## Special Olympics Pennsylvania



# LONG DISTANCE RUNNING/WALKING Coaching Guide 

July 2021

This 2021 edition of the Long Distance Running and Walking (LDR/W) Coaching Guide is designed for new and current LDR/W coaches. The Athletics Coaching Guide remains the best reference for track \& field as opposed to LDR/W training needs.

Please contact the Special Olympics Pennsylvania LDR/W Sport Director (Scott Otterbein, ath.ldr@specialolympicspa.org) with any comments or suggestions for improvement of this guide.

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## Warm-Up

A warm-up period is the first part of every training session or preparation for competition. The warm-up starts slowly and gradually involves all muscles and body parts. In addition to preparing the athlete mentally, warming up also has several physiological benefits.

The importance of a warm-up prior to exercise cannot be overstressed. Warming up raises the body temperature and prepares the muscles, nervous system, tendons, ligaments and cardiovascular system for upcoming stretches and exercises. The chances of injury are greatly reduced by increasing muscle elasticity.

Warming Up:

- Raises body temperature
- Increases metabolic rate
- Increases heart and respiratory rate
- Prepares the muscles and nervous system for exercise

The warm-up is tailored for the activity to follow. Warm-ups consist of active motion leading up to more vigorous motion. The total warm-up period should take at least 25 minutes and immediately precedes the training or competition. A warm-up period should include the following basic sequence and components.

| Activity | Purpose | Time (minimum) |
| :--- | :--- | :--- |
| Slow walk / fast walk <br> / run | Heats muscles | 5 minutes |
| Stretching | Increases range of movement | 10 minutes |
| Event Specific Drills | Enhance coordination, prepare for <br> training/competition | 10 minutes |

## Walking

Walking is the first exercise of an athlete's routine. Athletes begin warming the muscles by walking slowly for 3-5 minutes. This circulates the blood through all the muscles, providing them greater flexibility for stretching. The objective is to circulate the blood and warm the muscles in preparation for more strenuous activity. Athletes can also do arm circles while walking,

## Running

Running is the next exercise in an athlete's routine. Athletes continue warming the muscles by running slowly for 3-5 minutes. This circulates the blood through all the muscles, providing greater flexibility for stretching. The run starts out slowly and gradually increases in speed; however, the athlete never reaches even 50 percent of his/her maximum effort by the end of the run. Remember, the sole objective of this phase of the warm-up is circulating the blood and warming the muscles in preparation for more strenuous activity.

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## Stretching

Stretching is one of the most critical parts of the warm-up and an athlete's performance. A more flexible muscle is a stronger and healthier muscle. A stronger and healthier muscle responds better to exercise and activities and is more able to resist injury. Please refer to the Stretching section for more in-depth information.

## Event Specific Drills

Drills are activities designed to teach sport skills. Progressions of learning start at a low ability level, advance to an intermediate level and, finally, reach a high ability level. Encourage each athlete to advance to his or her highest possible level. Drills can be combined with warm-up and lead into specific skill development.

Skills are taught and reinforced through repetition of a small segment of the skill to be performed. Many times, the actions are exaggerated to strengthen the muscles that perform the skill. Each coaching session should take the athlete through the entire progression so that he/she is exposed to all the skills that make up an event.

## Examples of Specific Warm-up Activities

- Swing arms back and forth simulating the pendulum swing.
- Swing a leg back and forth, switch
- Cool-Down

The cool-down is as important as the warm-up. Stopping an activity abruptly may cause pooling of the blood and slow the removal of waste products in the athlete's body. It may also cause cramps, soreness, and other problems for athletes. The cool-down gradually reduces the body temperature and heart rate and speeds the recovery process before the next training session or competitive experience. The cool-down is also a good time for the coach and athlete to talk about the session or competition. Note that cool-down is also a good time to do stretching, as muscles are warm and receptive to stretching movements.

| Activity | Purpose | Time (minimum) |
| :--- | :--- | :--- |
| Slow aerobic jog | Lowers body temperature | 5 minutes |
|  | Gradually lowers heart rate |  |
| Light stretching | Removes waste from muscles | 5 minutes |

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## Stretching

Flexibility is critical to an athlete's optimal performance in both training and competition. Flexibility is achieved through stretching.

Stretching follows after warm up drills including an easy aerobic jog at the start of a training session or competition or during cool-down. Avoid stretching before any warmup. Begin with an easy stretch to the point of tension and hold this position for 15-30 seconds until the pull lessens. When the tension eases, slowly move farther into the stretch until tension is again felt. Hold this new position for an additional 15 seconds. Each stretch should be repeated up to four or five times on each side of the body.
It is important to continue to breathe while stretching. When leaning into the stretch, exhale. Once the stretching point is reached, keep inhaling and exhaling while holding the stretch. Stretching should be a part of everyone's daily life. Regular, daily stretching has been demonstrated to have the following effects:

1. Increases the length of the muscle/tendon unit
2. Increases joint range of motion
3. Reduces muscle tension
4. Develops body awareness
5. Promotes increased circulation
6. Makes you feel good

Some athletes, such as those with Down syndrome, may have low muscle tone that makes them appear more flexible. Be careful to not allow these athletes to stretch beyond a normal, safe range. Several stretches are dangerous for any athlete to perform and should never be part of a safe stretching program. These unsafe stretches include the following:

- neck backward bending
- trunk backward bending
- spinal roll

Stretching is effective only if the stretch is performed accurately. Athletes need to focus on correct body positioning and alignment. Take the calf stretch, for example. Many athletes do not keep the feet forward, in the direction that they are running. The feet should be pointing straight ahead rather than turning out or in.


## Correct



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Another common fault in stretching is bending the back to get a better stretch from the hips. An example is a simple sitting forward leg stretch. The athlete should think of stretching forward from the waist rather than down from the upper back.

## Incorrect



Correct


This guide will focus on some basic stretches for major muscle groups.

## Upper Body



Clasp hands behind back
Palms facing in
Push hands toward sky


Raise arms over head Clasp hands, palms up Push hands toward sky

Stand with back to wall
Turn, reach palms to wall

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Triceps Stretch


Raise both arms overhead Bend right arm, bring hand to back Grasp elbow of bent arm and pull gently toward the middle of the back Repeat with other arm

Shoulder Triceps Stretch


Take elbow into hand Pull to opposite shoulder
Arm may be straight or bent

Groin Stretch


Sit, bottoms of feet touching
Hold feet/ankles
Bend forward from hips
Ensure that the athlete is pulling up in his lower back


Here, the athlete is correctly bringing his chest to his feet and not pulling his toes toward his body.

