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Effects of Warm Tub Immersion Versus Cold Tub Immersion to Relieve Delayed Onset Muscle Soreness in Division 2 Collegiate Baseball Players

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Review of Literature

Delayed Onset Muscle Soreness (DOMS)
Microtrauma
Pain caused by a buildup of lactic acid, local ischemia, muscle tightness, connective tissue damage, and muscle inflammation.
24-48 hours post exercise.
Affects athletic performance.
Compensatory mechanisms

Cold Water Immersion
Analgesic
Constricts Blood Vessels
Decreases Metabolism

Hot Water Immersion
Analgesic
Promotes blood flow
Muscle Relaxation
Tissue Elasticity

Findings
Cold water immersion therapy is more effective than contrast immersion therapy.
Therapy time less than 10 minutes is ineffective with cold water immersion.
Cold water immersion decreased perception of fatigue in athletes.
Very few studies compare hot water to cold water in its effectiveness.

- One study shows athletes who received warm water therapy recovered a day faster than those who received cold water therapy.

Hypothesis

Cold water immersion will create a better benefit in reducing DOMs.

Purpose and Significance

Purpose: to bring clarity to what the best method of practice may be for the athlete in comparing cold water immersion vs. hot water immersion for the treatment of delayed onset muscle soreness.
Significance: provide an alternate method in treating DOMS and bring clarity to current conflicting research.

Methods

Letters to coaches.
Email Baseball players.

- Recruit volunteers
- Meet with volunteers
- Randomly assign to 3 groups

Groups
Cold water immersion - 45 degrees fahrenheit.
Warm water immersion - 96 degrees fahrenheit.
Control group.

Measures
Vertical jump height
Peak torque of quadriceps and hamstrings.
Self reported muscle soreness.

Findings and Limitations

Limitations: Lack of blinding.
Variability in athletes workouts.
Instrument errors when testing.
Learning curve.
Findings: There were no significant findings between the groups for any measures.