

FANZINE

CHAMPIONS OF T20 WORLD CUP

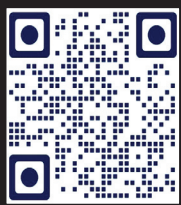
OH INDIA, WHAT A CATCH!

AFTER 17 YEARS, INDIA WON THEIR SECOND T20 WORLD CUP TITLE ON JUNE 29, 2024. LED BY ROHIT SHARMA, THEY BEAT SOUTH AFRICA BY SEVEN RUNS IN AN EXCITING FINAL AT THE KENSINGTON OVAL IN BARBADOS

PAGE: 3, 4, 5

SECOND INNINGS OF AN ATHLETE MOTHER

PAGE: 6,7



SURYAKUMAR YADAV'S MATCH-WINNING CATCH IN THE T20 WORLD CUP FINAL MATCH, INDIA VS SOUTH AFRICA

LOOKING BACK AT 2 YEARS OF SPORTS SCIENCE INDIA

PAGE: 9

BALANCE IT WITH PERTURBATION TRAINING!

HERMANUS LIEBENBERG

PAGE: 10,11

CONTENTS

Although every possible care and caution has been taken to avoid errors or omissions, this publication is being sold on the condition and understanding that information given in this publication is merely for reference and must not be taken as having authority of or binding in any way on the writers, editors, publishers, and printers and sellers who do not owe any responsibility for any damage or loss to any person, a purchaser of this publication or not for the result of any action taken on the basis of this work. Neither the publisher nor the authors or editors assume any responsibility for any loss or injury/damage to any person or property arising out of or related to any article or material published in this magazine/ newsletter. All rights reserved and nothing can be partially or in whole be reprinted or reproduced without a written consent. All disputes are subject to the exclusive jurisdiction of competent court and forums in Bhubaneswar only.



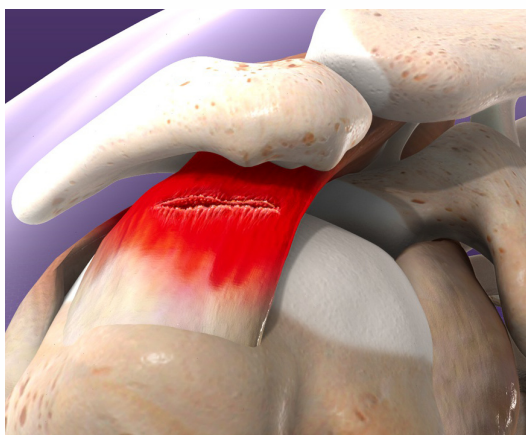
COVER STORY

After 17 years, India won their second T20 World Cup title on June 29, 2024. Led by Rohit Sharma, they beat South Africa by seven runs in an exciting final at the Kensington Oval in Barbados. India had an undefeated run in the tournament, winning every match they played against teams like Ireland, co-host USA, and arch-rivals Pakistan in the group stage **PAGE: 3, 4, 5**



P 13, 14 | REDUCING RETEARS OF ROTATOR CUFF

Here's how a group of experts conducted a study to conclude that the rate of retears can be reduced to a great extent by opting for arthroscopic technique using the long head of the biceps tendon (LHBT), rich in tenocytes, as a graft



P12 | PAT CUMMINS TAKES SECOND CONSECUTIVE T20 WORLD CUP HAT-TRICK

Australia's Pat Cummins made history by becoming the first player to take two hat-tricks in T20 World Cups.



WE ARE ONE

INDIA'S FIRST SPORTS SCIENCE MAGAZINE

Sports Science India,
Plot no: A17/1A,
Unit-7, Surya Nagar,
Bhubaneswar
Odisha Pin-751003

For Queries Call/Whatsapp

91-7847922850

SPORTS SCIENCE INDIA FANZINE



A SERIES OF OUR LAST PUBLICATIONS

PREMIUM PLAN
₹ **1,500**
PER YEAR

INTERNATIONAL PLAN
15\$
PER YEAR

SSI FANZINE HARD COPY
₹ **3,200**
PER YEAR

CONTACT +91-7847922850, INFO@SSIFANZINE.COM



ICC MEN'S T20 WORLD CUP WINNERS INDIES & USA 2024

CHAMPIONS OF T20 WORLD CUP

OH INDIA, WHAT A CATCH!

After 17 years, India won their second T20 World Cup title on June 29, 2024. Led by Rohit Sharma, they beat South Africa by seven runs in an exciting final at the Kensington Oval in Barbados. India had an undefeated run in the tournament, winning every match they played against teams like Ireland, co-host USA, and arch-rivals Pakistan in the group stage. Their final group match against Canada was called off due to rain, so both teams got a point. Here's a glimpse of India's victorious run at the ICC Men's T20 World Cup 2024.



FIRST MATCH, MAIDEN VICTORY

India began their T20 World Cup 2024 campaign with an eight-wicket victory against Ireland on June 5 at Nassau County International Cricket Stadium in New York. Ireland, batting first, managed only 96 runs due to India's strong bowling, with Hardik Pandya taking 3 wickets, and Jasprit Bumrah and Arshdeep Singh, claiming 2 each. India chased the target in 12.2 overs, led by Rohit Sharma's 52 and Rishabh Pant's 36.

DEFEATING THE ARCH-RIVALS

India narrowly defeated Pakistan in a bowler-dominated match on June 9 in New York. Pakistan chose to bowl first and restricted India to 119 runs, with Naseem Shah and Haris Rauf taking three wickets each. Rishabh Pant was the top scorer with 42. Indian pacers, led by Jasprit Bumrah (3/14), Hardik Pandya (2/24), and Arshdeep Singh (1/31), defended the low total, securing a win by six runs.

CONTINUED NEXT PAGE

THE SIX-WICKET WIN

India secured a seven-wicket win against the USA on June 12 at Nassau County International Cricket Stadium. Arshdeep Singh's impressive spell of 4/9 limited the USA to 110/8. Despite early setbacks from Saurabh Netravalkar, Suryakumar Yadav's 50 and Shivam Dube's 31 guided India to victory with 10 balls remaining. After a washed-out game against Canada, India topped Group A and advanced to the Super Eights with 7 points from four matches.



WINNING START TO SUPER 8S

India transitioned to the West Indies for the Super Eights, starting with a match against Afghanistan on June 20 at Kensington Oval in Barbados. Suryakumar Yadav's explosive 53, supported by Hardik Pandya and Axar Patel, helped India score 181. Afghanistan was bowled out for 134, with Arshdeep Singh and Jasprit Bumrah taking three wickets each and Kuldeep Yadav claiming two.