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## Hip Rolls



Lie on back, arms outstretched Bring knees to chest
Slowly drop knees to left (exhale) Bring knees back to chest (inhale) Slowly drop knees to right (exhale)


Work on keeping the knees together to get the full stretch through the buttocks

## Supine Hamstring Stretch



Lie on back, legs outstretched Alternating legs, bring legs to chest Bring both legs to chest at the same time

Spine Curl


Lie on back
Bring left knee to chest
Hold leg on hamstring with both hands
Lift head and shoulders to knee Alternate legs

Downward Facing Dog



Downward Facing Dog -
Alternating Legs


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Kneel, hands directly under shoulders, knees under hips
Lift knees until standing on toes
Slowly lower heels to ground
Continue alternating toes to heels up and down slowly

## Lower Body

## Calf Stretch

Stand facing wall/fence
Lean arms and forehead on
Stand facing wall/fence
Lean arms and forehead on wall/fence Bend forward leg slightly Bend ankle of back leg

$\qquad$
Stand facing wall/fence
Lean arms and forehead on

Alternate raising to toes on one leg, while keeping the other foot flat on ground
Excellent stretch to prevent and help shin splints

Drop heels to ground
Excellent stretch for the lower back

## Stretching - Quick Reference Guidelines

## Start Relaxed

Do not begin until athletes are relaxed and muscles are warm.

## Be Systematic

Start at the top of body and work down.
Progress from General to Specific
Start general, then move into event specific exercises.
Make slow, progressive stretches.
Be controlled.
Do not bounce or jerk to stretch farther.

## Use Variety

Make it fun. Use different exercises to work the same muscles.

## Breathe Naturally

Do not hold breath, stay calm and relaxed.
Allow for Individual Differences
Athletes start and progress at different levels.
Stretch Regularly
Always include time for warm-up and cool-down.
Stretch at home.

## Basic Mechanics of Running

Running differs from walking in that, when walking, the athlete always has one foot in contact with the ground. However, in both running and walking events, the athlete must maintain a balanced and upright posture. The form for running sprints or distance events follows the same basic principles. However, in distance events the knee drive and arm carriage are a little lower. This section gives general guidelines for running mechanics. More specific, technical details are included in the sprints, middle and long distance sections.

## Sprinter

Distance Runner


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1. The athlete controls his/her speed by how much force is applied with each foot strike.
2. The quicker the foot strikes the ground, the faster the athlete runs.
3. When running fast, the heel must be lifted high under buttock.
4. Leg turnover and stride length determine the speed at which an athlete runs.

## Getting Into Proper Running Form

1. Take a hips tall position with your trunk and head directly above the hips.
2. Let arms hang loosely at the sides of your body.
3. Close hands loosely with the thumbs up.
4. Lean forward slightly; bend ankles until body weight is centered on balls of feet.
5. Bend arms; bring hands to top of hips forming a 90 -degree angle between lower and upper arms.
6. Keep head in a neutral position, looking forward, with facial muscles relaxed.


## Lifting Knees/Driving Arms

1. Lift heel and push off with ball of foot.
2. Bend leg at knee and drive it forward.
3. Bring foot forward under knee.
4. Strike ground with ball (forefront) of foot while bringing the foot back under the body.
5. Swing the arms forward and back with no help from the shoulder muscles.
6. Stop hands at midline of torso at the top, and at the back of the hips at the bottom, shortening the angle slightly on the upswing and lengthening the angle slightly on the downswing.

## Faults \& Fixes - Running Basics

| Error | Correction | Drill/Test Reference |
| :--- | :--- | :--- |
| Athlete not running in <br> upright position. | Need to make sure drive leg <br> is being fully extended (push <br> off). | Bounding and strides. |

## Coaches' Tips for Running Basics - At-A-Glance

## Tips for Practice

1. Demonstrate hips yall position emphasizing relaxed shoulders and arms.
2. Have the athlete walk with quick steps on balls of feet.
3. Emphasize the foot striking the ground under the runner's body, not ahead of it.
4. Have the athlete run straight at you to make sure that the shoulders stay parallel to ground and upper body is not twisting back and forth.
5. Do lots of running basic drill work.
6. Encourage athletes to train a minimum of 2-3 days at home.
7. Be patient.

## Starts Skill Progression

## Long Distance Run/Walk Stand-up Start

| Your Athlete Can | Never | Sometimes | Often |
| :--- | :---: | :---: | :---: |
| Identify power foot (i.e. the foot you kick a ball with) | $\square$ | $\square$ | $\square$ |
| Stand behind start line, relaxed, power foot in front on ball of <br> foot | $\square$ | $\square$ | $\square$ |
| Bend front knee slightly, balancing weight on both legs | $\square$ | $\square$ | $\square$ |
| Remain still in "On Your Mark " position | $\square$ | $\square$ | $\square$ |
| Push strongly off ball of power foot, swinging back arm forward | $\square$ | $\square$ | $\square$ |
|  | Totals |  |  |

## Starts

A good start can make all the difference in any track event, regardless of the distance. At the start of a race, athletes want to get out strong and fast. There are two primary types of starts - the stand-up and the block start. In LDR/W athletes use the stand-up start. Block starts are used only on tracks during athletics/track events.

## Power Foot

In this start, the athlete puts his/her "power foot" forward for a strong launch. Determining the power foot can be easily accomplished by having the athlete pretend to kick a ball. The foot that is used to kick the ball is the back foot. The foot that is used to support the body is the front foot, the power foot.

## Teaching Points - Stand-up Start

The fundamentals of the LDR/W start involve two commands: "on your mark", and "go" (which can be the sound of a gun/whistle/horn or verbal command."
"On Your Mark" Command
The "on your mark" command is used when the athlete comes to the starting line to begin the race.

1. Stand behind start line, relaxed, power foot in front and behind the start line
2. Place toe of back foot behind the heel of front foot, about 9-11 inches/30CM
3. Look up slightly, focusing 2 meters ahead
"Go" Command - Sound of the starter's pistol or whistle
The "go" command is for the athlete to start moving. Repeat using the sound device most likely to be heard at upcoming races. .
4. Drive back leg forward, leading with knee, swinging front arm back.
5. Push strongly off ball of front (power) foot, swinging back arm forward forcefully.

## Middle Distance Skill Progression

$\left.\begin{array}{lccc}\hline \text { Your Athlete Can } & \text { Never } & \text { Sometimes } & \text { Often } \\ \hline \hline \text { Run longer distances (400m/800m/1500m) } & \square & \square & \square \\ \hline \text { Pace self (or can learn) } & \square & \square & \square \\ \hline \text { Demonstrate speed, strength and endurance } & \square & \square & \square \\ \hline \text { Maintain erect posture with hips tall } & \square & \square & \square \\ \hline \begin{array}{l}\text { Settle more on the back of the feet and roll through the ball of } \\ \text { the foot and push off }\end{array} & \square & \square & \square \\ \hline \text { Show spring, rhythm, and light touch in foot action } & & \square & \square\end{array}\right] \square \square$

## Middle Distance

Middle distance events are the most demanding because they are long sprints. SOPA tournaments offer the following running race distances: 1500, 3000, 5000 and the 10,000 meter run. For walking the 1500 and 3000 are offered and the 5000 walk is offered at the Sectionals and Fall Games. 1500 meter is considered middle distance in LDR.W. A training program should be developed to meet individual needs.

## Technique

When coaching middle distance runners, the coach needs to find the right combination of speed and endurance for each athlete.

