

# NSW premier cricket physical preparation recommendations

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CRICKET NSW



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# NSW premier cricket

## Physical preparation recommendations

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 2021/22 season.

The upcoming season is likely to start following only a couple of weeks of organized group training sessions—thus the regular progressive exposure to bowling, throwing, and running that athletes are usually provided with at training will not be possible. Therefore, remote training options and guidelines have been provided to help mitigate the risk of injury to players and to help improve performance when the season commences.

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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# Section 1

## Fast bowler workloads

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***

- ✓ 8-10 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 (EG: 1-2 bowling sessions) every four weeks
- ✓ Schedule a week off bowling every 10-12 weeks
- ✓ A minimum of 20-minutes recovery should be allocated between spells of bowling at training

### ***Under 17 fast bowlers—specific guidelines***

Younger fast bowlers are at an increased risk of injury due to a number of 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 100-120 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

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## ***Under 19 fast bowlers—specific guidelines***

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 120-140 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

## ***Senior fast bowlers***

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

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/CSc1QLjre3S/?utm_source=ig_web_copy_link)
  - [https://www.instagram.com/p/CPLmapWse1G/?utm\\_source=ig\\_web\\_copy\\_link](https://www.instagram.com/p/CPLmapWse1G/?utm_source=ig_web_copy_link)
- ✓ Power – perform each exercise for 2-3 sets x 6-8 repetitions
  - [https://www.instagram.com/p/CQCq3q5h7N4/?utm\\_source=ig\\_web\\_copy\\_link](https://www.instagram.com/p/CQCq3q5h7N4/?utm_source=ig_web_copy_link)
  - <https://youtu.be/uhVAU4q3C4c>
  - <https://youtu.be/NfBB2onNvEI>
  - <https://youtu.be/a5yEYvjSmnl>

**Table 1A.** Example pre-season bowling program for an under 17-year-old 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

**Table 1B.** Example pre-season bowling program for an under 19-year-old 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

**Table 1C.** Example pre-season bowling program for a senior fast bowler (20-years-old 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

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## Section 2

### Throwing

Throwing should be treated in a similar way to fast bowling, with a progressive build-up in volume and intensity over an 8–10-week period. This section includes a suggested throwing program (Table 2A, 2B and 2C) that can be completed 2-3 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	Distance	Reps	Technique notes	Video
Square on throw	10 m	6-8	Head towards target (feel like falling over toes)	<a href="https://youtu.be/RSm0-lx4Fa8">https://youtu.be/RSm0-lx4Fa8</a>
Circular throw	15 m	6-8	Keep ball moving	<a href="https://youtu.be/_PVvc3iGIhg">https://youtu.be/_PVvc3iGIhg</a>
Tap and go	20 m	6-8	Front shoulder to target	<a href="https://youtu.be/jA-2TukxWa8">https://youtu.be/jA-2TukxWa8</a>
Replace feet	25 m	6-8	Front foot and shoulder align to target	<a href="https://youtu.be/QQu9JfPcv6w">https://youtu.be/QQu9JfPcv6w</a>



**Table 2B.** Example progressive throwing program—phase two (weeks 4-6)

Exercise	Distance	Reps	Technique notes	Video
Square on throw	10 m	5-6	Head towards target (feel like falling over toes)	<a href="https://youtu.be/RSm0-lx4Fa8">https://youtu.be/RSm0-lx4Fa8</a>
Tap and go balance	20 m	8-10	Finish with head forward over front leg	<a href="https://youtu.be/jA-2TukxWa8">https://youtu.be/jA-2TukxWa8</a>
Crow hop	30-35 m	6-8	Front foot and shoulder align to target	<a href="https://youtu.be/l4fKcSMcYKM">https://youtu.be/l4fKcSMcYKM</a>
Replace feet drills at target	15 m	2 x 6	Small steps before release	<a href="https://youtu.be/-Ru_oNXBo6U">https://youtu.be/-Ru_oNXBo6U</a>

