 sets

> main part of the Thursday training session

- Note: HI <> SE
  - Start - stop - start ...
  - Different movements / activity changes
  - Less recovery
  - ... More match specific ...



## 2 sets of 10 HI runs

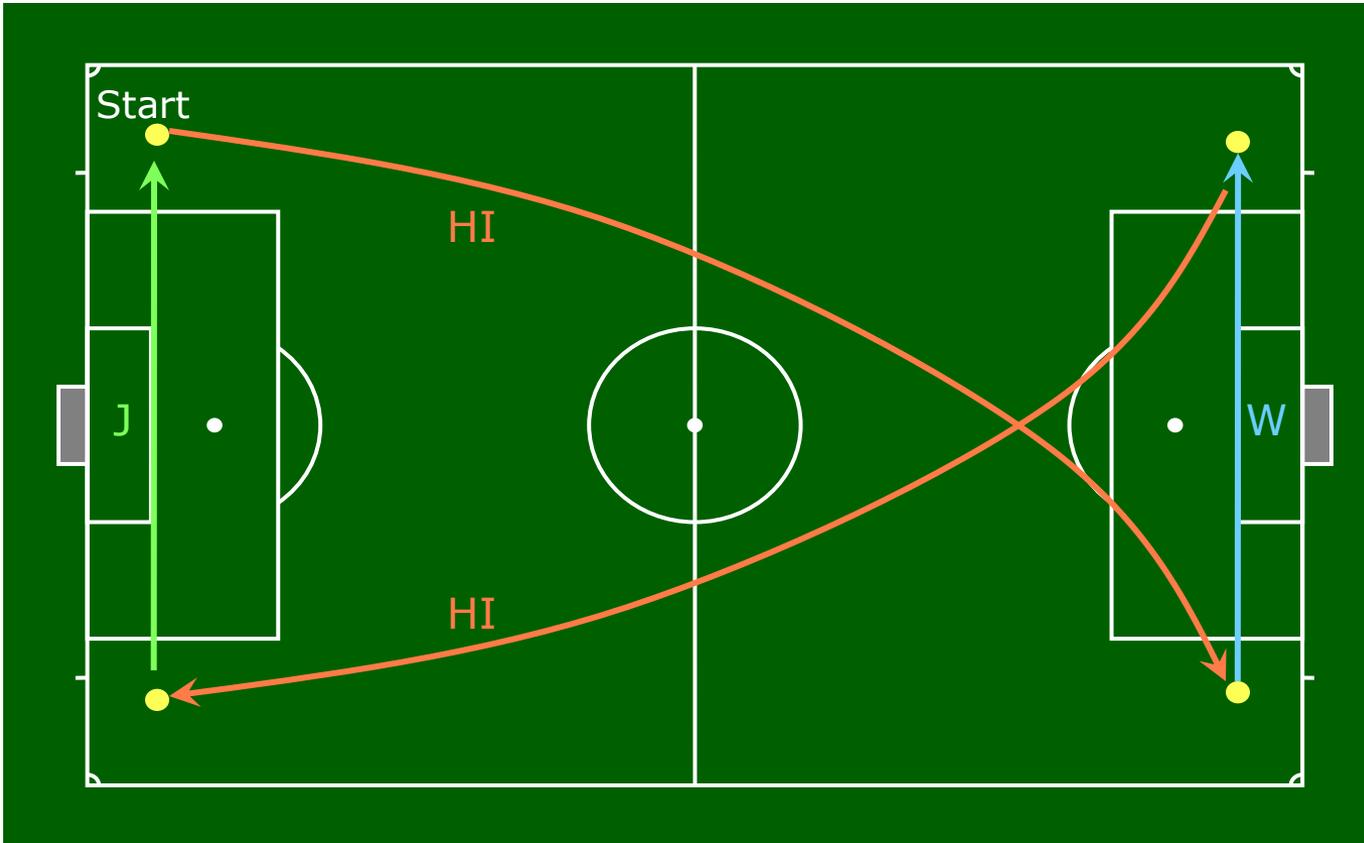
One lap	2 min
Set 1 (10 HI runs)	10 min
Recovery	4 min
Set 2 (10 HI runs)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	300 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2000 m
Sprint	S	---
<b>Total distance</b>		<b>2300 m</b>

**Set 1:** Starting at the edge of the penalty box, referees progressively accelerate to 90-95% (15") along the diagonal line as indicated in the picture. As from the mark near the opposite penalty box on (marked by the vertical bar), they decelerate while keeping the focus inside the penalty box. Between runs, there is a 45" recovery period (walking). Repeat this 10 times.

**Recovery:** 4 min

**Set 2:** Again 10 repetitions of each 1 min.



## 2 sets of 6 laps

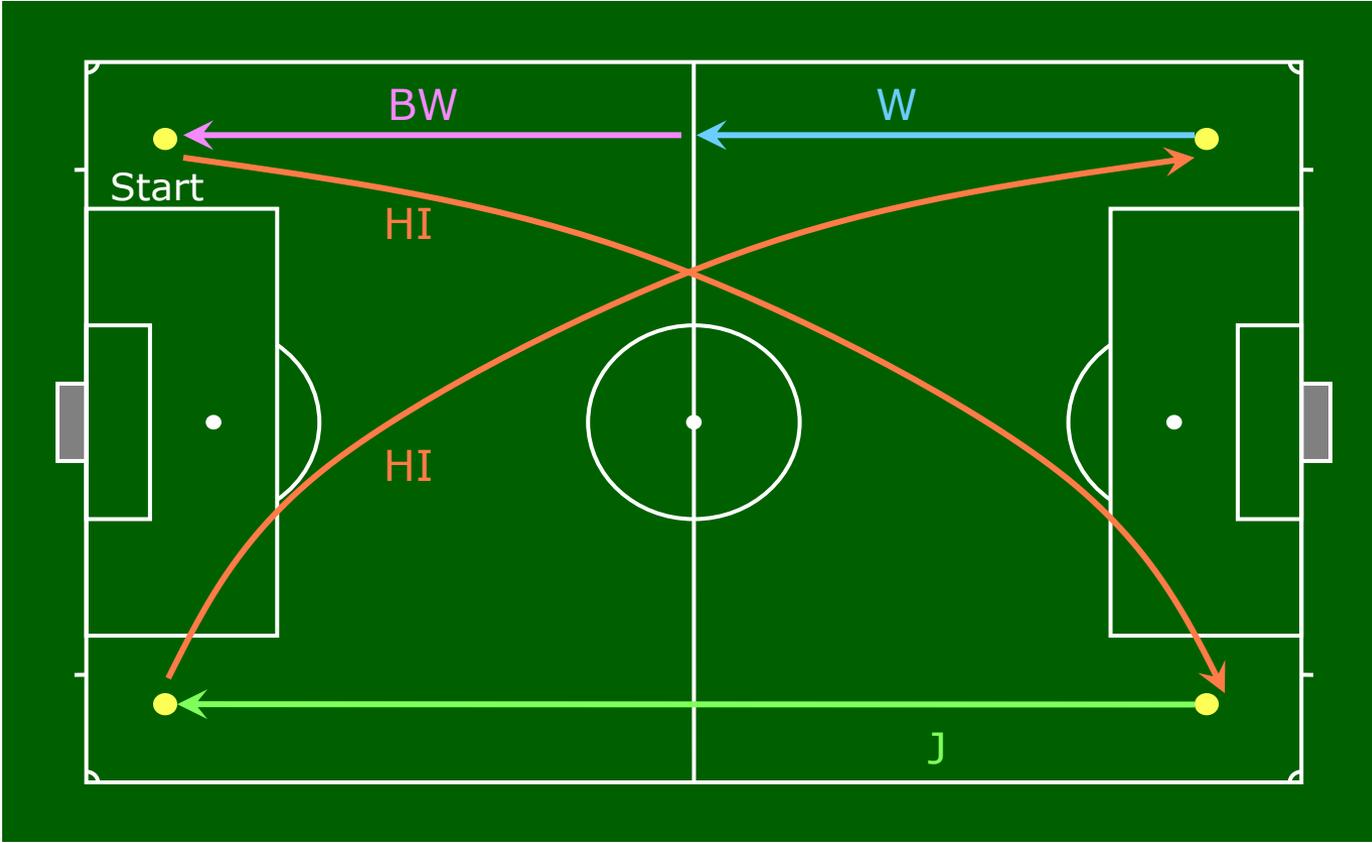
One lap	1.5 min
Set 1 (6 laps)	9 min
Recovery	4 min
Set 2 (6 laps)	9 min
<b>Total duration</b>	<b>22 min</b>

Walking	W	480 m
Jogging	J	480 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	3600 m
Sprint	S	---
<b>Total distance</b>		<b>4080 m</b>

**Set 1:** Run 6 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min.

**Set 2:** Again 6 laps of the same exercise.



## 2 sets of 6 laps

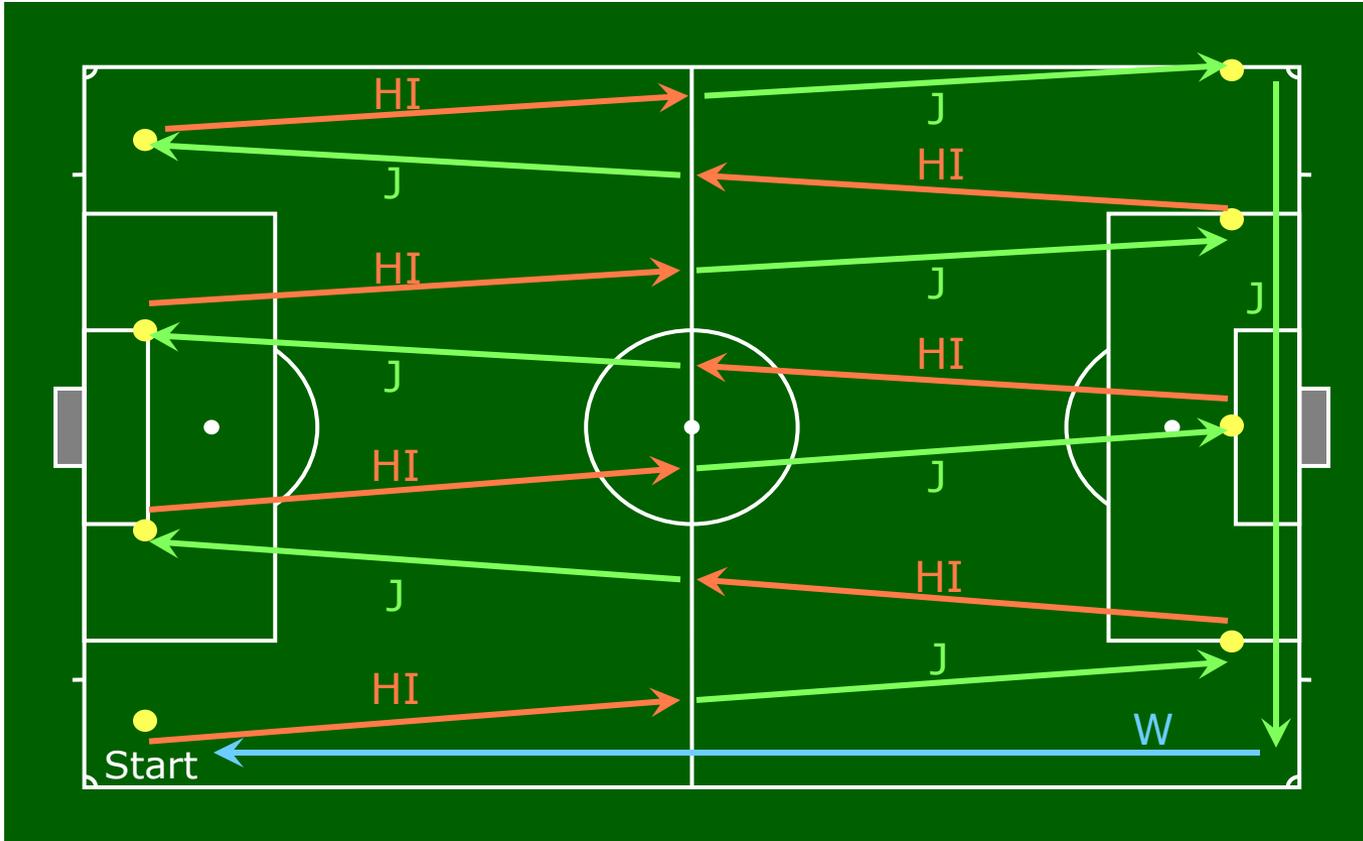
One lap	2 min
Set 1 (6 laps)	12 min
Recovery	4 min
Set 2 (6 laps)	12 min
<b>Total duration</b>	<b>28 min</b>

Walking	W	450 m
Jogging	J	1080 m
Backwards	BW	450 m
Sideways	SW	---
High intensity	HI	3600 m
Sprint	S	---
<b>Total distance</b>		<b>5580 m</b>

**Set 1:** Run 6 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min.

**Set 2:** Again 6 laps of the same exercise.



## 2 sets of 2 laps

One lap	6.5 min
Set 1 (2 laps)	13 min
Recovery	4 min
Set 2 (2 laps)	13 min
<b>Total duration</b>	<b>30 min</b>

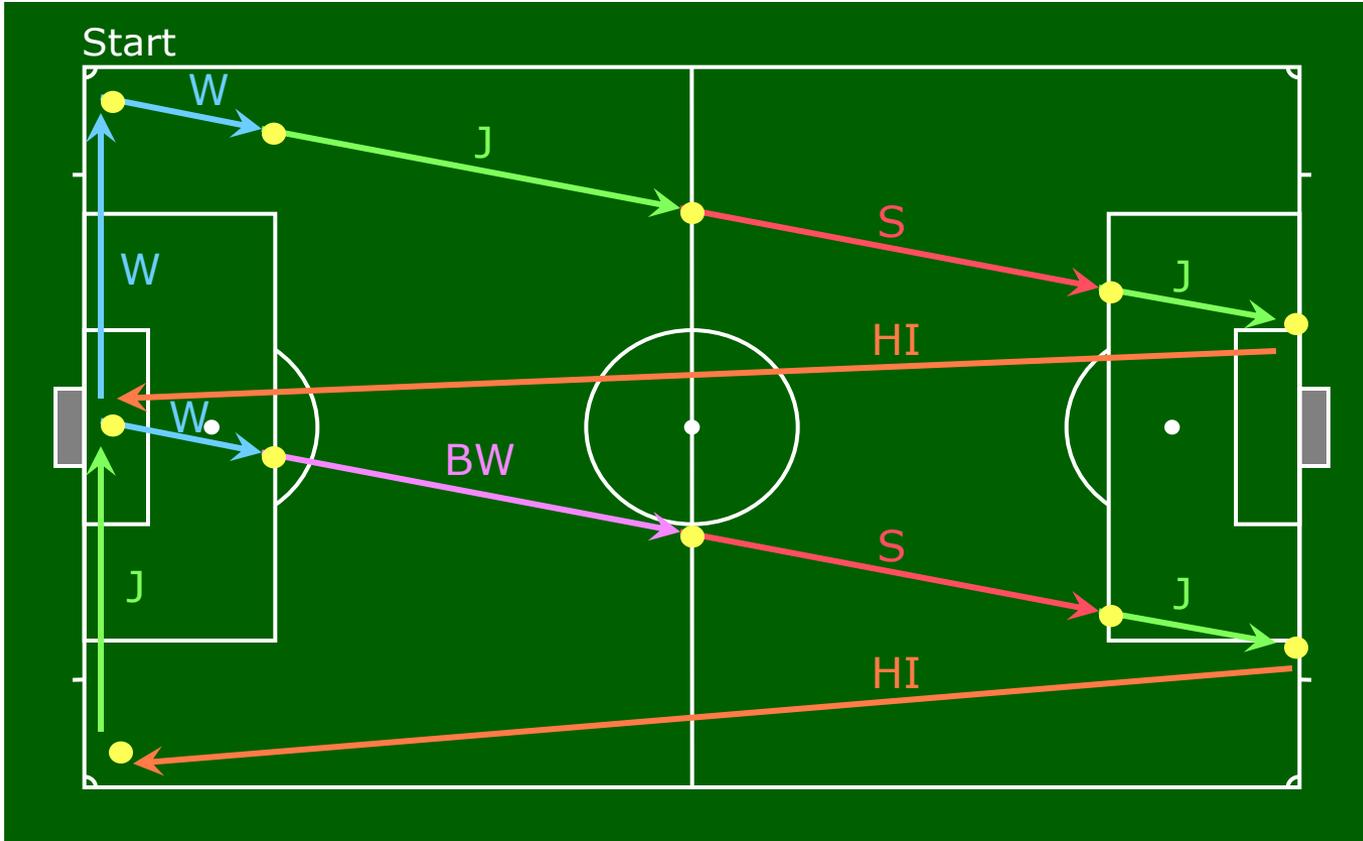
Walking	W	400 m
Jogging	J	1640 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1400 m
Sprint	S	---
<b>Total distance</b>		<b>3440 m</b>

**Set 1:** One lap consists of 7 sub-maximal sprints followed by 7 recovery jogs. The tempo running should consist of 90% of maximal speed. The jogging should take 3x longer than the duration of the tempo run. After reaching the finish, referees jog along the goal line until the next corner and then walk back to the starting position.

**Recovery:** 4 min

**Set 2:** Again 2 laps of the same exercise.





## 2 sets of 4 laps

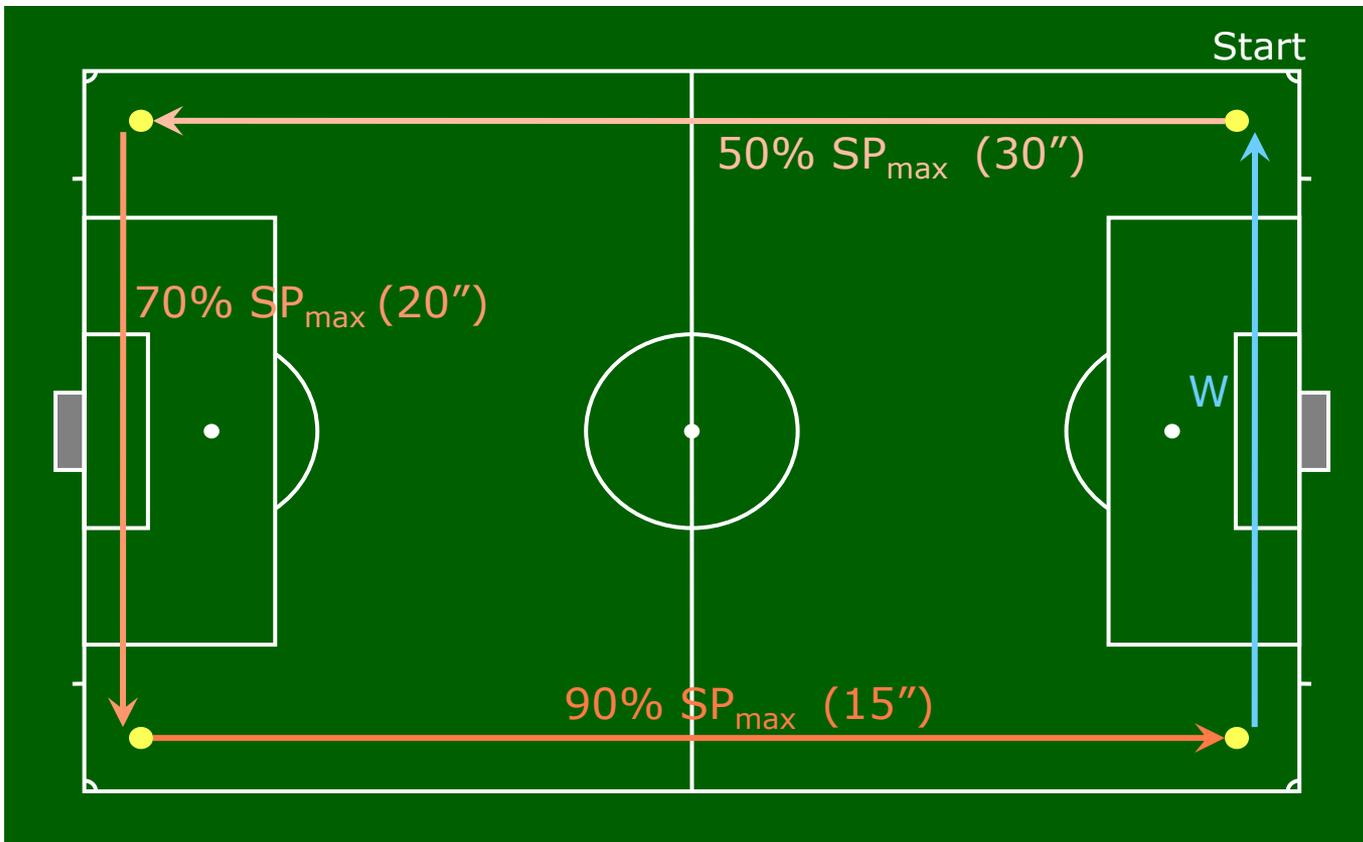
One lap	3 min
Set 1 (4 laps)	12 min
Recovery	4 min
Set 2 (4 laps)	12 min
<b>Total duration</b>	<b>28 min</b>