1. It is important to have a comfortable stride and rhythm and to not over stride.
2. The foot strikes the ground less on the ball of the foot and more to the back of the foot, the foot rolls onto the ball and pushes off.
3. The knee has some flex.
4. Knee lift is lower than that of a sprinter.
5. Heel does not go as high.
6. Leg movement is smooth.
7. Swing arms from shoulders; elbows are bent at approximately a 90-degree angle but can straighten a little more on the down swing. Arms and shoulders should be relaxed.
8. Head straight; focus ahead ten to fifteen meters.


## Training Focus (Workout Theory) for Middle Distance

The focus of middle distance training is pace, with a balance between volume and intensity. Athletes need a good aerobic base to allow them to be able to pace themselves. However, they also need to incorporate speed training. They need good endurance to maintain speed over middle distance races. Aerobic means improved flow of oxygenated blood to the muscles that comes with extended training.

Middle distance runners should try and maintain a predetermined pace established by their coach. An example would be running 400 m in 105 seconds every lap during a 1600 m training run. As well, the coach should set appropriate times for the athlete to run set distances at certain time intervals; for example, the athlete would run 200m every three minutes. To improve, the athlete would increase speed or decrease time to shorter intervals.

To work on speed, the athlete can do "surges." For example, have cones set out at intervals around the track or along a distance running course. The athlete will run at normal stride to first cone and then "surge," or increase speed, to next cone and keep changing from normal to "surge" between cones.

Faults \& Fixes - Middle Distance

| Error | Correction | Drill/Test Reference |
| :--- | :--- | :--- |
| Runner is too erect. | Chin is too high; remind athlete <br> to position the chin lower. | Observation. |
| Runner appears to be <br> bobbing up and down <br> (excessive bouncing). | Pull through elbows. Wrist <br> needs to go hip to chin. | Observation. Do arm <br> movement while standing. |


| Runner is "twisting." | Keep torso in a forward <br> direction and toes pointed <br> forward. | Have runner run on a line or <br> inside of the lane. |
| :--- | :--- | :--- |

## Middle Distance Drills

## Russian Workout

Reps: $5 x$, increase to 15
Purpose

- Develop speed endurance


## Teaching Points

1. Run $5 \times 200 \mathrm{~m}$ at $3 / 4$ race pace.
2. Rest 60 seconds between each 200 m .
3. After five repetitions, rest three minutes.
4. Repeat.

| Points of <br> Emphasis: | Speed endurance |
| :--- | :--- |
| When to Use: | Midseason |

## Distance Runs

Include a distance run of 40-70 minutes. This run is set at a pace that the runner can manage without too much stress. This run is one of two kinds, depending on the type of effort and recovery needed. One type is a flat, soft-surfaced, continuous run. Early in the season, do not worry so much about time. As the season progresses, mark each mile, and make necessary corrections.

## Hill Running

The other long distance run is more difficult. The first 15 minutes are flat. The next 20 minutes need to have a series of uphill climbs or a steady hill climb. As in the distance run, early in the season do not worry so much about time. As the season progresses, push the athlete to faster times over the same course but be watchful for knee tenderness or pain. Recovery time is important.

## Interval Training

Adjust recovery times, as necessary.

1. Increasing speed/decreasing recovery reps

- 2 sets of $4 \times 200 \mathrm{~m}$
- No additional recovery between sets

2. Russian intervals

- 2 sets of $3 \times 300 \mathrm{~m}$ at set pace with jog
- Recovery between 300 s : 100 m at 30 seconds
- Jog 800m between sets

3. Pick-up Reps

- $4 \times 400 \mathrm{~m}$ at set pace
- Recovery between 400 s: 90 seconds


## Coaches' Tips for Middle Distance Runners - At-A-Glance

## Tips for Practice

1. Demonstrate stand-up start with commands. (See Starts section for review.)
2. Demonstrate how to pass another runner by running around him/her on the outside. There are no "lanes" in LDR but learning to pass Is important. Otherwise athletes sometimes stay with the same pack regardless of their own pace.
3. Ride along with runners on a bike with a pace running appr to control running pace - tell the runners not to pass you or to get too far behind. .
4. Establish split times with athletes for certain distances of the race.
5. Make sure athlete receives ample recovery time from training.
6. Train to race: Simulate race conditions as much and as often as possible.
7. Know when to say when; if an athlete is not running well, let it go. Practicing slow teaches you to race slow so it is best to move that athlete to weight and core work for the day. .

## Tips for Competition

1. Check the running shoes, tied and without long looped tripping hazard.
2. Save energy for last part of race.
3. Warm up properly.
4. Plan the race
5. Avoid meals before race and during. .

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## Long Distance Skill Progression

| Your Athlete Can | Never | Sometimes | Often |
| :--- | :---: | :---: | :---: |
| Run longer distances | $\square$ | $\square$ | $\square$ |
| Pace self (or can learn) | $\square$ | $\square$ | $\square$ |
| Maintain erect posture with hips tall | $\square$ | $\square$ | $\square$ |
| Settle more on the back of the feet and roll through the ball of |  |  |  |
| the foot and push off | $\square$ | $\square$ | $\square$ |
| Show spring, rhythm and light touch in foot action | $\square$ | $\square$ | $\square$ |
| Have relaxed arm action | $\square$ | $\square$ | $\square$ |
| Keep shoulders not hunched and elbows tucked in | $\square$ | $\square$ | $\square$ |
| Keep body relaxed and moving efficiently | $\square$ | $\square$ | $\square$ |

Totals

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## Long Distance Running (3000m-10,000m)

Long distance events are great for those athletes who enjoy running and have a desire to maintain dedicated training throughout the week on a long-term basis. Success in the distance events comes from planning. Training must be consistent and progressive. The training sessions are designed to physiologically and psychologically enhance an athlete's potential to maximize his/her competition experiences.

## Technique

1. It is important to have a comfortable stride and rhythm and to not over stride.
2. The foot strikes the ground less on the ball of the foot and more to the back of the foot; the foot rolls onto the ball and pushes off.
3. The knee has some flex.

4. Leg movement is smooth.
5. Swing arms from shoulders in a comfortable back and forward movement. Arms and shoulders should be relaxed.
6. Head straight; focus ahead ten to fifteen meters.

Faults \& Fixes - Long Distance

| Error | Correction | Drill/Test Reference |
| :--- | :--- | :--- |
| Athlete's leg drive may be <br> causing the body to move <br> upward instead of forward. | Make sure hips maintain <br> same level - do not rise up <br> and down. | Bounding. Observation. |
| Arms swing across the <br> chest. | Arm movement should be <br> back and forward and not <br> across chest. Have athletes <br> point where they are going <br> with each arm swing. | Sit-down arm movement drill. |
| Athlete tenses up while <br> running. | Exhaustion or poor <br> technique is most likely the <br> cause. | Concentrate on relaxation, <br> especially facial muscles <br> (relaxation drills). Improve <br> aerobic/anaerobic endurance. |
| Head is swinging/ bobbing <br> side to side. | Have athlete look straight <br> ahead. <br> Ensure arms are moving <br> back and forward and not <br> across the chest. <br> Ensure athlete is running <br> upright and not leaning <br> back. | Concentrate on technique. |

## Coaches' Tips for Long Distance Runners - At-A-Glance

## Tips for Practice

1. Have athlete stand with lead foot under center of gravity with drive leg fully extended.
2. Have athlete run in place bringing heels under buttocks.
3. Demonstrate rolling the foot forward, pushing off the balls of the feet.
4. Be quick off the foot.
5. Demonstrate a quick turnover.
6. Demonstrate a smooth foot strike with little vertical lift.
7. Have athlete be aware of when the toe leaves the ground to get better push-off.
8. Check for upper body twisting by looking at athlete from front view.
9. Check for crossover of feet or toes pointing outward
10. From side view, check that hands stop at midline on upward swing and back at hip on downward swing.
11. Demonstrate how arm tempo can help control rate of turnover.

