

CRICKET NSW

**Premier Cricket Physical Preparation
Guidelines 2022-23**





This document has been created to provide premier cricket administrators, coaches and players with some practical guidelines that can be used to assist in preparing cricketers for the 2022/23 season.

It is acknowledged that there is a wide range of different training experiences among premier cricket athletes and this document cannot provide unique, specific training recommendations for every circumstance – however, the principles from each section can be applied to help athletes of all levels.

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FAST BOWLER WORKLOADS

GUIDELINES

This section provides recommendations and guidelines for the progressive preparation of fast bowlers in anticipation of a season that will start with limited overs cricket. Suggested pre-season fast bowling workload programs can be seen in Table 1A, 1B and 1C.

Fast bowler workload progression general recommendations:

- 8 to 10 weeks of gradual bowling preparation prior to the season
- Plan for an easy week in the week prior to round one of NSW premier cricket
- Plan one easy week (e.g., 1 to 2 bowling sessions) every four weeks
- Schedule a week off bowling every 10 to 12 weeks
- A minimum of 20 minutes recovery should be allocated between spells of bowling at training



Under 17

Younger fast bowlers are at an increased risk of injury due to several factors including skeletal immaturity, decreased levels of muscular strength and power, lower career workloads etc. To mitigate the risk of injury to this cohort, specific guidelines have been developed. U17 fast bowlers can be expected to bowl up to 100 to 120 balls/week following their progressive pre-season bowling program.

U17 fast bowlers should follow the 135 rule

- At least **1** day off between bowling days
- A maximum of **3** bowling days per week (match and training combined)
- A maximum of **5** overs in each bowling spell



TABLE 1A. Example Pre-Season Bowling Program For An Under 17 Fast Bowler

| Week | Mon | Tues | Wed | Thurs | Fri | Sat | Sun |
|-------------|------------|------------------------|------------|------------------------|------------|------------------------|------------|
| 1 | | 18 balls @ 60% | | Drills | | 18 balls @ 60% | |
| 2 | | 30 balls @ 60% | | Drills | | 30 balls @ 60% | |
| 3 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 4 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 5 | | 30 balls @ 80% | | 30 balls @ 80% | | 30 balls @ 80% | |
| 6 | | 30 balls @ 80% | | 30 balls @ 80% | | 42 balls @ 80% | |
| 7 | | 30 balls @ 90% | | 30 balls @ 90% | | 48 balls @ 90% | |
| 8 | | 30 balls @ 90% | | 30 balls @ 90% | | 48 balls @ 90% | |
| 9 | | 30 balls @ 100% | | 30 balls @ 100% | | 48 balls @ 100% | |
| 10 | | 30 balls @ 100% | | 30 balls @ 100% | | 48 balls @ 100% | |

*Percentages are relative self-selected intensity/effort 'at the crease'

**Blank squares represent bowling rest days

Under 19

It's important not to rush fast bowlers to larger workloads too rapidly. Skeletal maturity (maximal bone density) is not reached until most athletes are in their early-mid 20s. Therefore, U19 fast bowlers should continue to follow workload recommendations. U19 fast bowlers can be expected to bowl up to 120 to 140 balls/week following their progressive pre-season bowling program.

U19 fast bowlers should follow the 246 rule

- No more than **2** bowling days in a row
- A maximum of **4** bowling days per week (match and training combined)
- A maximum of **6** overs in each bowling spell



TABLE 1B. Example Pre-Season Bowling Program For An Under 19 Fast Bowler

| Week | Mon | Tues | Wed | Thurs | Fri | Sat | Sun |
|-------------|------------|----------------------------|------------|----------------------------|------------|----------------------------|------------|
| 1 | | 18 balls @ 60% | | Drills | | 18 balls @ 60% | |
| 2 | | 30 balls @ 60% | | Drills | | 30 balls @ 60% | |
| 3 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 4 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 5 | | 36 balls @ 80% | | 36 balls @ 80% | | 36 balls @ 80% | |
| 6 | | 30 balls @ 80% | | 30 balls @ 80% | | 42 balls @ 80% | |
| 7 | | 30 balls @ 90% | | 30 balls @ 90% | | 48 balls @ 90% | |
| 8 | | 36 balls @ 90% | | 36 balls @ 90% | | 48 balls @ 90% | |
| 9 | | 36 balls @ 100% | | 36 balls @ 100% | | 48 balls @ 100% | |
| 10 | | 36 balls @ 100% | | 36 balls @ 100% | | 48 balls @ 100% | |