Walking	W	560 m
Jogging	J	960 m
Backwards	BW	240 m
Sideways	SW	---
High intensity	HI	1600 m
Sprint	S	480 m
<b>Total distance</b>		<b>3840 m</b>

**Set 1:** Run 4 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Again 4 laps of the same exercise.



## 2 sets of 5 laps

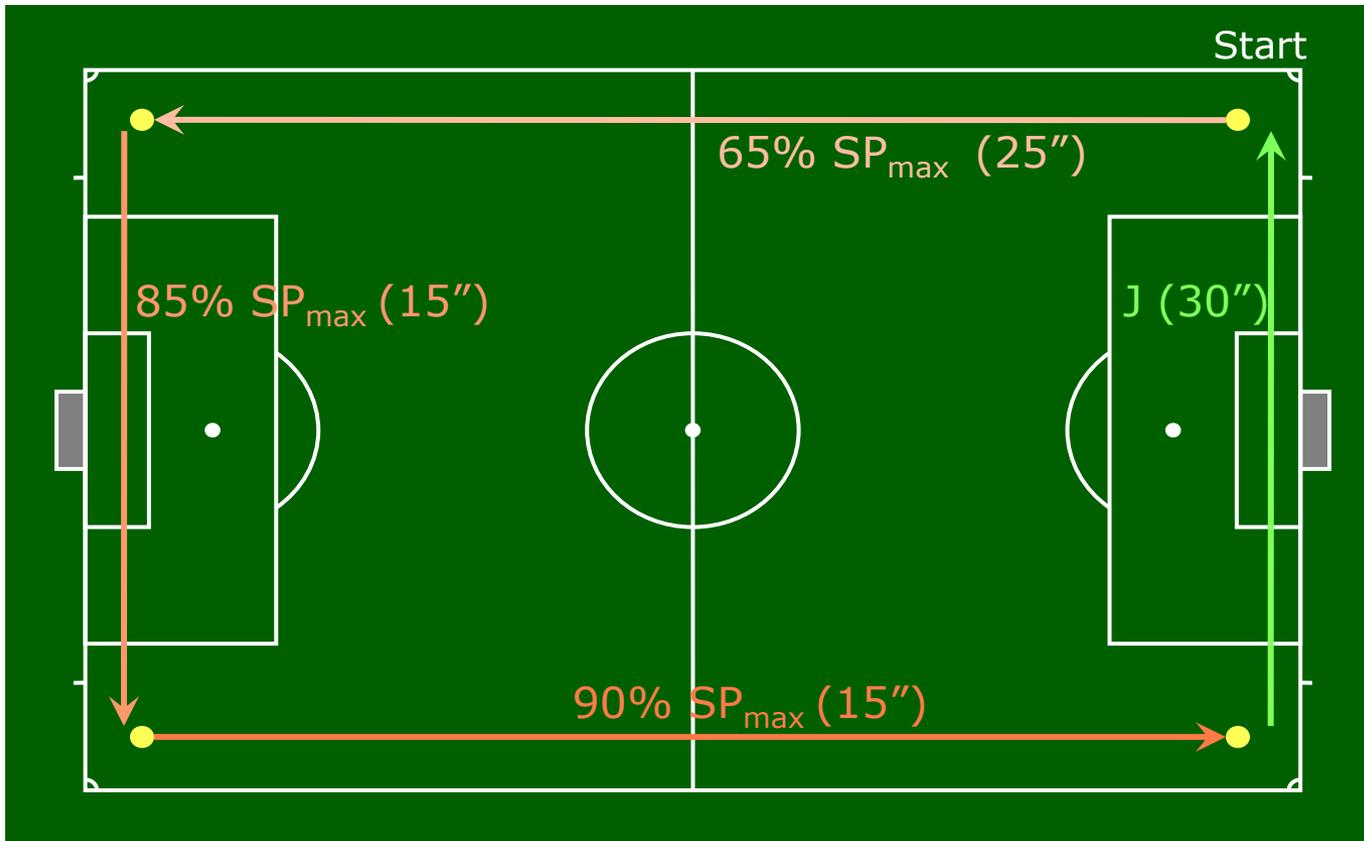
One lap	2 min
Set 1 (5 laps)	10 min
Recovery	3 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>23 min</b>

Walking	W	600 m
Jogging	J	---
50% $SP_{max}$		1000 m
70% $SP_{max}$		600 m
90% $SP_{max}$		1000 m
Sprint	S	---
<b>Total distance</b>		<b>3200 m</b>

**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture. Run at 50% of the maximal running speed in the length of the field (in 25 sec), followed by running at 70% of the maximal speed in the width of the field (in 15 sec) and then run at 90% of the maximal running speed (in 20 sec), walk back to the start.

**Recovery:** 3 min

**Set 2:** Again 5 laps of the same exercise.



## 2 sets of 6 laps

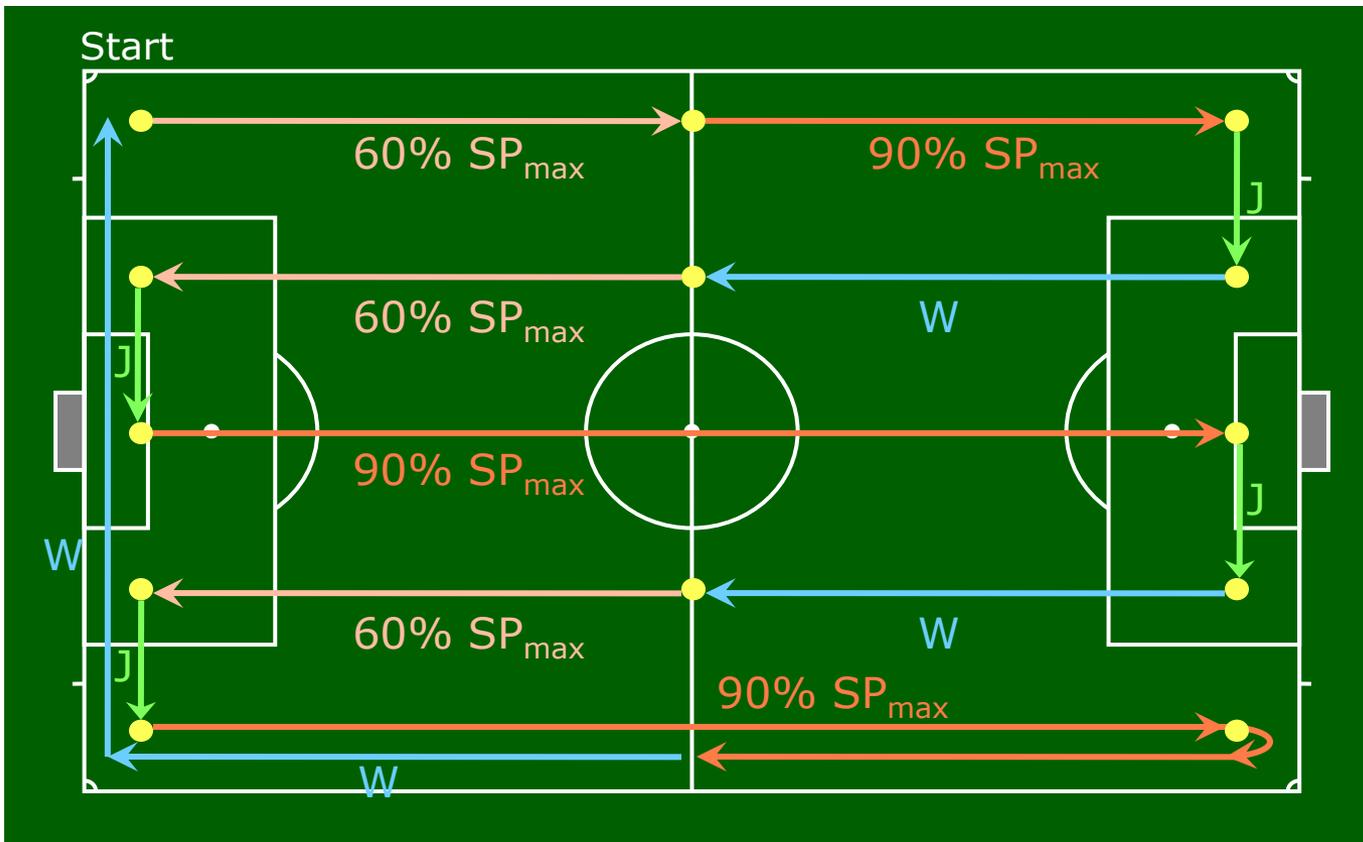
One lap	1.5 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	---
Jogging	J	600 m
65% $SP_{max}$		1000 m
85% $SP_{max}$		600 m
90% $SP_{max}$		1000 m
Sprint	S	---
<b>Total distance</b>		<b>3200 m</b>

**Set 1:** Run 6 laps of the speed endurance exercise as indicated in the picture. Run at 65% of the maximal running speed in the length of the field (in 25 sec), followed by running at 85% of the maximal speed in the width of the field (in 15 sec) and then run at 90% of the maximal running speed (in 15 sec), walk back to the start.

**Recovery:** 3 min

**Set 2:** Again 6 laps of the same exercise.



## 2 sets of 3 laps

One lap	4 min
Set 1 (3 laps)	12 min
Recovery	3 min
Set 2 (3 laps)	12 min
<b>Total duration</b>	<b>27 min</b>

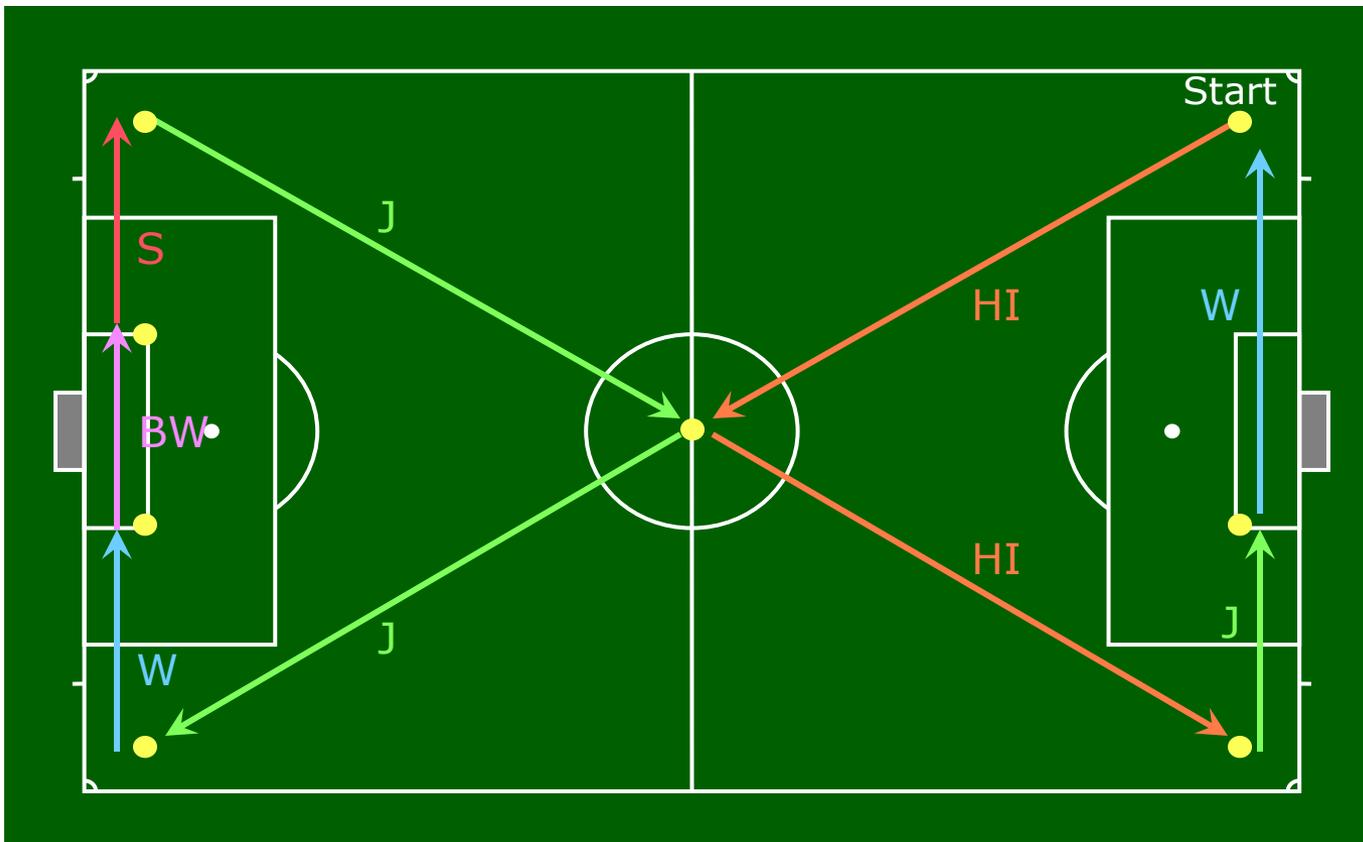
Walking	W	1260 m
Jogging	J	360 m
60% $SP_{max}$		900 m
70% $SP_{max}$		---
90% $SP_{max}$		1800 m
Sprint	S	---
<b>Total distance</b>		<b>4320 m</b>

**Set 1:** Run 3 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 3 min

**Set 2:** Again 3 laps of the same exercise.





## 2 sets of 5 laps

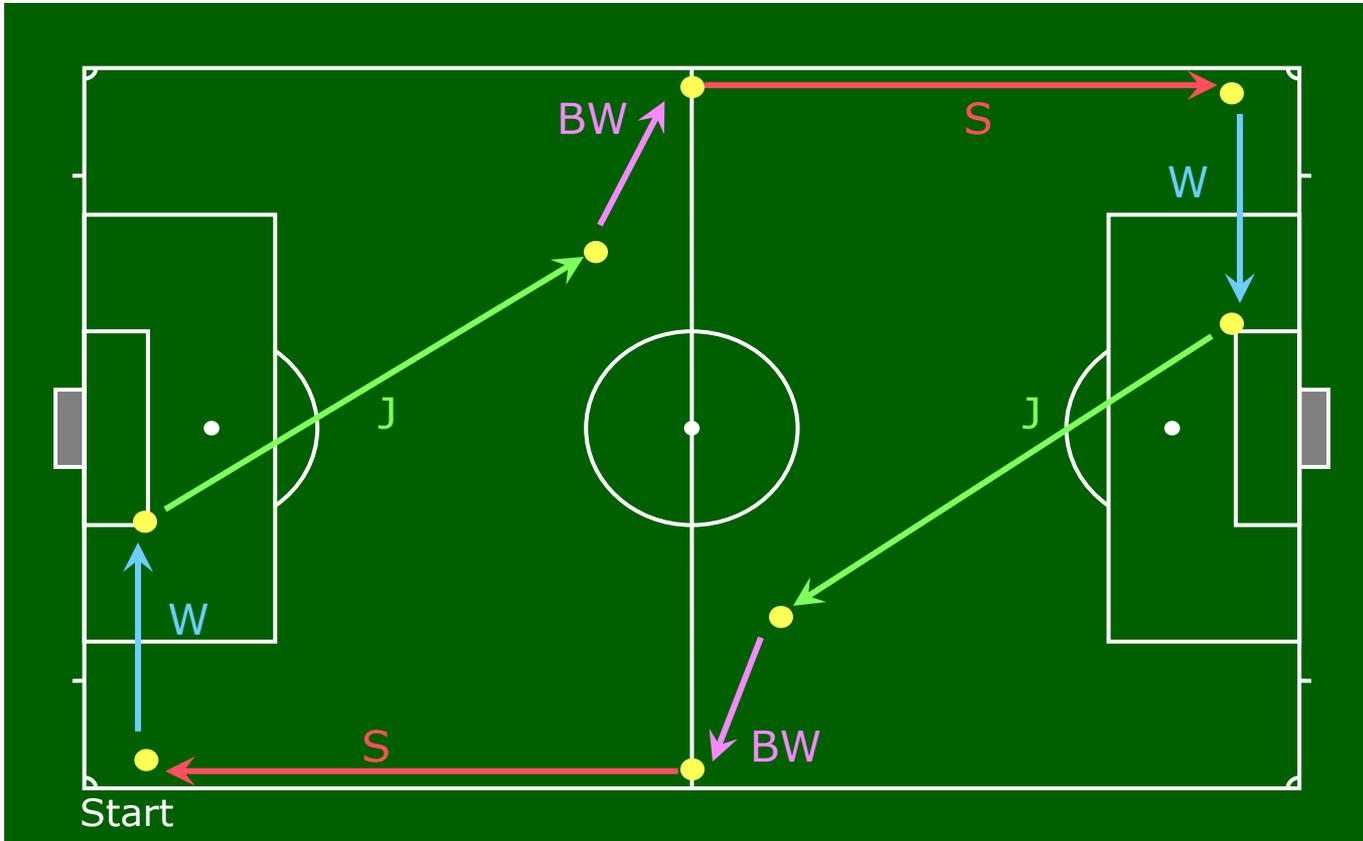
One lap	2 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	650 m
Jogging	J	1400 m
Backwards	BW	200 m
Sideways	SW	---
High intensity	HI	1200 m
Sprint	S	250 m
<b>Total distance</b>		<b>3700 m</b>

**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Same as set 1.



## 2 sets of 5 laps

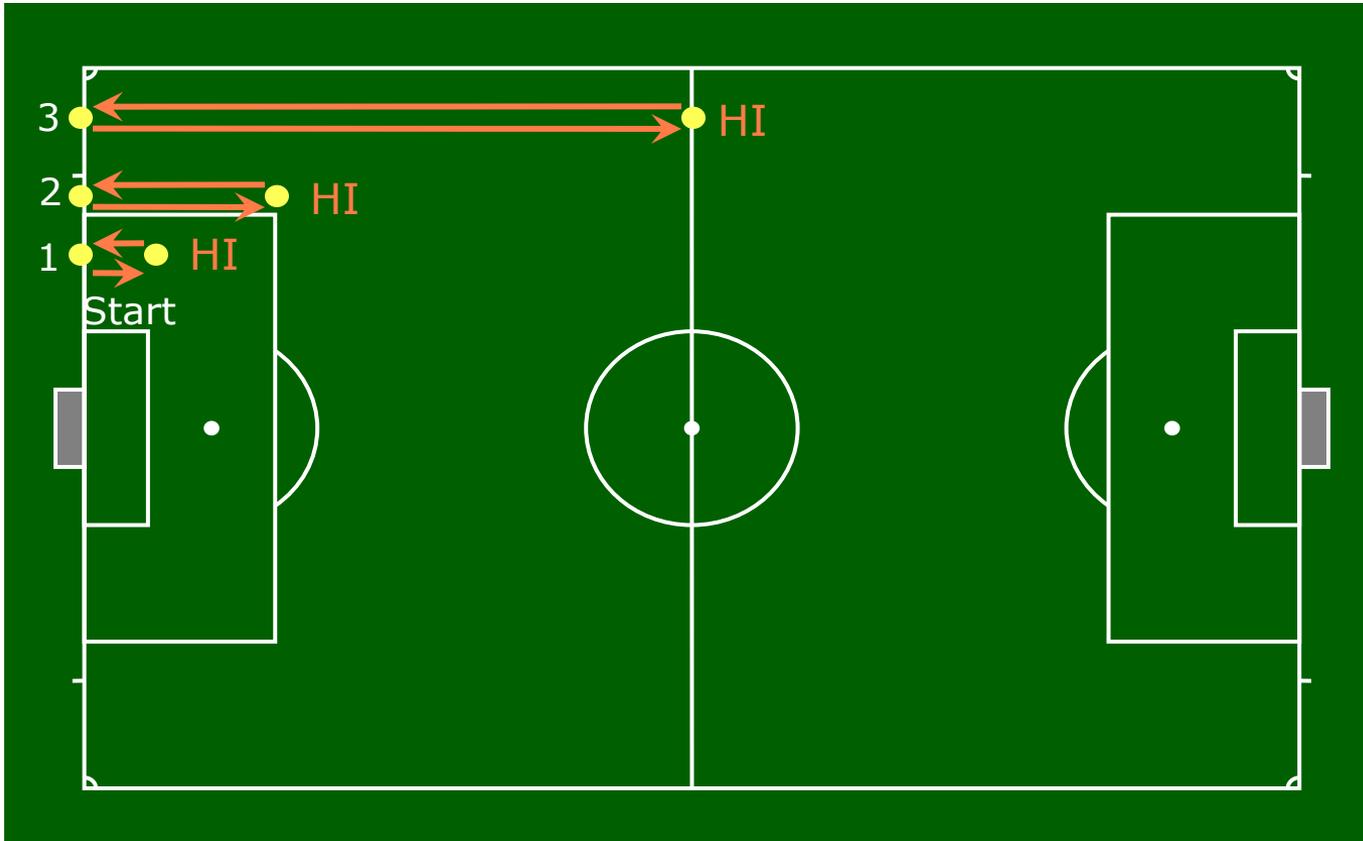
One lap	2 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	500 m
Jogging	J	800 m
Backwards	BW	200 m
Sideways	SW	---
High intensity	HI	800 m
Sprint	S	---
<b>Total distance</b>		<b>2300 m</b>