RESTRICTING BANGLADESH

India continued their dominance with a win over Bangladesh on June 22 at Sir Vivian Richards Stadium. Quick contributions from Rohit Sharma, Virat Kohli, Rishabh Pant, and Shivam Dube, along with Hardik Pandya's 50 off 27 balls, set a target of 196/5. Kuldeep Yadav, Arshdeep Singh, and Jasprit Bumrah led the bowling attack, restricting Bangladesh to 146, securing a 50-run victory.

AVENGING ICC WORLD CUP LOSS

India avenged their ICC Cricket World Cup 2023 Final loss by defeating Australia, securing a semi-final spot. Rohit Sharma's fiery 92 off 41 balls and Suryakumar Yadav's quick 31 set a 206-run target. Despite Travis Head's 76, India's bowlers, led by Arshdeep Singh and Kuldeep Yadav, secured a 24-run win.

RIVALRY REIGNITED AT THE SEMI-FINAL

In a rerun to the 2022 T20 World Cup semi-finals, India faced England again at the semi-final of the T20 World Cup this time. But, it turned the tables on England with a 68-run victory at Providence Stadium in Guyana. Rohit Sharma and Suryakumar Yadav's key contributions set a target of 172. Indian spinners, Kuldeep Yadav and Axar Patel, each took three wickets, and Bumrah added two, bowling England out for 103 in 16.4 overs.

The last time these teams met, in the 2022 T20 World Cup Semi-Final, India posted a respectable total of 168 in 20 overs, thanks to Hardik Pandya's explosive 63 off 33 balls. However, England's opening pair of Jos Buttler and Alex Hales completely dismantled the Indian bowling attack.

Buttler scored a commanding 80*, while Hales contributed 86*, completing England's chase in just 16 overs without losing a wicket. This emphatic victory ended India's journey in the tournament.

CONTINUED NEXT PAGE



THE CHAMPIONS

India edged past South Africa by 7 runs in the final match of T20 World Cup 2024 at the Kensington Oval, Barbados to clinch an ICC title after 11 years. Defending 176/7, India's dream of ending their ICC title drought seemed all but over with South Africa needing run-a-ball 30 to win, with set batters Heinrich Klaasen and David Miller at the crease. The Rohit Sharma-led side needed something magical to turn the tide and the team actually produced one! Jasprit Bumrah bowled a four-run over before Hardik Pandya dismissed Klaasen in what was another four-run over from India. Then, Bumrah conceded only two runs in the 18th over and removed Marco Jansen. Arshdeep Singh followed it up with a four-run penultimate over. Hardik Pandya was handed the task to bowl the final over and he got the wicket of Miller on the very first ball, thanks to Suryakumar Yadav's sensational catch at long-off. India held their nerves well and eventually won the game with a seven-run margin. Earlier, Virat Kohli anchored the Indian innings with a gritty knock as the team posted a total of 176 for 7 - the highest total by any team in the final of a men's T20 World Cup. India was reduced to 34 for 3 in 4.3 overs but a crucial 72-run stand between Kohli and Axar Patel bailed the team out of trouble. Axar fell for 47 off 31 while Kohli smashed 76 off 59.

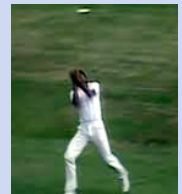
THE BUMRAH BONANZA

Bumrah is currently dominating conversations in the cricket world. His remarkable economy rate of 4.17 and an astonishing average of 8.28 for 15 wickets in eight games have made him the centre of attention. He showcased his lethal prowess in the World Cup, leaving observers debating which of his 15 wickets was the most crucial. The South Africans, including David Miller and Heinrich Klaasen, aimed to see off Bumrah as they targeted other bowlers instead. Jansen also fell victim to a delivery that swung late. With the score at 156 for five, Jansen's wicket was crucial. The value of Reeza Hendricks' early dismissal in the first over was equally important, checking South Africa from having a strong start. Bumrah conceded only eight runs in his last two overs. In the final, he finished with figures of two for 18 in four overs - an economy rate better than his own economy rate for the tournament. It's no surprise he was named the Player of the World Cup.



RELIVING THE 1983 MOMENT

In 1983, during the final, star West Indies batter Viv Richards was running away with the game. His quick-fire knock of 33 (27) could have helped West Indies which was chasing just 184 lift the trophy of the World Cup. But, the sensational catch by Kapil Dev changed the game. When Richards pulled Madan Lal towards deep mid-wicket, it was an unbelievable sight! Kapil Dev completed a tremendous running catch. He was running backwards and still managed to end Richard's innings. That catch ushered a golden period in India's cricketing history. West Indies got bundled out for 140 and India clinched their first-ever World Cup in 1983. The catch was etched in the memories of Indian cricket lovers as it gave birth to one of the greatest underdog stories in the sporting history. India beat the two-time World Champions. This moment was relived at Barbados 41 years later Suryakumar Yadav also turned India's fortunes with his game-changing catch in the final over. With 16 runs needed to win off the last six balls, South Africa's David Miller hit a full toss from Hardik Pandya high in the air towards long-off. However, Miller failed to get the distance with the ball dropping just inside the boundary towards Suryakumar, who managed to grab it safely. The momentum seemed to be taking away the Indian fielder over the boundary. He showed great presence of mind to get rid of the ball at the right time as he fell outside boundary. Suryakumar quickly jumped inside to once again grab hold of the ball and completed one of the greatest catches ever in the final of an ICC event.



Kapil Dev's match-winning catch from the 1983 World Cup final match against West Indies



SECOND INNINGS OF AN ATHLETE MOTHER

Once India's second best long-jumper after Anju Bobby George, Neena Varakil is making a comeback at the international sporting scenario with her coach-turned-husband and 3-year-old baby girl by her side!



Making great strides after giving birth, athlete mothers are changing the narrative surrounding postpartum return to sport. According to a study published in *Aspetar* a sports medicine journal of the top 150 ranked female marathoners of all time, 25% are mothers, the majority having had one child during their career. A 2023 study of elite female runners who were planning to become pregnant reported that 60% intended to resume competing postpartum. For athletes who returned to sport post-pregnancy, 56% reported an improved performance, claimed the study. Well, these aren't just claims made in the study. An athlete from India's southern state of Kerala Neena Varakil is exemplifying such claims. The 32-year-old long jumper who clinched a silver for India at the 2018 Asian Games in Jakarta is all set to make a comeback to the international sporting scenario after pregnancy.