*Percentages are relative self-selected intensity/effort 'at the crease'

**Blank squares represent bowling rest days

Senior

Senior fast bowlers (20 years-old and over) can be expected to bowl up to 140 to 160 deliveries/week following their progressive pre-season bowling program.



TABLE 1C. Example Pre-Season Bowling Program For A Senior Fast Bowler (20 Years or Older)

| Week | Mon | Tues | Wed | Thurs | Fri | Sat | Sun |
|-------------|------------|----------------------------|------------|----------------------------|------------|----------------------------|------------|
| 1 | | 18 balls @ 60% | | Drills | | 18 balls @ 60% | |
| 2 | | 30 balls @ 60% | | Drills | | 30 balls @ 60% | |
| 3 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 4 | | 18 balls @ 70% | | 18 balls @ 70% | | 18 balls @ 70% | |
| 5 | | 36 balls @ 80% | | 36 balls @ 80% | | 36 balls @ 80% | |
| 6 | | 36 balls @ 80% | | 36 balls @ 80% | | 42 balls @ 80% | |
| 7 | | 36 balls @ 90% | | 36 balls @ 90% | | 48 balls @ 90% | |
| 8 | | 42 balls @ 90% | | 42 balls @ 90% | | 48 balls @ 90% | |
| 9 | | 42 balls @ 100% | | 42 balls @ 100% | | 48 balls @ 100% | |
| 10 | | 42 balls @ 100% | | 42 balls @ 100% | | 48 balls @ 100% | |

*Percentages are relative self-selected intensity/effort 'at the crease'

**Blank squares represent bowling rest days

Bowling Warm-Up

To assist fast bowlers in their warm-up/preparation to bowl, the following exercises might be considered useful to help improve specific mobility and power.

- Hip and thoracic spine mobility

https://www.instagram.com/p/CSc1QLjre3S/?utm_source=ig_web_copy_link

https://www.instagram.com/p/CPLmapWse1G/?utm_source=ig_web_copy_link

- Power – perform each exercise for 2 to 3 sets x 6-8 repetitions

https://www.instagram.com/p/CQCq3q5h7N4/?utm_source=ig_web_copy_link

<https://youtu.be/uhVAU4q3C4c>

<https://youtu.be/NfBB2onNvEI>

<https://youtu.be/a5yEYvjSmnl>





THROWING

GUIDELINES

Throwing should be treated in a similar way to fast bowling, with a progressive build-up in volume and intensity over an 8 to 10-week period. Improved throwing technique can reduce the stress and strain placed on the shoulder and elbow joints. This section includes a suggested throwing program (Table 2A, 2B and 2C) that can be completed 2 to 3 times per week. The program is broken down into three separate phases, with each phase lasting three weeks in duration. This program can be completed by an athlete on their own or with a partner.



TABLE 2A. Example Progressive Throwing Program—Phase One (Weeks 1-3)

| Exercise | Sets | Reps | metres | Tempo | Video |
|---------------------------|-------------|-------------|---------------|--------------|---|
| Chest Throw | 1 | 6 | 10 | 60% | https://www.youtube.com/watch?v=HXSTHqRs3GO |
| Recoil Throw | 1 | 6 | 10 | 60% | https://www.youtube.com/watch?v=Tg-HvaS31nQ&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=4 |
| Circular Throw | 1 | 6 | 15 | 60% | https://www.youtube.com/watch?v=zUZlqRYgjcl&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=9 |
| Tap and Go Throw | 1 | 10 | 20 | 60% | https://www.youtube.com/watch?v=nEbsYX0I8vA&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=1 |
| Replace Feet Throw | 1 | 10 | 25 | 60% | https://www.youtube.com/watch?v=fzwB_Uf_B60&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=3 |