**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min.

**Set 2:** Run again 5 laps of the same exercise.



## 2 sets of 4 runs

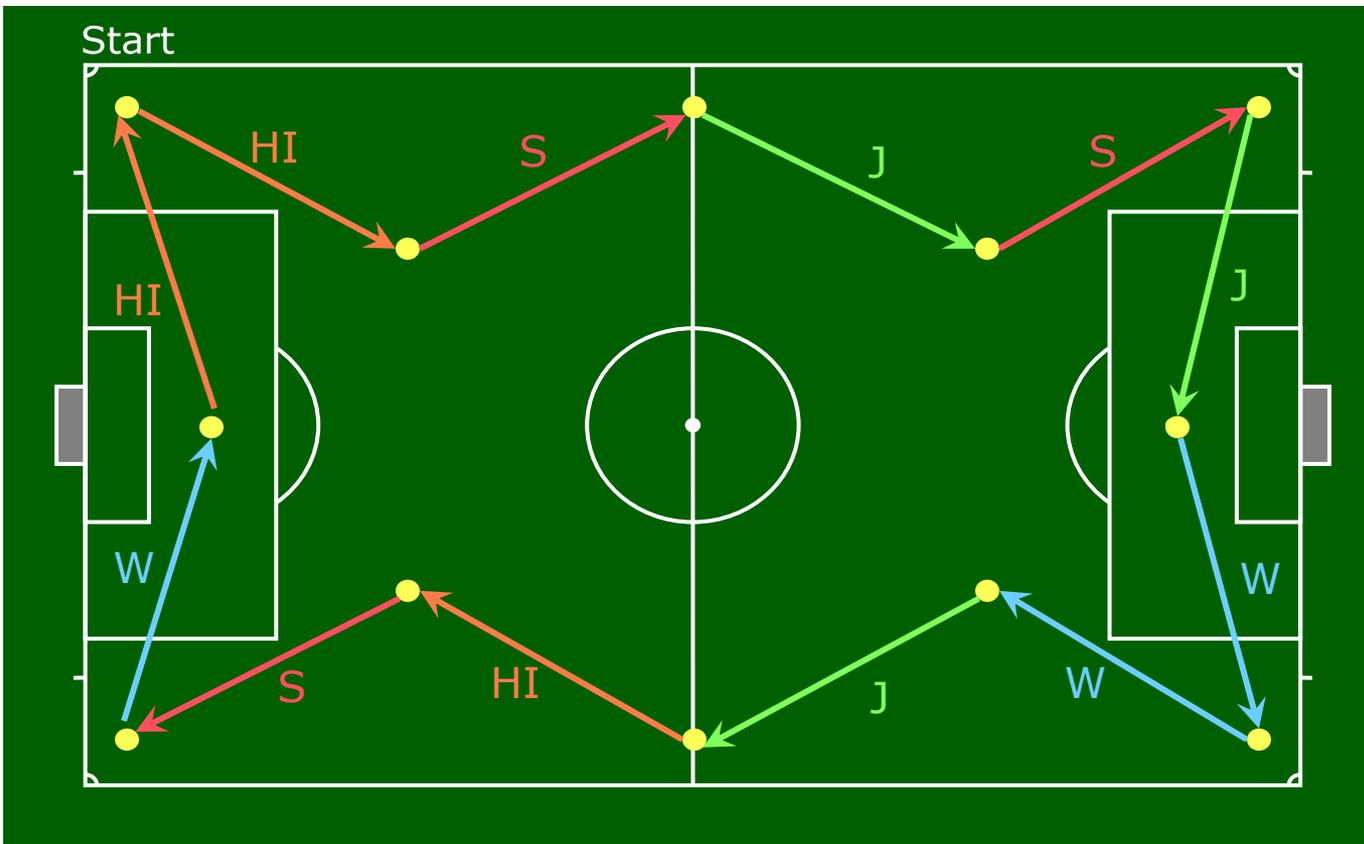
One lap	30"
Set 1 (5 laps)	6 min
Recovery	4 min
Set 2 (5 laps)	6 min
<b>Total duration</b>	<b>16 min</b>

Walking	W	---
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	1152 m
Sprint	S	---
<b>Total distance</b>		<b>1152 m</b>

**Set 1:** Suicide run: sprint from the goal line to the goal area line and back. Then immediately sprint from the goal line to the edge of the penalty area and back. Finally, sprint to the halfway line and back. One minute rest and then repeat 4 times the exercise.

**Recovery:** 3 min

**Set 2:** Repeat the same exercise, again for 4 laps.



## 2 sets of 5 laps

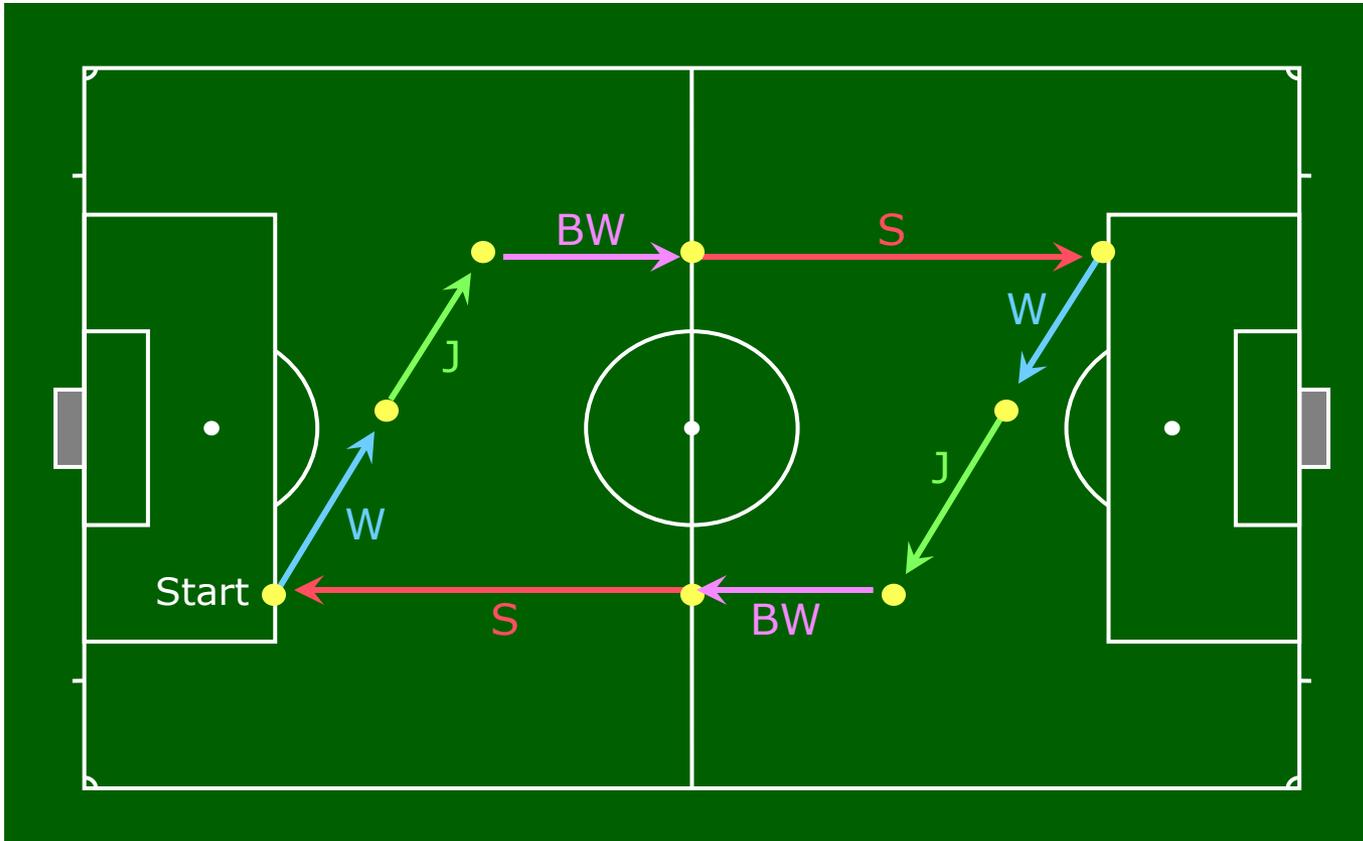
One lap	2 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	900 m
Jogging	J	900 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	900 m
Sprint	S	900 m
<b>Total distance</b>		<b>3600 m</b>

**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 5 laps of the same exercise.



## 2 sets of 6 laps

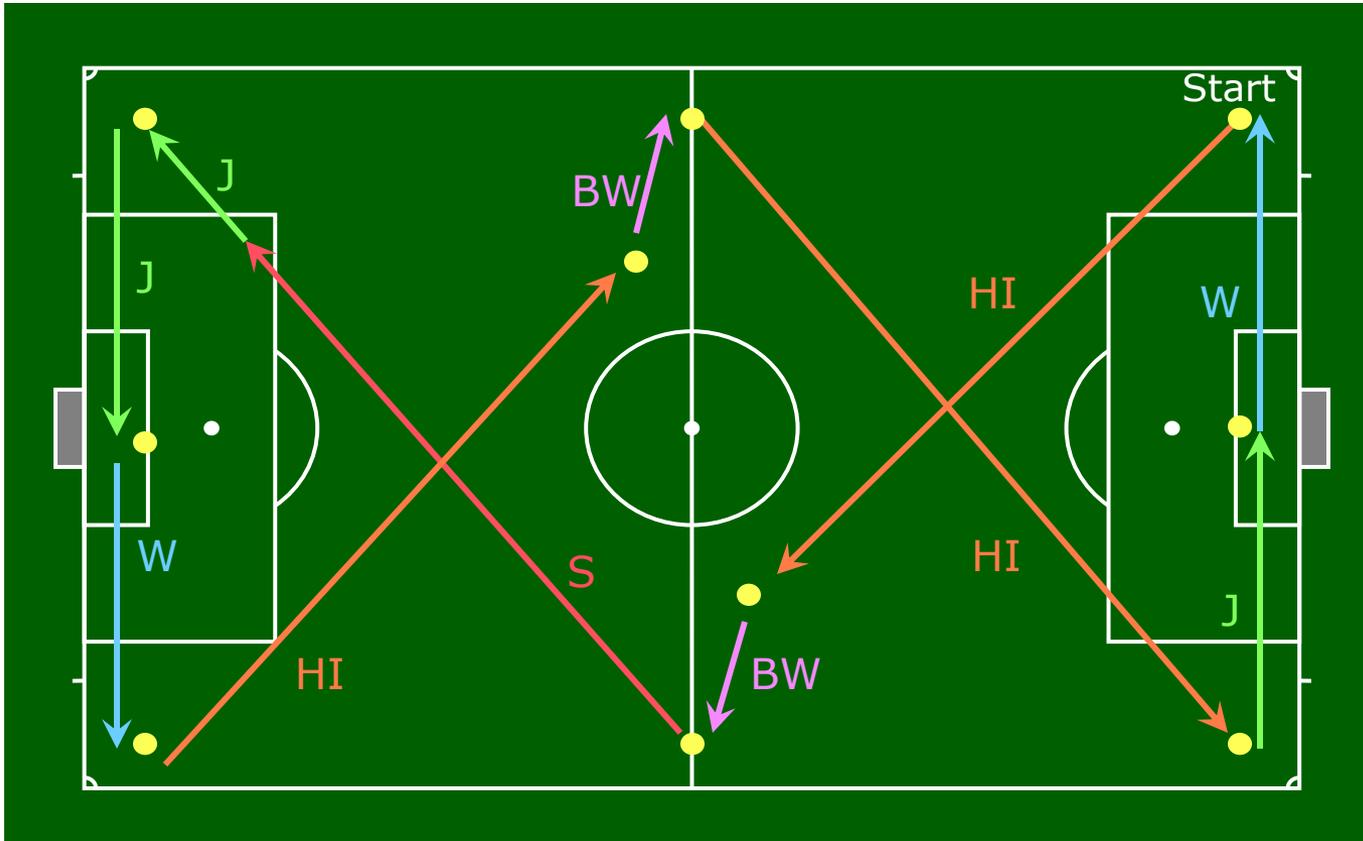
One lap	1'20"
Set 1 (6 laps)	8 min
Recovery	4 min
Set 2 (6 laps)	8 min
<b>Total duration</b>	<b>20 min</b>

Walking	W	480 m
Jogging	J	480 m
Backwards	BW	480 m
Sideways	SW	---
High intensity	HI	---
Sprint	S	720 m
<b>Total distance</b>		<b>2160 m</b>

**Set 1:** Run 6 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min.

**Set 2:** Again 6 laps of the same exercise.



## 2 sets of 5 laps

One lap	2'30"
Set 1 (5 laps)	12'30"
Recovery	4 min
Set 2 (5 laps)	12'30"
<b>Total duration</b>	<b>29 min</b>

Walking	W	600 m
Jogging	J	800 m
Backwards	BW	300 m
Sideways	SW	---
High intensity	HI	1950 m
Sprint	S	600 m
<b>Total distance</b>		<b>4250 m</b>

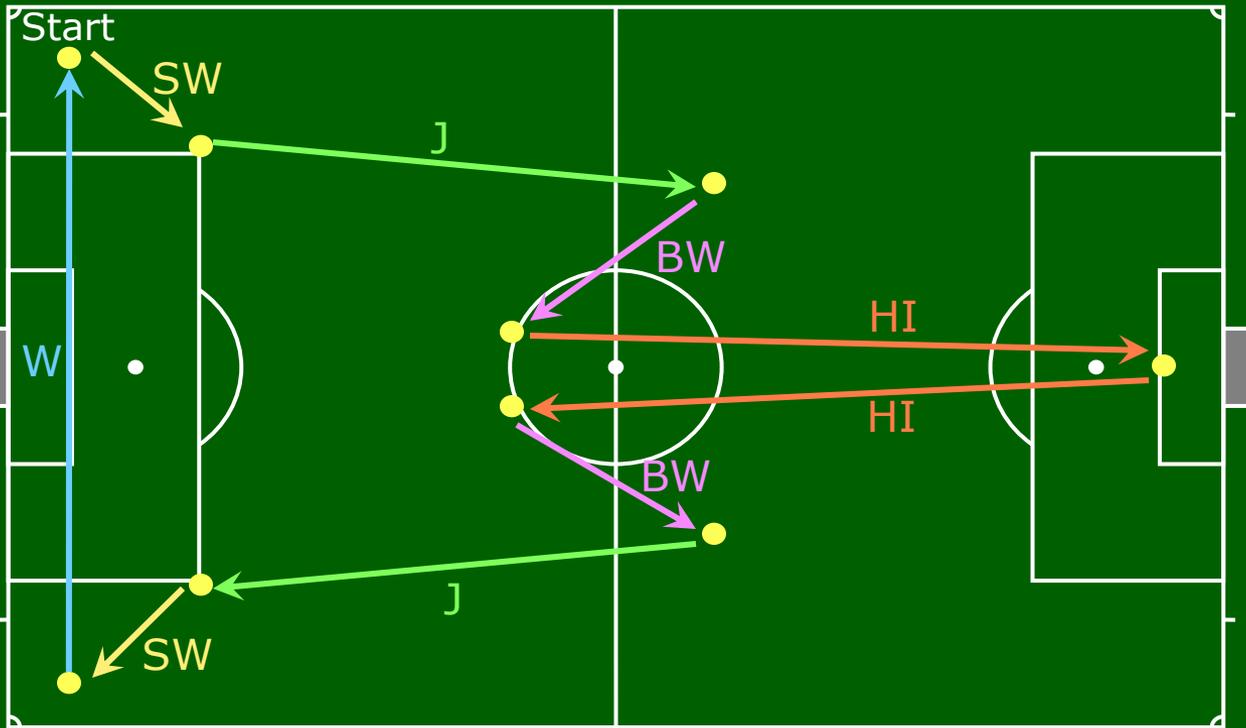
**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Again 5 laps of the same exercise.



# Speed endurance exercise



## 2 sets of 8 laps

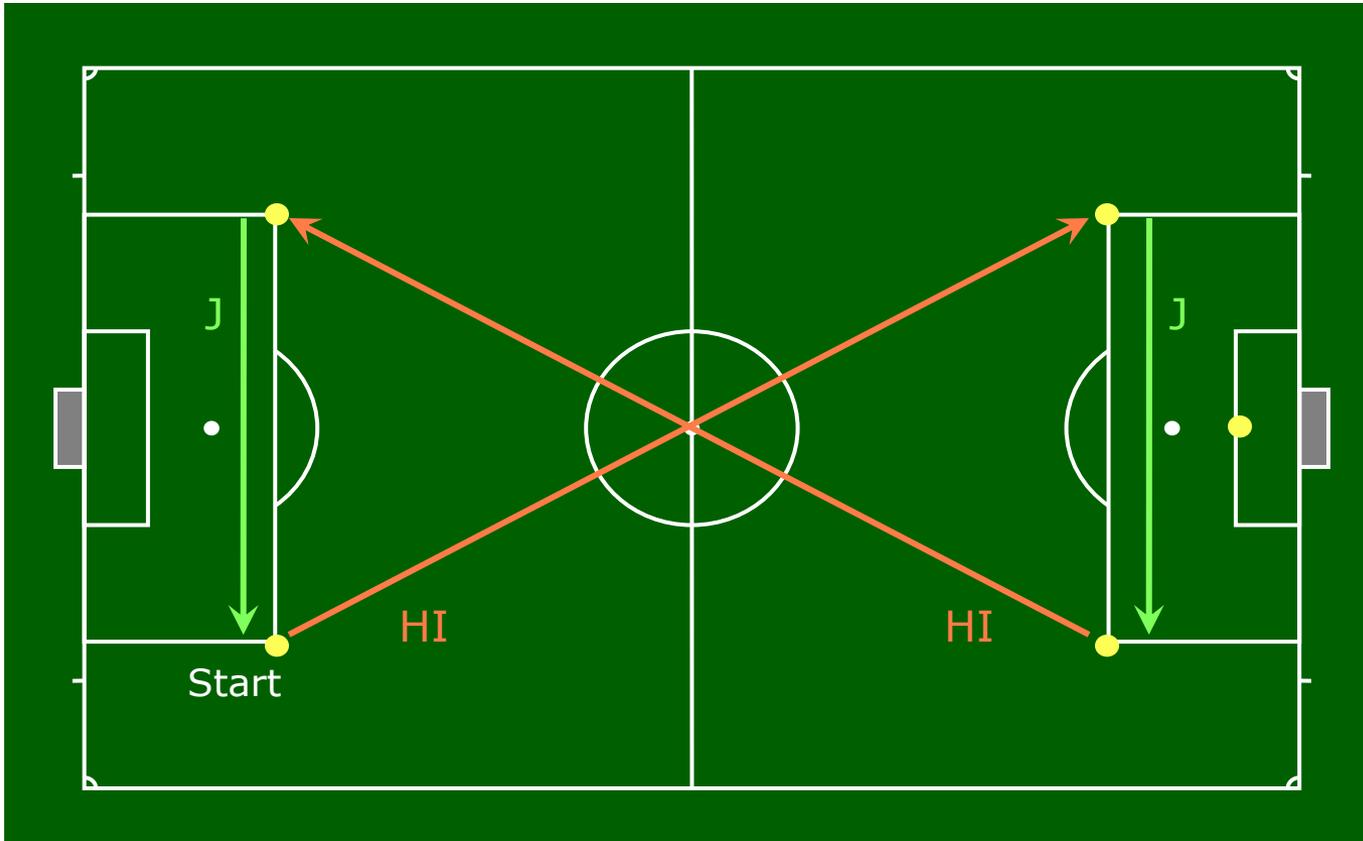
One lap	1.5 min
Set 1 (8 laps)	12 min
Recovery	4 min
Set 2 (8 laps)	12 min
<hr/> Total duration	<hr/> 28 min