CONTINUED NEXT PAGE




ASIAN GAMES 2018

SILVER MEDALIST
NEENA VARAKIL
WOMEN'S LONG JUMP



SPORTS AUTHORITY OF INDIA

 sportsauthorityofindiaMYAS |
  @Media_SAI |
  sportsauthorityofindia.nic.in

Married to her coach and international hurdler Pinto Mathew, Neena is now mother to a three-year-old daughter. Returning to rigorous field practice, Neena had already managed to secure the fourth position at the national-level a year after delivering her child.

Ask the long jumper and she says that return to sports hasn't been a cakewalk. She had to lose about 20kg of weight in around 9 months with dedicated efforts. "We start our morning session of the daily practice around 9.30am and continue till 1.30pm. Again, we hit the ground in the evening around 6.30pm. This goes without any fail," says her coach and husband, Pinto. The couple, who also work for the Indian Railways, now reside in the southern city of Trivandrum. And, their only focus is on how Neena can rule the sport at international sporting events, including the next Asian Games.

ACHIEVEMENTS FROM THE PAST

She achieved her personal best of 6.66 m in Bangalore in July 2016. She clinched gold in 2017 when she jumped 6.37 m in the sixth and final round at the Asian Grand Prix Athletics Meet in Jiaxing in China. She gained a silver medal at 2017 Asian Athletics Championships. In August 2018, she took home a silver medal at the long jump at the Asian Games in Jakarta. At her fourth attempt she jumped 6 m 51 cm in that event. In 2016, she also bagged a gold at Taiwan Athletics Open. In 2018, she won a gold at the Asian test games. She was the first Indian woman in 12 years to have won a silver at the Asian Games after Anu Bobby George's silver medal victory in 2006. The year 2018 had been lucky for the long jumper. She went into the Asian Games in top form after a silver medal finish at Patiala Indian GP and Patiala Federation Cup. She won a silver again at Guwahati inter-state championships in 2018.



EARLY LIFE

Born in 1991 at Meppayur, Calicut, which is also known as Kozhikode, Neena was introduced to sports quite early in her life. She hails from the same region as PT Usha, the legendary Indian sprinter. Therefore, she went to an academy set up in her village by the former sprinter by her name for early training. She was trained by the sprinter herself in the initial years, claims her husband. Later, she was enrolled into the Sports Authority of India (SAI) programmes. It was during her training days in 2007 the year in which she had her tryst with sports, professionally she met her husband Pinto at SAI. In 2012, the couple joined the Indian Railways as ticket checkers in the Rajkot division. But, she didn't give up sports. She continued to practice on regular basis to make it to the Asiad.

OVERCOMING CHALLENGES

The couple had witnessed several challenges prior to Neena's Asiad achievement. In 2016, Neena suffered from a critical injury and missed being a part of the national squad of athletes travelling to South Africa. "She was alone in Trivandrum. I decided to quit my international career and returned back to Trivandrum to train my wife. She gave her career's best performance in 2016. She missed the Olympic qualification barely by 4cm. She was India's all-time second best long jumper after Anju Bobby George," recalled Pinto, who married Neena in 2017. After their marriage, even Pinto won a medal in the senior category at the national level. "We didn't have much resources. We faced financial crisis also. But, when we practiced in the field, we were focused. We never worried over the shortcomings and that's how we succeeded at the Asian Games with barely eight months of training," he said, adding that they were also obliged to Dr G Kishore, the regional director of SAI centre in Trivandrum, for his immense support and guidance.



Over the years, female athletes in India have liberated themselves from the constraints of prejudice, social exclusion, and cultural bias to have successful careers in sports. They have broken the glass ceilings with perseverance and hard work. No wonder, their numbers in the sporting world is not just increasing but they are unmatched and unbeatable.

In India, a sporting revolution concerning the females was born at the turn of the millennium. It began with an elusive Olympic medal won by an Indian woman for the first time in the Olympics. And, this woman was Karnam Malleswari, who kindled a million hopes among female athletes in the country by bagging a bronze at the 2000 Sydney Olympics in weightlifting. Since then, the medal saga continued for the Indian female athletes in the Olympics: Mary Kom and Saina Nehwal in London 2012, PV Sindhu and Sakshi Malik in Rio 2016 and most recently, Mirabai Chanu, PV Sindhu and Lovlina Borgohain in Tokyo.

In fact in the Tokyo 2020 Olympics, out of the seven medals won by India, women bagged three medals. This surely bolstered the determination of thousands of female athletes in India, making them confident of victories on the global stage.

With such victories, the fervour for sports in India especially among female athletes is scaling new heights. This increased inclination towards sports has put forth a profound responsibility for the sports medicine and

INTERNATIONAL ARTHROSCOPY CONFERENCE 2024

WELCOME MESSAGE



REGARDS,
DR SARTHAK PATRNAIK,
Founder - Sports Science India
Founder / Chief Editor - SSI FANZINE
Chairman - SSI International
Arthroscopy Conference 2024

arthroscopy experts. The aim should be to provide world-class medical care and rehabilitation to our athletes so that not just their injuries are healed, but they make a triumphant return to the field. The treatment approach should also focus on injury prevention to prolong their sporting careers.

Challenges related to sports science and its application among female athletes

According to the present sports performance and player well-being strategies that are adopted to enhance female sport performances

are often underpinned by evidence derived from male athletes or male talent development environments. There may be useful practices that can be derived from a male context. But, sometime as we refer to the male context, there is a possibility that we fail to consider the requirements of the female athlete. There are biological differences that may impact the strategies. For instance, fluctuations in hormone levels at different stages of the menstrual cycle may influence performance of the female athletes. Again, there are biochemical differences

between a male and a female body. Such factors may partially account for the lack of efficacy and effectiveness of interventions, which are being applied based on findings from sports performance research conducted in male athletes. Thus, the need of the hour is to conduct more research and studies, focussed on female athletes. While in recent years more female participants are included within the research literature, these studies typically involve recreational athletes and as such high-performance female athletes are typically under-represented in the 'sports performance' literature. For evidence-based practices and treatment approaches, we the sports medicine experts must turn our attention towards conducting specific studies concerning female athletes.

Purpose of the International Arthroscopy Conference 2024

Considering such aspects, I am delighted to announce on behalf of the Sports Science India organizing committee that the 1st edition of SSI International Arthroscopy Conference 2024 has been dedicated to the female athletes. Experts from across the country and International speakers will delve into the various themes of injury prevention and rehabilitation of female athletes. It will be a comprehensive academic symposium featuring live demonstrations, engaging panel discussions, keynote presentations, and hands-on workshops. I am delighted to welcome each participant to the conference, looking forward to fruitful exchange of ideas and experiences.