TABLE 2B. Example Progressive Throwing Program—Phase Two (Weeks 4-6)

| Exercise | Sets | Reps | metres | Tempo | Video |
|--------------------------------------|-------------|-------------|---------------|--------------|---|
| Chest Throw | 1 | 10 | 10 | 80% | https://www.youtube.com/watch?v=HXSTHqRs3G0 |
| Tap and Go Throw | 1 | 10 | 20 | 80% | https://www.youtube.com/watch?v=nEbsYX0I8vA&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=1 |
| Replace Feet Throw | 1 | 10 | 25 | 80% | https://www.youtube.com/watch?v=fzwB_Uf_B60&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=3 |
| Crow Hop Long Toss Throw | 1 | 8 | 25 | 80% | https://www.youtube.com/watch?v=MR9b9cCyZo&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=7 |
| Stationery Pick Ups and Throw | 1 | 5 | 20 | 80% | https://www.youtube.com/watch?v=nRNvUPk1INA&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=2 |

TABLE 2C. Example Progressive Throwing Program—Phase Three (Weeks 7-9)

| Exercise | Sets | Reps | metres | Tempo | Video |
|--|-------------|---------------|---------------|--------------|---|
| Chest Throw | 1 | 10 | 10 | 100% | https://www.youtube.com/watch?v=HXSTHqRs3G0 |
| Tap and Go Throw | 1 | 10 | 20 | 100% | https://www.youtube.com/watch?v=nEbsYX0I8vA&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=1 |
| Crow Hop Long Toss Throw | 1 | 10 | 40-50 | 90% | https://www.youtube.com/watch?v=MR9b9cCyiZo&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=7 |
| Forehand and Backhand Replace Throw | 1 | 5 each | 15-20 | 90% | https://www.youtube.com/watch?v=-YhasHHr0Y4&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=5 |
| Ground Ball Rollouts | 1 | 6 | 20 | 90% | https://www.youtube.com/watch?v=0XSpoliHR1U&list=PLfQhkOB8xxs6hKhknP-pG9IX2iVID1Ygl&index=6 |

Shoulder Strength

To maintain a healthy and resilient throwing shoulder, it is important to develop strength in the muscles surrounding and supporting the shoulder joint. Particular attention should be paid to the strength of the posterior cuff muscles (muscles on the backside of the shoulder joint) which are responsible for stabilising the shoulder joint.

Rowing and pulling exercises are particularly important for maintaining a balanced and stable shoulder joint that can generate and withstand the forces associated with throwing. This section includes a suggested throwing program (Table 3A, 3B and 3C) that can be completed 2 to 3 times per week. The program is broken down into three separate phases, with each phase lasting three weeks in duration. This program can be completed by an athlete on their own or with a partner.



Table 3A. Phase 1

| Exercise and Repetitions | Video |
|---|--|
| <p>Bow & Arrow</p> <p>for 30s & hold open 15s each side</p> | <p>https://www.youtube.com/watch?v=qZnjLLNg1tw</p> |
| <p>Side Plank - hold</p> <p>straight arm hold 15s hold /rest 15s</p> <p>Repeat each side x 2</p> | <p>https://www.youtube.com/watch?v=1s2fVICj4a0</p> |
| <p>4 Point Kneel + ball/weight</p> <p>10s Y slow flutters</p> <p>10s T slow flutters</p> <p>10s ER in 90/90</p> <p>(15s rest) D + ND</p> | <p>https://www.youtube.com/watch?v=rwCnoxi-FOY</p> |
| <p>Bird Dog</p> <p>10s hold each side x 2</p> | <p>https://www.youtube.com/watch?v=y-VhcEs2-9o</p> |
| <p>Banded ER (neutral)</p> <p>Band in both hands</p> <p>Set scaps, elbows at waist</p> <p>1s out hold 1s & 3s back (maintain tension for set)</p> <p>20s x 3 (10s rest)</p> | <p>https://www.youtube.com/watch?v=9eloefT9760</p> |