Walking	W	960 m
Jogging	J	1300 m
Backwards	BW	640 m
Sideways	SW	480 m
High intensity	HI	1920 m
Sprint	S	---
<hr/> Total distance	<hr/>	<hr/> 5300 m

**Set 1:** Run 8 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 8 laps of the same exercise.



## 2 sets of 6 laps

One lap	1'15"
Set 1 (6 laps)	7.5 min
Recovery	4 min
Set 2 (6 laps)	7.5 min
<b>Total duration</b>	<b>19 min</b>

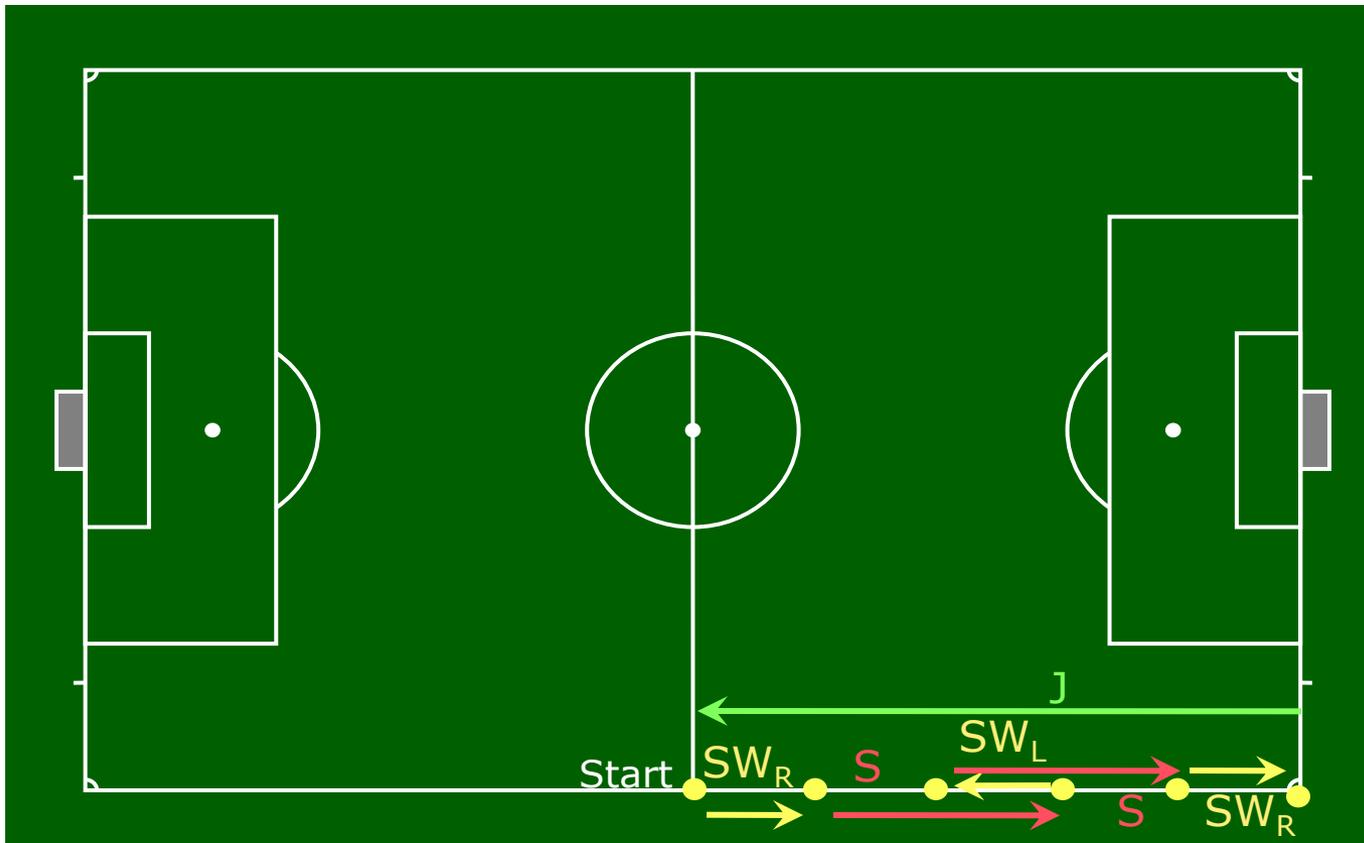
Walking	W	---
Jogging	J	960 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	2040 m
Sprint	S	---
<b>Total distance</b>		<b>3000 m</b>

**Set 1:** Run 6 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 6 laps of the same exercise.

# **Speed endurance exercises for assistant referees**



## 2 sets of 8 laps

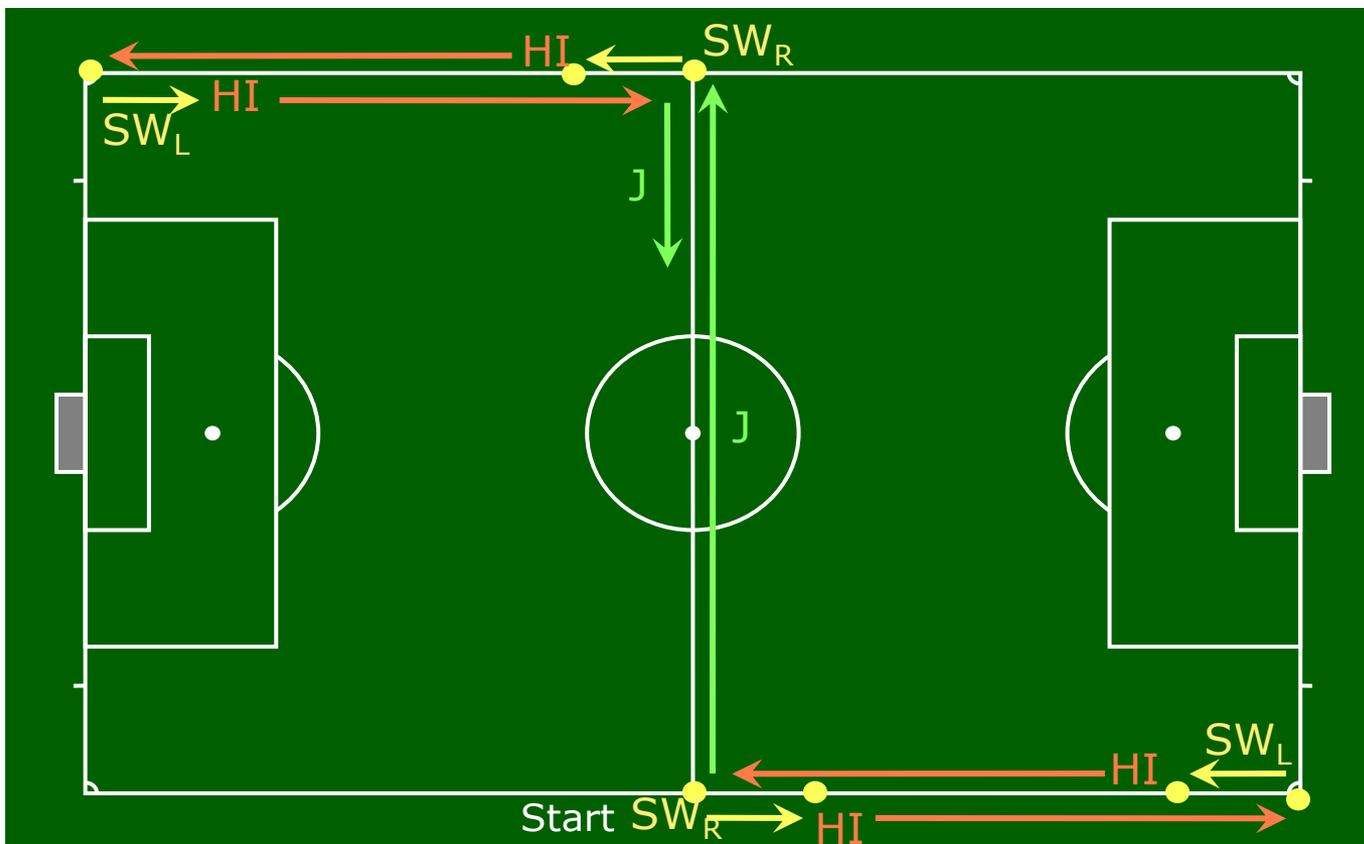
One lap	45 sec
Set 1 (8 laps)	6 min
Recovery	4 min
Set 2 (8 laps)	6 min
<b>Total duration</b>	<b>14 min</b>

Walking	W	---
Jogging	J	800 m
Backwards	BW	---
Sideways	SW	480 m
High intensity	HI	---
Sprint	S	640 m
<b>Total distance</b>		<b>1920 m</b>

**Set 1:** Run 8 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 8 laps of the same exercise.



## 2 sets of 5 laps

One lap	2 min
Set 1 (5 laps)	10 min
Recovery	4 min
Set 2 (5 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	---
Jogging	J	1200 m
Backwards	BW	---
Sideways	SW	400 m
High intensity	HI	1600 m
Sprint	S	---
<b>Total distance</b>		<b>3200 m</b>

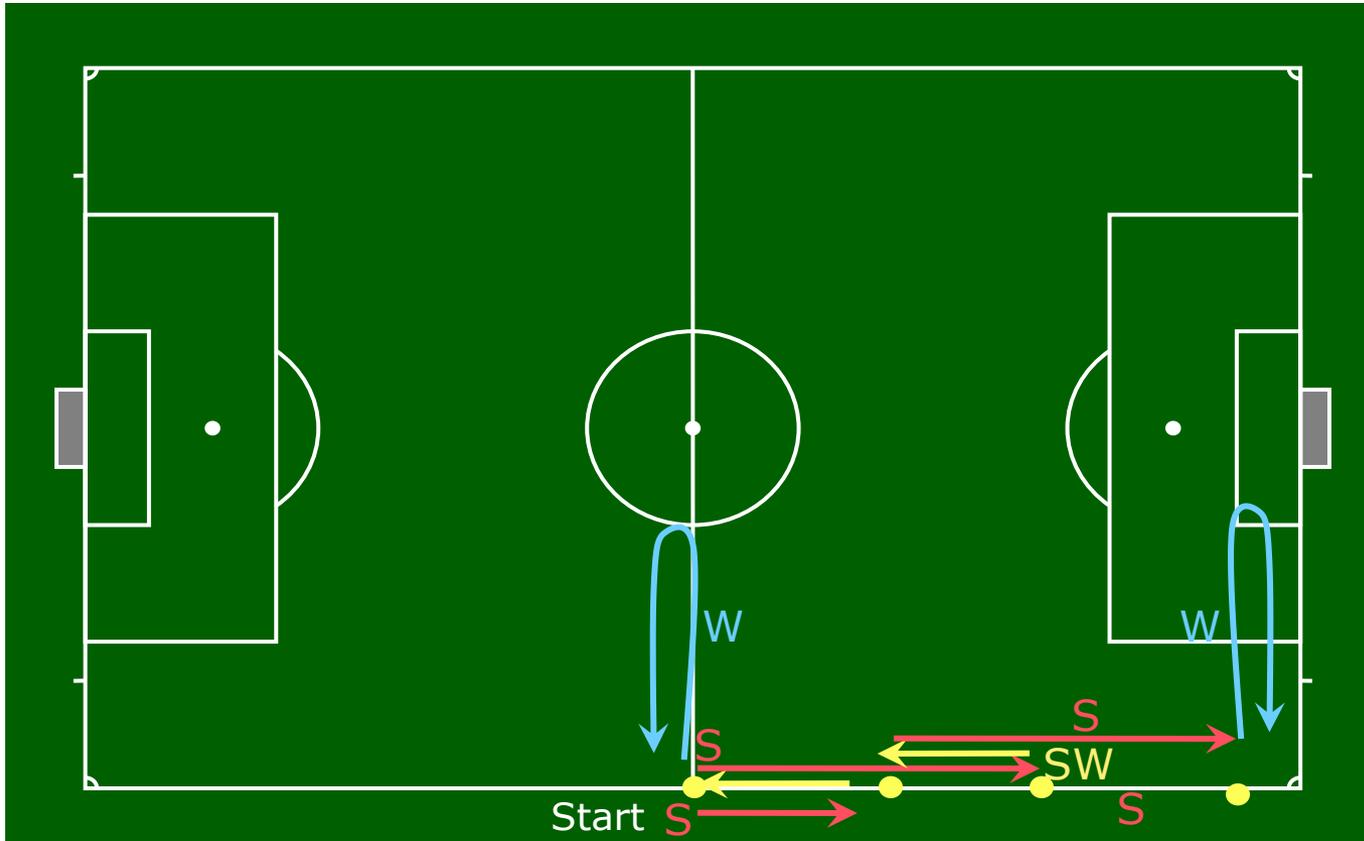
**Set 1:** Run 5 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 5 laps of the same exercise.



# Speed endurance exercise for assistant referees



## 2 sets of 4 laps

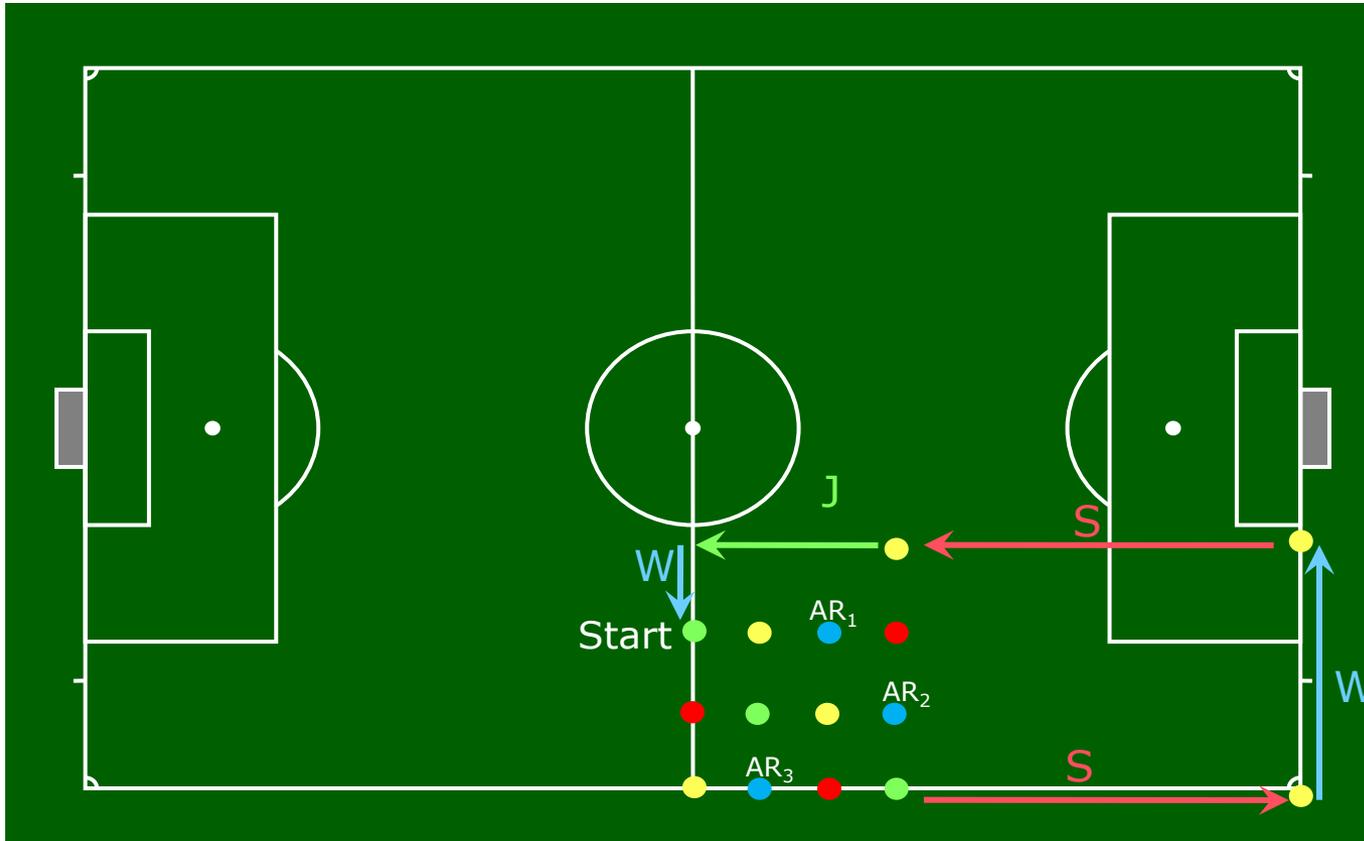
One lap	2 min
Set 1 (8 laps)	8 min
Recovery	4 min
Set 2 (8 laps)	8 min
<hr/> Total duration	<hr/> 20 min

Walking	W	640 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	240 m
High intensity	HI	---
Sprint	S	600 m
<hr/> Total distance	<hr/>	<hr/> 1480 m

**Set 1:** Run 4 laps of the speed endurance exercise as indicated in the picture.

**Recovery:** 4 min

**Set 2:** Run again 4 laps of the same exercise.



2 sets of 8 min

Set 1	8 min
Recovery	4 min
Set 2	8 min
<b>Total duration</b>	<b>20 min</b>

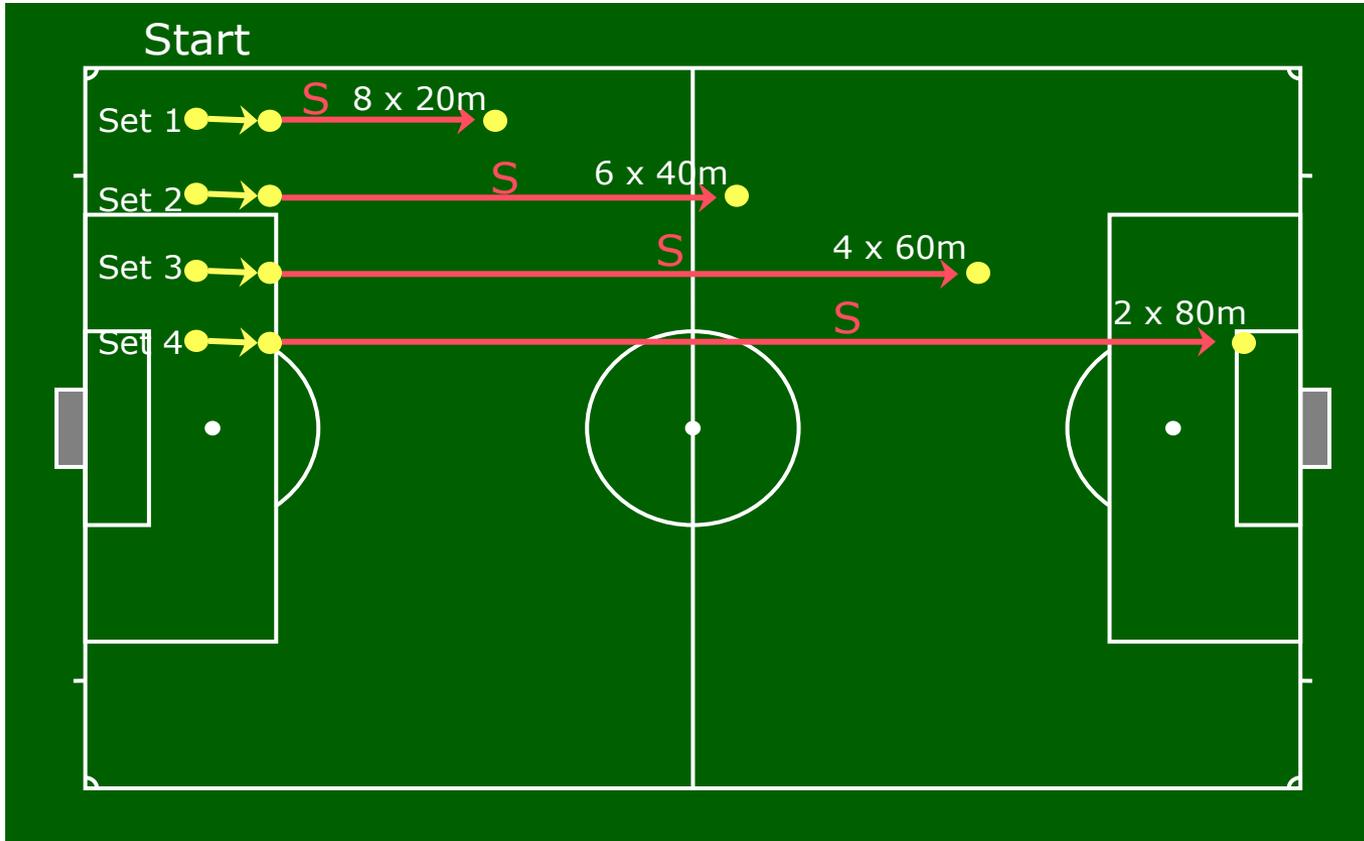
Walking	W	300 m
Jogging	J	500 m
Backwards	BW	---
Sideways	SW	300 m
High intensity	HI	---
Sprint	S	600 m
<b>Total distance</b>		<b>1700 m</b>

**Set 1:** AR1 runs to one of the colored cones (green – yellow – blue – red). AR2 and AR3 have to visually react and run to the same colors. The flag must be used and the short distance must be covered sideways, the longer distance using normal running. At the signal of the coach, AR3 starts sprinting towards the goal line, followed by walking, then sprinting towards the midline, jogging and walking. AR1 rotates to the position of AR2 and AR2 takes the position of AR3.

