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Winter performance

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achieved her dream

PLUS Nutrition Exercise Management Psychology Posture Research Reviews Health



Some years ago a client approached me with a simple request: "Can you help me get fit for my skiing holiday?" Now, being a keen, relatively fresh personal trainer at the time my response was a resounding: "Yes, I'm the very man you need!"

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PROGRESSIVE SKI-MATICS

It turned out the client had a limited level of fitness – a sporadic weekend warrior at best. He had a desk-based job and to top it all off was leaving for the Alps in only two weeks' time! I had to backtrack and dig myself out of the hole I had gloriously made. Not being one to turn down a challenge we did the best we could in two weeks, but needless to say he wasn't quite ready to take on the Alps. The post-holiday report was gladly injury-free, but tired aching legs and a stiff back were a common theme during the week-long, thrill-seeking holiday.

This kind of scenario is one that many a fitness trainer can relate to; where the unknowing, but well-meaning client thinks they can turn around very average activity habits into outstanding, high-intensity performance in a matter of weeks. It takes years of training and dedication to be able to perform at an elite level in most sports, including skiing. Bearing in mind that most of our clients are not trying to be performance athletes, it raises the question "do I have to devise a highly advanced, technical, power-driven programme to prepare them for the slopes?" For the recreational skier their first priority should be to help condition them to prevent injury so they do not end up snowballing their way downhill to the end of a ski run.

75% of all skiing injuries are the result of falls, the most common being medial collateral ligament sprain when the skier twists their knee at low speeds.¹ Anterior cruciate ligament sprain is also common.² Statistically the most common time to be injured is on the second afternoon of a six-day ski holiday. This is when the

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recreational skier has completed nearly two days and is at peak fatigue. Some of these injuries may be the result of a slow build-up of muscular imbalance as we adapt to the effects of gravity and our ever-increasing sedentary lifestyles. Our bodies lose the ability to move the way they once did. Many recreational exercisers will be found lacking in good, flowing, successful movement skills. When they are fatigued and challenged on the ski slope the increased intensity only serves to highlight their imbalanced movement patterns which may result in injury. So an appropriate place to start before we send them headlong down a ski slope at 50mph would be to work on their basic movement patterns. The six movement patterns are:

1. Squat
2. One leg
3. Bend to extend

4. Push
5. Pull
6. Rotate

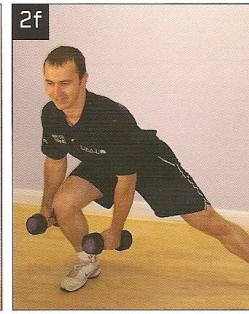
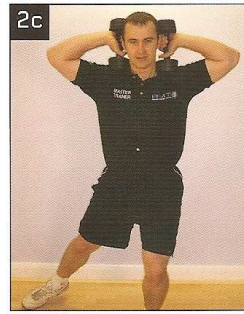
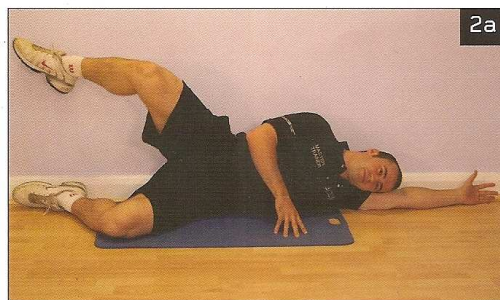
Although it is essential to train our bodies in all movement patterns, for skiing it would be appropriate to place a slightly greater emphasis on squat, one leg and rotate as these patterns are more dominant.³ The whole body must still be trained as the balance, proprioception and the ground reaction forces we must respond to while travelling at speed on two fibreglass planks will load and unload a variety of muscular slings from top to toe. We must train the body to be able to perform and coordinate as a single, flowing unit. However, that takes time and requires sensible progression and development... certainly longer than a brief two weeks. If, as I experienced, there is only a few short weeks before their skiing holiday, we can and should still provide successful movement training for them after their trip. Then next season they will be in tip-top condition ready to attack the slopes with every perfectly primed muscle.

Science has shown that we learn our movements as infants through a process of "chunking", or breaking down the movement complexity into smaller bite-sized chunks that we can more quickly master.⁴ Then we slowly piece each part together like a jigsaw until we are able to walk, run and jump. As the effects of gravity and increased sedentary living are literally sapping our movement skills away, it makes common sense to try to relearn successful movement through the same process of "chunking". Apply that to a fitness programme and we are simply talking about mastering the skill of progressive exercise planning.

If our client has weakness in their movement patterns then we need to activate the weak link muscles that are not pulling their weight as part of that coordinated, muscular sling system. One system of corrective exercise starts with controlled, isolated exercises to get the specific muscle firing, building the complexity and challenge over a period of weeks and months until we arrive at more successful multi-planar, three-dimensional movement skills.⁵ Some examples of movement pattern progression focusing on squat, one leg and rotate are shown below.

1. Progressive squat ski-matic

- a. Supine ball bridge
- b. Stability ball squat
- c. Back squat
- d. Squat with med ball wood chop
- e. Sagittal jump squats
- f. Frontal jump squats
- g. Transverse jump squats
- h. Reactive multi-directional jump squats



2. Progressive one leg ski-matic

- a. Lying wall angel
- b. Heel touchdowns
- c. Clock squats
- d. Forward alternate lunge
- e. Reverse to forward lunge combination
- f. Frontal to transverse lunge combination
- g. Jumping lunge with med ball twist
- h. Ice skater

3. Progressive rotate ski-matic

- a. Four-point box
- b. Supine T-bridge roll-off
- c. Stability ball Russian twist
- d. Seated cable Russian twist
- e. Standing cable Russian twist
- f. Integrated cable Russian twist
- g. Integrated med ball Russian twist
- h. Ground reactive med ball Russian twist

As a resisted movement training (RMT) specialist I can ensure that my clients have excellent movement skills that help them to react, adjust and ultimately perform in any movement situations that they require. This makes movement pattern training relevant to all sports and activities of daily life. In relation to winter sports conditioning this will allow me to guide my client to their full potential as they speed over the ever-changeable surface we call a snow-capped ski slope! tm

References

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