Table 3B. Phase 2

| Exercise and Repetitions | Video |
|--|---|
| Bow & Arrow 20s + 10s Hold E/S | https://www.youtube.com/watch?v=qZnjLLNg1tw |
| Plank (30s) 10s Hold / 10s Turn to Each Side Alternating / 10s Body Saw Rest 15s & Repeat | https://www.youtube.com/watch?v=f84BOqd6xTs |
| Standing ER 90/90 with Ball 20s (4s Down/ 1s Up) 20s Drop Catches Repeat | https://www.youtube.com/watch?v=8ba_XMmPDnQ https://www.youtube.com/watch?v=LQDZZu_2Pnc |
| I Y T Flutter + Ball Prone (Retract Face & Chin In) 2x 15s I + Y + T + ER Controlled Flutter Supine 2x 15s I + Y + T + IR Controlled Flutter Bow & Arrow 20s + 10s Hold E/S | https://www.youtube.com/watch?v=tLYovSAP-00 https://www.youtube.com/watch?v=GCVVb5R8chc https://www.youtube.com/watch?v=qZnjLLNg1tw |

Table 3C. Phase 3

| Exercise and Repetitions | Video |
|---------------------------------------|--|
| Bow & Arrow 20s + 10s Hold E/S | |
| Thread Needle 15s E/S | https://www.youtube.com/watch?v=qZnjLNg1tw https://www.youtube.com/watch?v=DZ-JS65mxuA |
| Plank (60s) | https://www.youtube.com/watch?v=f84BOqd6xTs |
| 15s Turn to Each Side | https://www.youtube.com/watch?v=qMO3rWJEgWA |
| 15s Walk Hands Up & Down | https://www.youtube.com/watch?v=vEL8MXWkQYo |
| 15s Partner Tap | https://www.youtube.com/watch?v=8nYfq8fY6w4 |
| Rest 15s & Repeat | |
| Standing ER 90/90 with Ball | |
| 20s ER Through Range - Slow Intensity | https://www.youtube.com/watch?v=8ba_XMmPDnQ |
| 20s ER - Drop Catches | https://www.youtube.com/watch?v=LQDZzu_2Pnc |
| Flutter with Ball | |
| 20s I + Y + T (Supine Prone Supine) | https://www.youtube.com/watch?v=tLYovSAP-00 https://www.youtube.com/watch?v=GCVVb5R8chc |
| 20s IR/ER Flutter | https://www.youtube.com/watch?v=RIL1yL0tzJY https://www.youtube.com/watch?v=E-nXIWIlc7k |

A female cricketer is the central figure, wearing a blue and yellow Australian cricket uniform. She is standing in a gym, holding a barbell across her waist. The background is a blurred gym setting. The text 'STRENGTH TRAINING' is overlaid in large, bold, white letters.

STRENGTH TRAINING

Guidelines

Resistance training has been shown to reduce the risk of injury and improve performance in cricketers. This section includes basic beginners, intermediate and advanced strength and power training program templates (tables 4A, 4B and 4C) that can be used for reference by coaches, athletes and personal trainers when designing programs for cricket athletes.

Strength training for athletic performance should focus on:

- Compound, multi-joint exercises (eg: squats instead of knee extensions).
- Free weights (barbells, dumbbells, and kettlebells) are preferred to machine weights (smith machine, leg press, chest press etc.)
- Be aimed at developing muscular strength and power (generally using loads >80% 1 repetition maximum, with sets of 8 repetitions or fewer)
- Programs should be designed on a principle of training movements before muscles
- Rather than planning a 'legs day' or 'chest day', complete full body sessions
- Fundamental movement patterns to include in strength training are squatting, hip hinging, lunging, upper body pushing and pulling, and trunk/core bracing
- Principles of progressive overload in strength training:
 - Technique before load
 - Slow and controlled before fast and explosive
 - Simple exercises before complex ones
 - Light loads before heavy loads
 - General movements before specific movements

It is recommended that cricketers perform organised strength training at least twice per week throughout all phases of the season. To progress training, consider reducing the number of repetitions completed in each set and increasing the load to target the development of strength and power. Cricketers wishing to improve their athletic performance through strength and conditioning training should look for a coach or personal trainer who is accredited with the Australian Strength & Conditioning Association (ASCA Level II or higher).