Founded in 2022, Sports Science India (SSI) is a multi-disciplinary sports medicine and rehabilitation centre that runs with the motto 'prevents injury, prolong career.' With its headquarters based in India's sports capital Bhubaneswar, Odisha SSI is associated with several international and national athletes and sports academies, clubs and teams. Not just in India, SSI has associations and tie-ups with concerned organizations and individuals in at least six countries, including the US, UK, South Africa, Thailand, Germany and Bhutan. The centre has a team of expert health professionals and academics with decades of industry experience. It also consists of academics and applied sports rehabilitators, physiotherapists, sports physiologists, sports nutritionists, allied health professionals and coaches (performance trainers.) The team members have worked at the top level in a variety of professional and Olympic sports including badminton, athletics, wrestling, boxing, rugby, football and a variety of other sports. We offer services in the areas of high performance, sports science, sports medicine, sports injuries and sports coaching. The team constantly researches and develops programmes that are perfect for supporting both Olympic standard athletes and junior athletes as the organization is committed to develop sports from the grassroots level.

KNOW THE FOUNDERS

SSI is the brainchild of Dr Sarthak Patnaik and his brother, Soumya Patnaik. While Soumya is an entrepreneur and marketing genius with over 18 years of experience in heading several other businesses, Dr Sarthak is the Head of Department of Sports and Arthroscopy Surgery at AMRI Hospitals, Bhubaneswar. He is presently associated as Medical Officer for the Indian Ice Hockey team and also provides medical cover for many national and International events. He was one of the key technical officers (medical officer) at India's most celebrated grassroots-level sporting national event, Khelo India Winter Games 2024 (organized by the Government of India and a flagship project undertaken by the present Narendra Modi-led government). He has been an organizer for an INDO-US shoulder course and knee course. Besides, he has been a key speaker and delegate at several important conferences in India, including the Pune Knee Course, Delhi Knee Master Class, National Strength and Conditioning conclave in India, among other events. He is an associate editor of two International Medical Journals and a Reviewer of American Journal of Sports Medicine and the British Medical Journal Case Report. He has also been appointed as External Examiner at the Department of Biomedical Engineering, University of Cape Town, South Africa.

LOOKING BACK AT 2 YEARS OF SPORTS SCIENCE INDIA

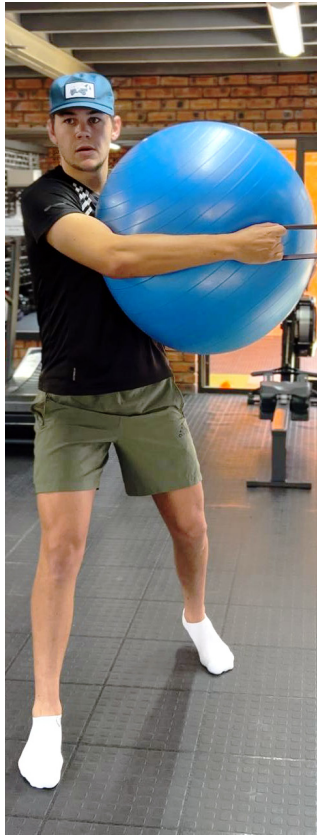


ANNUAL SSI EVENTS

SSI hosts one of the major Sports Science annual conclaves in eastern India. In fact, it is the first organization in eastern India to have conducted Sports Science Conclave and Sports Award Ceremony at the famed Kalinga Stadium in Bhubaneswar. Both the conclave and the award ceremony have been widely appreciated by the Indian media and government agencies and departments in the country. It featured the who's who of eastern India from the world of sports along with bureaucrats, elite athletes, reputed coaches and businessmen. Besides these events, SSI has been conducting events for aspiring athletes and juniors to promote sports at the grassroots level. In the last edition of the SSI awards, the Karna Award for Best Sportsperson went to Srabani Nanda, the Paika Team Award went to the Odisha women's football team and the SSI Emerging Player Award to Swasti Singh of Odisha. The SSI Coach Award was conferred upon Ram Bahadur Subba of Sikkim's Khelo India Excellence Centre. Hockey legend Dilip Tirkey was honoured with the SSI Lifetime Achievement Award. The SSI Sprint Champion Award was given to Manikanta Hoblidhar, while Srabani Nanda was given the same in the female category. Recently, SSI also hosted a Throwers' Championship in Bhubaneswar and an inter-school sports quiz.

SERVICES OFFERED

1. SPORTS MEDICINE
2. SPORTS PHYSIOTHERAPY
3. SPORTS PSYCHOLOGY
4. STRENGTH & CONDITIONING
5. SPORTS BIOMECHANICS
6. EXERCISE PHYSIOLOGY
7. SPORTS PHYSIOLOGY
8. SPORTS NUTRITION
9. SPORTS SURGERY
10. KINESIO TAPING
11. FEMALE HEALTHCARE
12. SPORTS REHAB & FITNESS
13. PERSONAL TRAINING
14. ANTHROPOMETRY
15. SPORTS TECHNOLOGY
16. SPORTS WELLNESS & RECOVERY



BYLINE: HERMANUS LIEBENBERG

Injuries are prevalent among athletes and active individuals, often requiring comprehensive rehabilitation to restore function, prevent recurrence, and ensure a safe return to sport. Among various rehabilitation techniques, perturbation training stands out as an innovative and effective approach. But what exactly is perturbation training, and why is it particularly valuable in rehabilitation and return to play?

BALANCE IT WITH PERTURBATION TRAINING!

UNDERSTANDING PERTURBATION TRAINING

PERTURBATION TRAINING INVOLVES THE APPLICATION OF UNEXPECTED, UNPREDICTABLE FORCES OR MOVEMENTS DURING EXERCISE THAT CHALLENGES OUR BODY'S BALANCE AND PROPRIOCEPTION. BY ENHANCING THIS, WE CAN IMPROVE OUR NEUROMUSCULAR RESPONSES TO SUDDEN CHANGES, ULTIMATELY REDUCING THE RISK OF FALLS AND INJURIES AND BOOSTING OVERALL PERFORMANCE. THESE ELEMENTS ARE CRUCIAL WHEN CONSIDERING REHABILITATION AND PERFORMANCE TRAINING FOR SEVERAL REASONS:

