

BLAKE ASHBY

Maximising Athletic Development in Athletes with Two Gym Sessions Per Week

For many football players in the South Australian National Football League (SANFL), strength and conditioning programs are often constrained by time due to training schedules, work, study, and other commitments. However, with careful planning, just two gym sessions per week can effectively target all major joints, planes of motion, movement patterns, and athletic traits while maintaining a primary focus on strength development. The key to success lies in periodisation, if you have taken care of your “big rocks” in athletic development but still need to integrate key capacity and/or application modalities then seeking a systematic approach to every on-field or gym session to integrate efficient movement strategies such as plyometrics and isometrics into either warm-up is key. Microdosing these methods throughout the year during the warmup can enhance athletic development by improving tissue capacity, stretch-shortening cycle function, and neuromuscular efficiency (Behm et al., 2021; Kubo et al., 2017).

Before we go any further, for those unfamiliar with the SANFL, it's regarded as the best football league outside of the professional Australian Football League (AFL.) In most cases, SANFL players hold regular jobs outside of their football obligations.

Plyometric training, even in low doses, enhances explosive power and movement efficiency by improving rate of force development (RFD) and tendon stiffness, which are critical for acceleration, jumping, and change-of-direction performance (Markovic & Mikulic, 2010). There is an approach that allows us coaches to gain the adaptation needed with carefully progressively overloading the tissue to get a positive response over a long period of time in the warm-ups (on-field or gym). Similarly, isometric training has been shown to increase tendon stiffness and maximal force production while being joint-friendly, making it a valuable tool for enhancing strength without excessive fatigue (Kubo et al., 2017). By strategically embedding these modalities into warm-ups and gym sessions, athletes can maximise their adaptations without detracting from skill-based training or recovery.

Efficiency in exercise selection is crucial when working with limited training time. Each session should target all muscle groups and movement patterns at least 2-3 times per week, ensuring balanced development while avoiding redundancy. Warm-ups present an opportunity to microdose specific stimuli, allowing for progressive adaptations without disrupting the primary objective of preparing for training (McBride et al., 2008). For example, incorporating short-duration isometric holds or submaximal plyometrics in warm-ups can improve neuromuscular readiness while simultaneously developing strength qualities.

Every exercise, session, and implementation must have a clear ‘why.’ With only a limited number of exercises available per week, knowing the purpose behind each selection is critical for maximising return on investment. Prioritising high-impact exercises—those that deliver the greatest adaptations in strength, power, and movement efficiency—ensures athletes develop optimally while minimising unnecessary fatigue. By systematically integrating strength, plyometrics, and isometrics into training, athletes can sustain year-round progress and long-term development, setting themselves up for success beyond just the immediate season.

Key Topics Covered in the Blog:

1. Strength as the Foundation of Athletic Performance

- Strength underpins all athletic qualities and should be maintained year-round due to long term nature of developing elite strength qualities.
- A systematic approach to exercise selection ensures consistent progress throughout the season.
- Strength development should be a key focus while adapting to individual athlete needs.
- Periodising training to focus on one primary adaptation (e.g., power, speed, strength) while maintaining strength.

2. Microdosing Plyometric and Isometric Work

- Integrating plyometric and isometric exercises into strength programs year-round.
- Using warm-ups (both gym and field-based) to include small doses of plyometric and isometric work if time is of the essence.
- Ensuring consistent exposure to these qualities without overloading the athlete.

3. Planning and Integration

- Structuring programs to target all key movements efficiently within two weekly sessions.
- Using strategic programming to ensure long-term development beyond a single season.
- Understanding that mastery of certain exercises (e.g., weightlifting variations) takes time.
- Being adaptable with programming to accommodate athletes' varying schedules, skills, and commitments.

Strength as the Foundation

Strength underpins all other athletic qualities, serving as the foundation for improvements in speed, power, endurance, and overall resilience. Greater muscular strength is strongly associated with enhanced force-time characteristics, which directly influence an athlete's ability to generate force rapidly, improving sprinting, jumping, and change-of-direction performance (Suchomel, Nimphius & Stone, 2016). A well-structured program ensures that athletes consistently progress their strength across all facets of lifting and muscular contractions while emphasising specific phases such as maximal strength, speed-strength, strength-speed, power, and strength endurance within each phase or session. This systematic approach allows for the development of multiple physical qualities without compromising recovery or performance in skill-based training and competition.