Table 4A. Beginner strength and power training program template for cricket

| Order | Exercise | Sets/reps | Video |
|-------|-------------------------------|--------------|--|
| 1A | Box jumps | 3-5 x 3-5 | https://youtu.be/NBY9-kTuHEk |
| 1B | Medicine ball overhead slam | 3-5 x 3-5 | https://youtu.be/uhVAU4q3C4c |
| 2A | DB goblet squat | 3 x 6-8 | https://youtu.be/6xwGFn-J_Q4 |
| 2B | Chin up | 3 x 6-8 | https://youtu.be/QEChU3ECRuc |
| 3A | Single leg RDL | 3 x 6-8 E.S. | https://youtu.be/K-GO8WzClgo |
| 3B | DB Z press | 3 x 8-12 | https://youtu.be/4Risf_cxc7s |
| 4A | DB goblet split squat | 3 x 6-8 E.S. | https://youtu.be/bf03qSMQfWc |
| 4B | Plank holds (front/side/side) | 3 x 30s each | https://youtu.be/grbSP4CCZDA https://youtu.be/RMW1ReGKd9s |

| Order | Exercise | Sets/reps | Video |
|-------|-------------------------------|--------------|--|
| 1A | Broad jumps | 3-5 x 3-5 | https://youtu.be/kL7bZQvx-fs |
| 1B | Medicine ball chest pass | 3-5 x 3-5 | https://youtu.be/e-zHTwXA8mE |
| 2A | DB wall touch hip hinge | 3 x 6-8 | https://youtu.be/LvjcSvZPciE |
| 2B | Push up | 3 x 6-8 | https://youtu.be/_I3ySVKYVJ8 |
| 3A | DB step up | 3 x 6-8 E.S. | https://youtu.be/ie7BBjjBIOE |
| 3B | Ring row | 3 x 8-12 | https://youtu.be/9yEAJo5FM3I |
| 4A | DB goblet lateral lunge | 3 x 6-8 E.S. | https://youtu.be/TFHzSYJrNTk |
| 4B | Plank holds (front/side/side) | 3 x 30s each | https://youtu.be/grbSP4CCZDA https://youtu.be/RMW1ReGKd9s |

Table 4B. Intermediate strength and power training program template for cricket

| Order | Exercise | Sets/reps | Video |
|-------|-----------------------------------|---------------|---|
| 1A | Seated box jump | 3-5 x 3-5 | https://youtu.be/zkoQXOs2-IA |
| 1B | Medicine overhead toss | 3-5 x 3-5 | https://youtu.be/oh_27sd1Fc8 |
| 2A | Front squat | 3-4 x 5-8 | https://youtu.be/uYumuL_G_V0 |
| 2B | Chin up | 3 x 6-8 | https://youtu.be/QEChU3ECRuc |
| 3A | Single leg RDL | 3 x 6-8 E.S. | https://youtu.be/K-GO8WzClgo |
| 3B | Half kneeling single arm DB press | 3 x 6-8 E.S. | https://youtu.be/zY9GCr3h74Y |
| 4A | Plate overhead reverse lunge | 3 x 6-8 E.S. | https://youtu.be/X5UicuSpd-g |
| 4B | Pallof press | 3 x 8-12 E.S. | https://youtu.be/ma2OjgP5XDc |

| Order | Exercise | Sets/reps | Video |
|-------|----------------------------|----------------|---|
| 1A | Pogos | 3-5 x 8-12 | https://youtu.be/RUEAg7CbUhc |
| 1B | Medicine ball lateral toss | 3-5 x 3-5 E.S. | https://youtu.be/LIQVEVwjAqU |
| 2A | Romanian deadlift | 3-4 x 5-8 | https://youtu.be/5lsl_IL-o4Y |
| 2B | DB bench press | 3-4 x 6-8 | https://youtu.be/MvlqSLXgugY |
| 3A | BB step up | 3 x 4-6 E.S. | https://www.instagram.com/p/CMQHiGMHZdv/ |
| 3B | Bench pull | 3 x 8-12 | https://youtu.be/HoIJFsjR9o |
| 4A | Landmine lateral sweeps | 3 x 6-8 E.S. | https://www.instagram.com/p/CPHGmagskTd/ |
| 4B | Single arm suitcase carry | 3 x 20 m E.S. | https://youtu.be/j6vhM8WGffk |