**Table 2C.** Example progressive throwing program—phase three (weeks 7-9)

Exercise	Distance	Reps	Technique notes	Video
Tap and go	15 m 20 m	5-6 5-6	Head towards target (feel like falling over toes)	<a href="https://youtu.be/jA-2TukxWa8">https://youtu.be/jA-2TukxWa8</a>
Crow hop	30-35 m	6-8	Front shoulder to target	<a href="https://youtu.be/l4fKcSMcYKM">https://youtu.be/l4fKcSMcYKM</a>
Side arm throws A - on knee B - 1-leg	10-15 m	5-6 5-6	Front foot and shoulder align to target  Arc ball not flat	<a href="https://youtu.be/SrJjPIGoYtl">https://youtu.be/SrJjPIGoYtl</a>
Replace feet drills at target	15 m	2 x 6	Small steps before release	<a href="https://youtu.be/-Ru_oNXBo6U">https://youtu.be/-Ru_oNXBo6U</a>
Pick up and throw at target (place ball on ground or ball rolled to you)	15-20 m	2 x 6	Pick up ball between feet and small steps.  Follow through towards target	<a href="https://youtu.be/P0c0tDvfPB4">https://youtu.be/P0c0tDvfPB4</a>

## ***Throwing technique***



**Figure 1A.** Common technique error - Shoulder and head away from target leading to rotation around the body

Improved throwing technique can reduce the stress and strain placed on the shoulder and elbow joints. Take note of the common errors and optimal throwing techniques shown in Figures 1A and 1B.

**Figure 1B.** Correct throwing technique - head level (see bridge of cap), front shoulder/arm aligned with target



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## ***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. Examples of shoulder strengthening exercises that can be included in a warmup prior to throwing are shown in table 3A and exercises that can be added to a strength training session are shown in table 3B.

**Table 3A.** Throwing warm up exercises

<b>Exercise</b>	<b>Sets/ reps</b>	<b>Video link</b>
Band low row	2-3 x 8-12	<a href="https://youtu.be/lHuGxZZ09nY">https://youtu.be/lHuGxZZ09nY</a>
Band shoulder abducted external rotation	2-3 x 6-8 each side	<a href="https://youtu.be/dLmfnmZW8uY">https://youtu.be/dLmfnmZW8uY</a>
Band pull apart	2-3 x 20	<a href="https://youtu.be/LoBBo1dtY6l">https://youtu.be/LoBBo1dtY6l</a>
Band shoulder adducted external rotation	2-3 x 6-8 each side	<a href="https://youtu.be/cFyP6e4XeGo">https://youtu.be/cFyP6e4XeGo</a>

**Table 3B.** Shoulder strengthening exercises to complete during weights training

<b>Exercise</b>	<b>Sets/ reps</b>	<b>Video link</b>
Banded shoulder wall walks	2-3 x 6-8	<a href="https://www.youtube.com/watch?v=1ZVEaqmKftc">https://www.youtube.com/watch?v=1ZVEaqmKftc</a>
DB unilateral T in prone	2-3 x 8-12	<a href="https://youtu.be/itw_n-Y9EAW">https://youtu.be/itw_n-Y9EAW</a>
DB external rotation in prone at 90° abduction	2-3 x 6-8 E.S.	<a href="https://youtu.be/zbE9YoqmhNk">https://youtu.be/zbE9YoqmhNk</a>
DB bilateral overhead shrugs	2-3 x 8-12	<a href="https://youtu.be/YTwAaEigMmg">https://youtu.be/YTwAaEigMmg</a>
DB flexion at 20° abduction	2-3 x 6-8 E.S.	<a href="https://youtu.be/OA-p4N2u_pA">https://youtu.be/OA-p4N2u_pA</a>
DB scaption in standing	2-3 x 8-12 E.S.	<a href="https://youtu.be/I6WS9ARhp9c">https://youtu.be/I6WS9ARhp9c</a>
DB wall external rotation at 90° abduction	2-3 x 8-12 E.S.	<a href="https://youtu.be/xDjuyWtzc8o">https://youtu.be/xDjuyWtzc8o</a>

\*A selection of 2-3 of these exercises can be included as a warmup or as accessory movements to support traditional strength and power training