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## Training Theory - Long Distance

There are several types of training techniques for long distance runners. When designing a training plan, it is important to match the plan to the athlete's fitness and skill level. It is important to review the plan frequently and adjust it as required. To get the most benefit from training, it is important to use various techniques since they have different purposes.

Interval Training - repetitive training runs on a track. Effort and recovery are usually equal. Effort can be from one to five minutes. Recovery can be walking or slow running.
Fartlek Training - also known as "speed play." Athlete combines normal run with varying bursts of effort (speed). Usually on a varied terrain (flat and hills).
Long Runs - athletes run for a specified distance or time at a moderate speed for longer distances. Speed Training - to improve the speed at which the athlete can run relaxed and maintain running form. This training is done mostly at the end of the season just prior to the big meets. For example, the athlete runs $1 \times 600 \mathrm{~m}$ all out with a $20-$ minute rest interval, followed by $10 \times 100 \mathrm{~m}$ as fast as possible, with a 100 m walk interval between each.

## Long Distance Events Sample Workouts

The following are designed to help in creating workouts to meet the needs of athletes. However, as mentioned previously, athletes are individuals, and their uniqueness must be addressed in workouts. These workouts can be modified and adapted, as necessary.
A minimum 12-week training and competition program is suggested in preparing an athlete to run distances up to $10,000 \mathrm{~m}$. It is also recommended that a $4-5$ day practice schedule be designed to increase an athlete's performance level. Athletes can race once every two weeks or whatever is appropriate for their fitness and skill level.
The following key denotes the meaning of workout intensity and volumes below.

| M = Miles Run | Ae $=$ Aerobic | Ae / An $=$ Aerobic/ Anaerobic <br> walking |
| :--- | :--- | :--- |
| X = Intermittent Running | An = Anaerobic |  |
| ME = Maximum Effort | $\mathrm{E}=$ Effort | RE $=$ Relaxed Effort |

## SAMPLE TRAINING PLANS

5k \& 10k - 12-Week Training Program
Begin each run by walking the first two minutes, then running 10 minutes easy. Cool down by jogging five minutes.

| Week 1 | Day 2 | Day 3 | Day 4 |
| :--- | :--- | :--- | :--- |
| Day 1 | Warm-up | Warm-up | Warm-up |
| Warm-up | 3 miles at ME, Ae | 3.5 miles at ME, Ae | $5 \times 800 \mathrm{~m}$ at ME, Ae, <br> An |
| 3.5 miles at Ae | Cool-down | Cool-down | Rest: Jog 3 minutes |
| Cool-down |  |  |  |
|  |  |  |  |
| Week 2 | Day 2 | Day 3 | Day 4 |
| Day 1 |  |  |  |


| Warm-up | Warm-up | Warm-up | Warm-up |
| :---: | :---: | :---: | :---: |
| 4 miles at Ae | 4x1200m at ME, Ae | 4 miles at ME, Ae | 10 minutes run at Ae, An for distance |
| Cool-down | Rest: Jog 3½ minutes | Cool-down | Measure to nearest $1000 \mathrm{~m}=5 \frac{1}{4}$ laps (refer to pace chart) |
|  | Cool-down |  | Cool-down |
| Week 3 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 4.5 miles at ME, Ae | 4x400m at An | 3 miles at RE, Ae | 2-mile time trial |
| Cool-down | 1 \& 3 miles at Marathon pace | Cool-down | Cool-down |
|  | 2 \& 4 miles at 5 k pace |  |  |
|  | Rest: Jog 2:1 |  |  |
|  | Jog 800m |  |  |
|  | $4 \times 400 \mathrm{~m}$ at An |  |  |
|  | Cool-down |  |  |
| Week 4 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 4 miles at RE, Ae | $3 \times 1200 \mathrm{~m}$ at 10 k pace, Ae | 4.5 miles at RE, Ae | $\begin{array}{\|l} \hline 4 \times 400 \mathrm{~m} \text { at } 5 \mathrm{~K} \\ \text { pace, } \mathrm{An} \end{array}$ |
| Cool-down | Rest: Jog 1:1 | Cool-down | Rest: Jog 1:1 |
|  | Cool-down |  | Jog 800m |
|  |  |  | $\begin{aligned} & 4 \times 400 \mathrm{~m} \text { at } 5 \mathrm{~K} \\ & \text { pace, } \mathrm{An} \end{aligned}$ |
|  |  |  | Cool-down |

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5k \& 10k - 12-Week Training Program, continued

| Week 5 |  |  |  |
| :---: | :---: | :---: | :---: |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 4x200m at 5K pace | 3 miles in hills at $3 / 4$ effort, up/easy down, Ae | 4 miles at RE pace, Ae | 5 k race or time trial |
| Rest: Jog 3:1 | Cool-down | Cool-down | Cool-down |
| Jog: 2x800m |  |  |  |
| Cool-down |  |  |  |
| Week 6 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 1 mile easy | Run in hills at $3 / 4$ effort, up/easy down, Ae | $2 \times 200 \mathrm{~m}$ at 5k pace | 3 k race or time trial. |
| 2 miles at AE pace | Cool-down | Rest: Jog 3:1 | Cool-down |
| 1 mile easy at Ae , An |  | Jog 800m |  |
| Cool-down |  | 4x200m at 10k pace |  |
|  |  | Rest: Jog 2:1 |  |
|  |  | Jog 800m |  |
|  |  | Repeat workout, An |  |
|  |  | Cool-down |  |
| Week 7 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| $4 \times 400 \mathrm{~m}$ at 5 k pace, An | 3 miles at RE, Ae | 20 minutes at RE | 10k run |
| Rest: Jog 3:1 | Cool-down | 20 minutes at AT pace, Ae, An | Cool-down |
| Jog 800m |  | Cool-down |  |
| 2 sets of $12 \times 400 \mathrm{~m}$ |  |  |  |
| Cool-down |  |  |  |
| Week 8 |  |  |  |
| Repeat Week 7 |  |  |  |