Long-term strength training has been shown to enhance general and sport-specific skills while simultaneously reducing injury risk (Suchomel et al., 2016). Stronger athletes demonstrate superior performances across a range of tasks due to their ability to produce higher levels of force and accelerate their movements more effectively. The rate of force development (RFD), a key performance characteristic, is positively correlated with maximal strength levels, emphasising the necessity of year-round strength training to optimise athletic performance (Suchomel et al., 2016). Additionally, strength training enhances an athlete's ability to potentiate earlier and to a greater extent, leading to improved power output in competitive settings.

There is no substitute for strength when it comes to building an athlete's physical capacity. Implementing structured strength training programs year-round ensures that athletes develop the necessary physical attributes to meet the demands of their sport. Strength should not be viewed as a seasonal priority but rather as an ongoing process that underpins every aspect of athletic performance, expressing and absorbing forces to injury mitigation (Suchomel et al., 2016).

Microdosing Strength Throughout the Week

Understanding the 'why' and 'how' behind exercise selection and execution is crucial, especially when time is limited. Microdosing key strength and power qualities throughout the week is an effective way to maintain long-term adaptations, build tendon resilience, and ensure continued strength development even when gym sessions are restricted. When training time is scarce, strategically distributing strength work across warm-ups and field sessions can sustain key adaptations without compromising primary training goals.

For example, lower-body strength works such as distal hamstring development can be microdosed effectively within on-field warm-ups. If gym sessions are limited to two per week, there may not always be space to include dedicated hamstring exercises. However, systematic exposure through warm-ups can uphold strength and mitigate injury risk. A progressive plan over a season might begin with 20-second Bosch holds, progress to 30 seconds, then transition into dynamic variations before incorporating a four-week Nordic progression plan. These exercises, when implemented in warm-ups before submaximal field training, can reinforce long-term tendon and muscle adaptations without detracting from the session's primary focus (Behm et al., 2021; Kubo et al., 2017).

Beyond hamstring work, microdosing can be applied to other key athletic qualities. For instance, pairing low-volume isometric groin, quad, or glute work with upper-body gym sessions can ensure consistent exposure without accumulating unnecessary fatigue. Similarly, isometric and plyometric exercises such as pogo jumps, ankle stiffness drills, or tendon-loading exercises can be embedded in warm-ups to support tendon health and maintain power outputs throughout the season (Markovic & Mikulic, 2010; McBride et al., 2008). The key to successful microdosing is balancing intensity and volume to align with overall weekly training loads. For example, distal hamstring work should not be programmed before high-intensity sprint sessions due to its role in knee flexion and potential impact on sprint mechanics (Van Hooren & Bosch, 2017).

By carefully planning and periodising microdosing strategies, athletes can receive a continuous stimulus for strength and tendon health without overloading or disrupting key training goals. Strength is not always about maximal loading it is about consistent exposure, strategic timing, and progressive overload over time. Whether targeting hamstring health, groin integrity, or power development, microdosing ensures that no critical quality is neglected, even in time-restricted schedules.

Microdosing Plyometrics for Long-Term Strength and Power Gains

Plyometric training is widely recognised for its ability to enhance neuromuscular function, speed strength, and tendon stiffness. However, traditional high-volume plyometric sessions are not always feasible within limited training schedules. Microdosing plyometrics strategically distributing small doses throughout the week has emerged as a practical approach to maintaining and developing athletic qualities without excessive fatigue accumulation (Ramírez-Campillo et al., 2018; Bohm et al., 2021).

