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Research Article

Strength & Conditioning/High Performance with Sports Science Technology and Champions Play Hub Modules at BCCI Tournament: (KSCA) Ranji Trophy Champions-Fitness

Prashant Pujar

Strength & Conditioning Specialist, Champions Play Hub, Sports Science Technology

Corresponding Author: * Prashant Pujar

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Abstract

In simple terms, every fit team may not win the championship, but every winning team usually has a fit squad which even the current Indian captain Shubman Gill also mentioned that having the right combination and playing the ideal 11 for that particular day is important as injuries during the match and players being ruled out makes it difficult for the players and the team management to play their choice of 11. During this year and every other year, we have just tried our best in terms of Strength & Conditioning and Sports Science, and the modules of Champions Play Hub in training and Sports Science Technology, which were in their formative years, worked well. Every team works hard, but having a direction for your hard work is important, and that's what Sports Science Technology does along with Champions Play Hub-Strength & Conditioning Powerhouse. Fitness and Injuries are common, but using the right tools of Sports Science Technology, educated in this regard, helps in reducing the risk of injuries, and most importantly, the right Strength & Conditioning work should be a priority, not just firefighting between injury and Prehab. It's understanding of the subject, and that's what is a part of Sports Science Technology. (Made in India).

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INTRODUCTION

Strength & Conditioning is one of the key ingredients when it comes to sustaining the Workloads of the Domestic Circuit season, consisting of eight 4-day matches with 3 to 4 days' recovery in between, along with the five-day quarterfinal, semifinal, and the Ranji Trophy Final.

As all the players were available throughout the season, the management could play the ideal 11 for that particular season and had a consistent playing 11, which is again a testament to the players' fitness. A well-designed Strength & Conditioning helps the athletes to maintain and improve their fitness relating to the sport during the season.

No Training Vs Well Managed Strength and Conditioning (Point 2): Strength & Conditioning Programming Methods as per the team's physical condition and requirement. It was a well-balanced scheduling of Strength & Conditioning, and all players were given a time accordingly to train.

Most of the protocols are decisions made for that particular day and keep an open end along with structured and undulating programming.

Helps to keep the body going with minimal downtime and performance optimisation throughout the season and beyond.

Maintain the physical attributes required to perform at this level.

Pre-match sessions help maintain recovery and enhance performance.

Sessions during break days, when it was needed and necessary Sports Specific Training inclusive of Sports Science Technology models are helpful using Structured and Unstructured protocols. Champions Play Hub modules (in the making) were being used systematically well to help the players work on their fitness attributes.

Doing what's needed and having the motivation of the players to do the right thing in terms of fitness.

Fast Bowlers and Spinners

During the course of the season, the fast bowlers and spinners played a vital role by being available to bowl throughout the season. The bowlers, on a few occasions, were trained to sustain the workloads of bowling close to 20 overs in a day if the team required, which is a testament to fitness and hard work led by Vinay Kumar and the team. Fast bowlers were 30+ years of age but never fell short of an effort during the key phases and sessions of the Ranji Trophy, which were to be crucial in terms of winning the Ranji Trophy. The Fast-bowling unit worked very well in tandem and managed to bowl multiple spells and had good Strength, rhythm runs, as well as Recovery sessions during matches.

Shreyas Gopal kept himself agile on the field and came in to bowl and gave key breakthroughs every time he came on to bowl. Also contributed with the bat to help the team get the additional runs needed for the team. The preparation of the spinners was always there, as we can recall a 6 km run at the Beachside before the final by Suchith Jagadeesh as he was resting for the final.

Batsmen

The season was filled not just with fifties and hundreds but also with scores close to Double hundreds and Triple hundreds by multiple batters, which was one of the crucial factors for us to win the tournament and matches.

There were players who made a comeback into the team with ACL Grade 3 and went on to play for the entire tournament. Sessions of Prehab, Rehab and Strength & Conditioning were managed with the load in a unified manner.

