

# RAIRON

In this Rapid Chronicle, we celebrate Bala Devi's journey, an ultra-marathoner's triumph, and Dr. Tarandeep R's paper on advances in sports injury prevention.

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In the heat of August, as the daunting Khardung La Challenge loomed just weeks away, Janhnavi came to RSF nursing a running injury that threatened to derail her dreams. Here at RSF, she met Dr. Tarandeep, whose swift and accurate diagnosis was the first step on her path to recovery. With a customized rehabilitation plan in place, Janhnavi not only made it to the starting line in Leh but also crossed the finish line—pain-free and filled with a new sense of purpose.

Her ordeal began with acclimatization in Leh's thin air, where every breath and step reminded her of the mammoth task ahead. The race itself was a trial by altitude and terrain, pushing her to the brink with each segment from Khardung Village's daunting ascent to the euphoric descent towards the finish line. Despite the physical toll, her spirits soared with support from fellow runners and the inner strength she harnessed along the way.

Today, Janhnavi isn't just training for another ultra marathon; she's training to conquer. With RSF's ongoing support and a robust injury prevention program, she's not just running; she's running stronger, inspired by the highs and lows of Khardung La.



## BALA DEVI RSF ATHLETE

In the world of Indian football, Bala Devi stands as a towering figure, not just for her unparalleled skills on the field but for her indomitable spirit in the face of adversity.

As the first Indian woman footballer to score 50 international goals, Bala Devi's journey is a story of perseverance and dedication.

# FIRST INDIAN WOMAN FOOTBALLER TO SCORE 50 INTERNATIONAL GOALS

Bala Devi's football career began in her home state of Manipur, a region known for its rich footballing culture. From a young age, she displayed a rare talent that soon catapulted her into the national spotlight. One of the most remarkable achievements in her career came when she scored her 50th international goal against Pakistan in the 2024 SAFF Championship. Her ability to consistently perform at a high level has been nothing short of inspirational.

However, Bala Devi's journey has not been without its hurdles. In 2021, she faced one of her most significant challenges yet—an ACL tear that threatened to pause her ascending trajectory. But true to her resilient nature, Bala turned adversity into opportunity. Training with RSF since her injury, she has made two remarkable comebacks: first at the 2022 Asian Games and then at the 2024 SAFF Games, where she celebrated her return by scoring her landmark 50th goal.

At RSF, Bala's training focused on comprehensive rehabilitation and strength conditioning, tailored specifically to enhance her recovery and performance.

We are honored to be part of her journey.



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# ADVANCES IN INJURY PREVENTION IN SPORT: THE ROLE OF STRENGTH TESTING, LOAD MONITORING, AND CONDITIONING PROGRAMS

In the ever-evolving landscape of sports, injury prevention has emerged as a crucial focus for athletes, coaches, and sports organizations alike. With the aim of enhancing performance while minimizing the risk of injury, advancements in regular strength testing, injury prevention programs, load monitoring, and strength and conditioning strategies are becoming increasingly sophisticated.

Here's a closer look at these pivotal components and how they contribute to athlete health and longevity.

### 1. REGULAR STRENGTH TESTING: A FOUNDATION FOR INJURY PREVENTION

Regular strength testing has become an essential practice in sports training. By systematically assessing an athlete's strength, coaches can establish baselines and monitor progress over time. These tests help identify muscle imbalances, weaknesses, and areas at risk for injury.

For instance, common strength assessments like the squat, bench press, and functional movement screens provide valuable insights into an athlete's physical capabilities.

When athletes undergo these evaluations regularly, coaches can tailor training programs to address specific weaknesses, ensuring that athletes develop balanced strength across muscle groups. This proactive approach not only enhances performance but also mitigates the risk of injuries that often arise from muscular imbalances.



## 2. INJURY PREVENTION PROGRAMS: STRUCTURED AND TARGETED APPROACHES

Injury prevention programs (IPPs) have gained traction across various sports, focusing on strengthening specific muscle groups, enhancing flexibility, and promoting proper movement patterns. These programs are typically structured around evidence-based practices and often incorporate exercises aimed at preventing common injuries related to the sport.

