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**Acceleration &
Speed**

BUTLER PERFORMANCE, 2021

Accel/Speed Overview

Two reasons you should perform speed & acceleration sessions:

Performance Benefits

- To improve the speeds of performance, which may be a determining factor for elite performance.

Injury Risk Management

- To mitigate the risks of injury experienced when maximal accelerations/top speed is performed within matches.
 - Generally, high speed running should be performed during training 1x in-season & 2x pre-season.

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Programming Accel/Speed

When should you perform accel/speed sessions?

- These sessions should only be performed when fresh & free from fatigue.
- A thorough 15min warm up should be performed prior to these sessions.
- An experienced S&C Coach must be consulted with prior to completing these sessions.

How should you perform accel/speed sessions?

- With >95% of your maximum capacity. If you're speed drops 2-5%, then finish the accel/speed session.
- Refer to different session types on the following page.

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Types of Accel/Speed Sessions

There are many different types of acceleration/speed sessions.

- Traditional (just sprint!)
 - Variation of starting stance (static/falling/rolling/L/R etc)
 - Flying Sprints
 - Mini Hurdle Sessions
 - Floating Sprints
- Non-Traditional (hands on hips while sprinting to overload core)
- Overspeed
 - Downhill/High Speed Treadmill/Towing/Tailwind
- Resisted
 - Headwind/sleds/weight vest/deep water

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Team Sports Accel/Speed

To improve your acceleration and top-speed in the context of improving field-based team sports performance, it is important to:

- Build aerobic fitness - you can't sprint fast in the last quarter if you're exhausted!
- Build maximal strength & power
- Enhance Technique

From a non-physical perspective, it is important to:

- Read the play & react quicker – if you're a second faster to react – you'll beat anyone over 30m
- Be ferocious with your mindset – often we conserve our energy
- Be already on the move – you'll beat those who are walking/standing

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Accel Technique

Acceleration (first 15 metres) requires huge force and is violently aggressive while maintaining smoothness.



Push off is 45 degrees

Big Long Pushes

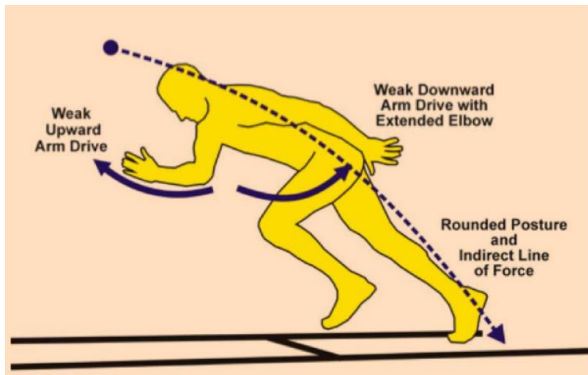


Figure 8. Poor arm drive mechanics during the acceleration phase of sprinting. The resulting posture impairs optimal hip extension and force delivery.

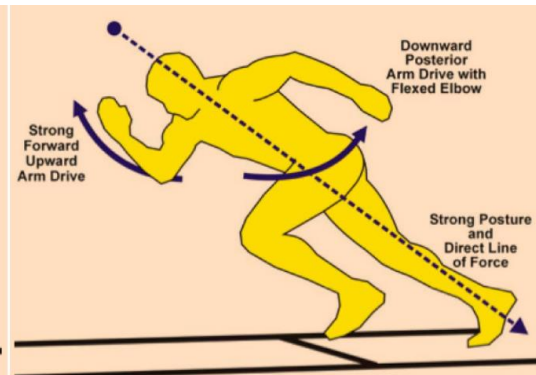


Figure 9. Optimal arm drive mechanics during the acceleration phase of sprinting. This leads to the dynamic delivery of force through the hip and extension leg.

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Top Speed Technique

Top speed (first 15 metres) requires huge rates of force development while maintaining smoothness.



Figure 11.12 Upright sprinting mechanics at maximal velocity.

Fast punchy feet, like “running on hot coals”

Upright posture with slight lean forward.

Front knee almost parallel

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About

BUTLER PERFORMANCE is an organisation who serves committed athletes in their pursuit of becoming exceptionally strong, powerful and enduring.

The Head of Strength & Conditioning (S&C), Lachie Butler, is also the Head S&C coach at the Sandringham Dragons Football Club and is passionate about serving athletes.

For more information, please contact Lachie at [0466725415](tel:0466725415) or visit the BUTLER PERFORMANCE website

<https://butlerperformance.com.au>

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