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## Section 3

### Strength training

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

*Day 1: Monday or Tuesday*

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

*Day 2: Wednesday or Thursday*

Order	Exercise	Sets/reps	Video
1A	Broad jumps	3-5 x 3-5	<a href="https://youtu.be/kL7bZQvx-fs">https://youtu.be/kL7bZQvx-fs</a>
1B	Medicine ball chest pass	3-5 x 3-5	<a href="https://youtu.be/e-zHTwXA8mE">https://youtu.be/e-zHTwXA8mE</a>
2A	DB wall touch hip hinge	3 x 6-8	<a href="https://youtu.be/LvjcSvZPciE">https://youtu.be/LvjcSvZPciE</a>
2B	Push up	3 x 6-8	<a href="https://youtu.be/_l3ySVKYVJ8">https://youtu.be/_l3ySVKYVJ8</a>
3A	DB step up	3 x 6-8 E.S.	<a href="https://youtu.be/ie7BBjjBIOE">https://youtu.be/ie7BBjjBIOE</a>
3B	Ring row	3 x 8-12	<a href="https://youtu.be/9yEAJo5FM3I">https://youtu.be/9yEAJo5FM3I</a>
4A	DB goblet lateral lunge	3 x 6-8 E.S.	<a href="https://youtu.be/TFHzSYJrNTk">https://youtu.be/TFHzSYJrNTk</a>
4B	Plank holds (front/side/side)	3 x 30s each	<a href="https://youtu.be/grbSP4CCZDA">https://youtu.be/grbSP4CCZDA</a> <a href="https://youtu.be/RMW1ReGKd9s">https://youtu.be/RMW1ReGKd9s</a>

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

*Day 1: Monday or Tuesday*

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

*Day 2: Wednesday or Thursday*

Order	Exercise	Sets/ reps	Video
1A	Pogos	3-5 x 8-12	<a href="https://youtu.be/RUEAg7CbUhc">https://youtu.be/RUEAg7CbUhc</a>
1B	Medicine ball lateral toss	3-5 x 3-5 E.S.	<a href="https://youtu.be/LIQVEVwjAqU">https://youtu.be/LIQVEVwjAqU</a>
2A	Romanian deadlift	3-4 x 5-8	<a href="https://youtu.be/5lsl_IL-o4Y">https://youtu.be/5lsl_IL-o4Y</a>
2B	DB bench press	3-4 x 6-8	<a href="https://youtu.be/MvlqSLXgugY">https://youtu.be/MvlqSLXgugY</a>
3A	BB step up	3 x 4-6 E.S.	<a href="https://www.instagram.com/p/CMQHiGMHZdv/">https://www.instagram.com/p/CMQHiGMHZdv/</a>
3B	Bench pull	3 x 8-12	<a href="https://youtu.be/HoIJFsajR9o">https://youtu.be/HoIJFsajR9o</a>
4A	Landmine lateral sweeps	3 x 6-8 E.S.	<a href="https://www.instagram.com/p/CPHGmagskTd/">https://www.instagram.com/p/CPHGmagskTd/</a>
4B	Single arm suitcase carry	3 x 20 m E.S.	<a href="https://youtu.be/j6vhM8WGffk">https://youtu.be/j6vhM8WGffk</a>

**Table 4C.** Advanced strength and power training program template for cricket*Day 1: Monday or Tuesday*

Order	Exercise	Sets/reps	Video
1A	Hang power clean	3-5 x 3-5	<a href="https://youtu.be/0aP3tgKZcHQ">https://youtu.be/0aP3tgKZcHQ</a>
1B	Seated box jump	3-5 x 3-5	<a href="https://youtu.be/zkoQXOs2-IA">https://youtu.be/zkoQXOs2-IA</a>
1C	Medicine ball split stance overhead throw	3-5 x 3-5	<a href="https://youtu.be/2Zv-NJ3YRcA">https://youtu.be/2Zv-NJ3YRcA</a>
2A	Back squat	3-4 x 3-5	<a href="https://youtu.be/ultWZbUMPL8">https://youtu.be/ultWZbUMPL8</a>
2B	Chin up	3 x 6-8	<a href="https://youtu.be/QEChU3ECRuc">https://youtu.be/QEChU3ECRuc</a>
3A	Trap bar kickstand RDL	3 x 4-6 E.S.	<a href="https://youtu.be/2D1Bmm5Qayw">https://youtu.be/2D1Bmm5Qayw</a>
3B	Push press	3 x 6-8	<a href="https://youtu.be/iaBVSJm78ko">https://youtu.be/iaBVSJm78ko</a>
4A	Bulgarian split squat	3 x 6-8 E.S.	<a href="https://youtu.be/wUUMrOhF_4A">https://youtu.be/wUUMrOhF_4A</a>
4B	Cable rotate and catch	3 x 8-12 E.S.	<a href="https://youtu.be/Y1K4VDvX5UQ">https://youtu.be/Y1K4VDvX5UQ</a>

