

Race Walking

Race Walking Basics

Race walking is an endurance event walked over distances from 3km to 50km. The challenge of the event lies in balancing the technical discipline of keeping to the rules whilst racing in a competitive environment. The talented senior 20km race walker needs to be able to travel in excess of 15km/hr for men and 13.5km/hr for women for the whole distance. Endurance, speed endurance, strength, power and mobility need to be allied to a high skill level to produce the desired result. Long-term application, working from sound technical and physiological principles will produce an economical, fast walking action, that will enable the athlete to succeed.



Basic Rules of Race Walking

1. Race walking is a progression of steps so taken that the walker makes contact with the ground, so that no visible (to the human eye) loss of contact occurs. The advancing leg shall be straightened (i.e. not bent at the knee) from the moment of first contact with the ground until the vertical upright position.
2. For road races under international rules there should be a minimum of 6 to a maximum of 9 judges including the chief judge. The Chief Judge has the power to disqualify an athlete in the last 100m (or from the course to the stadium) if an athlete's progression does not comply with the rules, even if the athlete does not have any prior warnings.
3. Athletes can be cautioned once by a judge if they are 'in danger' of failing to comply with the rules.
4. Athletes can be given a warning for disqualification if they 'fail to comply' with the rules. A warning from 3 separate judges will result in a disqualification from the race. The Chief Judge notifies the athlete.

Training for Race Walking

Children 8 – 11 years

- multi-event practice
- technique work 50- 100m
- steady walks and runs up to 3km
- informal aerobic activity – games
- short sprints with correct technique
- gymnastics and mobility work
- race distance 1km

Young athletes 12 – 13 years

- 3 to 4 walks per week
- supplement with run training
- runners maintain walk technique with 1 to 2 walks per week
- concentration on sustained rhythm work of 3 to 4km
- technical walking of faster pace with rep sessions of 200 to 400m x 8 – 10
- general and specific conditioning work
- race distance 800m

Intermediate athletes 14 – 15 years

- 4 to 5 walk sessions per week
- supplement with run training
- runners as for young athletes with 2 to 3 walks per week
- constant pace walking for rhythm of 5 to 6 km
- technical walking of faster pace with reps from 500m to 1000m for total session of 5 to 6km
- general and specific conditioning work
- race distance 1500m

Advanced athletes 16 – 17 years

- 6 to 7 walk sessions per week
- constant pace for 10 – 12km
- interval training for 7 – 8 km total
- fartlek and incline walks
- race pace work of 4 – 5km
- general and specific conditioning work
- race distance 3km and 5km



Learning Activities

Watch a video of a top quality race walker.

Walk 4 x 50m swinging straight arms from shoulders

- a. Hands to shoulder height in-front and behind
- b. Keep shoulders square, body tall at hips no bending at waist.

Walk on spot by pushing alternating knee forward.

- a. Stand feet together. Bent arm action, push knee forward lifting heel off ground, alternate building speed.

Walk 4 x 50m combining bent arm action with straight leg on contact. Concentrate on technique not speed.

Walk 4 x 100m changing stride length and cadence.

Aim to quickly develop distance covered – 200m, 400m etc. Only progress speed when athlete can maintain technique.

Stand with feet shoulder width apart, practice right angle bent arm action on spot

- a. Arms bent at right angles, drive elbows back, hands to mid chest height at centre point in-front.

- b. Keep shoulders square to the direction of travel.

Walk 4 x 50m with bent arm action.

Equipment for Race Walking

Athletics clothing appropriate to the season. In competition judges must have an unrestricted view of the knee joint.

Training and racing shoes should provide the necessary support and protection. A road running racing shoe with relatively low heel raise provides better mechanics for walking and due to the action (minimal raising of centre of gravity and continuous contact) there is much reduced impact over running so little need for cushioning.

Training is best undertaken on roads, track and in the gym. Care should be taken in constantly lapping in one direction on the track.

The walker must progress with a fluid, controlled action in which the minimum amount of energy is expended for the maximum speed. Technically good walking shows little vertical movement of the head (green dot pathway). Driving arms retain a 90 degree bend at the elbow, rotating on shoulders that mirror the action of the hips (darker blue dots) to balance the movement of the pelvis and legs (yellow dots). This pelvic movement should again show minimal vertical oscillation; tall upright body position is maintained throughout the action (vertical green line). The stride is marked by the heel of the lead foot landing, before the toe of the rear foot, leaves the ground (pink and blue dots on feet). The leg must be straightened at the point of heel contact and this maintained through the vertical with forward drive being gained from pulling back the supporting leg and accelerating the body over it.