**Recovery:** 4 min

**Set 2:** Run again 8 min. of the same exercise.

# Extended speed exercises



## 4 sets of fast runs

Set 1 (8 x 20m)	2'40"
Set 2 (6 x 40m)	4 min
Set 3 (4 x 60m)	3'20"
Set 4 (2 x 80m)	2 min
Recovery	2' each set
<b>Total duration</b>	<b>18 min</b>

Walking	W	---
Jogging	J	800 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	800 m
<b>Total distance</b>		<b>1600 m</b>

All together, 20 fast runs should be performed from a dynamic start position. Decelerate smoothly, turn and jog back to the start. Depending on the age and/or fitness level, the re-starts are timed as follows:

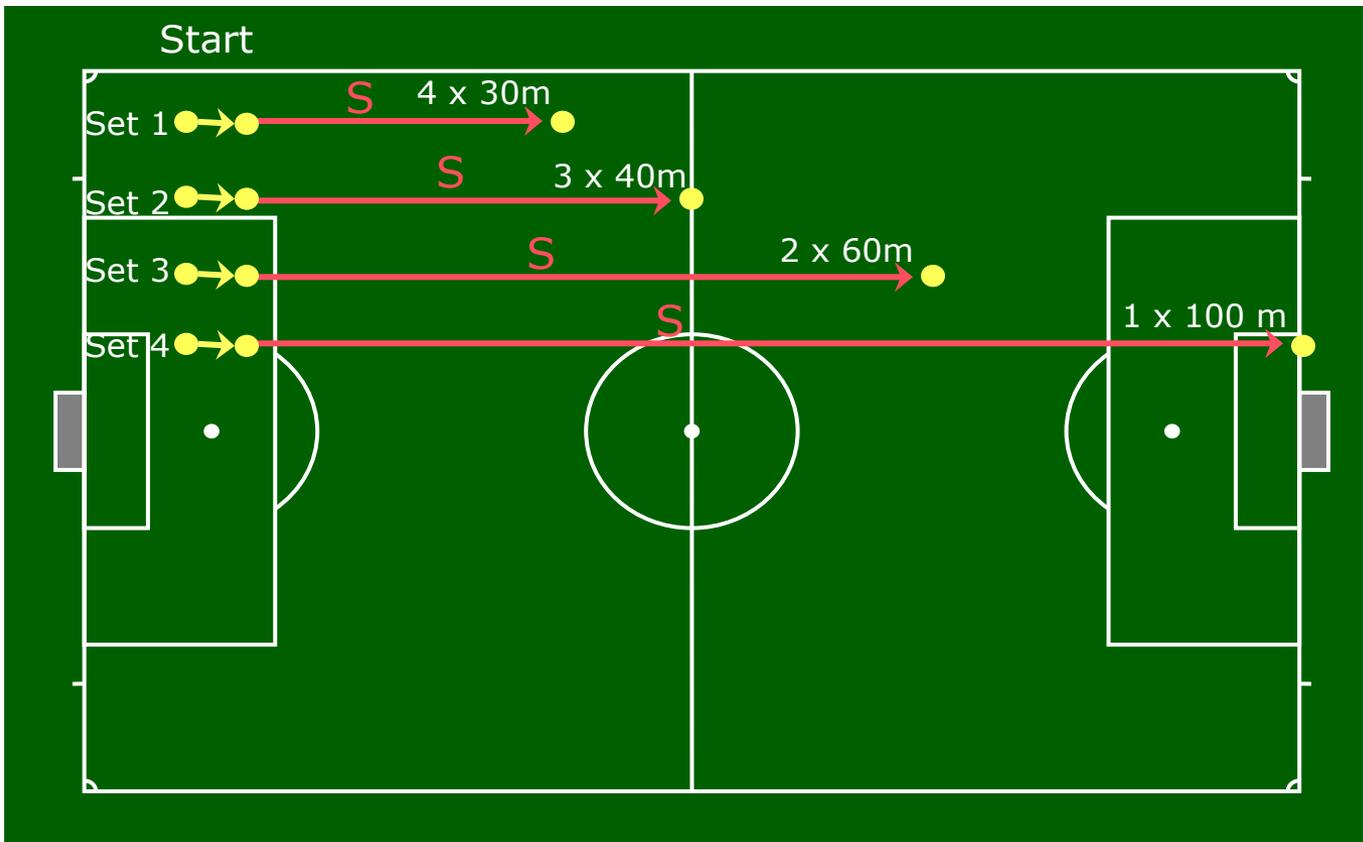
### TOP

- Set 1 every 20"
- Set 2 every 40"
- Set 3 every 50"
- Set 4 every 60"

### INTERMEDIATE

- Set 1 every 25"
- Set 2 every 45"
- Set 3 every 55"
- Set 4 every 65"

**Recovery:** 2 min in between each set



## 2 sets of 10 fast runs

Set 1 (10 sprints)	8 min
Recovery	5 min
Set 2 (10 sprints)	8 min
<b>Total duration</b>	<b>16 min</b>

Walking	W	---
Jogging	J	920 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	920 m
<b>Total distance</b>		<b>1840 m</b>

**Set 1:** 10 fast runs should be performed from a dynamic start position. Decelerate smoothly, turn and jog back to the start. Depending on the age and/or fitness level, the re-starts are timed as follows:

### TOP

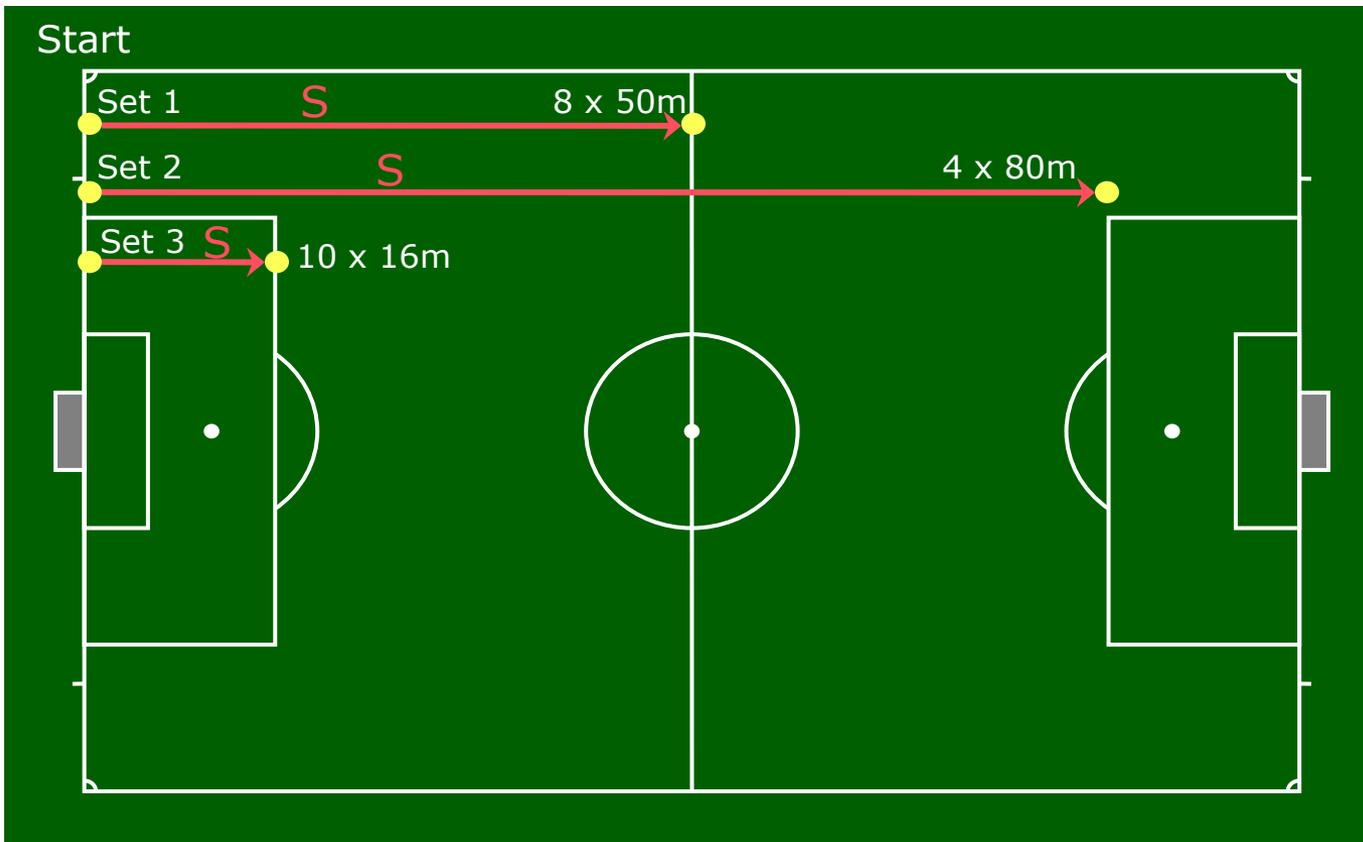
- Set 1 every 30"
- Set 2 every 40"
- Set 3 every 60"
- Set 4 every 100"

### INTERMEDIATE

- Set 1 every 35"
- Set 2 every 45"
- Set 3 every 65"
- Set 4 every 110"

**Recovery:** 2 min in between each set

**Set 2:** Again, perform 10 sprints



## 3 sets of fast runs

Set 1 (8 x 50m)	10 min
Set 2 (4 x 80m)	7.5 min
Set 3 (10 x 16m)	3.5 min
Recovery	2' each set
<b>Total duration</b>	<b>27 min</b>

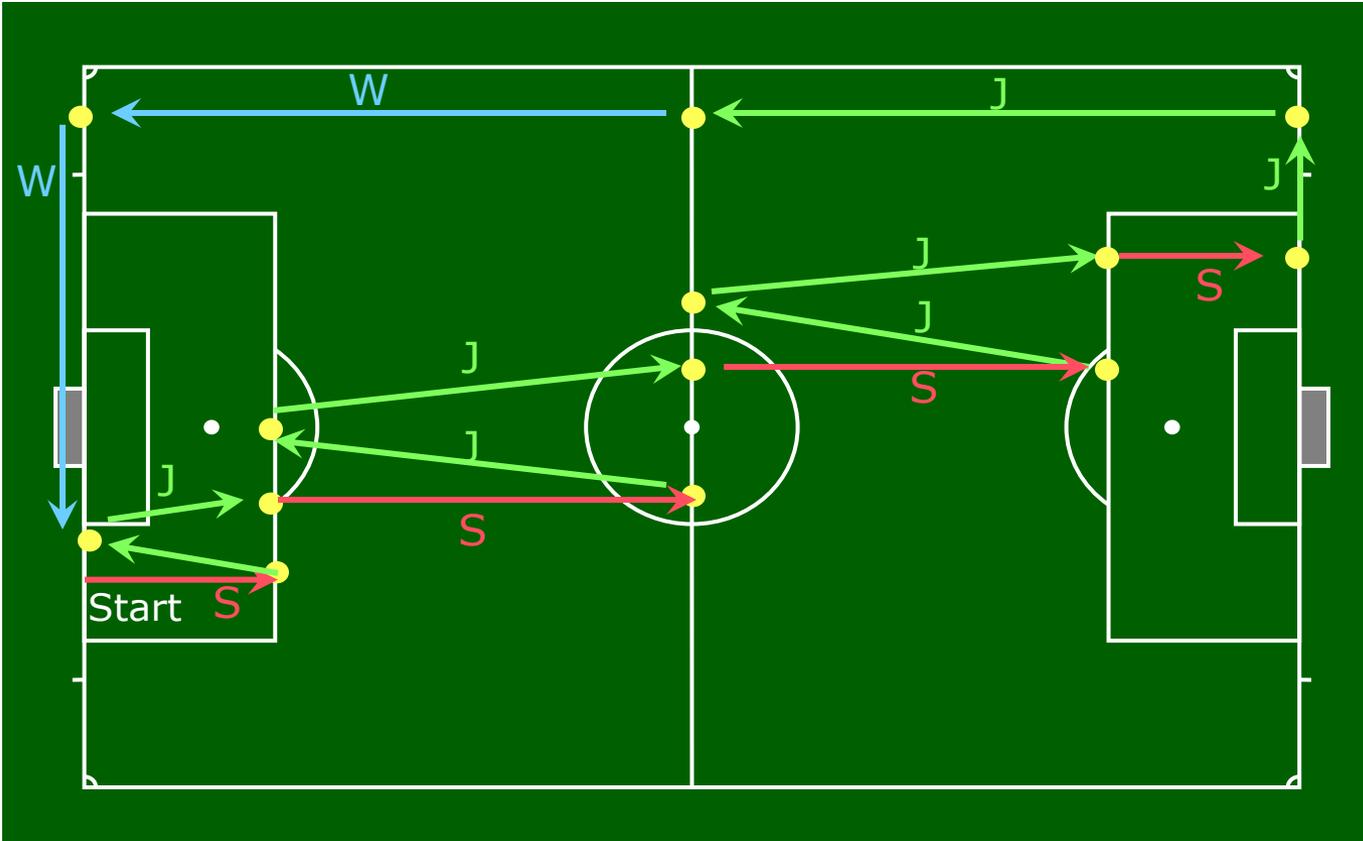
Walking	W	---
Jogging	J	880 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	880 m
<b>Total distance</b>		<b>1760 m</b>

**Set 1:** 8 sprints to the midline (50" recovery in between each sprint).

**Set 2:** 4 sprints of 80 m (70" recovery in between each sprint).

**Set 3:** 10 sprints to the penalty box (20" recovery in between each sprint).

**Recovery:** between each set 2'30" or 1 lap of jogging around the pitch.



## 2 sets of 4 laps

One lap	2'30"
Set 1 (4 laps)	10 min
Recovery	4 min
Set 2 (4 laps)	10 min
<b>Total duration</b>	<b>24 min</b>

Walking	W	720 m
Jogging	J	1504 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	824 m
<b>Total distance</b>		<b>3048 m</b>

**Set 1:** Run 4 laps of the extended speed exercise as indicated in the picture.

**Recovery:** 4 min.

**Set 2:** Again 4 laps of the same exercise.

# Speed exercises

## Speed and acceleration training, Friday/Saturday

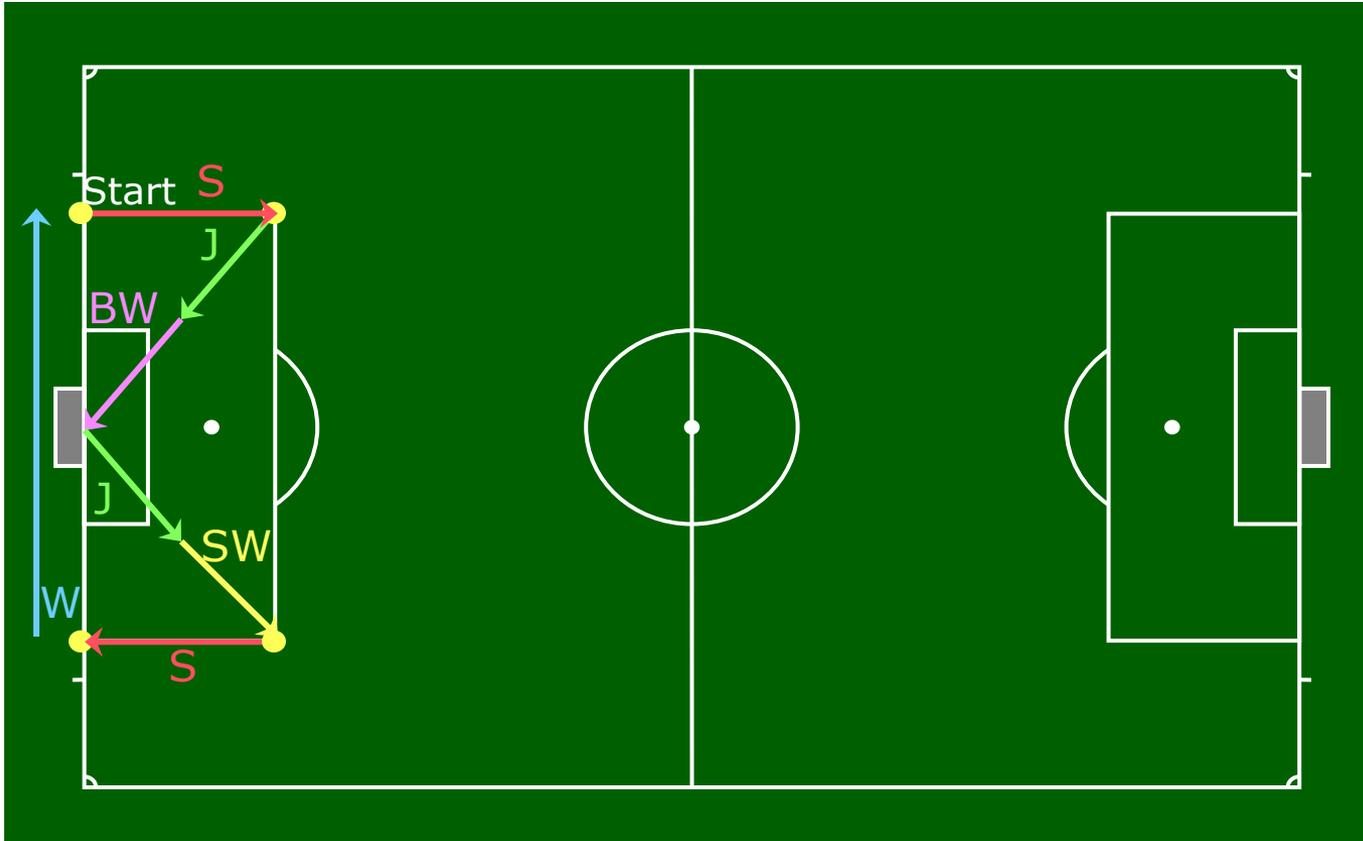
### 1. Reaction & start speed training

- > aim: - to improve and maintain **start speed** (5-10%)
  - to **energize** the first sprint step (activate type II Fast twitch fibres)
  - to **increase the power** of the first 3 to 4 sprint steps

duration	recuperation	intensity	repetitions
1-2 sec	30 sec (reps) 4-6 min (sets)	100% Sp. Max static start	8-10 reps 2-4 sets

#### > typical characteristics:

- upon a visual signal (as in the game)
- from a static start position (max 5-10 m)
- at the start of the last training session of the week



## 2 sets of 5 laps

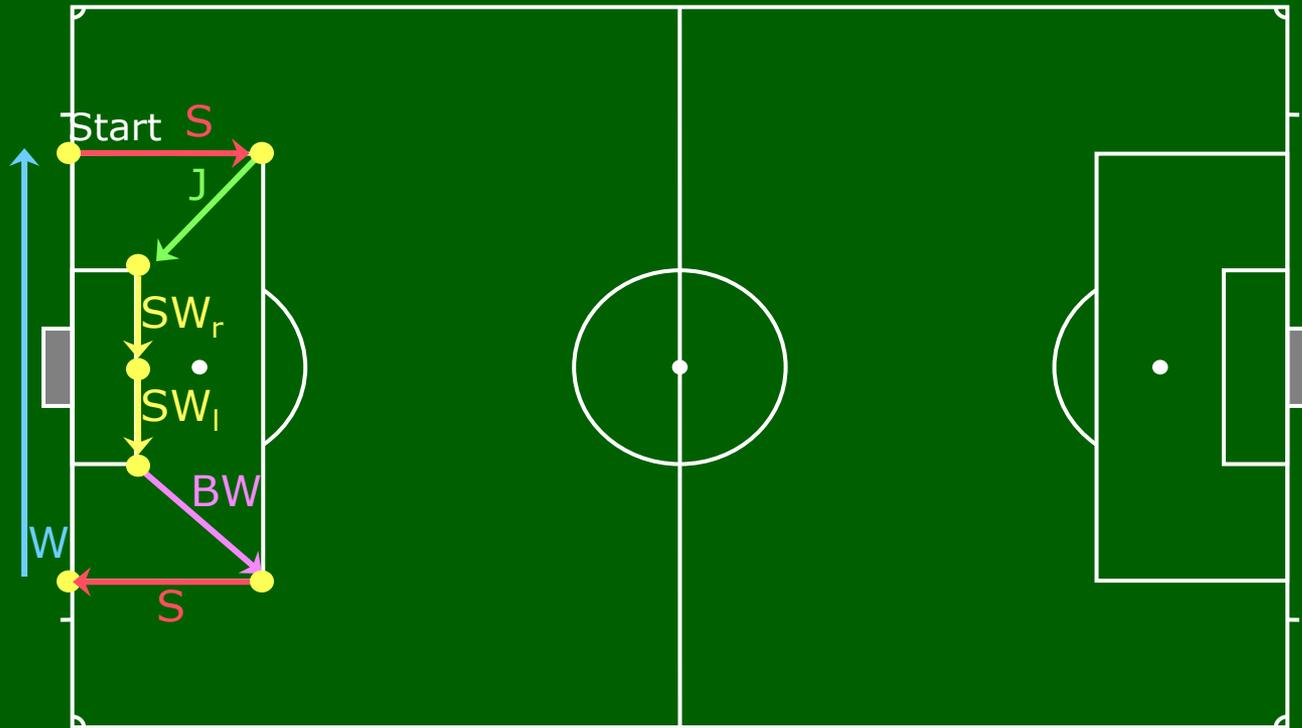
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	200 m
Backwards	BW	100 m
Sideways	SW	100 m
High intensity	HI	---
Sprint	S	320 m
<b>Total distance</b>		<b>1120 m</b>

**Set 1:** Sprint exercise in the penalty box, 5 laps in total. The referee runs with the 4<sup>th</sup> official and the 2 assistant referees run together.