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5k \& 10k - 12-Week Training Program, continued

| Week 9 | Day 2 | Day 3 | Day 4 |
| :--- | :--- | :--- | :--- |
| Day 1 | Warm-up | Warm-up | Warm-up |
| Warm-up | 4 miles at RE, Ae | 3 miles hilly course, <br> Ae | 3x1 mile at 10k pace |$|$| $4 \times 400 \mathrm{~m}$ at 5k pace, <br> An | Cool-down | Cool-down |
| :--- | :--- | :--- |
| Rest: Jog 3:1 |  |  |
| Jog 800m |  |  |
| 2 sets of 12x400m |  | Cool-down 5 min |
| Cool-down |  |  |
| Week 10 <br> Repeat Week 7 |  |  |

Week 11

| Day 1 | Day 2 | Day 3 | Day 4 |
| :--- | :--- | :--- | :--- |
| Warm-up | Warm-up | Warm-up | Warm-up |
| $5 \times 800 \mathrm{~m}$ | $6 \times 1000 \mathrm{~m}$ at 10k <br> pace | Easy 2-mile run | 10k race |
| $1^{\text {st } 400 \mathrm{~m} \text { at 5k pace }}$ | Rest: Jog 3 minutes | $4 \times 400 \mathrm{~m}$ at 5k pace | Cool-down, An |
| $2^{\text {nd }} 400 \mathrm{~m}$ at 10k <br> pace | Cool-down | Cool-down |  |
| Rest: Jog 3 minutes, <br> Ae, An |  |  |  |
| Cool-down |  |  |  |

Week 12

| Day 1 | Day 2 | Day 3 | Day 4 |
| :--- | :--- | :--- | :--- |
| Warm-up | Warm-up | Warm-up | Warm-up |
| Easy 2-mile run | Easy 2-mile run | Easy 2-mile run | Championship race |
| $6 x 400 \mathrm{~m}$ at 5k pace | $5 \times 400 \mathrm{~m}$ at 5k pace | $4 \times 400 \mathrm{~m}$ at 5k pace | Cool-down |
| Rest: Jog 3:1 | Rest: Jog 3 minutes, <br> Ae, An | Cool-down |  |
| Cool-down, An, Ae | Cool-down |  |  |

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## 3k - 8-Week Training Program

Begin each steady state run by walking the first two minutes, then running 10 minutes easy. Cool down by jogging five minutes, followed by $6 x 100 \mathrm{~m}$ strides.

| Week 1 |  |  |  |
| :---: | :---: | :---: | :---: |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 2 miles (EE) Ae | 2.5 miles (ME) Ae | 2 miles ( $75 \% \mathrm{E}$ ) Ae | 2.5 miles (ME) Ae |
| Cool-down | Cool-down | Cool-down | Cool-down |
| Week 2 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 3 miles at Ae | 5x800m (ME) | 5x400m (75\% E) | 10-minute hard run at 400 m effort |
| Cool-down | 3-minute jog rest, $\mathrm{An}, \mathrm{Ae}$ | Jog rest 800m | Cool-down |
|  | Cool-down | 5x400m (75\% E) |  |
|  |  | Cool-down |  |
| Week 3 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 4 miles at Ae | 2x1600m at 10k pace | 3 miles at marathon pace | 3.5 miles at RE pace, Ae |
| Cool-down | Cool-down | Cool-down | Cool-down |
| Week 4 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| $\begin{aligned} & 3 \times 1200 \mathrm{~m} \text { at } 10 \mathrm{k} \\ & \text { pace } \\ & \hline \end{aligned}$ | 4 miles at RE pace, Ae | $2 \times 1600 \mathrm{~m} \text { at } 10 \mathrm{k}$ pace | 3 miles at marathon pace, Ae |
| 1:1 Rest, Ae | Cool-down | 1:1 jog rest, Ae, An | Cool-down |
| Cool-down |  | Cool-down |  |
| Week 5 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 4 miles at RE pace, Ae | $5 \times 200 \mathrm{~m}$ at 3 k pace | 4 miles at RE pace, Ae | 1-mile run for time |
| Cool-down | 3:1 jog rest, An | Cool-down | Cool-down |
|  | Cool-down |  |  |

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## 3k - 8-Week Training Program, continued

| Week 6 |  |  |  |
| :---: | :---: | :---: | :---: |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| $4 \times 400 \mathrm{~m}$ at 3 k pace | 3.5 miles at RE pace, Ae | 1 mile at AT pace | 3 k race or time trial |
| 3:1 rest, jog 800m, then repeat An | Cool-down | 800m jog | Cool-down |
| Cool-down |  | $4 \times 400 \mathrm{~m}$ @ 3k pace |  |
|  |  | 1:1 jog, rest, Ae, An |  |
|  |  | Cool-down |  |
| Week 7 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Repeat Day 1 | Warm-up |
| 4 miles at RE pace | 400m hip flexibility |  | 400m total flexibility |
| Pick up to 3k pace for 30 seconds, 6 times during run, Ae | 2-mile walk for time |  | $4 \times 800 \mathrm{~m}$ at mile pace, 3-mile pace |
| Cool-down | Cool-down |  | 4 sets of 10 curl sit-ups |
|  |  |  | Cool-down |
|  |  |  |  |
| Week 8 |  |  |  |
| Day 1 | Day 2 | Day 3 | Day 4 |
| Warm-up | Warm-up | Warm-up | Warm-up |
| 3 miles at RE pace | 10 minutes easy run | 10 minutes easy run | Championship Race, An |
| Pick up to 3k pace for 30 seconds, 4 times during race, Ae | $4 \times 400 \mathrm{~m}$ at 3 k pace | $3 \times 400 \mathrm{~m}$ at 3k pace | Cool-down |
| Cool-down | 3:1 rest, An | 3:1 jog rest, Ae, An |  |
|  | Cool-down | Cool-down |  |

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## Half Marathon Skill Progression

| Your Athlete Can | Never | Sometimes | Often |
| :--- | :---: | :---: | :---: |
| Perform a stand-up start | $\square$ | $\square$ | $\square$ |
| Maintain an erect posture with hips tall | $\square$ | $\square$ | $\square$ |
| Keep head level | $\square$ | $\square$ | $\square$ |
| Maintain rhythmic stride pattern | $\square$ | $\square$ | $\square$ |
| Build a strong aerobic base | $\square$ | $\square$ | $\square$ |
| Develop speed, endurance and strength | $\square$ | $\square$ | $\square$ |
| Develop anaerobic strength and endurance | $\square$ | $\square$ | $\square$ |
| Train over long distances at different speeds | $\square$ | $\square$ | $\square$ |
| Maintain a relatively flat foot strike under hips and body weight | $\square$ | $\square$ | $\square$ |
| Move continuously forward to ball of foot from flat foot strike | $\square$ | $\square$ | $\square$ |
| Maintain comfortable arm swing without twisting body | $\square$ | $\square$ | $\square$ |
| Run under control for entire race | $\square$ | $\square$ | $\square$ |
|  |  | $\square$ |  |

## Half Marathon

The characteristics of the half marathon are what make training and racing the half marathon unique. It can be too long for a 5-10k runner or it may be too short for the marathon runner. However, it can be the perfect distance for training and racing if planned accordingly. For the marathon runner, it can be used as race-pace training distance.
Training sessions are normally of high volume and long intervals with a high number of repetitions. The rest time between intervals can be short or moderate, but it never allows for a full recovery. The running pace is usually between slower than 10k pace and a little faster than marathon pace. The speed and the rest period between intervals can be manipulated according to the needs of the athlete, taking into consideration the goals the athlete is trying to achieve during training.