Coaching should always progress with technique in mind. An efficient walker will show minimal movement deviations from the model shown and described. A smooth cyclical action from heel contact through to toe off is required retaining stability and posture.

Key Technical Pictures (side)

The double support phase (fig. 1 side) characterizes race walking with the heel of lead foot touching the ground before the toe of the rear foot leaves. A line drawn down from the centre of mass (fig. 1 green line) should show a stride differential of between 40/60 and 50/50 in front/behind the CoM. In women and junior walkers this may increase to 30/70 due to pelvic width and strength considerations. The head is balanced without tension and looks forward. Medial rotation (backwards – forwards movements around the vertical axis) of the pelvis provides an extension to the stride length but this needs to be balanced with the ability to retain a stable hip position (fig1 through 5. front, yellow dots). Stride length for a world-class male senior athlete will be over 1.2m and cadence between 3.2 and 3.5 strides per second. For senior women stride length will be over 1m and cadence similar to male walkers. Speed is increased through longer strides to a limit imposed by

the need for a double support phase (rules of walking). The importance of cadence should not be dismissed and work should be undertaken to raise this to the required levels with strength and stability gains enabling the lengthening of the stride. *Coaching input should concentrate on the smooth transition between the forward 'drive' and active pull back with activities changing cadence and stride length to gain a feel for the most efficient action.*

From the point of heel contact, (fig 1. left foot blue dot) there is a rapid pull back of the straight leg and hip with the body passing over the straight support leg (fig. 2) with the hips remaining stable (front and side view fig 2 and 3 yellow dots). The free leg is driven forward led by the knee with the foot kept close to the ground by raising the toes (side view fig 2, 3 and 4 red dots). Having passed the vertical support phase this is the key acceleration

phase with the support leg driving backwards and arms used to balance the rotations of the pelvis. The walker must maintain a tall position throughout the action.

Coaching input must focus on an active pull back against the knee from the heel contact and an acceleration that is carried through to the drive off the ball of the foot and roll onto the toes. A stride length that maintains stability of the pelvis and is rapid is

sought.

As described above the free leg is characterized by the foot being kept close to the ground. It is dorsi-flexed (toes raised) and turns out minimally, if at all, as it passes the vertical supporting leg (front view fig. 3 pink dot). The hip of the free leg is driven forward from toe off, with the recovery of the lower leg showing a knee angle of no less than 95 degrees (i.e. don't pull the heel too

high). The upper leg is pulled through rapidly as an extension of the hip. The lower leg then acts as a pendulum to swing forward and reach the double support phase.

Coaching should emphasize a rapid pull through of the hip and upper leg after toe off and a relaxed swing through of the lower leg. 'Drive the hip forward' and 'keep foot low to ground' will assist in gaining the right action.



Key Technical Pictures (front)

The front view of the double support phase (fig 1 side) shows the requirement for counter balancing actions by the arms. Rotation should be around the shoulder with a right angle position maintained at the extremes of the arm position with a very slight opening out through the mid range. To counter the medial rotation of the hips the hand will cross to the mid point of the chest but no further.

Generally the hands do not rise as far as the picture demonstrates (fig 1 front view) ending at the height of the base of the sternum. The arms are driven backwards and slightly outwards at an

angle to the body (fig 3, 4 and 5 front view). This helps create stability in the lower back and provides counter rotation to the pelvic movements. *Coaching should focus on arms moving freely around the shoulders with the shoulder girdle minimally rotating. Standing in front of a mirror and practicing the arm action can pay dividends.*

The dropping of the shoulder line (fig. 1 through 5 front view blue dots) mirrors that of the pelvic line (fig. 1 through 5 front view yellow dots). Coaching should aim to control the pelvic/ shoulder drop on pull through of the free leg. Dropping too much

shows lack of hip control and wastes energy. Functional stability exercises focusing on lower abdominals and gluts will assist.

Foot placement at heel contact should be in line with the hip joint, with the foot ideally pointing forwards. The foot may be turned slightly inwards at heel contact but should land forward (fig 1 and 2, front view blue dot on foot).

Coaching should address any

local muscle weakness in the shin area.

No crossover of the foot landing position should be apparent at any

time. Viewing fig. 1 through 5 front view and the red and blue dots are always visible. The feet land on a broad line.

