



RHABDOMYOLYSIS PREVENTION

MEGAN LAUTZ, MS, RD, CSCS, TSAC-F @Rescue.RD

Copyright © 2024 RescueRD LLC Megan@RescueRD.com



Rhabdomyolysis

Breakdown of muscle tissue

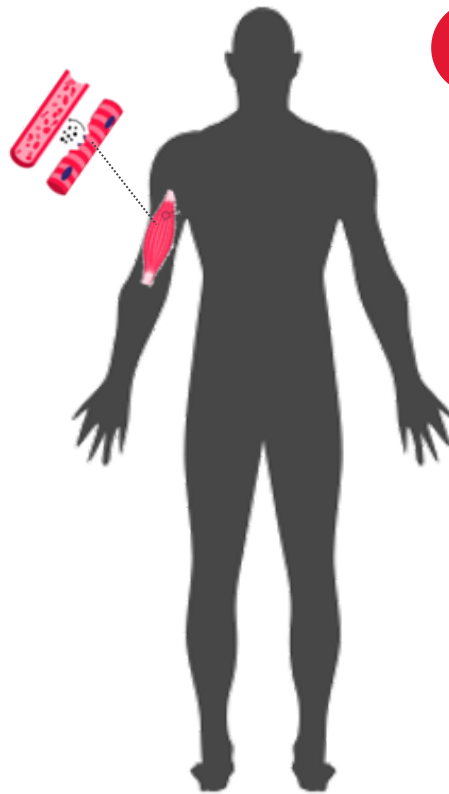
- Injured muscles release myoglobin into the bloodstream
- Myoglobin damages kidneys & blocks urine production
- Damaged muscles swell and hold water, causing further dehydration and kidney damage

Watch For

- Shuffling/struggling during a light run
- Difficulty lifting relatively light objects
- Complaints of swelling, joint pain, or unquenched thirst

Treatment (Hospital)

- Counteract dehydration with IV fluids to flush out proteins through the kidneys
- Correct electrolyte imbalances
- Manage cardiac dysrhythmias



Fever, confusion, loss of consciousness



Rapid, uncontrolled heart rate



Nausea/vomiting



Extreme muscle stiffness
Trouble lifting objects



Dark colored urine (or lack of urine)



Muscle weakness/swelling
Leg fatigue/shuffling

RISK FACTORS

Fitness

- Untrained, African American males
- Intense weight training (includes bodyweight training)
- Prolonged high-intensity exercise
- Ex. 300 squat jumps + 800 sit-ups + 400 pushups + run

Environment

- High heat (+91°F) and humidity

Nutrition

- Dehydration (start hydrating the day before PT or exercise)
- Electrolyte imbalance/depletion
- Excessive carbohydrate loading

Medications/Supplements

- Sickle Cell Trait
- Statins
- Diuretic use
- Weight loss supplements

Sources

Exercise-induced rhabdomyolysis mechanisms and prevention: A literature review.

<https://www.sciencedirect.com/science/article/pii/S2095254615000605>

Mayo Clinic. Rhabdomyolysis. <https://www.youtube.com/watch?v=Hy0uEPo8-7w>

Recognizing, diagnosing, and treating rhabdomyolysis.

https://journals.lww.com/jaapa/Fulltext/2016/05000/Recognizing,_diagnosing,_and_treating.4.aspx

Recommendations

First 2 weeks of recruit class, AVOID:

- Excessive eccentric exercise
- High rep exercises with no breaks (ex. 100+ reps)

Treatment

- Elevate legs
- Rehydrate
- Cool/Ice body

Provide water breaks every 20-30 min

Try contrast showers (1 min hot, 1 min cold) to encourage recovery

Consider a yoga or recovery day on the 3rd-4th day of PT