## Training Components for Half Marathon

1. Building aerobic base
2. Developing speed, endurance and strength
3. Developing anaerobic strength and endurance
4. Developing strength through tempo runs
5. Long runs to increase stamina and running economy
6. Short intervals - lactic acid tolerance workouts
7. Long intervals - lactic acid tolerance sustain workouts
8. Short recovery - long recovery
9. Race pace workouts
10. Running pace - training at different speeds
11. Competing

Most of the running sessions are done on the roads and/or dirt trails instead of the track. Interval sessions are run as Fartlek training or pick-ups. There is also a great emphasis on hill work and

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tempo runs. During this training cycle the main concern is the development and improvement of cardiovascular strength and endurance.

## Half-Marathon Training Plan - 18-Week Schedule

Principles: Novice and first-time half-marathon athletes
Builds endurance
Shorter timed runs during the week so athlete does not have to worry about distance; Sunday run ensures distances are being covered.
Monday - Rest or cross training with a moderate activity such as swimming or walking (little running motion)
Tuesday - Up-tempo runs or hill repeats of moderate incline about 250 meters long
Wednesday - Tempo pace during the middle of run
Thursday - Easy recovery from the week
Friday - High repeats/low weights; just toning, not building bulk
Saturday - Recovery
Sunday - Long slow run ( 65 to $75 \%$ of half-marathon pace - for example, for 2:15 half-marathon., 7 to 8 minute km pace)

| Week | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Rest/ Crosstrain | 33 min | 33 min | 33 min | Weights | Rest Day | 4 km run |
| 2 | Rest/ Crosstrain | 33 min | 33 min | 33 min | Weights | Rest Day | 6 km run |
| 3 | Rest/ Crosstrain | $3 \times$ hill training | 44 min | 44 min | Weights | Rest Day | 6 km run |
| 4 | Rest/ Crosstrain | 44 min | $3 x$ hill training | 44 min | Weights | Rest Day | 8 km run |
| 5 | Rest/ Crosstrain | 44 min | 44 min | 44 min | Weights | Rest Day | 8 km run |
| 6 | Rest/ Crosstrain | $3 \times$ hill training | 44 min | 44 min | Weights | Rest Day | 10 km run |
| 7 | Rest/ Crosstrain | 55 min | $3 \times$ hill training | 55 min | Weights | Rest Day | $10 \mathrm{~km}$ run |
| 8 | Rest/ Crosstrain | 55 min | 55 min | 55 min | Weights | Rest Day | $\begin{aligned} & 12 \mathrm{~km} \\ & \text { run } \end{aligned}$ |
| 9 | Rest/ Crosstrain | $3 \times$ hill training | 55 min | 55 min | Weights | Rest Day | $12 \mathrm{~km}$ run |
| 10 | Rest/ Crosstrain | 66 min | $3 x$ hill training | 55 min | Weights | Rest Day | 14 km run |

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| 11 | Rest / <br> Cross- <br> train | 66 min | 66 min | 66 min | Weights | Rest Day | 14 km <br> run |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 12 | Rest / <br> Cross- <br> train | $3 \times$ hill <br> training | 66 min | 66 min | Weights | Rest Day | 16 km <br> run |
| 13 | Rest / <br> Cross- <br> train | 66 min | $3 \times$ hill <br> training | 66 min | Weights | Rest Day | 16 km <br> run |
| 14 | Rest / <br> Cross- <br> train | 66 min | 66 min | 66 min | Weights | Rest Day | 18 km <br> run |
| 15 | Rest / <br> Cross- <br> train | $3 \times$ hill <br> training | 77 min | 44 min | Weights | Rest Day | 18 km <br> run |
| 16 | Rest / <br> Cross- <br> train | 77 min | $3 \times$ hill <br> training | 77 min | Weights | Rest Day | 20 km <br> run |
| 17 | Rest / <br> Cross- <br> train | 66 min | 66 min | 66 min | Weights | Rest Day | 18 km |
| 18 | Rest / <br> Cross- <br> train | 55 min | Rest | 44 min | 33 min | Race Day | Race |

## Marathon Skill Progression

| Your Athlete Can | Never | Sometimes | Often |
| :--- | :---: | :---: | :---: |
| Perform a stand-up start | $\square$ | $\square$ | $\square$ |
| Maintain an erect posture with hips tall | $\square$ | $\square$ | $\square$ |
| Keep head level | $\square$ | $\square$ | $\square$ |
| Maintain rhythmic stride pattern | $\square$ | $\square$ | $\square$ |
| Build a strong aerobic base | $\square$ | $\square$ | $\square$ |
| Run a minimum distance of 10k | $\square$ | $\square$ | $\square$ |
| Develop speed, endurance and strength | $\square$ | $\square$ | $\square$ |
| Develop anaerobic strength and endurance | $\square$ | $\square$ | $\square$ |
| Train over long distances at different speeds | $\square$ | $\square$ | $\square$ |
| Maintain a relatively flat foot strike under hips and body weight | $\square$ | $\square$ | $\square$ |
| Move continuously forward to ball of foot from flat foot strike | $\square$ | $\square$ | $\square$ |
| Maintain comfortable arm swing without twisting body | $\square$ | $\square$ | $\square$ |
| Run under control for entire race | $\square$ | $\square$ | $\square$ |

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## Totals

## Marathon

Competing in a marathon can be a challenging athletic achievement. Whether it is going for a fast time, trying to go for a personal best or just to finish the race, runners are always looking for the best training program that will lead them to accomplish their goal. The individual runner will be faced with many questions concerning training, such as how many miles to run per week, the intensity and volume of the workouts, recovery, long runs and so on. There are no concrete rules because every runner is unique. A coach can prescribe a specific training program according to the athlete's ability and goal for that specific marathon.

However, training for a marathon is serious business. Not training properly can lead to failing to complete the race and the risk of injury. While training, distance should be gradually increased. Rest times should be planned and followed. The rest (recovery) day is an important part of training.
The most important part of any training program is designing its detail to match the needs and abilities of each athlete. Once the coach understands and incorporates the basic principles and components of training, he or she will be ready to develop a successful training program regardless of the athlete's ability.
The principles established to carry out the training plan are the foundation for the complete preparedness of the runner to achieve his or her goal. The coach must determine the athlete's training needs and maximize his or her abilities. One warning contained in almost all marathon running resources is, "Don't run a marathon without the proper training and hydration." It is essential that an athlete is trained and prepared to enter a marathon.