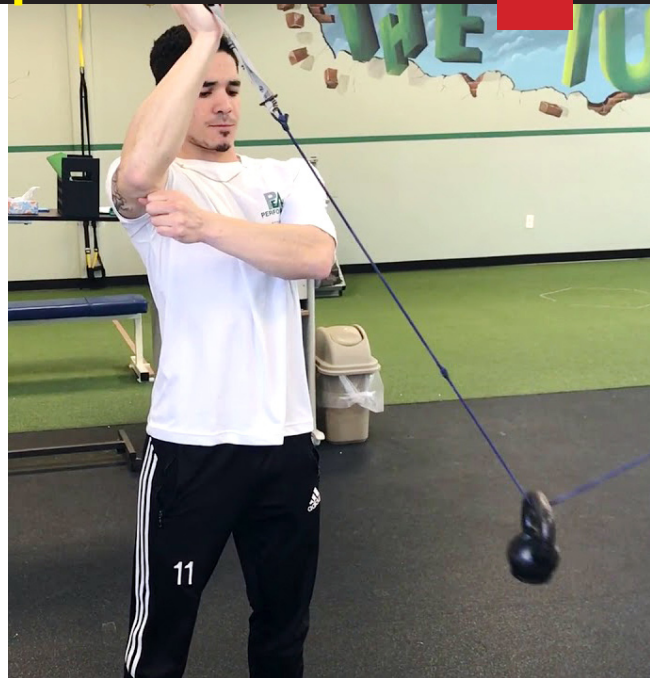
Neuromuscular Control: Different physical activities place significant stress on various joints and muscles, and improper mechanics can lead to re-injury. After an injury, the neuromuscular system may be compromised, resulting in altered movement patterns and increased risk. Perturbation training helps re-educate the neuromuscular system, promoting correct alignment and muscle activation. By introducing controlled instability, individuals learn to react and adapt, ultimately improving their dynamic stability. For example, during a single-leg hop, introducing slight pushes or pulls, or using an unstable surface, forces the individual to engage stabilizing muscles more effectively. This improves their ability to maintain proper alignment upon landing or moving, leading to more robust motor control and reducing the risk of improper mechanics that could jeopardize recovery.

Proprioception Enhancement: Proprioception, the body's ability to sense its position and movement in space, is essential for joint and muscle stability, especially during high-impact activities. Injuries often disrupt this feedback loop. By incorporating perturbation exercises, proprioceptive pathways are stimulated, helping the individual regain a sense of joint and muscle position and movement. This renewed awareness allows for quicker, more accurate adjustments during activities, fostering safer and more efficient movement patterns.

Psychological Benefits: Fear of re-injury is common among individuals returning to physical activity, hindering performance and increasing injury risk. Perturbation training gradually exposes individuals to unpredictable forces, building confidence in their ability to handle dynamic situations. This mental fortitude is as vital as physical readiness, ensuring individuals can perform without hesitation.

CONTINUED NEXT PAGE





BENEFITS OF PERTURBATION TRAINING

Improved Balance and Stability: By regularly training in unstable environments, our body becomes better at maintaining balance. Neuromuscular control or the body's ability to send and receive signals becomes faster and more efficient.

Enhanced Proprioception: This training sharpens our body's awareness of its movements. And the ability to adapt to any change in position.

Injury Prevention: More exposure to unexpected circumstances and external forces will strengthen muscles and joints and ultimately reduce the risk of injuries.

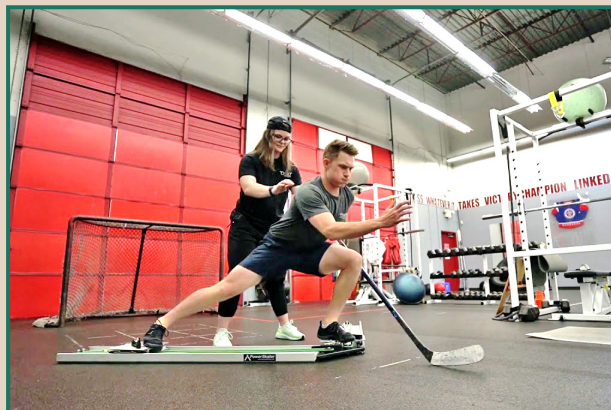
Athletic Performance: Athletes can see improvements in their agility and coordination. Making them faster and more efficient on the field.

IMPLEMENTING PERTURBATION TRAINING

To effectively incorporate perturbation training into rehabilitation and performance programs, the following principles should be followed:

Choose the Right Environment: Start with equipment like balance boards, BOSU balls, foam pads, or even natural uneven terrain such as sandy beaches or rocky trails.

Gradual Progression: Start with basic movements and gradually increase the complexity and intensity of perturbations. Add unexpected elements, such as gentle nudges or slight pushes, to further challenge balance and improve reaction times. This approach ensures that the individual's neuromuscular system can adapt progressively.



INCORPORATE VARIOUS EXERCISES:

Standing Exercises: Start simply by standing on the unstable surface, focusing on maintaining balance.

Dynamic Movements: Progress to movements like shifting weight, squats, and lunges.

Single-Leg Exercises: Increase difficulty by performing exercises on one leg, such as single-leg stands or squats.

Functional Movements: Include reaching, twisting, and bending while on the unstable surface.

Specific Exercises: Ensure exercises mimic the demands the individual will face in their daily activities or sport. This specificity helps translate improvements in training to actual performance. Think of including the body's natural sling system. Adding these muscle systems will allow greater turnover from training to the specific sport.

For example: 1. Holding a ball with water and performing a squat jump. During the landing the water in the ball will act as a second wave of external force. Acting upon the body's ability to maintain a positive and stable position.

Professional Supervision: Close supervision by a trained professional is essential to monitor form and progress, making necessary adjustments to the training regimen. This ensures that exercises are performed correctly and safely, and that progressive overload is applied for optimal improvement.

CONCLUSION:

Perturbation training is a powerful tool in strength and conditioning and rehabilitation of injuries, particularly when focusing on movement mechanics. It enhances neuromuscular control, improves proprioception, and builds confidence—all crucial for a safe and successful return to activity. By incorporating these principles into programs, we can better support individuals in their journey to recovery and performance. Implementing perturbation training can be a game-changer, offering a holistic approach that addresses both physical and psychological aspects.



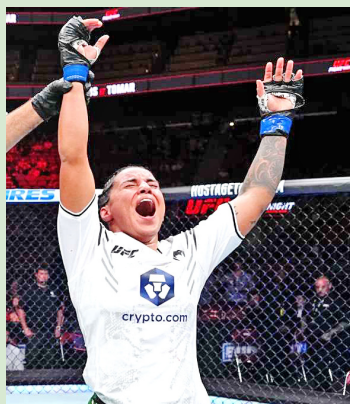
PAT CUMMINS TAKES SECOND CONSECUTIVE T20 WORLD CUP HAT-TRICK

Australia's Pat Cummins made history by becoming the first player to take two hat-tricks in T20 World Cups. This happened during the Super 8 match between Australia and Afghanistan at St. Vincent. Cummins secured the wickets of Rashid Khan, Karim Janat, and Gulbadin Naib to accomplish this feat. It marked only the eighth occasion a bowler has completed a hat-trick in a Men's T20 World Cup and the first time a player has done so more than once. Cummins is part of an elite group of seven players who have taken a hat-trick in a Men's T20 World Cup. This group includes Brett Lee (2007), Curtis Campher (2021), Wanindu Hasaranga (2021), Kagiso Rabada (2021), Karthik Meiyappan (2022) and Josh Little (2022).