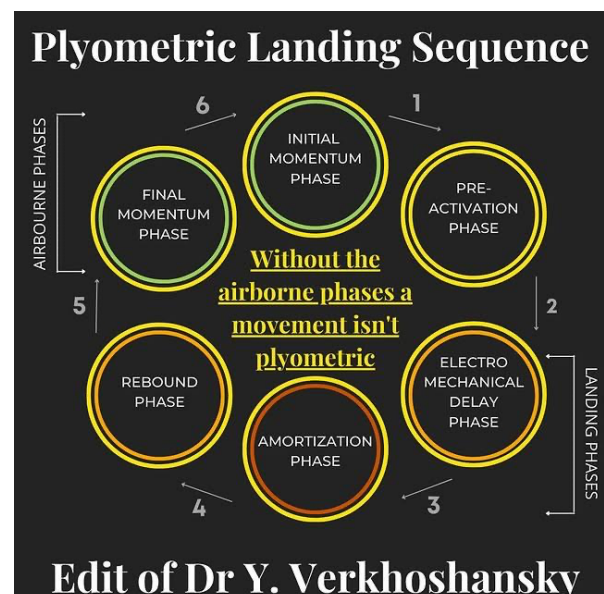
Defining Plyometrics: Does Contact Time Matter?

Plyometric exercises are defined by the stretch-shortening cycle (SSC), where a rapid eccentric contraction is immediately followed by a concentric action, allowing energy storage and release via elastic structures like tendons (Markovic & Mikulic, 2010). Contact time plays a role, but it does not solely determine whether an exercise is plyometric. Instead:

1. Fast SSC movements (<250ms): Sprinting, bounding, and drop jumps maximise tendon elasticity and neuromuscular efficiency (Komi, 2000).
2. Slow SSC movements (>250ms): Countermovement jumps and loaded jump squats still engage the SSC but involve greater muscular force production (Van Hooren & Bosch, 2017).

My interpretation and definition of a Plyometric:

Plyometrics must involve the SSC and rapid force development to be classified as such. Contact time matters but is not the only defining factor longer ground contact exercises can still be plyometric if they maintain an efficient SSC. Additionally, movement continuity (e.g., repeated jumps or bounds) enhances plyometric adaptation but is not a strict requirement for an exercise to be classified as plyometric. Thus, even low-contact time exercises in warm-ups, such as ankle hops or continuous broad jumps, still leverage the SSC and contribute to power development if programmed effectively. Breaking it down to what the exposure of the tissue is rather than speed has helped me immensely understanding how to implement plyometrics. I tend to go with the guidelines from this (see diagram).



Microdosing Plyometrics for Hip and Ankle Adaptations

Recent research supports that low-volume plyometrics, performed frequently, can drive significant tendon and muscle adaptations at the ankle and hip without requiring dedicated high-intensity sessions.

- **Ankle Complex Adaptations:**

- Low-intensity plyometric exercises (e.g., pogo jumps) 2-3 times per week at moderate volumes (50-100 total jumps per session) improve Achilles tendon stiffness and reactive strength (Spurrs et al., 2003).
- Minimal effective dose studies suggest that short-duration hopping drills and submaximal bounding exercises yield long-term benefits when sustained over a season (Bohm et al., 2021).

- **Hip Complex Adaptations:**

- Moderate-intensity bounding or hurdle jumps, programmed for 3-4 sets of 6-8 reps per session, enhance hip extension power and sprint acceleration (Ramírez-Campillo et al., 2018).
- Incorporating isometric holds (Bosch holds, single-leg bridge) and eccentric-focused work (assisted Nordics) into warm-ups sustains posterior chain activation without interfering with sprint mechanics (Van Hooren & Bosch, 2017).

Is Microdosing Better Than Isolated Plyometric Training?

A key debate in strength and conditioning is whether microdosing plyometrics (e.g., embedding them into warm-ups) is as effective as isolated, structured plyometric training in the gym.

- **Isolated plyometric training (gym-based, controlled environments):**

- More effective for maximising vertical power and tracking intensity due to force plate data and controlled programming (McBride et al., 2008).
- Allows for progressive overload with increasing jump heights, external load, and volume tracking.

