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ENHANCING SPEED-STRENGTH QUALITIES OF SHOT PUTTERS DURING THE PRE-COMPETITION TRAINING PHASE

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Abstract: This article explores strategies to enhance speed-strength qualities in shot putters during the pre-competition phase. Emphasizing a combination of maximal strength and ballistic power training, the study reviews current literature to identify effective training modalities. Findings suggest that integrating Olympic lifts, plyometrics, and velocity-based training can significantly improve performance. The article concludes with practical recommendations for coaches and athletes aiming to optimize shot put performance.

Key words: shot put, speed-strength, pre-competition training, ballistic training, velocity-based training, plyometrics, Olympic lifts

Introduction

Shot put is a discipline that demands a unique blend of strength, speed, and technical precision. As athletes transition into the pre-competition phase, the focus shifts from general strength development to enhancing explosive power and refining technique. This phase is critical for translating off-season gains into competitive performance. Recent studies have highlighted the importance of specific training modalities that target speed-strength qualities, which are essential for the rapid force production required in shot put (Zaras et al., 2013).

Methods

A comprehensive review of current literature was conducted, focusing on studies that examine training interventions aimed at improving speed-strength in shot putters. Databases such as PubMed and PMC were utilized to identify peer-reviewed articles published within the last decade. The inclusion criteria encompassed studies involving shot put athletes and interventions during the pre-competition phase.

Results

The literature indicates that a combination of maximal strength and ballistic power training is effective in enhancing shot put performance. Zaras et al. (2013) found that both strength and power training led to significant improvements in throwing performance, with power training

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inducing greater increases in ballistic throw performance. Additionally, the integration of Olympic lifts, such as the snatch and clean, has been shown to improve explosive strength and correlate with shot put performance (Terzis et al., 2021).

Plyometric exercises, including medicine ball throws and depth jumps, have also been identified as beneficial for developing explosive power (CoachingPlaybook, 2024). Furthermore, velocity-based training (VBT) has emerged as a valuable tool for monitoring and enhancing training effectiveness by focusing on movement speed rather than load, thereby optimizing power output (Wikipedia, 2025).

Discussion

The transition into the pre-competition phase necessitates a shift from general strength training to exercises that enhance explosive power and speed-strength qualities. The reviewed literature supports the integration of ballistic training and Olympic lifts to achieve these objectives. Ballistic training, characterized by high-velocity movements, effectively recruits fast-twitch muscle fibers, essential for explosive actions in shot put (Wikipedia, 2024).

Olympic lifts, such as the snatch and clean, not only develop overall strength but also improve neuromuscular coordination and rate of force development, critical components for shot put performance (Terzis et al., 2021). Plyometric exercises further complement these training modalities by enhancing the stretch-shortening cycle, thereby improving explosive power (CoachingPlaybook, 2024). The implementation of VBT allows for real-time monitoring of movement velocity, enabling coaches to adjust training loads to maintain optimal power output. This approach ensures that athletes train within the desired velocity zones, maximizing the effectiveness of each session (Wikipedia, 2025).

Conclusion

Enhancing speed-strength qualities during the pre-competition phase is pivotal for shot put success. A multifaceted training approach that incorporates maximal strength exercises, ballistic training, Olympic lifts, plyometrics, and VBT can lead to significant improvements in performance. Coaches and athletes should consider these evidence-based strategies to optimize training outcomes and achieve competitive excellence.

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