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Review Article

Are Strength and Conditioning Knowledge Essential for a Physiotherapist?

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INTRODUCTION

Physiotherapists are vital exercise professionals involved in handling musculoskeletal injuries with exercise therapy grounded approaches. The process of decision making and acclimatization of a rehabilitation program, especially in the case of rehabilitation and a return to a fully functioning state of an injured athlete, greatly depend on the training parameters, strength and conditioning principles. It is claimed that exercise rehabilitation applications blended with strength and conditioning principles claim better results with the patient's symptoms throughout the rehabilitation phase.

Physiotherapy focus on primary care practice, as a profession with blended approaches on physical assessment and functional diagnosis with limited therapeutic exercise prescription, lacks strength and conditioning knowledge.[1,2] One of the main reasons for a physiotherapist showing no interest towards acquiring knowledge on strength and conditioning is because at times it lacks evidence and principles of strength and conditioning don't support a rehabilitation program design.The other aspect is that regular clinical practice leads to workload burnout.[2] It is apparent that there is a dilemma with their focus of practice on either therapeutic exercises based clinical applications orstrength and conditioning approaches.[3]

When it comes to a sports physiotherapist it is important to acquire knowledge on strength and conditioning in order to work with a multidisciplinary team.[4]

The physical therapist for sport enforcing similar programs, should be cognizant of all factors on the rehabilitation program of an athlete.[5]

This article makes a few suggestions for a physiotherapist to acquire strength and conditioning knowledge with the rehabilitation periodization concept and a gold standard approach on bridging rehabilitation protocol with strength and conditioning approaches.[7]

Ten things to be consider from a physiotherapist's point of view to improve strength and conditioning knowledge.

- Learning fundamentals of health and skill related fitness
- Basic understanding of fitness assessment
- Understanding the seven general sports training principles: overload, Reversibility, Progression, Individualization, Period- ization, and Specificity
- To focus and implement the Concepts of periodization in rehabilitation exercises progression with advanced patterns, and return to play
- Ideology with four phases of rehabilitation; it is recommended that multiple health care professionals are involved in these phases
- Involve oneself with the team work and not to be an egoist
- The academic curriculum in the physiotherapy subject should focus on strength and conditioning
- Committing to be fit person; once the physiotherapist professional starts to work on their fitness level, it makes them valuable in implementing the same in society
- Getting enough knowledge in the strength and conditioning aspects but not to turn into a trainer after acquiring knowledge
- Showing impact on how far we can make a progressive difference in the long term patient outcome[3,5,7]

Thus, the conditioning exercises should be incorporated as a maintenance phase of fitness program which shows much improvement in the physical activity level of the subjects.[6]

Conclusion

Presently literature provides little knowledge regarding integrating strength and conditioning concepts with rehabilitation, but it should not neglect the physiotherapy profession which is in a big need to recognize the gain in strength and conditioning knowledge. It is important for the physiotherapy profession to focus on advanced effective core exercise science skills with a bio psychosocial approach rather than trying to acquire the injection therapy, adjunct therapy, quick fix, minimal invasive techniques etc.

Strength and conditioning subjects should be recommended with the Academic Curriculum at both undergraduate and Post graduate levels. It is also recommended that a physiotherapist should be ego free when working with a team of health care professionals and should focus on guiding the patient or a athlete towards bringing their full physical function back.

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Table I

Phase 1	Phase 2	Phase 3	Phase 4
Improve AROM	Build strength	Build power	RTS Criteria
Mitigate Pain (analgesic isometrics and comfortable isotonic range)	Exercise selected to strengthen area of injury and globally	Exercise selected to train global power output	Sports specific drills
Exercises selected based onability to perform without damaging healing tissue butimpose metabolic load	Progressive overload: 4*8/4 *6/5*5/6*3.	Time trials/ work capacity	Educate about programming for RTS
2- 3 sets * 10-15 reps, 30- 60secs rest between sets. RPE6-10/10	RPE: 8-9/10	Decreased load with increased volume-add timecomponent	Prepped for pre-season
RPE 9-10/10			

The Rehabilitation Periodization Model

It is recommended that any sports injury should move towards a phase of healing subjected to injury level and part of the body. In recent times the 'control-chaos continuum' model shows more evidence. The table below shows the sample protocol design and phases from the onset of sports injury to return to play.Case context matters; sometimes it may be appropriate to progress based on just RPE, % of 1RM or both.

Conflicts of Interest: None

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