- **Microdosing plyometrics (integrated into warm-ups or on-field training):**

- Provides consistent, year-round exposure to plyometric loading without adding fatigue (Bohm et al., 2021).
- Helps sustain tendon health and neuromuscular efficiency by reducing SSC decay during periods of reduced gym work (Ramírez-Campillo et al., 2018).
- Ensures time efficiency, allowing teams with restricted gym access to maintain key adaptations over long seasons.

The ideal approach is a hybrid model, where low-volume plyometric work is microdosed throughout warm-ups while structured sessions track key power outputs in the gym. For example, distal hamstring work can be progressively developed through on-field drills (e.g., Bosch holds, single-leg bridge progressions, assisted Nordics) before shifting to structured gym exercises when time allows.

Microdosing Isometrics for Long-Term Strength and Power Gains

Isometric training is renowned for its ability to enhance strength, stabilise joints, and increase time-under-tension without the high fatigue demands of traditional dynamic exercises. Microdosing isometrics—strategically integrating brief isometric holds throughout the week—has emerged as an effective way to sustain and develop muscular strength and endurance without excessive strain on the athlete (Pinniger et al., 2000; Nuzzo et al., 2020).

Defining Isometrics: Does Duration Matter?

Isometric exercises involve muscle contractions without a change in muscle length, typically performed against an immovable object (overcoming) or when holding a static position (yielding). Duration and intensity are key, but they do not solely determine the effectiveness of an isometric exercise. Instead:

- **Short-duration (5-10 seconds):** High-intensity isometric holds (e.g., maximal voluntary contraction) engage neural drive and improve muscular strength (Wong et al., 2017).
- **Long-duration (20-45 seconds):** Moderate-intensity holds (e.g., wall sits or planks) help build muscular endurance and overload key joints like the knees and shoulders (Bampouras et al., 2008).

My interpretation and definition of Isometrics:

Isometrics must involve the muscle holding a contracted state with no change in length to be classified as such. Duration and intensity both matter but are not the only defining factors—longer holds at moderate intensity can still be effective if they focus on maintaining tension in key muscle groups. Additionally, variation in joint angles (e.g., different squat depths or push-up holds) provides diverse training stimuli without needing to rely solely on duration or intensity.

Microdosing Isometrics for Hip and Ankle Adaptations

Recent studies suggest that frequent, low-volume isometric training is highly effective in promoting tendon and muscle adaptations at the ankle and hip without requiring intense, isolated sessions.

- **Ankle Complex Adaptations:**
 - Isometric exercises targeting the Achilles tendon (e.g., calf raises held at top position) 2-3 times per week improve tendon stiffness and reduce injury risk (Maffiuletti et al., 2011).
 - Studies show that short-duration isometric holds (e.g., isometric calf raises) yield long-term benefits when integrated into warm-up routines (Maffiuletti et al., 2011).
- **Hip Complex Adaptations:**
 - Moderate-intensity isometric holds (e.g., hip flexor holds, glute bridges) programmed for 3-4 sets of 20-30 seconds per session, contribute to improved hip extension power and sprint acceleration (Shaw et al., 2018).
 - Incorporating isometric glute contractions and hip flexor holds into warm-ups sustains activation of the posterior chain, enhancing sprint mechanics (Schoenfeld, 2010).

Is Microdosing Better Than Isolated Isometric Training?

A key debate in strength and conditioning is whether microdosing isometrics (e.g., embedding them into warm-ups) is as effective as isolated, structured isometric training in a controlled environment.

- **Isolated Isometric Training (gym-based, controlled environments):**
 - More effective for maximising strength and measuring progress due to controlled intensity, joint angles, and volume tracking (Nuzzo et al., 2020).
 - Allows for progressive overload through varied resistance, time under tension, and controlled fatigue management.
- **Microdosing Isometrics (integrated into warm-ups or field training):**
 - Provides frequent, year-round exposure to isometric stress without inducing high fatigue (Pinniger et al., 2000).
 - Helps sustain muscle activation and joint stability during periods of reduced gym focus, maintaining strength and mitigating potential loss (Shaw et al., 2018).
 - Offers time efficiency, making it particularly valuable for teams with limited gym access or tight training schedules.