VERSTAPPEN WINS SPANISH GRAND PRIX 2024

Red Bull's Max Verstappen claimed victory at the Spanish Formula One Grand Prix for the third consecutive year. McLaren's pole-sitter, Lando Norris, lost his lead at the start and finished 2.2 seconds behind. The Dutch driver extended his championship lead to a significant 69 points, with Norris becoming his closest rival and earning a bonus point for the fastest lap. This victory marked Verstappen's seventh win in 10 races this season and the 61st of his career. He now has 219 points, compared to Norris's 150 and Leclerc's 148.



PUJA TOMAR BECOMES FIRST INDIAN TO WIN IN UFC

Indian strawweight Puja Tomar made history as the first Indian to win a bout in the UFC, defeating Brazil's Rayanne Amanda dos Santos by split decision at UFC Louisville on June 8. Tomar won with scores of 30-27, 30-27, and 29-28. She also became the third Indian and the first Indian woman to secure a UFC contract. The other Indian fighters, who have represented India in the UFC, are Anshul Jubli and Bharat Kandare, along with Canada-based Arjan Singh Bhullar. Tomar is a five-time National Wushu champion and has a background in karate and taekwondo, having won multiple medals in both disciplines.



MAGNUS CARLSEN WIN NORWAY CHESS TITLE

The prestigious Norway Chess Tournament concluded with a thrilling finale as World No. 1 Magnus Carlsen made chess history by securing his sixth title. In a dramatic final round, Carlsen outmanoeuvred the formidable Fabiano Caruana in an intense Armageddon match, reinforcing his global dominance.



SIEGEMUND & ROGER-VASELIN WIN FRENCH OPEN MIXED DOUBLES

At the French Open, Laura Siegemund and Edouard Roger-Vasselin won their first mixed doubles championship together by defeating Desirae Krawczyk and Neal Skupski 6-4, 7-5. This win gave Siegemund of Germany his second mixed doubles Grand Slam title, and for Roger-Vasselin of France, it was his first, making it extra special as it happened in his home country.



RECORD-BREAKING REAL MADRID WINS TITLE FOR 15TH TIME

Real Madrid withstood a relentless attack from Borussia Dortmund to win the Champions League for the 15th time, with Dani Carvajal and Vinicius Junior scoring late in a 2-0 victory at Wembley. Right-back Carvajal headed in from Toni Kroos' corner in the 74th minute, followed by Vinicius firing into the far corner, further cementing the Spanish giants' record as the most successful club in Champions League history.



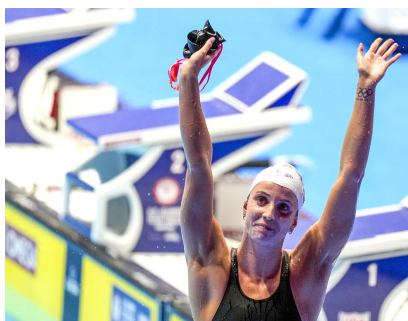
LEE ZII JIA TRIUMPHS AT BWF AUSTRALIAN OPEN 2024

In an exciting final at the BWF Australian Open 2024 in Sydney, Malaysia's Lee Zii Jia triumphed over Japan's Naraoka Kodai, clinching his second title of the season. Third-seeded Lee Zii Jia took an hour and 18 minutes to overcome Naraoka Kodai in a closely-contested match. The final score was 21-19, 11-21, 21-18. This victory follows Lee's win at the Thailand Open last month.



SHRUTI VORA BECOMES FIRST INDIAN TO WIN 3 STAR GP IN DRESSAGE

Shruti Vora, riding Magnanimous, has made history as the first Indian rider to win a three-star Grand Prix event. In the CDI-3 event held in Lipica, Slovenia, Shruti scored 67.761 points. She finished ahead of Moldova's Tatiana Antonenco (Aachen), who scored 66.522 points, and Austria's Juliane Jerich (Quarter Girl), who scored 66.087 points to complete the top three.



REGAN SMITH SETS 100M BACKSTROKE WORLD RECORD

At the U.S. Olympic Swimming Trials, Regan Smith broke the world record in the 100-meter backstroke. The 22-year-old from Minnesota finished in 57.13 seconds, beating the previous record of 57.33 seconds set by Australia's Kaylee McKeown last year. Smith first broke the world record in this event at the 2019 World Championships when she was only 17.

CELTICS ROUT MAVERICKS TO WIN RECORD 18TH TITLE

Jayson Tatum delivered a spectacular 31-point performance as the Boston Celtics controlled the game against the Dallas Mavericks, securing a record-breaking 18th NBA championship title with a convincing 106-88 victory. After a humbling 38-point loss to Dallas in Game 4, Boston shut down any hopes of a Mavericks comeback, sealing the series 4-1 in front of an enthusiastic crowd at TD Garden. Jaylen Brown, honored as the Finals Most Valuable Player, contributed 21 points alongside Tatum, while Jrue Holiday added 15 points and Derrick White scored 14.



Retears or recurrent tears of the rotator cuff, following operative repair, is quite a common event. The rotator cuff consists of muscles and tendons that connect the arm to the shoulder blade.

Experts believe that tears in this network of muscles and tendons may occur due to overuse of the shoulder, injury, lack of blood supply, bone spurs, and normal wear and tear of the joint, among other reasons. A massive rotator cuff tear is greater than 5cm in size and involves at least both the supraspinatus and infraspinatus components of the rotator cuff. There is a high incidence of postoperative re-tear of massive rotator cuff tears. Experts claim that the rate of recurrence can be as high as 90%. But is there any way to reduce the chance of recurrence?