The batters who used to get tired after scoring 40-odd runs were now able to sustain the workloads of batting.

K L Rahul scored 2 triple hundreds in the entire season and close to 900+ runs in the season, which is a testament to his hard work and fitness. Batters with better fitness can concentrate for longer hours of duration before fatigue gets the best of them.

Karun Nair, who worked on his fitness the entire season, eventually made it count with a phenomenal triple hundred in the final of the Ranji Trophy when it mattered the most. It is a testament to consistent hard work throughout the season, along with Mayank Agarwal, who scored enormous runs in the ODI version ie (Vijay Hazare Trophy).

Fielding

Fielding and catching are also important aspects of a team doing well in the Ranji Trophy. Here, the entire fielding unit has done a phenomenal job in being able to field for sessions with good and sustained intensity. Catching was also very good, which led to bowlers being energetic and picking up wickets at regular intervals.

Overall team effort

There were ups and downs in the season, but someone from the team stood up and made it count for the team. All in all, it was a complete team effort with all the batters, all-rounders, and Bowlers.

Other Support Staff Members

It is important that the Strength & Conditioning and the physio team work well in tandem, understanding the current fitness levels and optimising fitness during the course of the season. The batting and the bowling coach also are helpful in understanding the workloads and managing practice sessions along with Strength & Conditioning, Recovery and Physio sessions, and massages. Strength & Conditioning, along with Sports Science, evolves, but understanding the foundation of Sports Science Technology (still in the building stages then) was prepared to be scientifically applied to National and International Athletes.

Access to good hotel gyms, swimming pools, and Ice Baths was arranged by the managers and the management.

The Players

Player Name	Matches Played	Availability
Vinay Kumar	12	12
K L Rahul	12	12
R Samarth	12	12
Mayank Agarwal	12	12
Karun Nair	12	12
Robin Uthappa	12	12
Manish Pandey	12	12
C M Gowtham	12	12
Shreyas Gopal	12	12
Stuart Binny	12	12
Kunal Kapoor	12	12
Sreenath Arvind	12	12
Abhimanyu Mithun	12	12
Suchith Jagadeesh	12	12
Abhishek Reddy	12	12
Shishir Bhavane	12	12
Sharath HS	12	12
Abhar Kazi	12	12

New Methodologies utilised: Introduction of Rhythm Runs along with other Ground training modules.

Rhythm Runs (Ground Training during the season)
Applicable for Sportsmen, Fitness Enthusiasts Specifics for:
Fast Bowlers, Cricketers, Elite Sportspersons

Key factors:

Ground Reaction Force

Ability to stride, sprint, and bowl on different grounds

Less Energy spent

Less Load on the muscles with More work capacity; ability to bowl and train more (not just bowling 15 balls in a nets session)
 We need systems who can bowl and train more with the same pace or more.

Fast bowlers with improved rhythm are supposed to bowl at their ideal pace with fewer injuries.

Reasons for Innovation:

Workload-related injuries amongst cricketers. Common Causes of Injuries at these sites (hamstrings, knees, Back Injuries, calves), and the outcome has to be a progressive system of training.

Bowlers getting tired after their spells and having a lack of top rhythm during their run-up.

Need for an increase in workload with specific progression and generic improvement in Speed endurance for Fast Bowlers and cricketers. Many fast bowlers and cricketers at an elite level

have shown tremendous progress. Progress has to be shown on the field with the sportsperson.

Benefits of Rhythm Runs:

An increase in work capacity (bowler would be able to bowl the extra over or two in a spell at his usual speed Reduces the risk of stiffness-related injuries. More work with less energy spent (Learn how this is done during SST or I-7 workshops)

An increase in speed endurance with reduced GRF (ground reaction force).

Strength meets Speed

Rhythm meets Speed Endurance (How and Why can be cleared in SST Workshops)

Applied Science:

The following is a part of applied science, i.e., (Sport Science Technology).

Structural Lifting, Strength Training, Sports Science Technology and Champions Play Hub Modules were used systematically throughout the season.