The ideal approach is a hybrid model, where low-volume isometric work is microdosed throughout warm-ups while structured gym sessions track specific strength outputs. For example, isometric holds for the quads or hamstrings can

be incorporated into dynamic warm-ups or recovery days, shifting to more intense, isolated isometric work in the gym when available.

Practical Applications of Isometric Training

1. Gym-Based Implementation

Isometric training in the gym can enhance neuromuscular activation, tendon stiffness, and force production, which are essential for improving maximal strength, rate of force development (RFD), and speed-strength (Lum & Barbosa, 2019; Rønnestad et al., 2020).

Pre-Strength Work: Isometric Priming for Power Output

Rationale: Short-duration, high-intensity isometric contractions before dynamic lifts can potentiate the nervous system, improving RFD and explosive power (Blazevich & Babault, 2019).

- **Exercise & Protocol:**
 - **Overcoming Isometric Mid-Thigh Pull** – 3 sets × 3-5 seconds @ 80-100% maximal intent
 - **Isometric Bench Press Against Pins** – 3 sets × 5 seconds @ maximal intent
 - **Timing:** 3-5 minutes before heavy lifting

Post-Lift Activation: Enhancing Tendon Health and Strength-Endurance

Rationale: Prolonged yielding isometrics reinforce tendon stiffness and neuromuscular control, which is key for force transmission and injury resilience (Kubo et al., 2001; Bohm et al., 2021).

- **Exercise & Protocol:**
 - **Isometric Mid-Thigh Pull Hold** – 30-40s × 3 sets @ 50-60% max effort
 - **Isometric Split Squat Hold** – 30s × 3 sets @ bodyweight or light load
 - **Timing:** Final phase of a strength session

2. On-Field Integration

Isometric exercises can be seamlessly microdosed in warm-ups and recovery sessions to enhance speed-strength and neuromuscular readiness while minimizing fatigue (Balshaw et al., 2017; Van Hooren & Bosch, 2017).

Warm-Ups: Neural Priming and Elasticity Maintenance

Rationale: Low-volume, high-intensity yielding and overcoming isometrics activate the central nervous system (CNS), improving sprint mechanics and reactive strength (Tillin & Folland, 2014).

- **Exercise & Protocol:**
 - **Isometric Pogo Hops** – 3 sets × 5-10 reps @ fast, reactive contacts
 - **Isometric Wall Drive Hold** – 3 sets × 6s per leg @ max intent
 - **Timing:** Immediately before sprinting or jumping

Recovery Days: Enhancing Neuromuscular Activation Without Fatigue

Rationale: Submaximal yielding isometrics promote blood flow, muscle activation, and tendon adaptation without accumulating central fatigue (Oranchuk et al., 2019).

- **Exercise & Protocol:**
 - **Isometric Glute Bridge Hold** – 3 sets × 30s

- **Isometric Copenhagen Hold** – 3 sets × 20s per side
- **Timing:** Post-recovery session or low-intensity training days

Conclusion

Traditional strength programs often allocate plyometrics and isometrics to specific training phases, but microdosing these modalities ensures continuous improvement in key athletic qualities. A well-structured microdosing approach, applied in both gym-based and on-field settings, allows athletes to sustain peak performance while managing fatigue effectively and most importantly could save time in the short-allotted timeframe state league provides its strength and conditioning staff. By leveraging these training strategies, strength and conditioning coaches can enhance both long-term athletic development and immediate performance outcomes. Microdosing isometric exercises at strategic points in training can enhance maximal strength, speed-strength, tendon health, and neuromuscular efficiency. A combination of overcoming isometrics for neural drive and yielding isometrics for endurance and stability creates a well-rounded adaptation strategy without excessive fatigue.

How to practically implement your plans

Creativity in Programming & Balanced Development

One of the biggest challenges in strength programming, especially in time-constrained environments like SANFL is covering all major muscle groups and movement patterns without leaning too heavily into personal bias or traditional norms. While foundational lifts like squats, deadlifts, and presses remain staples, truly effective programming goes beyond the basics. It builds strength and power across all planes, positions, and contexts that matter most to your athletes. A common mantra in the industry is that strength and conditioning is both an art and a science. I couldn't agree more. The science provides the evidence base, what we know works. The art is in how you implement it: how you manipulate the sets, reps, timing, and intent to fit your athletes' environment, schedule, and development pathway.