**Recovery:** 5 min

**Set 2:** Sprint exercise in the penalty box, again 5 laps in total



## 2 sets of 5 laps

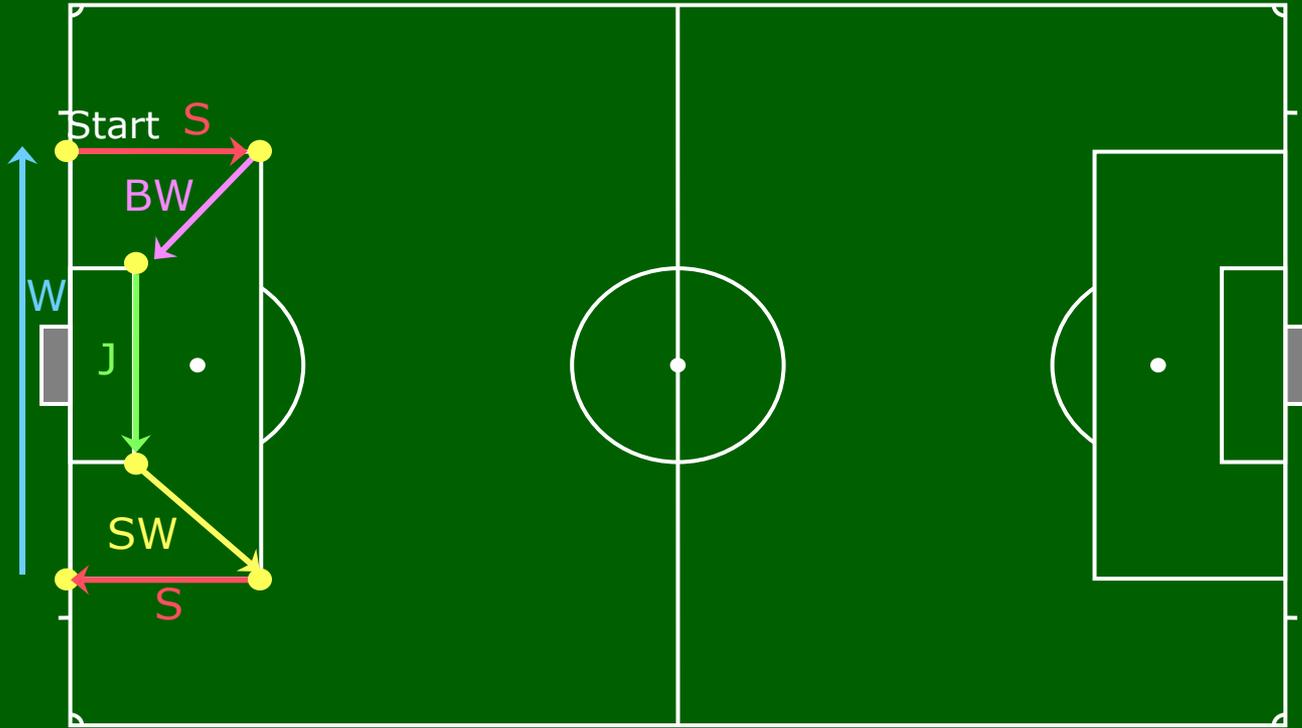
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	100 m
Backwards	BW	100 m
Sideways	SW	200 m
High intensity	HI	---
Sprint	S	320 m
<b>Total distance</b>		<b>1120 m</b>

**Set 1:** Sprint exercise in the penalty box, 5 laps in total.

**Recovery:** 5 min.

**Set 2:** Sprint exercise in the penalty box, again 5 laps in total.



## 2 sets of 5 laps

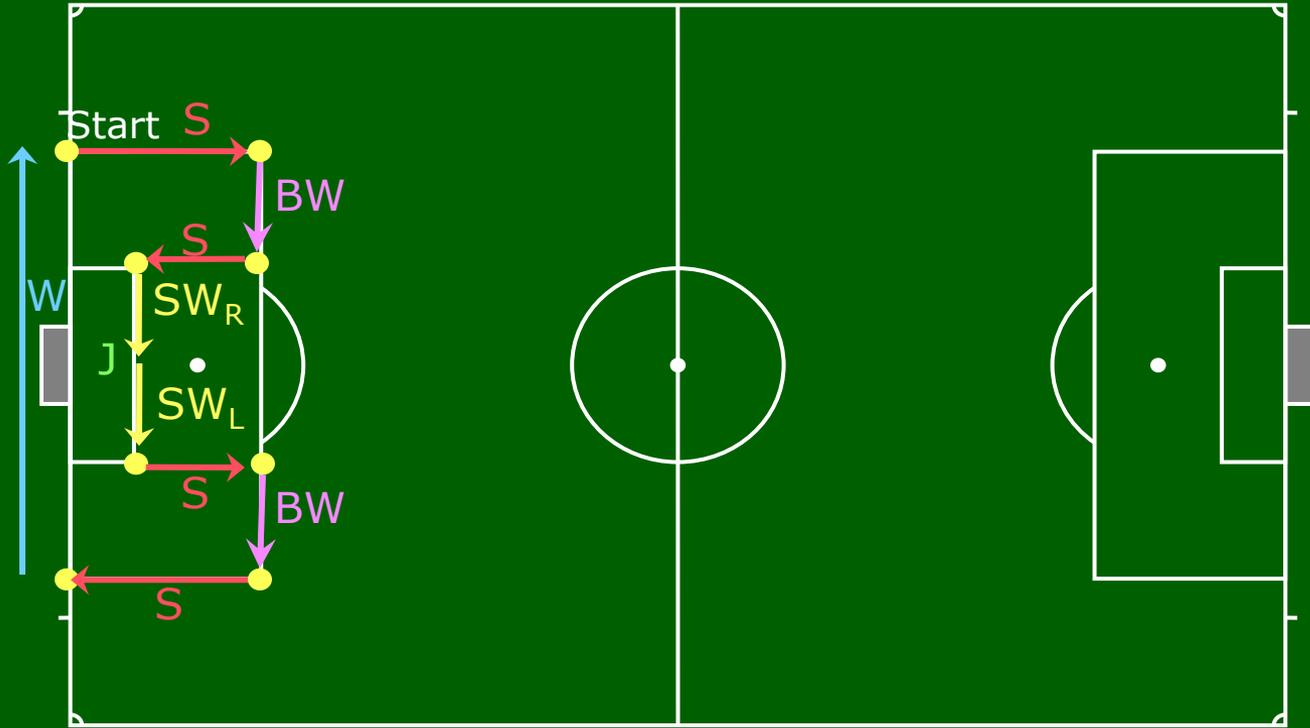
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	200 m
Backwards	BW	100 m
Sideways	SW	100 m
High intensity	HI	---
Sprint	S	320 m
<b>Total distance</b>		<b>1120 m</b>

**Set 1:** Sprint exercise in the penalty box, 5 laps in total

**Recovery:** 5 min

**Set 2:** Sprint exercise in the penalty box, again 5 laps in total



## 2 sets of 5 laps

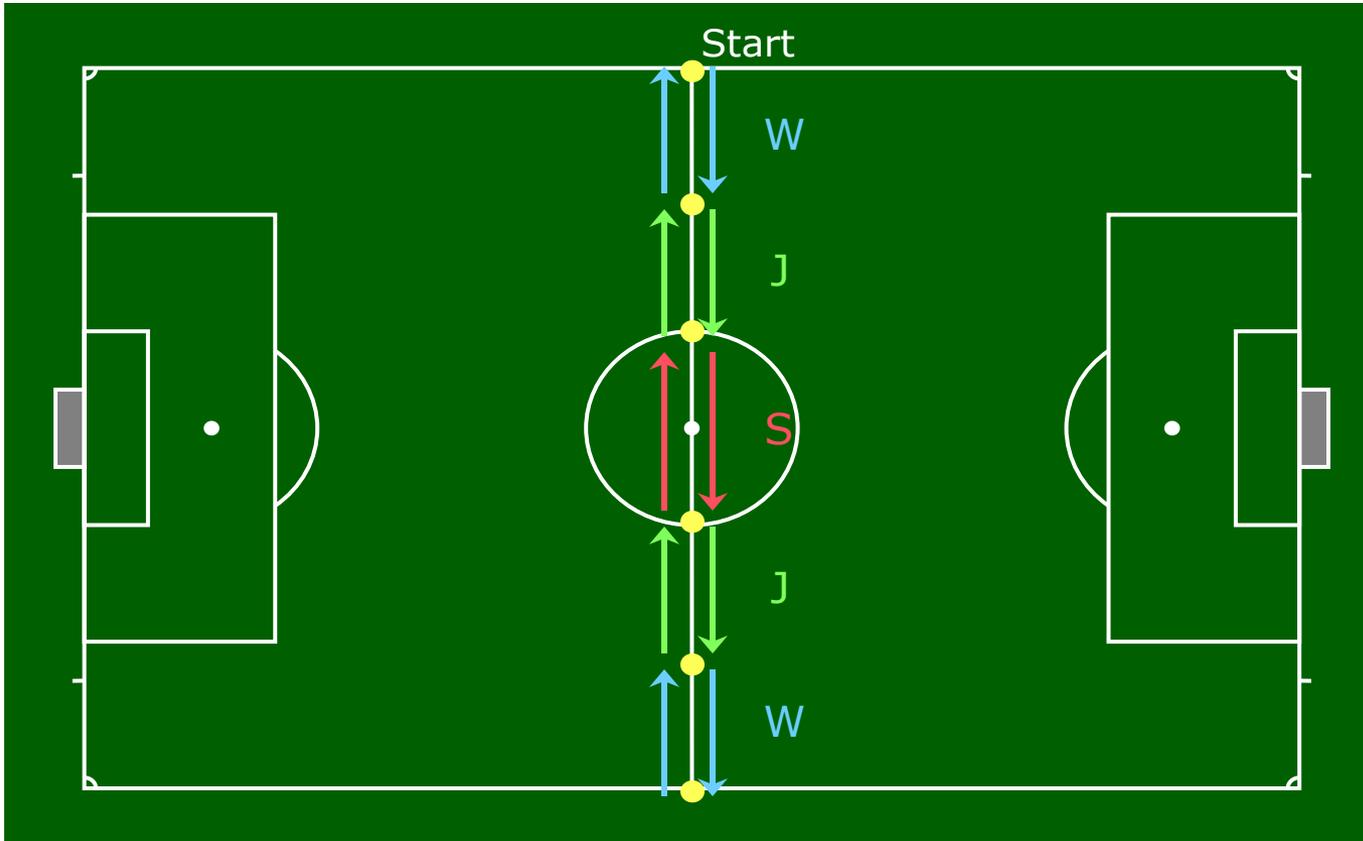
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	---
Backwards	BW	200 m
Sideways	SW	200 m
High intensity	HI	---
Sprint	S	520 m
<b>Total distance</b>		<b>1320 m</b>

**Set 1:** Sprint exercise in the penalty box, 5 laps in total

**Recovery:** 5 min

**Set 2:** Sprint exercise in the penalty box, again 5 laps in total



## 2 sets of 5 laps

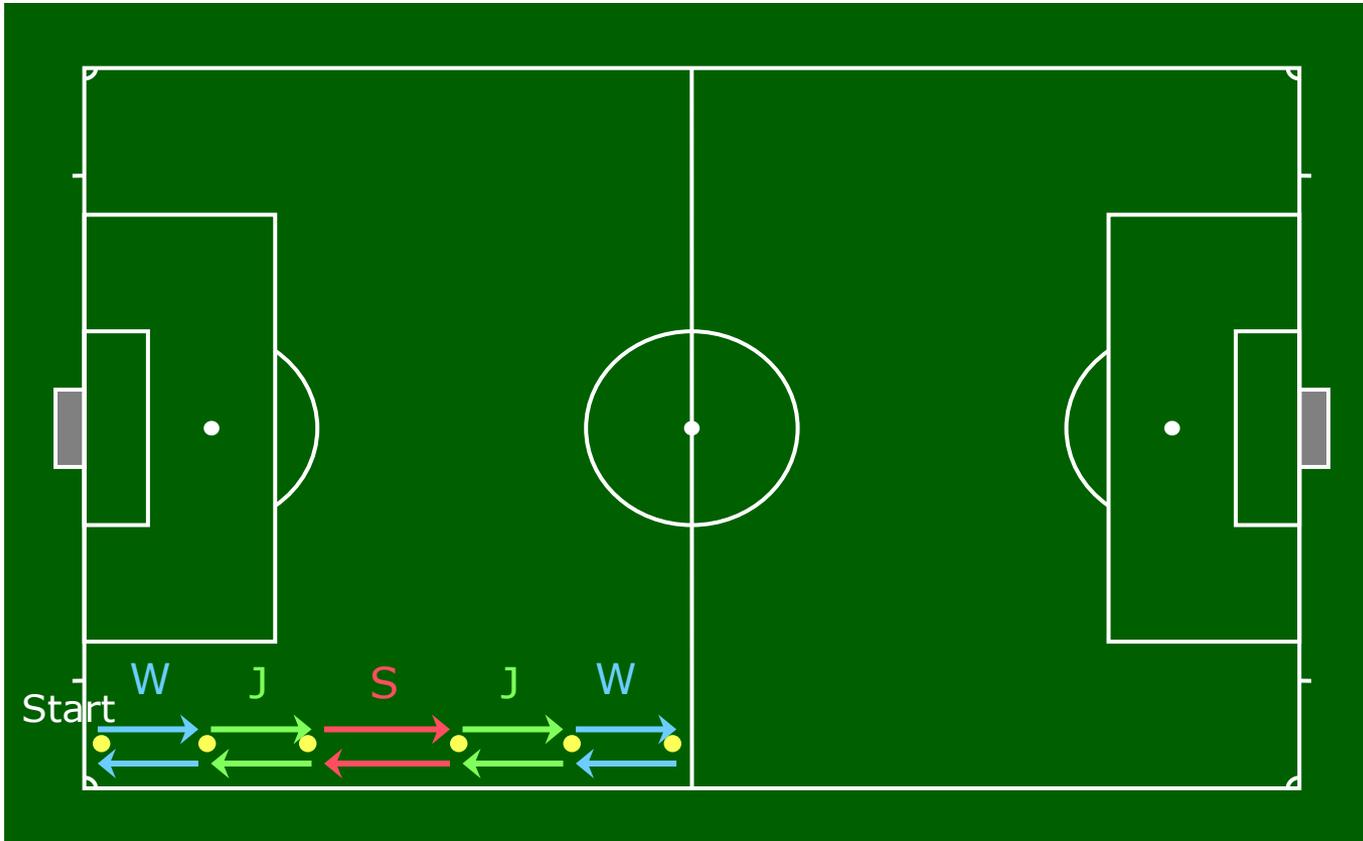
One lap	1 min
Set 1	5 min
Recovery	5 min
Set 2	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	400 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	400 m
<b>Total distance</b>		<b>1200 m</b>

**Set 1:** Sprint exercise as indicated in the figure (5 laps). The match officials line up as a team (the referee, the two assistant referees and the 4<sup>th</sup> official) and run at the same level.

**Recovery:** 5 minutes

**Set 2:** Sprint exercise, again 5 minutes in total. Now, the referees run backwards before the sprint and the assistant referees sideways.



## 2 sets of 5 laps

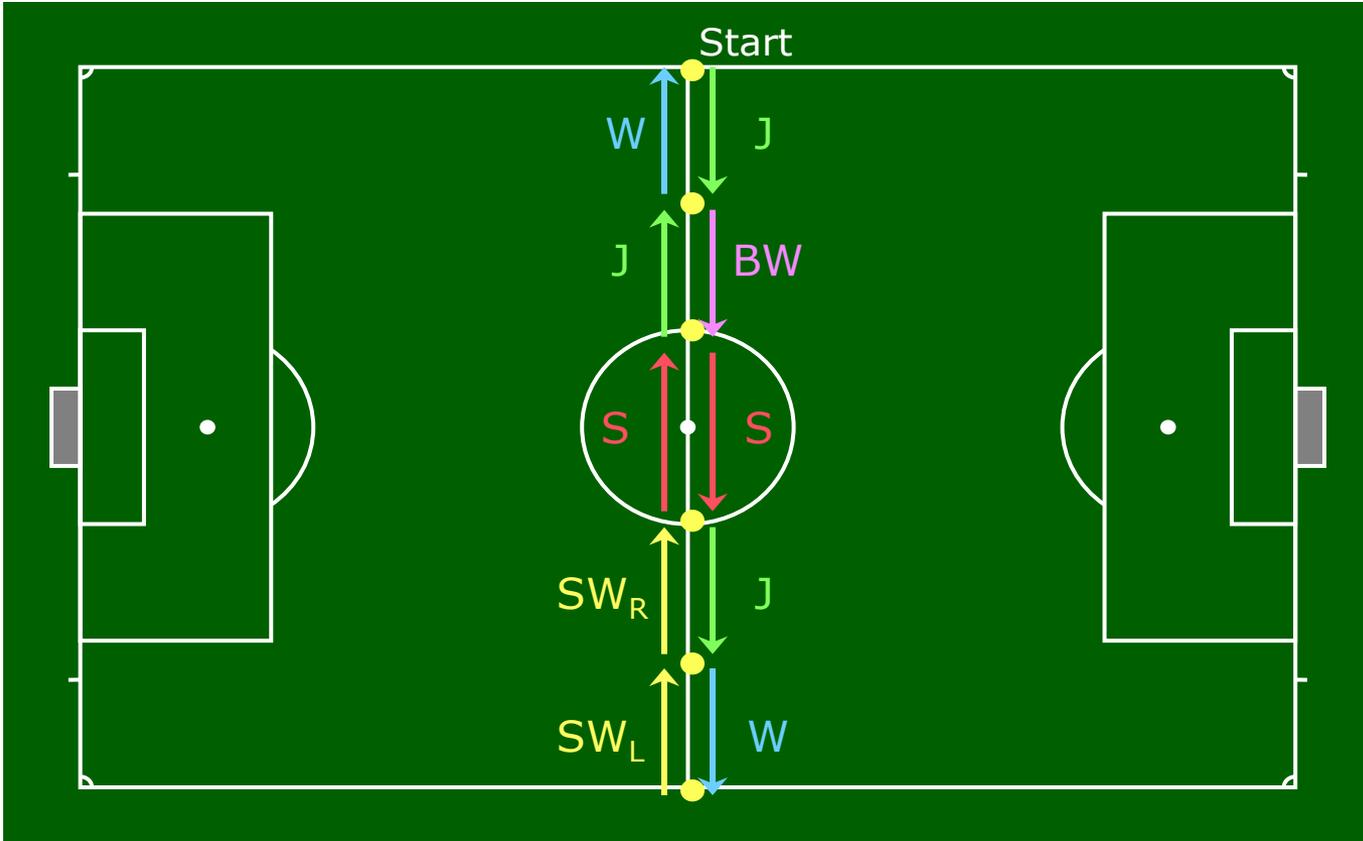
One lap	1 min
Set 1	5 min
Recovery	5 min
Set 2	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	400 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	400 m
<b>Total distance</b>		<b>1200 m</b>

**Set 1:** Sprint exercise as indicated in the figure (5 laps). The match officials line up as a team (the referee, the two assistant referees and the 4<sup>th</sup> official) and run at the same level.

