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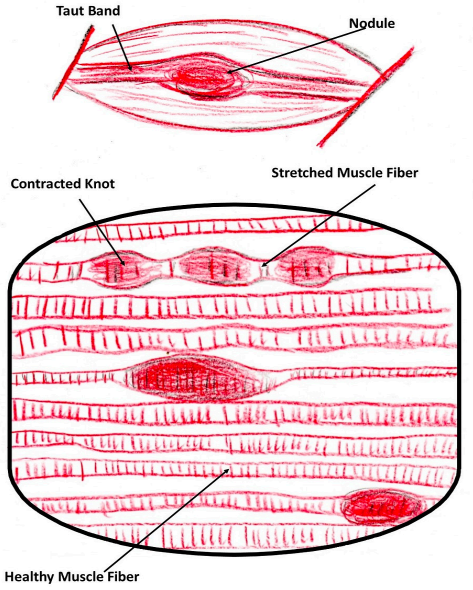
Ski Performance: Fatigue, Pacing and Proper Falling Strategies



Skiing is considered to be a highly energetic activity that can cause the muscles to contract up to 100-150% voluntarily during twists and turns down the slopes. After multiple runs on the mountain, thousands of muscle contractions take place which can lead to increased muscle stress and fatigue. Although this type of endurance is a fun form of exercise, too much fatigue can expose the skier to risk of injury.

Environmental and mechanical factors can indicate where muscle fatigue occurs the most, from shorter to longer runs, or different styles (cross-country, alpine) where muscle contractions vary. Remember to pace yourself during runs, as we want to perform better with as little muscle fatigue as possible to reduce our chances of injury. Practice breaks in combination with understanding the demands of your body as you endure a run. It is key to physically prepare yourself before enduring the day on the slopes to prevent strain or injury. Using the warm up and cool down tool kit is a great resource to ensure proper preparation and restoration. When off the mountain, being active can maintain endurance and mobility as well. Activities or exercises can include cardiovascular endurance activities that keep your heart rate up, such as gym facilities, running, hiking, or rowing!

Aside from proper binding and equipment maintenance, skiers should be aware of guidelines to reduce the risk of injury while falling as this may be an inevitable event along the slopes. Keeping the knees flexed in a fall as well as avoiding standing up while still sliding down the slopes reduces the possibility of sprains, strains or tears. Strengthening and conditioning exercises are beneficial to increase muscular strength to cushion joints during falls, while flexibility and agility should reduce severity and injury incidence.

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Seifert, J., Kröll, J., & Müller, E. (2009). The relationship of heart rate and lactate to cumulative muscle fatigue during recreational alpine skiing. Journal of Strength and Conditioning Research, 23(3), 698-704. https://doi.org/10.1519/JSC.0b013e3181a2b55e

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Jessica graduated with a Bachelors in Human Kinetics through the University of British Columbia Okanagan. Through understanding her patients' goals, she uses functional screening assessments to create individualized programs to better her patient's well-being. Jessica's experience includes working as the athletic trainer for the U17 AAA Vancouver hockey team, U16 Okanagan kids soccer summer camp, and has worked with various populations including former olympian swimmers, performance sport athletes, concussion injury, as well as individuals who are motivated to strengthen their fitness and health.