PERFORMANCE

The real fun and often the most overlooked skill is falling in love with that creative side of coaching. Every training block, session, and athlete presents a unique puzzle to solve. And when you care enough to solve it with purpose, you find yourself not just programming lifts, you're designing long-term physical development strategies. Whether you want to zoom in on a single adaptation or zoom out for broader development, the tools are there you just have to know when and how to use them.

Multi-Quality Training: Blending Traits with Purpose

The research supports what great coaches have done for years: integrating multiple athletic traits in a single session can drive superior adaptations, when done with intent. Combining strength, speed, and power doesn't lead to interference, it creates synergy.

Key takeaways from the evidence:

- Train speed first. High-velocity movements (e.g., Olympic lifts, jumps) performed before maximal strength lifts enhance rate of force development and neuromuscular efficiency (Suchomel et al., 2018).
- Microdose wisely. Isometric and plyometric work can be layered throughout the week in warm-ups or low-impact blocks to support tendon health and power output without excessive fatigue (Kubo et al., 2017).
- Plan recovery, not avoidance. Strength, power, and endurance adaptations can coexist in the same training week, interference only occurs when recovery windows and load management are ignored (Fyfe et al., 2016).

To maximise athletic transfer, every session should strike a deliberate balance: combine primary strength development with key speed, power, and injury-mitigation strategies. Blend gym-based and on-field elements to ensure nothing is missed and nothing is wasted.

Key Takeaway

If we zoom out and view each individual session as a stimulus the body must react and adapt to, we gain more control over how and when we introduce key training elements. With a clear understanding of future training demands (i.e., periodisation), we can plan gym sessions, warm-ups, and recovery windows to maximise athletic development—even when time is limited.

By blending evidence-based strategies with coaching intuition, we can strategically manipulate intensity, volume, and exercise selection throughout the year to achieve meaningful adaptations without increasing injury risk or athlete fatigue. Creativity in programming isn't about doing more it's about doing what matters, when it matters most.

Here are four key creative strategies to carry forward:

- **Balanced Development** - No movement pattern or muscle group is left behind. Each session touches multiple qualities without creating interference through smart pairing and movement selection. This maintains specificity without hyper-fixating on just one trait.
- **Microdosing for Efficiency** - Small, well-timed doses of strength, speed, isometrics, and plyometrics are embedded in warm-ups and main lifts to maintain adaptations year-round. This keeps athletes robust without overloading their systems, especially vital when working with just two sessions per week.
- **On-Field vs. Gym Integration** - Power and speed don't have to live solely in the gym. Why can't we progressively overload med ball throws or sprint mechanics during warm-ups? Max velocity exposure and power-based movements can and should live in warm-ups, particularly when gym access is limited. Train the trait where it fits best—field or gym.
- **Creative Programming for Real World Constraints** - We're not trying to make adaptation harder by squeezing every characteristic into a single session. Instead, we layer adaptations across time, every plane, joint, and muscle is targeted in context throughout the year. With limited time and space, this level of intent and creativity becomes a competitive edge.

PERFORMANCE

Ultimately, this approach ensures SANFL athletes develop strength, speed, and resilience across all positions, seamlessly integrated within their broader team training schedule. Creativity in programming isn't about reinventing the wheel, it's about optimising the timing, placement, and progression of proven methods for the real-world constraints we face.