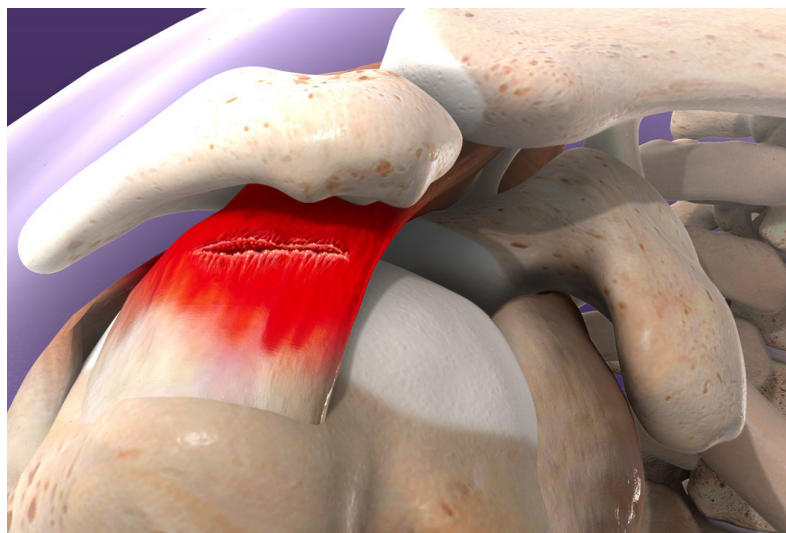
Experts Paulo J. Llinas, David S. Bailie, Diego A. Sanchez, Julian Chica, Juan Francisco Londono, and Gilberto A. Herrera have found an answer to the question. They performed a study at the Fundación Valle del Lili Hospital in Columbia. Their study concluded that the rate of re-tears can be reduced to a great extent by opting for arthroscopic technique using the long head of the biceps tendon (LHBT), rich in tenocytes, as a graft. This quite helpful in RCT repair and superior reconstruction, experts believe. "Use of the LHBT for Partial Superior Capsular Reconstruction (PSCR) to augment massive rotator cuff tears resulted in markedly lower re-tear rates and modestly improved pain and function outcomes compared with repair alone," the study cites.



DR PAULO J LLINAS CALI, COLOUMBIA

REDUCING RETEARS OF ROTATOR CUFF

HERE'S HOW A GROUP OF EXPERTS CONDUCTED A STUDY TO CONCLUDE THAT THE RATE OF RETEARS CAN BE REDUCED TO A GREAT EXTENT BY OPTING FOR ARTHROSCOPIC TECHNIQUE USING THE LONG HEAD OF THE BICEPS TENDON (LHBT), RICH IN TENOCYTES, AS A GRAFT



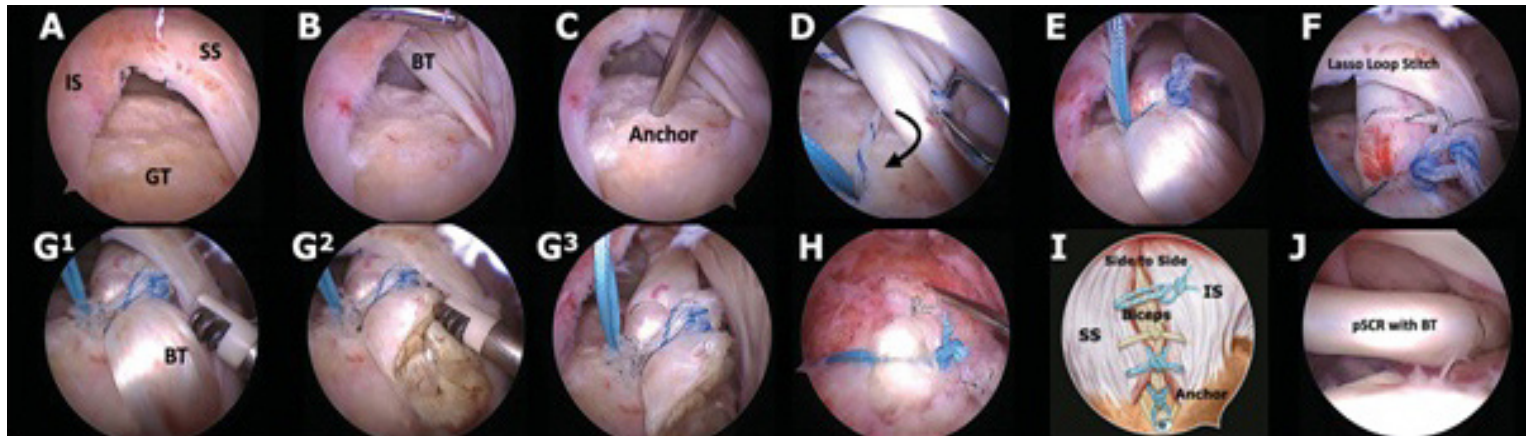
METHOD AND SAMPLE SIZE

The authors of the research paper compared arthroscopic repair of massive postero-superior rotator cuff tears with and without augmentation using the LHBT for pSCR between 2015 and 2017 by the same surgical team in a quaternary care center. After applying the selection criteria, 106 patients were included in the study and distributed into 2 groups of 50 and 56 patients.

Patients in the first group (50 patients) underwent arthroscopic repair without use of the LHBT (AR group), and patients in the second group (56 patients) underwent arthroscopic repair with use of the LHBT for pSCR (AR-LHBT group). The structural outcome was evaluated by ultrasound at 2 years of follow-up. Function and pain were evaluated pre-operatively and at the 2-year follow-up using the American Shoulder and Elbow Surgeons (ASES) score and visual analog scale (VAS).

Pre- and postoperative active range of motion, including forward elevation, external rotation, and abduction, were also documented. The study was approved by the ethics committee/institutional review board of the institution, where the research was performed.

CONTINUED NEXT PAGE



ARTHROSCOPIC STEPS: (A-C) GT PREPARATION AND ANCHOR PLACEMENT. (D-F) LHBt TENODESIS. (G1-G3) LHBt TENOTOMY. (H-I) ROTATOR CUFF REPAIR INCLUDING LHBt. (J) INTRA-ARTICULAR VIEW OF pSCR. BT, BICEPS TENDON; GT, GREATER TUBEROSITY; IS, INFRASPINATUS; SCR, SUPERIOR CAPSULAR RECONSTRUCTION; SS, SUPRASPINATUS

SELECTION CRITERIA FOR THE PATIENTS

During the period from January 2015 to June 2017, 306 patients underwent arthroscopic rotator cuff repair at the centre. “We included all patients older than 18 years of age with a reparable posterolateral massive rotator cuff tear who underwent arthroscopic repair and had a minimum 2-year follow-up. We excluded all patients with irreparable tears, previous shoulder surgeries, infections, ruptures of traumatic origin, irreparable subscapularis tears, severely degenerative LHBts, or type 4 superior labrum anterior-posterior (SLAP) tears, as well as patients with incomplete data in their medical records,” the experts stated.

