UW Medicine
SPORTS, SPINE & ORTHOPEDIC HEALTH

# Running in Cold and Wet Conditions: Preventing Hypothermia

Late November is a transitional weather time in Seattle and the potential for cold and rainy conditions exists. Racing in such environmental conditions not only can affect your performance, but also brings with it potential health risks. Hypothermia (or low body temperature) can be a dangerous medical condition and thus precautions should be taken to prevent the risks of hypothermia, especially when training or racing in cold and wet conditions. This article presents the risk factors, preventive strategies (in particular appropriate clothing choices), as well as early symptoms and treatment of hypothermia.

## RISK FACTORS

1. Cool and wet conditions
2. Inadequate training and fitness
3. Dehydration
    a. Even when exercising in cool conditions, dehydration is common; thus, remember to replace fluids at a rate consistent with sweat loss.
    b. Refer to the prior article on the SMA website for specifics on appropriate hydration strategies for a marathon.
4. Wet clothing
5. In particular cotton fabrics, as they lose their protective value when wet.
6. Inappropriate or inadequate clothing
7. Slower runners who run long distances, especially in wet and windy conditions
8. Slower runners generally don't produce as much internal metabolic heat as faster runners.

## APPROPRIATE CLOTHING FOR RUNNING IN COOL AND WET CONDITIONS

1. The Art of Layering: Wear several layers of light, loose clothing that insulates the skin by trapping air between the layers.
    a. First layer: a light base layer, preferably made of wicking material to draw sweat away from your body. It should be snug, but not restrictive. Wicking fabrics are the alternative to cotton. They are synthetic fabrics designed to draw sweat away from the skin. For this base layer, avoid clothing with seams that may chafe your skin.
    b. Second layer: a lightweight long sleeved shirt, again preferably of wicking material. In milder conditions, this may be the outer layer.

c. Outer layer: a windproof and water-resistant jacket that allows moisture to escape and fits loosely.
d. Remember, with layering, as the temperature warms up during the race, you can remove layers as you warm up.

2. Wear a hat and gloves as the head and hands lose large amounts of heat.
3. Wool and synthetic polyester-type fabrics retain more protective value when wet than do cotton fabrics.
4. Jackets: Light nylon jackets don't offer great thermal benefits, but they do protect in windy conditions.
5. Pants: Consider running tights or lightweight training pants for leg protection. Consider water-resistant material for wet conditions and pants with a warm lining for cold weather runs. The legs generally don't perspire as much as the torso, so usually one layer is sufficient, unless extremely cold conditions exist.
6. Shorts: If you choose to wear shorts, use synthetic fabrics that minimize rubbing and prevent chafing.
7. Socks: There is a great deal of technology that has gone into running socks over the years. A good pair of socks can keep your feet warm, dry, and cushioned. Choose socks made of wicking material to keep sweat away from the skin. Some socks are designed to prevent blisters by reducing friction, often by having two layers. If you are prone to blisters, consider these.

**EARLY SYMPTOMS OF HYPOTHERMIA**

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| Shivering | Stumbling Gait |
| Slurred Speech | Lethargy |
| Confusion | Behavior similar to intoxication |

**TREATMENT**

1. Seek shelter from the cold, windy, and/or wet conditions.
2. Replace wet clothing with dry material.
3. Wrap yourself in a warm blanket.
4. Consume warm fluids.
5. Seek medical attention if symptoms don't abate quickly.

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