| Monday | | Tuesday | | Wednesday | | Thursday | |
|--|--|-----------------------------|--|--|---|------------------------------|--|
| Session Emphasis | Early stages - Mobility/Isometrics Late stage - Accel/C.O.D | LOWER BODY DOMINANT | | Session Emphasis | Early Stage - Plyometric (Ankle/SGCT) Late Stage - Weekly Max Velocity Exposure | | |
| Part 1- | | A ⚡ PREPARATION - 10MINUTES | | Part 1- | Pre Training Prep- *Mandatory Banded Single Leg hamstring Curl x 10 each side Banded Hip Flexor Raise x 10 each side Foam Roller Adductor Squeeze x50sec | UPPER BODY DOMINANT | |
| Early Stage - Raise blood flow with Mob, HIT Isometrics with acceleration and Dynamic Movements | Isometrics- [1 round should be done prior training] Single Leg Glute Bridge x30sec e/s (45-70deg Knee Flex) Split squat Iso x30sec e/s (70-90deg) General Mobility- (depth) Wall Load & Lift, A March, A March Swithe, Cossacks, S/L RDL into High knee, Lunge with thoracic opener, inchworms Generic movement (Raise) Grapevine, A skips, Jumps, Bounds, Hops, Run throughs @70,80% | Warm Up (Read Me) | | Early Stage - Raise blood flow into Plyometrics continuum and emphasise GAIT. | General Mobility- Pigeon, Wide Climbers, Windmills, Calf Mobility Generic movement- Sweeps, Alt. Jumps, Hopping, Leg Swings, B.St-RDL taps, Rev. Nord Emphasis- -Double Foot Ankle Pogos 2 sets x 8 reps (fast) -Broad Jumps 2 sets x 3 jumps (continuous) | A ⚡ PREPARATION - 10MINUTES | |
| | | B ⚡ MAIN - 10MINUTES | | Part 2- | Partnered Cycles x 6e/s Shin Dribbles x20metres Knee Dribbles x20metres A Switches into A skip x20metres Flying 40s Prep Run through @ 85% | Warm Up (read me) | |
| | | C ⚡ MAIN - 12MINUTES | | Late Stage - Max Velocity Preparation | | Standing Medball Chest Throw | |
| Part 2- | Lateral Line Hopping x20 for speed E/S N - Drill x2 each side @ 80% then 90% Partnered Chasey (around arc) x1 each way @ 90% | BB Front Squat | | Part 3- | 4 x Linear Running Efforts - 20m Build up into 40m Top Speed Exposure @ 90,95,100,100% | Overhead Slam | |
| Change of Direction into Curvilinear running | | Broad Jump Medball Throw | | Finale | | BB Bench Press | |
| Part 3- | | Single Leg Hamstring Curl | | | | DB Row - One-Arm | |
| Finale | Linear Run Throughs - 90, 95 and 95% | D ⚡ FINAL - 10MINUTES | | | | Landmine Lateral Lunge | |
| | | DB Bench Press - Close-grip | | | | C ⚡ MAIN - 15MINUTES | |
| Total- | 15mins | Pull-ups | | Total- | 15min | Push Jerk | |
| | | | | | | Copenhagen with Cable Row | |

Final Thoughts: Tools, Not Rules

The strategies outlined in this blog - microdosing strength, plyometrics, and isometrics; integrating multi-quality training; and creatively programming within constraints -are powerful tools to target both physical and physiological adaptations. They're not the only tools, but they're ones I've found effective in real-world environments.

At my club, this approach has played a role in reducing controllable injury rates, hitting PBs, and perhaps most importantly building a strong gym culture where athletes understand the "why" behind their training. But as every coach knows, there's more than one way to skin a cat. No single method owns the path to high performance.

Every coach should have a toolbox filled with adaptable methods and this blog offers just one of many. I hope it becomes a practical addition to your programming arsenal, especially if you're navigating the time, space, and resource challenges of state league environments.

Ultimately, whether you're working with elite professionals or time-crunched semi-professionals, the key is having a clear, targeted approach that frequently stimulates adaptation. While the ideal model may involve more frequent or specialised sessions, we must work within our context. That's where creativity, planning, and purposeful intent make the biggest impact.

Stay adaptable. Stay curious. And above all, keep chasing better.