**Recovery:** 5 minutes

**Set 2:** Sprint exercise, again 5 minutes in total. Now, the referees run backwards before the sprint and the assistant referees sideways.



## 2 sets of 5 laps

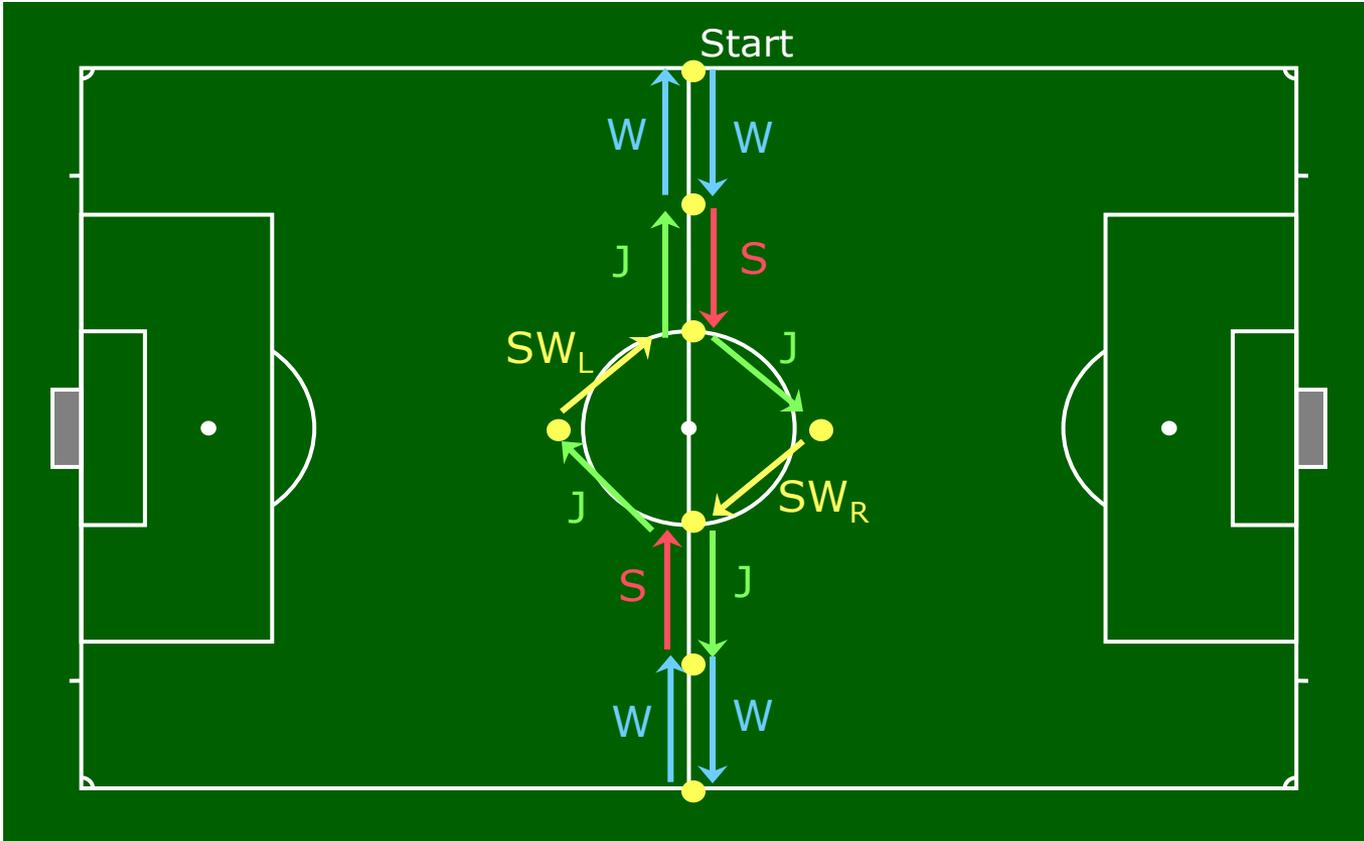
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	200 m
Jogging	J	300 m
Backwards	BW	100 m
Sideways	SW	200 m
High intensity	HI	---
Sprint	S	400 m
<b>Total distance</b>		<b>1200 m</b>

**Set 1:** Variation on the centre circle sprint, 5 laps.

**Recovery:** 5 min

**Set 2:** Variation on the centre circle sprint, 5 laps.



## 2 sets of 5 laps

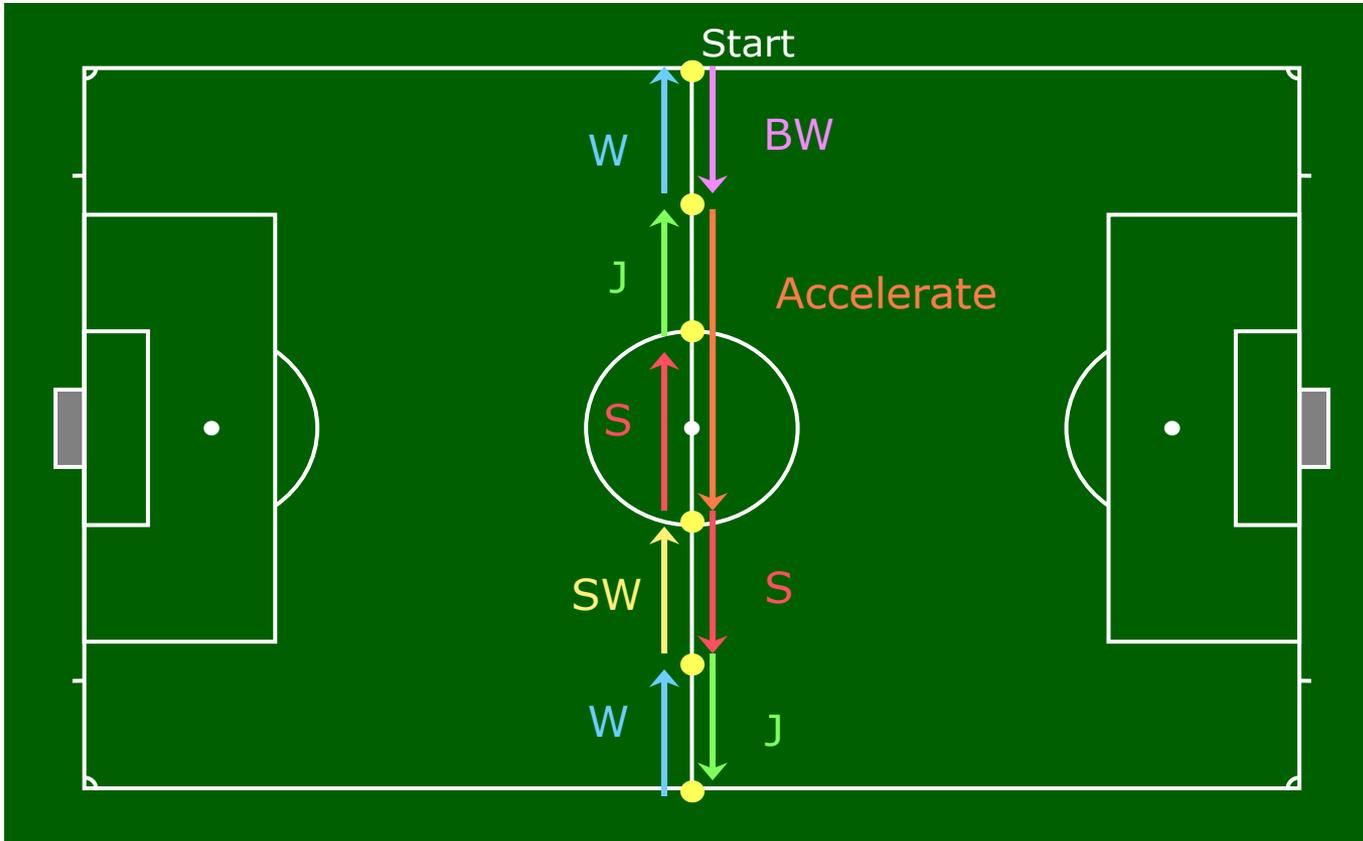
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	400 m
Jogging	J	500 m
Backwards	BW	---
Sideways	SW	300 m
High intensity	HI	---
Sprint	S	200 m
<b>Total distance</b>		<b>1400 m</b>

**Set 1:** Variation on the centre circle sprint, 5 laps.

**Recovery:** 5 min

**Set 2:** Variation on the centre circle sprint, 5 laps.



## 2 sets of 5 laps

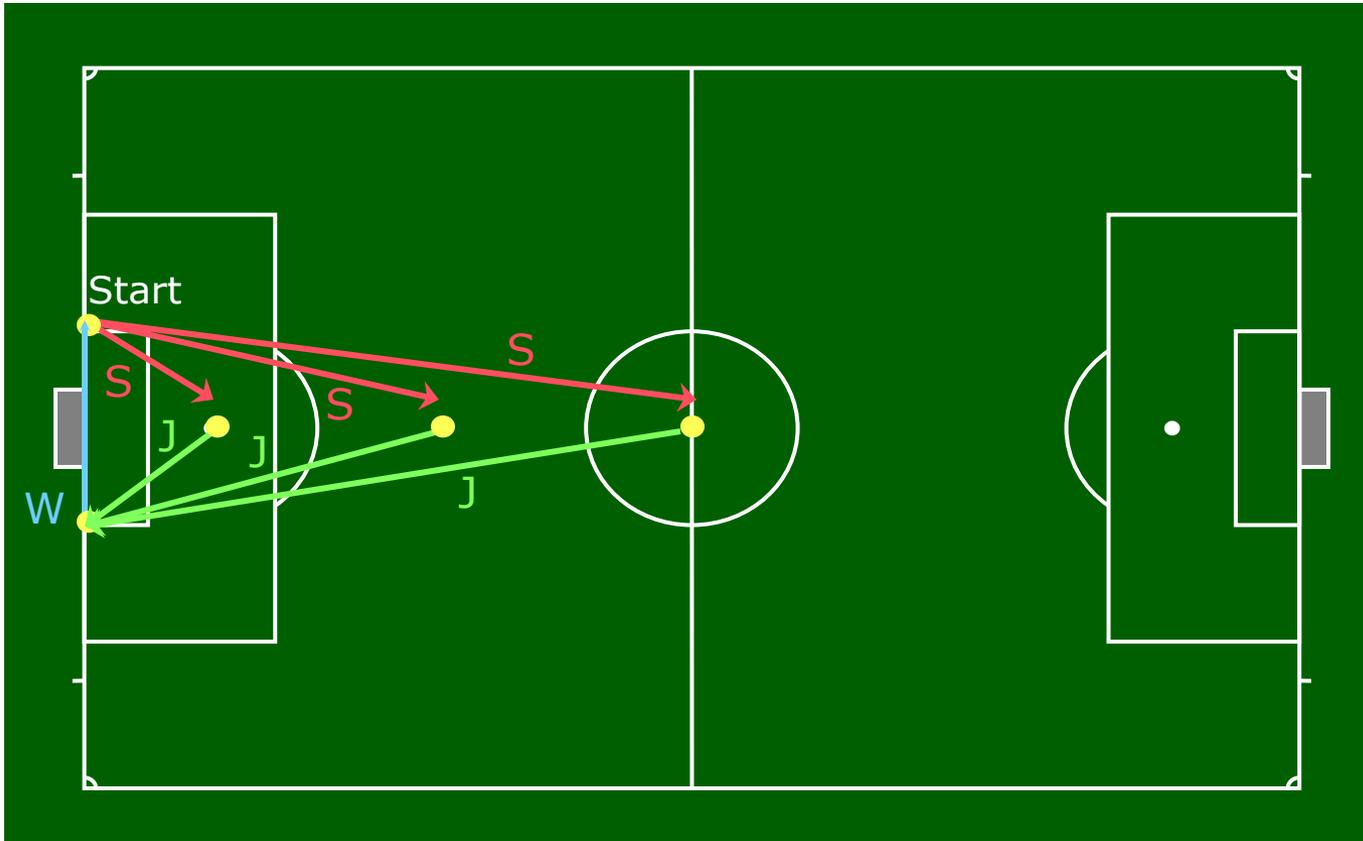
One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	200 m
Jogging	J	200 m
Backwards	BW	100 m
Sideways	SW	100 m
High intensity	HI	300 m
Sprint	S	300 m
<b>Total distance</b>		<b>1200 m</b>

**Set 1:** Sprint exercise, 5 laps in total

**Recovery:** 5 min

**Set 2:** Sprint exercise, again 5 laps in total.



## 2 sets of 7 sprints

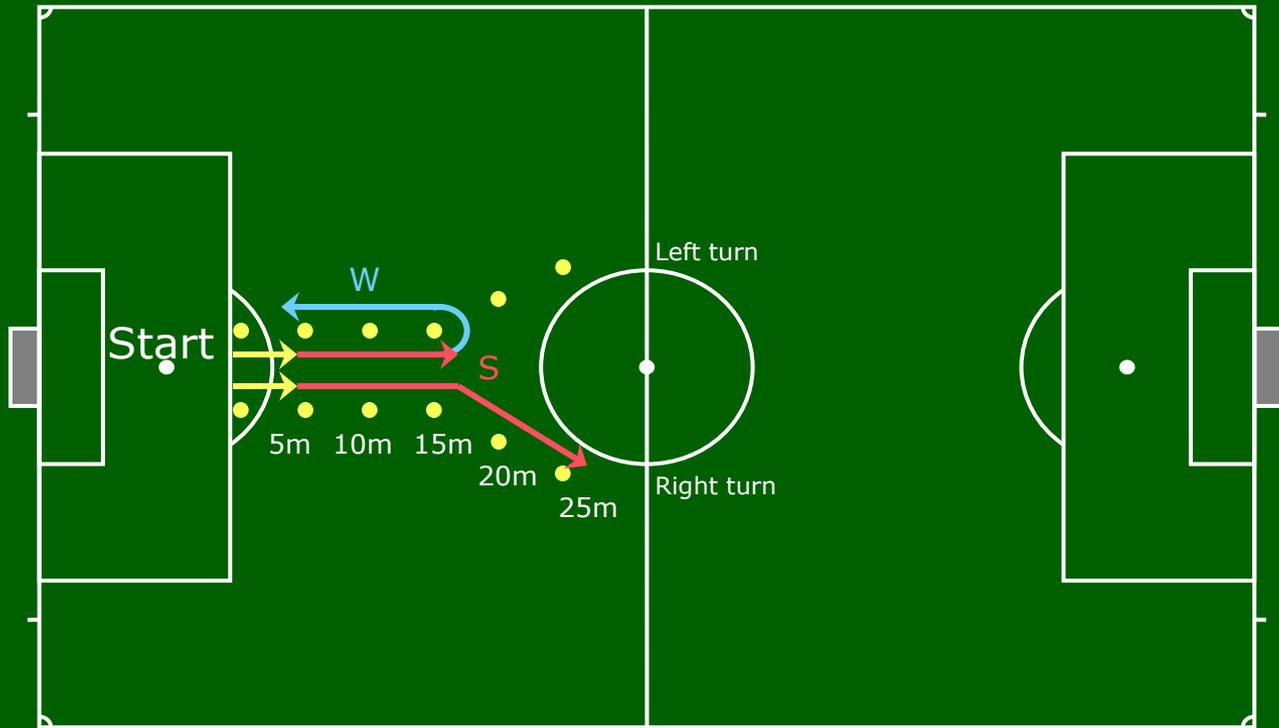
Set 1 (7 sprints)	5 min
Recovery	5 min
Set 2 (7 sprints)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	256 m
Jogging	J	288 m
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	288 m
<b>Total distance</b>		<b>832 m</b>

- Set 1:**
- 1) 11m sprint, 11m jogging, walking to start, 4x
  - 2) 25 m sprint, 25m jogging, walking to start, 2x
  - 3) 50m sprint, 50m jogging, walking to start, 1x

**Recovery:** 5 min

**Set 2:** Same exercise, again 7 sprints



## 2 sets of 10 sprints

Set 1 (10 sprints)	5 min
Recovery	5 min
Set 2 (10 sprints)	5 min
<b>Total duration</b>	<b>15 min</b>

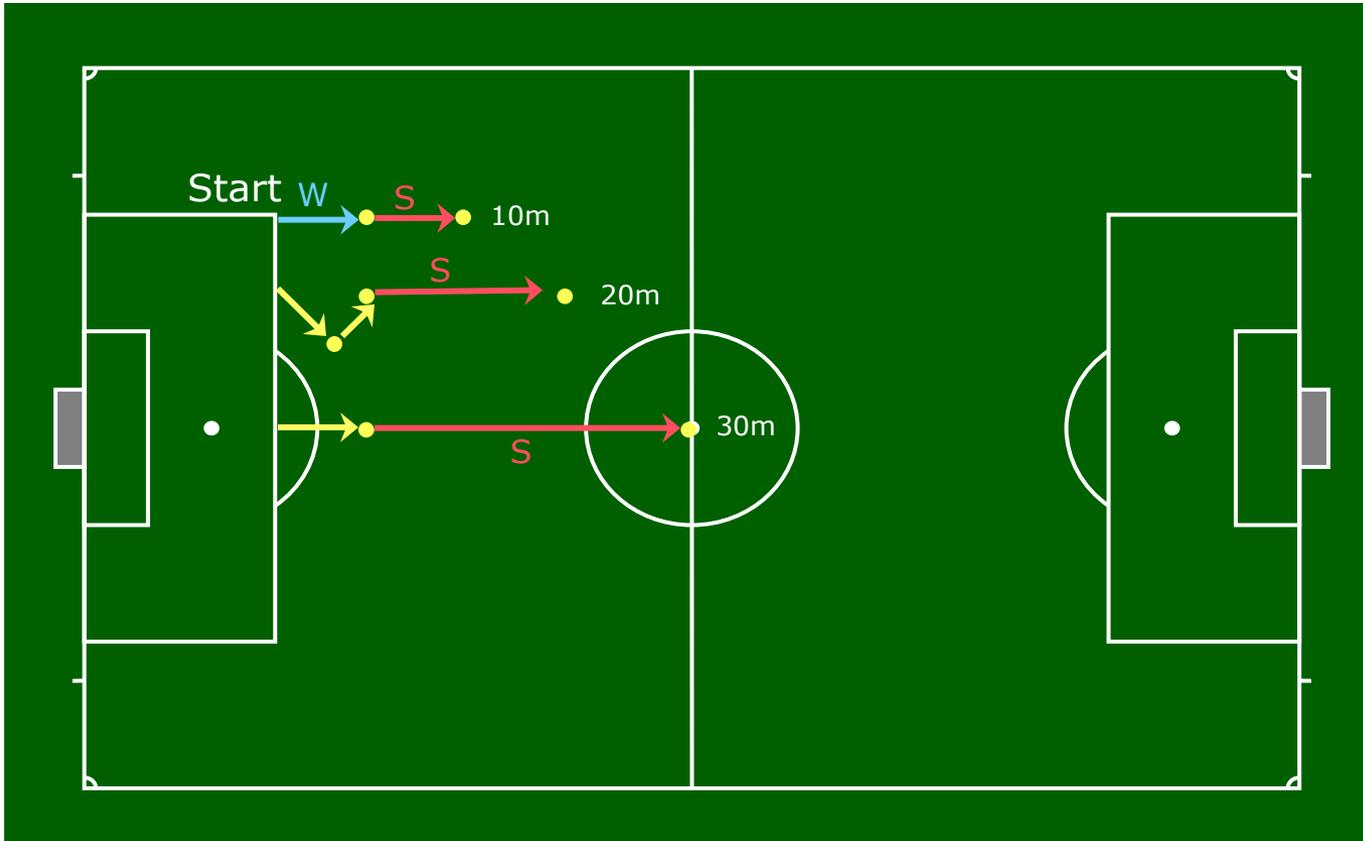
Walking	W	300 m
Jogging	J	--- m
Backwards	BW	--- m
Sideways	SW	--- m
High intensity	HI	--- m
Sprint	S	300 m
<b>Total distance</b>		<b>600 m</b>

Short sprints from a dynamic starting position (heel lifts, knee lifts, sideways L & R, jogging backwards...).  
Sprinting up and walking down.