## Marathon Training

It is very apparent that marathon training is a science, with several theories and techniques available. The energy systems challenged in marathon training and competitions are anaerobic (without oxygen) and aerobic (with oxygen). The key to a good marathon runner is to maximize the efficiency of his/her energy systems. There are several detailed sources available that discuss VO2 max training principles (the ability of muscles to make use of the oxygen that they receive) if coaches desire to learn more technical details behind the principles of marathon training. Marathon training consists of phases, with cycles contained within each phase (and even the cycles can have cycles). Most running watch apps include measurements of VO2 max,

## VO2 max

Fitness can be measured by the volume of oxygen that is consumed while exercising at maximum capacity. VO2 max is the maximum amount of oxygen in milliiters one can use in one minute per kilogram of body weight. Those who are fitter have higher VO2 max values and can exercise more intensely than those who are not as well conditioned.

## Factors affecting VO2 max

The physical limitations that restrict the rate at which energy can be released aerobically are dependent upon:

- the chemical ability of the muscular cellular tissue system to use oxygen in breaking down fuels
- the combined ability of cardiovascular and pulmonary systems to transport the oxygen to the muscular tissue system

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## Anaerobic and Aerobic Training

The anaerobic energy systems allow for short, intense efforts, while aerobic energy systems provide the energy for activity lasting longer than 2 minutes. Marathon runners require endurance, which is mainly conditioning the aerobic system. When a marathon runner is not processing oxygen quickly enough (aerobic), the anaerobic system kicks in. The anaerobic system creates byproducts (of which one is lactic acid) that need to be removed. This is done by training the anaerobic system to allow the athlete's muscles to maintain intensity despite the by-products. The training for marathon contains runs that are short, runs that are long, runs that are intense and runs that are less intense. These components are included in the training programs for both halfmarathon and marathon.

Aerobic conditioning consists of increasing the amount the athlete runs and including a longer run weekly in training runs. This results in greater endurance and improved running economy. This is the largest component of a distance runner's training program. To develop an aerobic base, training sessions consist of high volumes of continuous, longer distance running at below what an athlete's race pace would be. This works out to be at about 70-80 percent of the athlete's maximum heart rate. This would translate to an athlete being able to carry on a conversation while running. Of course, at times, the athlete's aerobic energy system training has to be increased with more intense runs.
Training for marathon and half-marathon consists of a combination of the following:

1. Long runs
2. Speed work/Tempo work/ Hill training /Interval training/Fartlek training
3. Rest

Some runs can be done as interval sessions or Fartlek training. Fartlek training is introducing short periods of slightly higher paced runs in an athlete's normal run. The pace should be picked up for a short period ( 200 m to 400 m ), then dropped below normal running pace or slowed to a jog, until the athlete has fully recovered (breathing returned to normal). The athlete should repeat, slightly faster, later in the run. This type of training slightly stresses the system, which will lead to improvements in speed and anaerobic systems.
Rest forms an important part of training and needs to be planned appropriately. Rest days can contain some "mild" activity, such as walking your dog, but this should not be intense. Overuse results in injury, which leads to reduced training that will impact achieving goals.
Following are simple training plans for marathon and half-marathon training. These are only guidelines and need to be modified to meet the athlete's specific goals, ability and training schedule.

Note: 1 kilometer = 62 mile and 1 mile $=1.61$ kilometers

## Marathon Training Plan - 18-Week Schedule

Principles: Novice and first-time marathon athletes
Initial weeks - Smaller steps to build endurance
Middle weeks - Adding a rest week when runs are getting longer
Minimum competency - Athlete should be able to run 10 kilometers before starting marathon training

Monday/Wednesday - Up-tempo runs or hill repeats of moderate incline about 250 meters long Tuesday - Rest or cross-training with a moderate activity such as swimming or walking (little running motion)
Thursday - Easy recovery from the week
Friday - High repeats/low weights; just toning, not building bulk
Saturday - Long slow run ( 65 to $75 \%$ of marathon pace - for example, for 4:30 marathon, 7 - to 8minute/ km pace)
Sunday - Recovery

| Week | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 34 min | Rest/ Cross-train | 44 min | 34 min | Weights | 12 km | Rest Day |
| 2 | $3 x$ hill training | Rest / Cross-train | 44 min | 55 min | Weights | 12 km | Rest Day |
| 3 | 55 min | Rest/ Cross-train | $4 \times$ hill training | 55 min | Weights | 16 km | Rest Day |
| 4 | 55 min | Rest / Cross-train | 55 min | 66 min | Weights | 18 km | Rest Day |
| 5 | $4 \times$ hill training | Rest/ Cross-train | 66 min | 66 min | Weights | 20 km | Rest Day |
| 6 | 66 min | Rest/ Cross-train | $5 \times$ hill training | 55 min | Weights | 23 km | Rest Day |
| 7 | 66 min | Rest / Cross-train | 66 min | 66 min | Weights | 18 km | Rest Day |
| 8 | $5 \times$ hill training | Rest/ Cross-train | 77 min | 77 min | Weights | 25 km | Rest Day |
| 9 | 77 min | Rest/ Cross-train | $6 x$ hill training | 55 min | Weights | 28 km | Rest Day |
| 10 | 66 min | Rest / Cross-train | 77 min | 77 min | Weights | 23 km | Rest Day |
| 11 | $6 \times$ hill training | Rest/ Cross-train | 77 min | 77 min | Weights | 32 km | Rest Day |
| 12 | 66 min | Rest/ Cross-train | $6 \times$ hill training | 55 min | Weights | 25 km | Rest Day |
| 13 | 55 min | Rest / Cross-train | 66 min | 66 min | Weights | 34 km | Rest Day |
| 14 | $5 \times$ hill training | Rest/ Cross-train | 66 min | 66 min | Weights | 25 km | Rest Day |
| 15 | 55 min | Rest/ Cross-train | 55 min | 66 min | Weights | 36 km | Rest Day |


| 16 | 55 min | Rest / <br> Cross-train | $5 \times$ hill <br> training | 55 min | Weights | 21 km | Rest Day |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 17 | $4 \times$ hill <br> training | Rest / <br> Cross-train | 55 min | 55 min | Weights | 16 km | Rest Day |
| 18 | 44 min | Rest / <br> Cross-train | 55 min | Rest | Weights | 3 km | Race <br> Day |

$M=$ miles

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## Race Walking Skill Progression

| Your Athlete Can | Never | Sometimes | Often |
| :--- | :---: | :---: | :---: |
| From start, push off with rear foot and step forward with front | $\square$ | $\square$ | $\square$ |
| foot | $\square$ | $\square$ | $\square$ |
| Swing arms vigorously to stimulate quick foot movement | $\square$ | $\square$ | $\square$ |
| Power body forward by lifting heel and pushing off with toes | $\square$ | $\square$ | $\square$ |
| Place feet in a straight line with toes pointed directly forward | $\square$ | $\square$ | $\square$ |
| Rotate hips forward and in with each stride | $\square$ | $\square$ |  |
| Drop and roll hips while twisting back and forth | $\square$ | $\square$ | $\square$ |
| Bend the knee as leg is swung forward | $\square$ | $\square$ | $\square$ |
| Straighten knee all the way back, pulling ground as the heel |  |  |  |
| touches it | $\square$ | $\square$ | $\square$ |
| Use toes and calf muscles to push body forward | $\square$ | $\square$ | $\square$ |
| Increase drive off toes by rolling over and off them | $\square$ | $\square$ | $\square$ |
| Walk with head up, torso erect and centered over hips | $\square$ | $\square$ | $\square$ |
| Hold hands with fingers bent, relaxed and loose | $\square$ | $\square$ | $\square$ |
| Swing arms across chest as they move back and forth | $\square$ | $\square$ | $\square$ |
| Maintain upright position with neck and shoulders relaxed | $\square$ | $\square$ | $\square$ |
| Use relaxed hip movements as speed increases | $\square$ | $\square$ |  |
| Race walk under control for entire race | $\square$ | $\square$ |  |
| Perform proper heel-toe movement | $\square$ | $\square$ |  |

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## Race Walking

Walking by definition is propelling oneself forward while keeping at least one foot in contact with the ground. The art of race walking requires a great deal of practice. It requires that the athlete use quick steps while making sure that the heel of the lead foot touches the ground before the toes of the support foot leave the ground. Race walking is a race of endurance and quick leg movements.