Table 4C. Advanced strength and power training program template for cricket

| Order | Exercise | Sets/reps | Video |
|-------|---|--------------|---|
| 1A | Hang power clean | 3-5 x 3-5 | https://youtu.be/0aP3tgKZcHQ |
| 1B | Seated box jump | 3-5 x 3-5 | https://youtu.be/zkoQXOs2-IA |
| 1C | Medicine ball split stance overhead throw | 3-5 x 3-5 | https://youtu.be/2Zv-NJ3YRcA |
| 2A | Back squat | 3-4 x 3-5 | https://youtu.be/ultWZbUMPL8 |
| 2B | Chin up | 3 x 6-8 | https://youtu.be/QEChU3ECRuc |
| 3A | Trap bar kickstand RDL | 3 x 4-6 E.S. | https://youtu.be/2D1Bmm5Qayw |
| 3B | Push press | 3 x 6-8 | https://youtu.be/iaBVSJm78ko |
| 4A | Bulgarian split squat | 3 x 6-8 E.S. | https://youtu.be/wUUMOrhF_4A |

| Order | Exercise | Sets/reps | Video |
|-------|--|----------------|---|
| 1A | Hang power snatch | 3-5 x 3-5 | https://youtu.be/-mLzQdVAwlw |
| 1B | Pogos | 3-5 x 8-12 | https://youtu.be/RUEAg7CbUhc |
| 1C | Skater hop to medicine ball lateral toss | 3-5 x 3-5 E.S. | https://www.instagram.com/p/CAiVPUfAgdQ/ |
| 2A | Barbell hip thrust | 3-4 x 3-5 | https://youtu.be/5S8SApGU_Lk |
| 2B | Bench press with bands/chains | 3-4 x 3-6 | https://youtu.be/TiL_dIqx96Y |
| 3A | BB step up + hip lock | 3 x 4-6 E.S. | https://youtu.be/jQSqdw6nN5g |
| 3B | Single arm DB row | 3 x 6-8 E.S. | https://youtu.be/xl1YiqQY2vA |
| 4A | Landmine lateral sweeps | 3 x 6-8 E.S. | https://www.instagram.com/p/CPHGmagskTd/ |

Advanced strength and power training for cricketers

For improved transfer, Table 5 includes some examples of advanced exercises to improve power hitting.

Table 5A. Examples of advanced strength and power training exercises to improve power hitting in cricket batters

| Exercise | Video |
|--|---|
| Dynamic banded thoracic rotations | https://www.instagram.com/p/CMVhlsyMj4y/ |
| 3D banded rotation | https://youtu.be/ooQVXrMMEu4 |
| Reactive partner medicine ball rotational toss | https://www.instagram.com/p/CPd8HjGnaCo/ |
| Dynamic trunk rotations and reactive single arm medicine ball shot put | https://www.instagram.com/p/B2S0V2YHx1a/ |





RUNNING

RUNNING

Many injuries in cricket are running related (foot stress fractures, hamstring/calf strains etc.) Running-based conditioning is important for preparing the body to handle the specific forces associated with the sport, mitigating the risk of injury and enhancing performance. Cricketers should aim to perform running-based training:

- On non-consecutive days—allow a day off in between running sessions
- In appropriate footwear
- On grass where possible (rather than concrete/road running)



SPRINTING

Hamstring strain injuries (HSI) are one of the most common observed in cricketers. Some athletes and coaches are hesitant to perform regular sprinting in training as they feel it exposes them to a greater risk of injury. However, one of the most effective strategies for mitigating the risk of HSIs is regular exposure to very high-speed running (VHSR [$>90\%$ of maximal sprint speed]). To improve resilience, athletes should be exposed to VHSR at least once every 7-10-days. To do this, following a thorough warm up, athletes can perform 2-3 all out sprints each week over a distance of 30-60 m with total/complete recovery between each repetition—an example of this can be seen in Table 6A below. Sprint sessions should be progressed by focussing on improving the speed of the movement, not by increasing reps or reducing recovery. Finally, table 6B includes several exercises that can be included into weights training sessions to target the hamstrings for athletes with a history of HSI.



