

Sprints

The image features a green chalkboard background. In the lower-left quadrant, two pieces of pink chalk are positioned diagonally. The chalkboard is covered with faint, white, hand-drawn markings, including a large 'S' shape in the upper right, a 'V' shape in the middle right, and a 'W' shape in the lower left. The lighting is soft, creating a slight shadow for the chalk pieces.

Steve Cowburn – 0419 301 412

Sprints

- Session Objectives
 - Define sprint events
 - Identify the 2 fundamentals that define sprint speed
 - Analyse and identify key actions at various stages of a sprint race
 - Identify common sprinting faults

Sprints

Introduction

- The sprints cover the following track events: 100 metres, 200 metres, 400 metres, 4x100 metre, 4x200m and the Medley relay. Although the sprints are events in themselves, **the ability to sprint is an important weapon in an athlete's armoury** for many track and field events and many sports.



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- What determines how fast an athlete can run?
- Stride length
- Stride cadence

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By breaking the sprinting technique into its component parts you can focus on and improve specific phases of the action. Excellent sprinting technique has some of the following characteristics...

- **Arm Action**
Arms should swing from the shoulder. Keep them relaxed and at approximately 90 degrees of flexion. **Focus on swinging arms in a straight line.**
- **Body Posture**
The entire body should lean forward slightly as the athlete runs. It should not bend from your waist, this will adversely affect the COG and correct running mechanics. Instead the slight lean forward should come from the ground up. **Head and trunk should be still and entire body relaxed.**
- **Ground Contact**
Run on the balls of the feet NOT the toes. Toes are fairly weak and offer little or no stability.
- **Stride Length**
There is a fine line between overstriding and under striding. If stride length is too great and the foot lands in front of the COG it will cause the athlete to brake. If the stride length is too short the stride frequency will be high but the athlete won't cover much ground.



Sprints

Sprint Technique

- Stages
 - On your marks
 - Set
 - Bang
 - Acceleration
 - Stride
 - Lift



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On your marks

- Feet correctly located in the blocks
- Fingers behind the line
- Fingers form a high bridge
- Hands evenly positioned slightly wider than shoulder width
- **Shoulders back and vertically above or slightly forward of the hands**
- Arms straight but not locked at the elbows
- Head and neck in line with the spine
- Eyes focused on the track (1 to 2 metres ahead)
- Gentle breathing
- Face and neck muscles relaxed



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Set

- **Hold the breath**
- Hips rise slowly to a position above the shoulders
- **Head and neck in line with the spine**
- Eyes focused on the track one or two metres ahead
- **Shoulders vertically above or slightly forward of the hands**
- **Front leg knee angle approx. 90 degrees**
- Rear leg knee angle approx. 120 degrees
- Feet pushed hard back into the blocks

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Bang!

- Exhale
- Drive the arms hard
- Drive the back leg forward into a high knee action
- Extend the whole body so there is a straight line through the head, spine and extended rear leg - body approx. 45 to 60 degree angle to the ground
- Eyes Focused on the track 2 to 3 metres
- Keep low, relaxed and drive
- Run out of the blocks - do not step or jump out of the blocks

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Acceleration Phase

- **Eyes focused on the track to keep low to allow the build up of speed**
- Forward lean of the whole body with a straight line through the head, spine and extended rear leg
- Face and neck muscles relaxed (no tension)
- Shoulders held back and relaxed, square in the lane at all times
- Arms move with a smooth forward backward action - not across the body - drive back with elbows - hands move from approx. shoulder height to hips
- **Elbows maintained at 90 degrees (angle between upper and lower arm)**
- Hands Relaxed - fingers loosely curled - thumb uppermost
- Legs - fully extended rear leg pushing off the track with the toes - drive the leg forward with a high knee action with the knee pointing forward and with the heel striking under the backside (not the back of the backside as the knee is low and pointing down to the ground) - extend lower leg forward of knee (rear leg drive will propel the foot forward of the knee) with toes turned up - bring foot down in a claw action with a ball of foot/toe strike on the track vertically below the knee - pull the ground under you into a full rear leg extension - (elbow drive assisting the whole action)
- On the ball of foot/toes at all times - feet pointing forward straight down the lane
- Elbow drive commences just before rear leg drive
- Fast leg action, good stride length allowing continual acceleration
- Appearance of being smooth and relaxed but driving hard with elbows and legs
- **The drive is maintained for approx. 20-30 metres and then the whole body slowly comes into a high tall action**

Sprints



Stride Phase

- Smooth transitions from acceleration phase to stride phase
- Eyes focused at the end of the lane - tunnel vision
- Head in line with the spine - held high and square
- Face relaxed - no tension - mouth relaxed
- **Chin down, not out**
- Shoulders held down (long neck), back (not hunched), relaxed and square in the lane at all times
- Smooth forward backward action of the arms- not across the body - drive back with elbows - brush vest with elbows - hands move from shoulder height to hips
- Elbows held at 90 degrees at all times (angle between upper arm and lower arm)
- Hands relaxed - fingers loosely curled - thumb uppermost
- **Hips tucked under - slight forward rotation of the hip with forward leg drive to help extend the stride**
- Legs - fully extended rear leg pushing off the track with the toes - drive the leg forward with a high knee action with the knee pointing forward and with the heel striking under the backside (not the back of the backside as the knee is low and pointing down to the ground) - extend lower leg forward of knee (rear leg drive will propel the foot forward of the knee) with toes turned up - bring foot down in a claw action with a ball of foot/toe strike on the track vertically below the knee - pull the ground under you into a full rear leg extension - (elbow drive assisting the whole action)
- On the ball of foot/toes with the feet pointing forward straight down the lane
- No signs of straining or tension in the face, neck and shoulders
- Appearance of being Tall , Relaxed and Smooth with maximum Drive

Sprints



Lift Phase

- As the Stride Phase but with emphasis on:
- High knee action (prancing)
- **Leg action fast and light as if running on hot surface**
- Fast arms - more urgency

Sprints



General Notes

As you monitor the athlete's technique look for:

- a **Tall** action
 - This means erect, running on the ball of foot/toes (not heels) with full extension of the back, hips and legs as opposed to 'sitting down' when running
- a **Relaxed** action
 - This means move easily, as opposed to tensing and 'working hard' to move. Let the movements of running flow. Keep the hands relaxed, the shoulders low and the arm swing rhythmically by the sides.
- a **Smooth** action
 - This means float across the top of the ground. All motion should be forward, not up and down. Leg action should be efficient and rhythmic. The legs should move easily under the body like a wheel rolling smoothly along.
- **Drive**
 - This means push from an extended rear leg, rear elbow drive with a high forward knee drive followed by a strike and claw foot action just behind the body's centre of gravity.

Sprints

- Common faults
 - Arms
 - across body
 - Straighten at back
 - Tension
 - Short/long swing
 - Legs/feet
 - Not on 'balls'
 - Low knee lift
 - Flat footed
 - Body
 - Shoulders/hips swing
 - High shoulders
 - Tension
 - 'Loose' head