Race walking is a progression of steps taken so that unbroken contact with the ground is maintained. The lead foot, preferably the heel, must touch the track before the back foot leaves the ground. During stride, the leg must be straightened at least momentarily. The supporting leg must be straight in a vertically upright position. When a walker does not have continuous contact with the ground, he/she is not race walking and shall be disqualified.


## Begin Walking Motion and Acceleration

1. From a standing start, push off with rear foot and front foot simultaneously while stepping forward with rear foot.
2. Swing arms vigorously to stimulate quick foot movement.
3. Power body forward by lifting the heel and pushing off with toes.
4. Walk forward, swinging bent arms in opposition to legs.
5. The heel of the lead foot should touch the ground just before the toe of the trailing foot leaves the ground, in heel-toe movement. Feet are placed one in front of the other.
6. Hold hands so the fingers are bent, yet relaxed and loose.
7. Walk with the head up and the torso erect and centered over the hips.

Correct Form


Incorrect Form


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## Maintaining Momentum

1. Let toe and calf muscle push body forward with feet landing in a straight line.
2. Let the hips rotate forward and in with each stride.
3. Hold arms at 90 degrees, swinging them vigorously forward and back.
4. Maintain an upright position with neck and shoulders relaxed.
5. Hips drop and roll while twisting back and forth. This allows your legs to move faster and easier and gives you a longer stride.

6. Arms are always bent at a 90-degree angle and pumping vigorously. Let them swing across your chest as they move back and forth. Forearms should be parallel to the ground, and arm swing originates from shoulders.
7. The knee bends and swings forward taking the step. This allows toes to clear ground.
8. The advancing leg must be straightened from the first moment of contact with the ground until it is in the vertical position.
9. Toes and calf muscles are used to push the body forward. Feet land in a straight line with toes pointed directly forward.
10. Keep neck and shoulders relaxed.
11. Body and head should always be upright .
12. Increase drive off toes by rolling over and off them.
13. Use relaxed hip movements as speed increases.
14. Race walk at highest speed possible while maintaining the correct form.
15. Complete race with a strong finish.

## Faults \& Fixes - Race Walking

| Error | Correction | Drill/Test Reference |
| :--- | :--- | :--- |
| Hips are moving side to <br> side, not forward/backward. | •Improve hip mobility. <br> - <br> Increase understanding <br> of correct motion (or <br> increase awareness of <br> the error). | Break steps down to <br> demonstrate correct <br> direction hips need to move. |

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| Arms move too vigorously <br> up and down and cross <br> body. | •Swing arms forward and <br> backward (like pistons), <br> flexed at elbows. | Practice standing; guide <br> proper technique. |  |
| :--- | :--- | :--- | :--- |
| Rear foot leaves the ground <br> Defore leading foot touches <br> the body. | •Get foot down quicker. <br> the ground. | Remember grabbing <br> motion into ground with <br> foot. | Slow down/reduce speed. |

## Race Walking Drill

Reps: $3 \times 300 \mathrm{~m}$ of increasing-decreasing patterns
Purpose

- Develop pacing
- Develop capacity to surge


## Teaching Points

1. Start at slow pace.
2. Blow whistle after about 50 m to indicate increase in speed.
3. Blow whistle again after another 50 m to indicate another increase in speed.
4. Blow whistle $2 x$ to indicate decrease in speed.


| Points of <br> Emphasis: | Maintain proper form |
| :--- | :--- |
| When to Use: | Beginning of skill work |

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## Coaches' Tips for Race Walkers - At-A-Glance

## Tips for Practice

1. Demonstrate to the athlete each component of this event: starting the race, keeping at least one foot in contact with the ground, and contacting the heel at a point just in front of the body's center of gravity.
2. Race walk 100 m in smooth and easy strides, keeping continuous contact with the ground.
3. Race walk 100 m with no lateral swinging of the trunk or hips.
4. Race walk 100 m with the arms bent 90 degrees at elbows.
5. Race walk 100 m at various speeds, maintaining the proper form and pace.
6. Race walk 100 m at a high speed, concentrating on arm and leg drive and proper form.
7. Race walk 200 m with no backward lean or forward sway.
8. Use arms to control speed.
9. Ask the athlete to feel the strong push off the toe of the back foot; have him or her concentrate on using strong pushes off the back foot to increase stride lengths while race walking 100-200m.
10. Emphasize using bent arms to increase the power of each leg drive.
11. Practice the arm swing while standing still.
12. Teach the athlete to pass without interfering the passed athlete
13. Roll up onto and off the toes of the back foot to increase drive; note that the back foot becomes nearly vertical at high speeds.
14. Note that the hip of the swinging leg reaches its lowest point, and the other hip reaches its highest point, as the feet pass each other.
15. Tell the athlete to think of walking "more easily" when walking faster.
16. Place feet directly in front of each other; try not to allow feet to turn outward.
17. Keep head up, looking at the finish line.

## Unified Running and Walking

Unified sports are a rewarding experience that promotes friendship and athletic skill amongst athletes and volunteers. Consider developing a Unified LDR/W program at your site. A unified team consists of a Special Olympics athlete and a volunteer turned unified partner. This partner must have a completed SOPA medical participation form, background clearances and trainings required of all SOPA volunteers.

The two-member Unified team runs (walks) with all other individual and Unified teams in that event. It is not a separate heat or race. The entry time is the total of the two partners' times in the event. While running or walking in the event the two partners do not necessarily run or walk side by side. They each go as fast as they can. Their finish times are totaled and compared against the total times of other Unified teams in their division to determine the place award. Teams can compete in all running and walking distances.

Special Olympics International has issued updated guidance that calls for the participation of the athlete and partner to be on a comparable ability and age level. The ability range has been defined as running times at best effort within 15 percent. The age range of athletes is essentially categorized in LDR/W as under 21 and adults 21 and over. Guidance calls for partners to be within the same age category as their athlete partner. Special Olympics Pennsylvania LDR/W tournaments are governed by this guidance. Entry forms should be based on the athlete/Unified partner age and pace guidelines. Coaches are encouraged to plan to align their Unified program to meet this guidance.