Table 6A. Example sprint sessions for hamstring injury risk mitigation and performance in cricketers

| Exercise | Notes | Sets/ reps | Rest | Video |
|-------------------|--|---|------------------------|--|
| Dynamic warm up | Hamstring sweeps Walking lunges Arabesques etc. | 10 m each | Walk back | https://youtu.be/I5NPdV6C1DE https://youtu.be/L8fvy pPrzsz https://youtu.be/caPnvZ_UeBo |
| Running mechanics | Ankle dribbles Triple exchanges High knee runs Straight leg running Run throughs | 2 x 30 m 2 x 10 m 2 x 10 m 2 x 30 m 2 x 10, 20, 30 m each | Walk back | https://youtu.be/DHv8Q-55TRY https://youtu.be/IttDZfjHQH4 https://youtu.be/MoMuvuDTcek https://youtu.be/eci4lO2FhSk |
| Sprints | Rolling start | 3 x 40 m | 2 mins b/w each effort | |

Table 6B. Example specific exercises for mitigating the risk of hamstring strain injury

| Progression | Isometric exercises | Video | Supramaximal eccentric exercises | Video |
|-------------|------------------------------------|---|---|---|
| 1 | Hip iso hold | https://youtu.be/M501BWyG4Tc | Prone hamstring curl—two up one down | https://youtu.be/mz68js1CGEw |
| 2 | Hip iso push | https://youtu.be/5OPbIFdkJmE | Single leg eccentric hamstring slide outs | https://youtu.be/L4uid1Zon_8 |
| 3 | Prone GHD iso hold +/- plate punch | https://youtu.be/L2tUwUqqKjY | Razor curl | https://youtu.be/HuPyYj5F5Es |
| 4 | Hip iso catch | https://youtu.be/aDyr87vPaXg | Nordic hamstring curl | https://youtu.be/J4VYKtRtHps |

Conditioning

Conditioning sessions improve an athlete's ability to recover quickly between high intensity efforts (such as a fast bowler bowling a ball, a quick run of two or a chase to the boundary in the field). These sessions can be progressed by increasing target distance in the same allotted time. There are three example conditioning sessions in Table 7A, 7B and 7C below.

Table 7A. Example pre-season running conditioning session for cricketers – long intervals

| Repetitions | Work | Rest | Pace (men) | Pace (female) |
|-------------|------|------|----------------------|----------------------|
| 4-6 | 4:00 | 2:00 | 4:25 – 3:45 mm:ss/km | 5:10 – 4:15 mm:ss/km |

*Recommended running pace for each four-minute effort measured in minutes and seconds per kilometre. This can be assessed using a GPS running watch or activity tracking mobile phone apps like *Strava*

Table 7B. Example pre-season running conditioning session for cricketers – short high-intensity intervals

| Sets/reps | Work | Rest | Distance (men) | Distance (female) |
|-----------|------|------|----------------|-------------------|
| 2 x 10-12 | 15 s | 15 s | 70 – 85 m | 60 – 75 m |

*Athlete to complete the prescribed running distance in the allotted 'work' timeframe, rest and then complete the next repetition back in the opposite direction. Allow 2-3 minutes of recovery between sets.

Table 7C. Example pre-season running conditioning session for cricketers – extensive tempo

| Sets/reps | Work | Rest | Distance (men) | Distance (female) |
|-----------|------|------|----------------|-------------------|
| 2 x 6-8 | 15 s | 45 s | 80 - 95 m | 70 - 85 m |

*Athlete to complete the prescribed running distance in the allotted 'work' timeframe, rest and then complete the next repetition back in the opposite direction. Allow 2-3 minutes of recovery between sets.