*Day 2: Wednesday or Thursday*

Order	Exercise	Sets/reps	Video
1A	Hang power snatch	3-5 x 3-5	<a href="https://youtu.be/-mLzQdVAwlw">https://youtu.be/-mLzQdVAwlw</a>
1A	Pogos	3-5 x 8-12	<a href="https://youtu.be/RUEAg7CbUhc">https://youtu.be/RUEAg7CbUhc</a>
1B	Skater hop to medicine ball lateral toss	3-5 x 3-5 E.S.	<a href="https://www.instagram.com/p/CAiVPUfAgdQ/">https://www.instagram.com/p/CAiVPUfAgdQ/</a>
2A	Barbell hip thrust	3-4 x 3-5	<a href="https://youtu.be/5S8SApGU_Lk">https://youtu.be/5S8SApGU_Lk</a>
2B	Bench press with bands/chains	3-4 x 3-6	<a href="https://youtu.be/TiL_dIqX96Y">https://youtu.be/TiL_dIqX96Y</a>
3A	BB step up + hip lock	3 x 4-6 E.S.	<a href="https://youtu.be/jQSqdW6nN5g">https://youtu.be/jQSqdW6nN5g</a>
3B	Single arm DB row	3 x 6-8 E.S.	<a href="https://youtu.be/xl1YiqQY2vA">https://youtu.be/xl1YiqQY2vA</a>
4A	Landmine lateral sweeps	3 x 6-8 E.S.	<a href="https://www.instagram.com/p/CPHGmagSkTd/">https://www.instagram.com/p/CPHGmagSkTd/</a>
4B	GHD side hold with plate punches	3 x 6-8 E.S.	<a href="https://youtu.be/nMjN5EyVMpl">https://youtu.be/nMjN5EyVMpl</a>



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## ***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

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

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## Section 4

### 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 foot ware
- ✓ 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	<a href="https://youtu.be/l5NPdV6C1DE">https://youtu.be/l5NPdV6C1DE</a> <a href="https://youtu.be/L8fvypPrzss">https://youtu.be/L8fvypPrzss</a> <a href="https://youtu.be/caPnvZ_UeBo">https://youtu.be/caPnvZ_UeBo</a>
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	<a href="https://youtu.be/DHv8Q-55TRY">https://youtu.be/DHv8Q-55TRY</a> <a href="https://youtu.be/ltdZfjHqH4">https://youtu.be/ltdZfjHqH4</a> <a href="https://youtu.be/MoMuvuDTcek">https://youtu.be/MoMuvuDTcek</a> <a href="https://youtu.be/eci4lO2FhSk">https://youtu.be/eci4lO2FhSk</a>
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	<a href="https://youtu.be/M501BWYG4Tc">https://youtu.be/M501BWYG4Tc</a>	Prone hamstring curl—two up one down	<a href="https://youtu.be/mz68js1CGEw">https://youtu.be/mz68js1CGEw</a>
2	Hip iso push	<a href="https://youtu.be/5OPblFdkJmE">https://youtu.be/5OPblFdkJmE</a>	Single leg eccentric hamstring slide outs	<a href="https://youtu.be/L4uid1Zon_8">https://youtu.be/L4uid1Zon_8</a>
3	Prone GHD iso hold +/- plate punch	<a href="https://youtu.be/L2tUwUqqKjY">https://youtu.be/L2tUwUqqKjY</a>	Razor curl	<a href="https://youtu.be/HuPyYj5F5Es">https://youtu.be/HuPyYj5F5Es</a>
4	Hip iso catch	<a href="https://youtu.be/aDyr87vPaXg">https://youtu.be/aDyr87vPaXg</a>	Nordic hamstring curl	<a href="https://youtu.be/J4VYKtRtHps">https://youtu.be/J4VYKtRtHps</a>

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## 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 6A, 6B and 6C 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.

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## Summary

The upcoming 2021/22 NSW premier cricket season will start abruptly, and this creates larger than normal risks of injury due to accelerated increases in training loads. By applying some of the recommendations, example training protocols and principals outlined in this document, administrators, coaches, and cricket athletes will be able to offset and mitigate some of these risks.