**Set 1 (right turn):** (2 x 5m) - (2 x 10 m) - (2 x 15 m) - (2 x 20 m) - (2 x 25 m)

**Recovery:** 5 min

**Set 2 (left turn):** (2 x 5m) - (2 x 10 m) - (2 x 15 m) - (2 x 20 m) - (2 x 25 m)



## 2 sets of 5 sprints

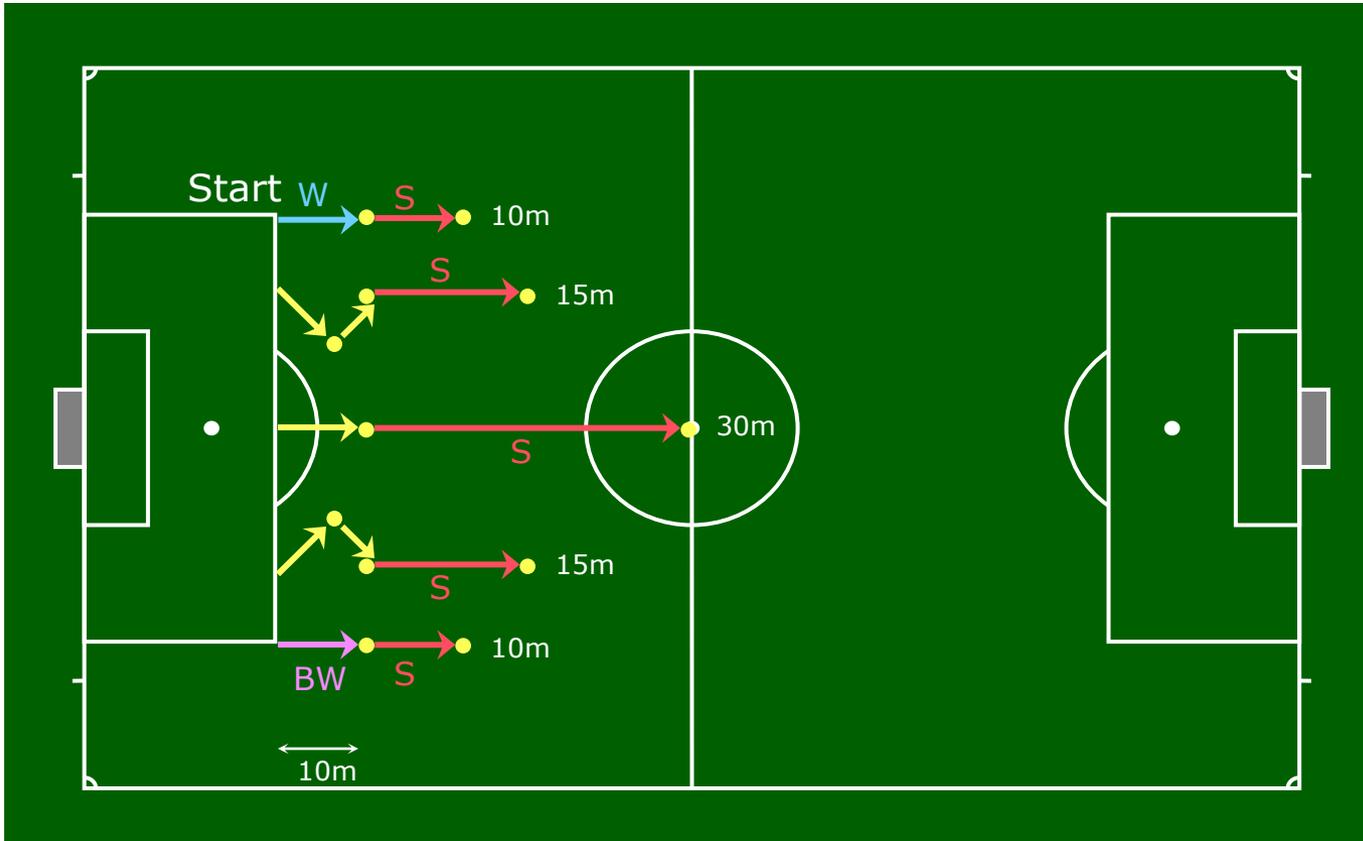
Set 1 (5 sprints)	5 min
Recovery	5 min
Set 2 (5 sprints)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	160 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	160 m
<b>Total distance</b>		<b>320 m</b>

- Set 1:**
- 10m sprint
  - 20m sprint
  - 30m sprint

**Recovery:** 5 min

**Set 2:** Same exercise, again 5 sprints.



## 2 sets of 5 sprints

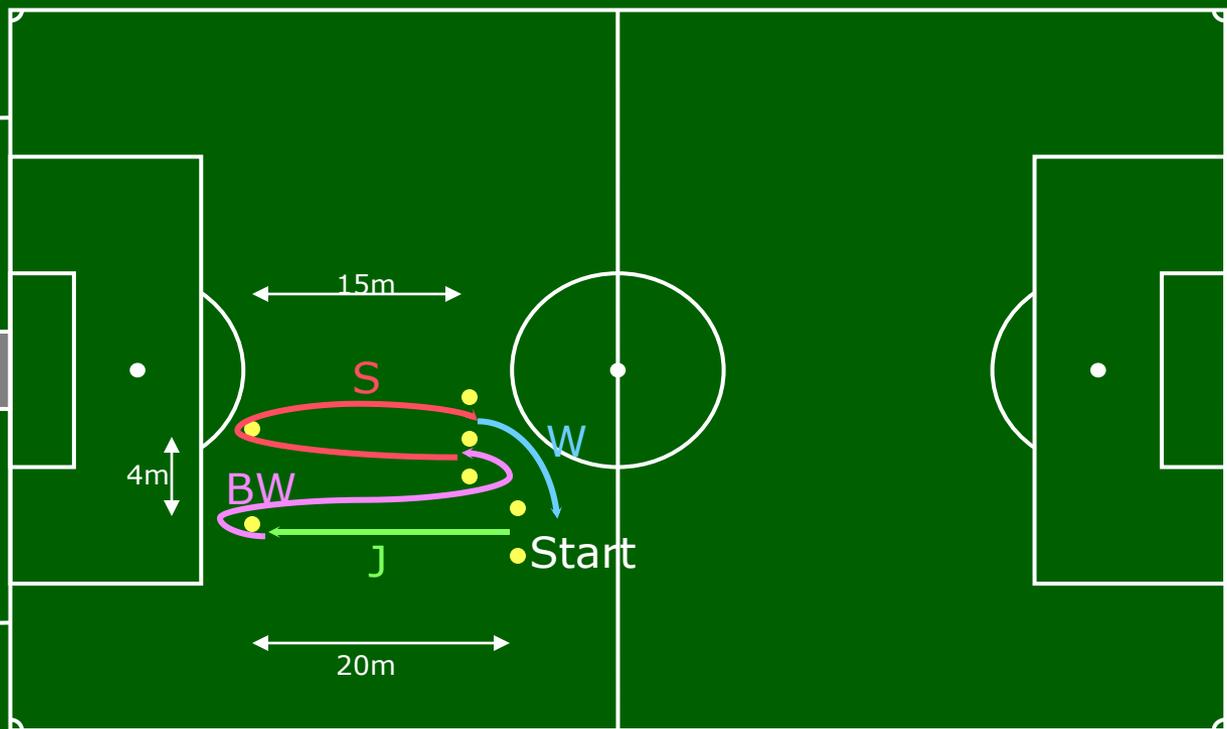
Set 1 (5 sprints)	5 min
Recovery	5 min
Set 2 (5 sprints)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	160 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	160 m
<b>Total distance</b>		<b>320 m</b>

- Set 1:**
- 5x sprints as per the illustration below
  - slow walk back to the start after every sprint
  - start each run on every 60"

**Recovery:** 5 min

**Set 2:** Same exercise, again 5 sprints.



## 2 sets of 7 sprints

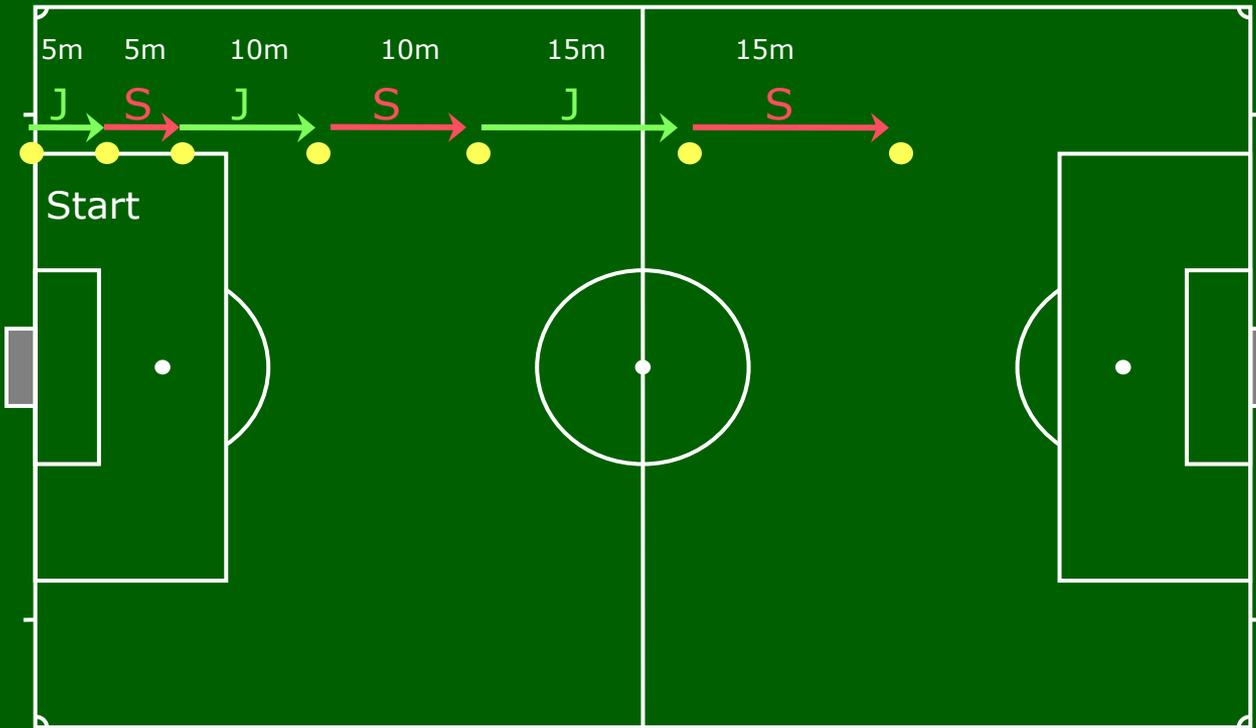
Set 1 (5 sprints)	5 min
Recovery	5 min
Set 2 (5 sprints)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	100 m
Jogging	J	200 m
Backwards	BW	200 m
Sideways	SW	---
High intensity	HI	---
Sprint	S	300 m
<b>Total distance</b>		<b>800 m</b>

- Set 1:**
- 5x sprints as per the illustration below
  - slow walk back to the start after every sprint
  - start each run on every 60"

**Recovery:** 5 min

**Set 2:** Repeat set 1



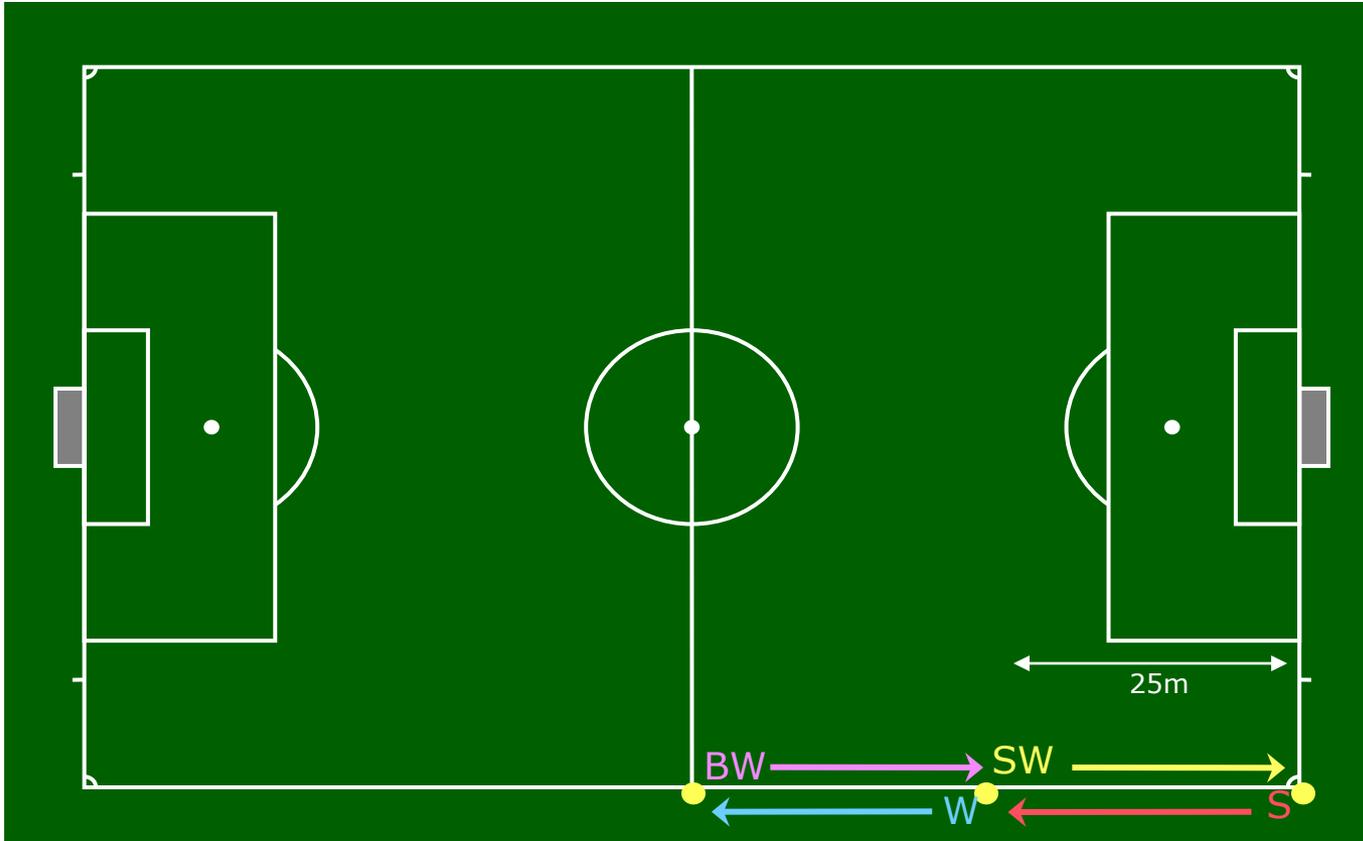
## 1 set of 4 laps

One lap	2'30"
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

**Set 1:** Jog to the first cone, sprint to the second cone, jog to the third cone, sprint to the fourth cone, jog to the fifth cone, sprint to the sixth cone. Walk back to the start.

**Variation:** instead of jogging, run backwards or sideways.

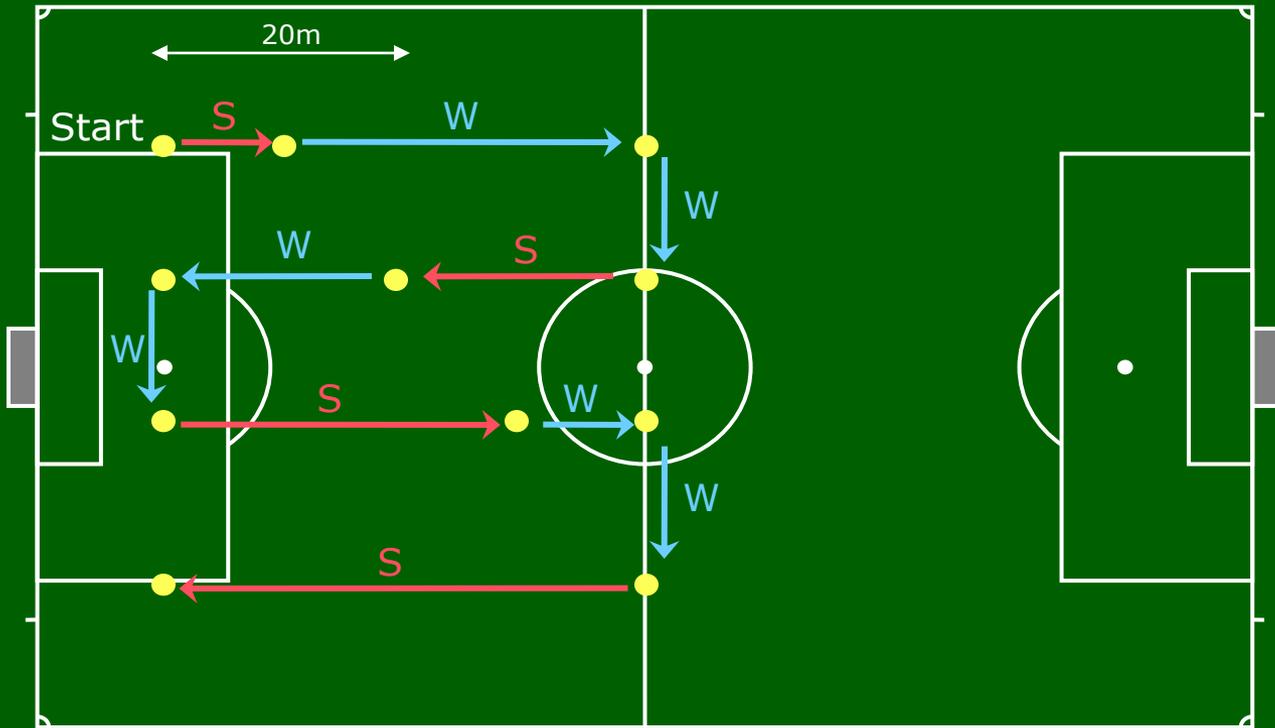


## 2 sets of 5 laps

One lap	1 min
Set 1 (5 laps)	5 min
Recovery	5 min
Set 2 (5 laps)	5 min
<b>Total duration</b>	<b>15 min</b>

Walking	W	250 m
Jogging	J	---
Backwards	BW	250 m
Sideways	SW	250 m
High intensity	HI	---
Sprint	S	250 m
<b>Total distance</b>		<b>480 m</b>

**Set 1:** Walk to the first cone, run backwards to the second cone, run sideways to the third cone, sprint to the fourth cone, ...



## 3 sets of 1 lap

Set 1 (1 lap)	2 min
Recovery	2 min
Set 2 (1 lap)	2 min
Recovery	2 min
Set 3 (1 lap)	2 min
<b>Total duration</b>	<b>10 min</b>

Walking	W	420 m
Jogging	J	---
Backwards	BW	---
Sideways	SW	---
High intensity	HI	---
Sprint	S	300 m
<b>Total distance</b>		<b>720 m</b>

**Set 1:** (1) Sprint for 10m, then walk for 30m. (2) Sprint for 20m, then walk for 20m. (3) Sprint for 30m, then walk for 10m. (4) Sprint for 40m.

**Recovery:** 2 min.

**Set 2:** Now start first with 40m and then work down to 10m.

**Recovery:** 2 min.

**Set 3:** Repeat set 1