For example, the FIFA 11+ program, designed for soccer players, includes warm-up routines that target knee and ankle stability, which are critical for preventing injuries like ACL tears. By integrating such targeted exercises into training regimens, athletes can significantly reduce their risk of injury.

Moreover, these programs are increasingly being customized to fit the unique demands of different sports. Tailoring injury prevention strategies to sport-specific movements and common injuries can lead to more effective outcomes, ensuring athletes are physically prepared for the rigors of competition.

## 3. LOAD MONITORING: BALANCING TRAINING AND RECOVERY

Load monitoring is a vital component of modern sports training that focuses on managing the volume and intensity of an athlete's training to prevent overtraining and injuries. By tracking training loads—both internal (heart rate, perceived exertion) and external (distance covered, weight lifted)—coaches can gain insights into how much stress an athlete is under.



Innovative tools and technology, such as GPS trackers, and heart rate monitors, allow for precise load monitoring. This data enables coaches to make informed decisions about training adjustments. For example, if an athlete's load spikes unexpectedly, it may signal the need for a deloading week or more recovery time to prevent injuries associated with overexertion.

## 4. STRENGTH AND CONDITIONING: BUILDING RESILIENCE

Strength and conditioning programs have evolved to prioritize injury prevention as a core component of athletic training. These programs emphasize not only the development of strength but also the importance of functional movements, agility, and mobility.

Conditioning programs reflect the actual movements, stresses, and dynamics that athletes experience in competition. Tailoring conditioning to a sport allows for exercises that strengthen the body in ways directly applicable to injury prevention and performance.

Agility Drills: Lateral movements, rapid direction changes, and sprint-stop maneuvers replicate game conditions, conditioning the muscles, joints, and tendons to handle these forces.

Explosive Plyometrics: Exercises like box jumps or depth jumps build the power and stability needed for sprinting, jumping, and other high-impact movements.



Rotational Strength: Exercises that focus on core and rotational strength are critical for sports that require powerful torso rotation.

Sport-specific conditioning can help athletes become better prepared for their specific movement patterns, reducing the chance of muscle strains or joint injuries that might occur during intense gameplay.

This holistic approach fosters athletic resilience, allowing athletes to withstand the physical demands of their sport.

## CONCLUSION: A COMPREHENSIVE APPROACH TO INJURY PREVENTION

The integration of regular strength testing, tailored injury prevention programs, effective load monitoring, and robust strength and conditioning strategies marks a significant advancement in the field of injury prevention in sports. By focusing on these elements, athletes can optimize their performance while minimizing the risk of injuries.

As technology and research continue to evolve, the future of sports will likely see even more innovative approaches to keeping athletes healthy and competitive. By prioritizing these practices, sports organizations can create safer environments for athletes at all levels, paving the way for sustained success and well-being in the world of sports.

#### Dr Tarandeep R Physiotherapist

#### **Exploring India's \$130B Sports Goldmine**

#### INSIGHTS FROM DELOITTE'S REPORT



In the Deloitte & Google analysis, India's sports industry is shown as a burgeoning giant, set to grow to \$130 billion by 2030, propelled by a compound annual growth rate (CAGR) of 14%. The insights reveal an industry ripe for technological revolution, where digital platforms are transforming fan experiences and expanding access beyond traditional boundaries.

The surge in Gen Z's participation has been marked by an eclectic shift towards diverse sports, driven by digital immersion that goes beyond mere viewership to interactive engagements. This demographic is not just consuming sports; they are redefining fandom with their digital-first approach, influencing how sports are marketed and enjoyed.

In terms of economic impact, sports are poised to double their contribution to employment and tax revenues by 2030. The current market valuation of \$52 billion spans across core and allied sports sub-sectors, highlighting significant investment opportunities and consumer engagement potential that stretches across urban and rural divides.

Technology, especially AI, is tipped as a transformative force, set to enhance athlete performance and fan engagement, signaling a move towards a more inclusive and technologically advanced sports ecosystem. This represents not just growth but a paradigm shift in how sports are played, consumed, and managed in India.

#### **Chelston Pinto**



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