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POLICE CHIEFS IN-SERVICE SEMINAR:

A Leadership Retreat for Senior Commanders

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*The Seaview Resort
Galloway, New Jersey*

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Exercise Responsibly

By Matt Brzycki, Assistant Director of Campus Recreation, Fitness, Princeton University

Rhabdomyolysis is a condition in which muscle fibers are broken down in such an extreme manner that cell membranes are destroyed. This releases or “leaks” intracellular contents into the bloodstream in concentrations so high that it can have dire consequences. Complications include cardiac arrhythmia (an irregular heartbeat), cardiac arrest (a sudden loss of heart function), compartment syndrome (high pressure in the compartmental space that’s occupied by muscle tissue, nerves and blood vessels) and renal (kidney) failure.

Each year, about 26,000 cases of rhabdomyolysis are reported in the United States; that’s an average of about 500 cases per week. It’s likely that many more go unreported.

In many instances, rhabdomyolysis results from severe exertion. Here, it’s referred to as “exertional rhabdomyolysis” or “exercise-induced rhabdomyolysis.” Most cases of exertional rhabdomyolysis involve military and law-enforcement personnel, often recruits/trainees. In 2013, for example, there were 378 cases of exertional rhabdomyolysis in the US military – a 33% increase since 2009 – of which 168 required hospitalization. There are also numerous and growing reports of exertional rhabdomyolysis sustained by fitness enthusiasts who pushed themselves too hard or were pushed too hard by others.

Make no mistake about it: Rhabdomyolysis is potentially life threatening; statistically, the overall mortality rate for people with rhabdomyolysis is 5%. That might sound like a small percentage but look at it this way: That’s a one-in-20 chance of dying.

Early recognition of rhabdomyolysis is extremely critical. Local signs and symptoms include muscle pain, tenderness, swelling, bruising and weakness. Systemic signs and symptoms include fever, nausea, confusion, agitation and tea-colored urine (which is often the first and perhaps most tell-tale sign of rhabdomyolysis).

A number of factors are associated with exertional rhabdomyolysis. This includes . . .

- a sudden increase in physical activity
- exercises that are severe, repetitive and, in most cases, unfamiliar
- workouts that overemphasize one or two muscles
- team or group workouts without much in the way of individualization
- hot, humid environments
- inadequate hydration

You can reduce your risk of rhabdomyolysis by taking these precautionary measures:

- Recognize the signs and symptoms of rhabdomyolysis.
- Allow an adequate break-in period.
- Raise your level of intensity gradually.
- Increase the length of your recovery periods.
- Modify your training in high heat and humidity.
- Ensure adequate hydration.

Bottom line: Work hard but work smart.

Matt Brzycki is the Assistant Director of Campus Recreation, Fitness at Princeton University in Princeton, New Jersey. A former Marine Drill Instructor, he has authored, co-authored and edited 17 books including his latest, the fourth edition of A Practical Approach to Strength Training.