USE OF LHBt AS AN AUTOLOGOUS TENDON TO AUGMENT REPAIR

In massive tears of the rotator cuff, the long head of the biceps tendon (LHBt) undergoes secondary degenerative and inflammatory changes and is forced to perform an excessive depres-

sive function of the humeral head, and it may become a source of pain and functional incapacity.

In the past, the LHBt has been underestimated as a source of autologous tenocytes that can reinforce rotator cuff repairs. In fact, many surgeons routinely perform tenotomy (biceps killers) or tenodesis in surgeries for repair of massive tears. In these cases, the LHBt is considered a source of pain but is not being used for any structural enhancement of the repair.

“More recently, our preference has been to preserve the LHBt (biceps preserver) and use it as an autologous tendon to augment the rotator cuff repair by having it function in partial superior capsular reconstruction (pSCR), reinforcing the repair and for the potential benefit of providing tenocytes to promote healing. By tenodesing the LHBt to the greater tuberosity (GT) and performing a distal tenotomy, we are able to augment the rotator cuff repair while also eliminating the LHBt as a source of pain,” the experts claimed.

WHAT WAS THE REHABILITATION PLAN?

Postoperative management was identical in both groups. “The shoulder was immobilized with a 40° abductor pillow for 4 weeks, with free elbow and wrist mobility allowed from day 1 after surgery.

Active-assisted exercises were started after the fourth week postoperatively to regain the range of motion. Muscle strength and proprioception were gradually rehabilitated. Sporting activities were not allowed until 6 months postoperatively,” the study cites.

Ultrasound was routinely performed on all patients by the group of board-certified musculoskeletal institutional radiologists at 1 and 2 years postoperatively, the experts claim.

OUTCOME AFTER 2 YEARS: RETEAR RATE IN AR GROUP WAS 46%, IN LHBt GROUP ONLY 14%

“After 24 months, both groups showed significant improvement from preoperative ASES scores, VAS score, and active range of motion.

Patients in the AR-LHBt group showed significant improvements in postoperative functional and pain scores compared with the AR group in all measurements at the 2-year follow-up. Final range of motion was significantly increased for the AR-LHBt group for forward elevation and abduction.

Post-operative ultrasonography at the 2-year follow-up revealed a higher retear rate in the AR group (46%) than in the AR-LHBt group (14%),” the study, which has been published in American Journal of Sports Medicine, states.



OPEN CHAMPIONSHIP COMMENCES ON JUL 18

The Open Championship, often referred to as The Open or the British Open, is the oldest golf tournament in the world, and one of the most prestigious. Founded in 1860, it was originally held annually at Prestwick Golf Club in Scotland. Later the venue rotated between a select group of coastal links golf courses in the United Kingdom. It is organised by the R&A.

PARIS OLYMPICS TAKES CENTRE STAGE FROM JUL 26

The 2024 Summer Olympics, officially branded as Paris 2024, is an upcoming international multi-sport event set to occur from July 26 to August 11, 2024, in France. Paris will serve as the main host city, with events also taking place in 16 other cities across Metropolitan France and one subsite in Tahiti, an island in French Polynesia. Paris was awarded the Games on September 13, 2017, at the 131st IOC Session in Lima, Peru.



EUROPEAN UNDER-19 CHAMPIONSHIP KICKS OFF FROM JUL 15

The 2024 UEFA European Under-19 Championship, also known as UEFA Under-19 Euro 2024, will be the 21st edition of this tournament (71st edition if including the Under-18 and Junior eras). It is the annual international youth football championship organized by UEFA for men's under-19 national teams in Europe. Northern Ireland will host the tournament from July 15 to 28, 2024. A total of eight teams will compete, with players born on or after January 1, 2005, eligible to participate.



THE BELGIAN GRAND PRIX RACES OFF FROM JUL 26

The Belgian Grand Prix is a motor racing event that is part of the Formula One World Championship. This year it will start on from July 26 and will end on July 28. The venue for this event will be Stavelot, Belgium. The first national race in Belgium took place in 1925 at the Spa region's race course, an area that has been associated with motorsport since the early years of racing.



WORLD ROWING CHAMPIONSHIPS SET SAILS FROM JUL 18

The 2024 World Rowing Championships are scheduled to be held from 18–25 August 2024 at the Royal Canadian Henley Rowing Course in St. Catharines, Ontario, Canada. There are eight different boat styles with 21 different classes. The boat styles include single sculls, double sculls, coxless pairs, coxed pairs, quad sculls, coxless fours, coxed fours, eights.



WOMEN'S TOUR DE FRANCE BEGINS FROM AUG 12

The 2024 Tour de France Femmes will be the third edition of the race. It will take place from August 12 to 18, 2024, and will be the 22nd race in the 2024 UCI Women's World Tour calendar. Organized by the Amaury Sport Organisation (ASO), which also organizes the men's Tour de France, the race will feature 22 teams. The participating teams were announced on April 24, 2024.



UEFA SUPER CUP ROLLS ON AUG 14

The 2024 UEFA Super Cup will be the 49th edition of this annual football match, organized by UEFA and contested by the reigning champions of Europe's top two club competitions, the UEFA Champions League and the UEFA Europa League. The match is scheduled for August 14, 2024, at the National Stadium in Warsaw, Poland. It will feature Spanish club Real Madrid, the 2023–24 UEFA Champions League winners, and Italian club Atalanta, the 2023–24 UEFA Europa League winners.



US OPEN (TENNIS) TAKES CENTRE COURT ON AUG 26

Every year, Queens, New York hosts the US Open Tennis Championships, also known as the US Open, which is a hardcourt tennis competition. Historically, the US Open has been the year's fourth and last Grand Slam event, with the exception of 2020, when COVID-19 lockouts caused the French Open to be postponed to take place after the US Open. It is scheduled to begin on August 26 of this year.

SPONSORED BY:



1st EDITION SSI INTERNATIONAL ARTHROSCOPY CONFERENCE

DATE & VENUE:
20TH JULY
2024
8:00 am Onwards
Bhubaneswar
Sandy's Tower,
Jaydev Vihar



● KNEE ● SHOULDER ● ANKLE ● ELBOW ● WRIST ● HIP
THE KNEE COURSE

Contact: +91-7847922850
Email id: ssiarthroscopyconference@gmail.com
AN INITIATIVE BY DR. SARTHAK PATNAIK



SSI
SPORTS SCIENCE INDIA
PREVENT INJURY, PROLONG CAREER
PRESENTS

SPORTS SCIENCE CONCLAVE 2024

SAVE YOUR DATES:
DECEMBER 7 2024

FOR MORE QUERIES
CONTACT: +91-7847922850