BASH
P E R F O R M A N C E

References

- Balshaw, T. G., Massey, G. J., & Maden-Wilkinson, T. M. (2017). Isometric strength training and neuromuscular adaptation. *Journal of Strength & Conditioning Research*, 31(5), 1311-1319.
- Bampouras, T. M., et al. (2008). Effects of isometric strength training on muscle endurance and joint stabilization. *Journal of Strength and Conditioning Research*.
- Behm, D. G., Alizadeh, S., Drury, B., & Drinkwater, E. J. (2021). Isometric training: Benefits and considerations for athletic performance. *Sports Medicine*, 51(1), 1-22.
- Blazevich, A. J., & Babault, N. (2019). Neuromuscular adaptations to isometric training. *Scandinavian Journal of Medicine & Science in Sports*, 29(4), 524-535.
- Bohm, S., Mersmann, F., & Arampatzis, A. (2021). Human tendon adaptation in response to mechanical loading: A systematic review and meta-analysis. *Sports Medicine*, 51(5), 897-917.
- Bohm, S., Mersmann, F., & Arampatzis, A. (2021). Tendon adaptation and loading strategies. *Sports Medicine*, 51(1), 25-47.
- Komi, P. V. (2000). Stretch-shortening cycle: A powerful model to study normal and fatigued muscle. *Journal of Biomechanics*, 33(10), 1197-1206.
- Kubo, K., Ikebukuro, T., Yata, H., Tomita, M., & Okada, M. (2017). Effects of low-load isometric contraction training with different durations on muscle size and strength. *Scandinavian Journal of Medicine & Science in Sports*, 27(1), 165-175.
- Kubo, K., Kanehisa, H., & Fukunaga, T. (2001). Influence of isometric training on tendon properties. *Journal of Applied Physiology*, 91(1), 26-32.
- Maffiuletti, N. A., et al. (2011). Neuromuscular adaptations to isometric training: A systematic review. *European Journal of Applied Physiology*.
- Markovic, G., & Mikulic, P. (2010). Neuro-musculoskeletal and performance adaptations to lower-extremity plyometric training. *Sports Medicine*, 40(10), 859-895.
- McBride, J. M., Triplett-McBride, T., Davie, A., & Newton, R. U. (2008). The effect of heavy- vs. light-load jump squats on the development of strength, power, and speed. *Journal of Strength and Conditioning Research*, 22(2), 486-495.
- Nuzzo, J. L., et al. (2020). The efficacy of isometric training for improving strength and endurance. *Journal of Strength and Conditioning Research*.
- Oranchuk, D. J., Storey, A. G., Nelson, A. R., & Cronin, J. B. (2019). Isometric training for athletic performance. *Sports Medicine*, 49(4), 437-450.
- Pinniger, G. J., et al. (2000). Isometric exercise and its applications in strength development. *Journal of Applied Physiology*.
- Ramírez-Campillo, R., et al. (2018). Effects of different plyometric training frequencies on components of physical fitness in amateur female soccer players. *Frontiers in Physiology*, 9, 934.
- Rønnestad, B. R., Hansen, E. A., & Raastad, T. (2020). Short-duration isometric training improves maximal strength. *European Journal of Applied Physiology*, 120(3), 687-694.
- Schoenfeld, B. J. (2010). The mechanisms of muscle hypertrophy and their application to resistance training. *Journal of Strength and Conditioning Research*.
- Shaw, A., et al. (2018). Isometric training and its effects on athletic performance and strength gains. *Strength and Conditioning Journal*.
- Spurrs, R. W., Murphy, A. J., & Watsford, M. L. (2003). The effect of plyometric training on distance running performance. *European Journal of Applied Physiology*, 89(1), 1-7.
- Suchomel, T. J., Nimphius, S., & Stone, M. H. (2016). The importance of muscular strength in athletic performance. *Sports Medicine*, 46(10), 1419-1449.
- Tillin, N. A., & Folland, J. P. (2014). Isometric training and rapid force production. *European Journal of Applied Physiology*, 114(1), 159-167.

- Van Hooren, B., & Bosch, F. (2017). Is there really an eccentric action of the hamstrings during the swing phase of high-speed running? Part I: A critical review of the literature. *Journal of Sports Sciences*, 35(23), 2313-2321.
- Wong, D. P., et al. (2017). Effects of isometric exercise on strength and muscular endurance: A systematic review. *Journal of Sports Science and Medicine*. 24-32.

BASH
P E R F O R M A N C E