Many more

BCCI First Class season (Fitness)

Warm Up, Assessment, Training and Recovery

Match 1 Venue: Bangalore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 2
Venue: Kolkata

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility, Pool
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 3
Venue: Delhi Railways

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Pool
Day 2	Match Warm Ups	Strength/Conditioning	Pool
Day 3	Match Warm Ups	Strength/Conditioning	Pool
Day 4	Match Warm Ups	Strength/Conditioning	Pool

Match 4
Venue: Hubli

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 5
Venue: Indore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day	Rest	Rest	Rest
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 6
Venue: Mysore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility

Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 7
Venue: Bangalore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 8
Venue: Mumbai

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups and Pre-match Test (Full Team)	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool

Match 9 (Quarter Final)
Venue: Indore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 5	Match Warm Ups	-	-

Match 10 (Semi-Final)
Venue: Bangalore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 5	Match Warm Ups		

Match 11
Final: Mumbai

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 5	Match over	Match over	Match over

Irani Trophy
Game 12: Venue: Bangalore

Skill/Match	Warm Up/Assessment	Fitness Activity/Training (Lunch Break, EOD)	Recovery
Travel Day			
Practice Day	SST Warm Ups (Extended)	Strength/Conditioning	Flexibility (Self)
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Practice Day	SST Warm Ups	Strength/Conditioning	Flexibility
Day 1	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 2	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 3	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 4	Match Warm Ups	Strength/Conditioning	Ice Bath/Pool
Day 5	Match over	Match over	Match over

The sessions were conducted for the players who were available for the training sessions during matches. Sessions were taken for 30-45 minutes during the following times:

End of Day Play

During Lunch Break (Predominantly during this time)

Before the start of the match

Light work during tea break

30 minutes during match days and 30-45 min on off days (depending on various factors like rest and recovery and fitness levels of the players). The athletes who clocked well in the sessions were available for the training sessions, and in some practice sessions they were rested.

CONCLUSION

Fitness and Performance Highlights of the Season

KL Rahul scored 2 triple hundreds throughout the season, and the off-season fitness work really paid off, as he always had the skill and temperament to get runs, but fitness was an issue earlier, which he worked on in the off-season before the tournament along with the team.

Vinay Kumar's 50 wickets throughout the season and meaningful contributions with the bat when he was 30+ years of age were a testament to his commitment and dedication. Assessment, Training and Recovery: Mayank Agarwal, known for handling intense circuit training sessions and Samarth Ravikumar, Karun Nair, Shishir Bhavane and Kunal Kapoor did more super sets (built for cricket), made important contributions with the bat, improving their baseline fitness

steadily throughout the season and Ball. Manish Pandey took some useful catches in the slip cordon along with the others.

Robin Uthappa made optimal contributions with the bat and occasionally kept wickets as and when needed.

CM Gowtham made a steady comeback after an ACL grade 3 surgery, and thorough care was taken to keep him match fit and game ready throughout the season.

Abhimanyu Mithun and Sreenath Arvind made valuable contributions with the ball throughout the season. Sharath HS too contributed as and when he was called for.

Shreyas Gopal, Suchith J and Abrar Kazi picked up wickets and were agile and ready to grip the ball in crucial situations, and made significant progress by improving their baseline fitness. Shreyas Gopal made significant contributions with the bat as well.

Stuart Binny played a good all-round performance with batting and bowling as and when he was available for these services for the Karnataka team.

Abhishek Reddy made his debut and scored a half-century in the Irani Trophy.

Karun Nair played the best innings of his Ranji career by scoring a triple hundred in the finals of the Ranji Trophy.

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About the Author

Prashant Pujar is a Strength & Conditioning Specialist at Champions Play Hub, specialising in sports science and technology. His professional interests focus on athletic performance, physical conditioning, strength development, and evidence-based training methodologies. He is dedicated to supporting athletes through scientifically informed approaches that enhance performance, fitness, recovery, and overall physical capabilities.