Hyperbaric oxygenation did not improve muscle soreness or rate of recovery of muscle strength following exercise.

Clinical Bottom Line:

1. Hyperbaric oxygen therapy did not enhance recovery following exercise-induced loss of muscle strength.

2. Similarly, HBOT did not improve muscle soreness following eccentric exercise.

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Sydney; Monday, 16 November, 1998

Clinical Scenario: A young adult athlete complaining of muscle soreness following exercise.

Three-part Question: In athletes, following eccentric exercise, does the application of hyperbaric oxygenation compared to normal air breathing, result in a more rapid recovery of muscle function and soreness?

Search Terms: hyperbaric oxygenation, muscle injury.

The Study:

Double-blinded concealed randomised controlled trial with intention-to-treat.

Young adults with no known acute or chronic disorders.

Control group (N =12; 12 analysed): Standard exercise protocol followed by 10 sessions in a sham hyperbaric treatment (2.5 ATA, 8%O2 for 60 mins), once daily.

Experimental group (N =12 ; 12 analysed): As above, but hyperbaric oxygenation for 60 minutes daily at 2.5 ATA.

The Evidence:

Outcomes	Time to outcomes	Air group	HBO group	P-value
Recovery of muscle strength	10 days	61%	62%	NS
Muscle soreness score	3 days	6.9	5.6	NS

Comments:

1. Well conducted study.

2. No significance values, confidence intervals or power quoted.

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References:

1. Mekjavic IB, Exner J, Tesch PA, Eiken O. Recovery of exercise-induced loss of muscle strength and muscle soreness is unaffected by HBO therapy. In: Proceedings of the International Joint Meeting on Hyperbaric and Underwater Medicine, Marroni A, Oriani G, Wattel F eds. Grafica Victoria, Bologna 1996; 557-560.

2. Mekjavic IB, Exner J, Tesch PA, Eiken O. Hyperbaric oxygen therapy does not affect recovery from delayed onset muscle soreness. Medicine and Science in Sports and Exercise 2000; 32:558-563.