Hypothermia

Hypothermia is a condition that occurs when more heat is lost from your body than it can generate. Many changes take place when your body is in a hypothermic state. The most important change is a decrease in metabolic rate, which decreases the amount of oxygen used by the body. Brain activity also decreases. This condition, if not treated promptly, is life-threatening.

When does hypothermia occur?
Hypothermia may occur because of an environmental exposure or because of a total failure of the temperature-regulating system in your body. When you use alcohol, anti-depressants, or sedatives, the body may have difficulty regulating temperature. Certain neurological and endocrine disorders may also affect temperature regulation.

Hypothermia can happen not just in cold weather, when there are low temperatures or low wind chill factors, but under milder conditions as well. A rain shower that soaks you to the skin on a cool day can lead to hypothermia. If you stay outside, evaporation of the water from your skin further cools your body, dropping your internal temperature. A wind blowing over the wet parts of your body greatly increases evaporation and cooling. Exposure to cool or cold water may also lead to hypothermia.

What are the symptoms of hypothermia?
Hypothermia occurs when the body’s core temperature drops below 95° Fahrenheit (35° Centigrade). Symptoms of this condition include change in mental status, uncontrollable shivering, cool abdomen, loss of coordination, and a low core body temperature. These are sometimes called the “umbles” – stumbles, mumbles, fumbles, and grumbles. Companions may see the victim demonstrate paradoxical undressing (a severely hypothermic person removes clothing in response to prolonged stress). The loss of mental acuity and physical ability will likely be gradual; you may not even know you need medical attention. As the body temperature continues to fall, loss of reflexes and delirium occurs. Severe hypothermia may produce rigid muscles, dark and puffy skin, irregular heart and respiratory rates, unconsciousness, and ultimately, death.

How should I treat hypothermia?
If you suspect hypothermia in someone, get them indoors, out of the cold. Remove wet clothing, put on warm dry clothing and/or wrap in a blanket. Share body heat by lying next to or hugging the person with as much skin-to-skin contact as permissible. If going indoors is not possible, get out of the wind, cover the head, and insulate the person from the cold ground using blankets, newspapers, pillows or towels. If they are alert and able to swallow, offer warm, non-alcoholic fluids. If a pulse or breathing cannot be detected, initiate CPR and call 911.

How can I prevent hypothermia?
Limit your exposure to cold. If you think it is too cold, go indoors. Maintain an adequate caloric intake from food. Stay as active as possible. Avoid things that decrease your circulation, such as smoking, tight clothing and fatigue. Make sure you know if medication you’re taking can affect your circulation. Alcohol affects your circulation - don’t drink and go out in the cold or participate in water activities. Dress in multiple layers of clothing to trap warm air between layers. Wear a hat outside; head covering can prevent up to 20 percent of total body heat loss.

Are there certain people at risk for hypothermia?
The elderly, children, lean people and those with certain health conditions are at greater risk for hypothermia.

Alcohol and drug use
Alcohol may make your body feel warm inside, but it lowers your body’s ability to retain heat. Both alcohol and drugs such as marijuana can keep your blood vessels dilated, restrict your shivering response, impair your judgment and alter your awareness of weather conditions.
Certain medical conditions
Certain medical conditions – Some health disorders affect the body’s ability to respond to cold or to produce heat. Examples include untreated under active thyroid (hypothyroidism), stroke, severe arthritis, Parkinson’s disease, trauma, spinal cord injuries, burns, blood vessel or nerve disorders that affect sensation in your extremities (for example, peripheral neuropathy in people with diabetes), dehydration and any condition that limits activity or restrains the normal flow of blood. Older adults are more likely to have one of more of these risk factors.

References
Mayo Clinic at: http://www.mayoclinic.com/health/hypothermia/DS00333
Emedicine at: www.emedicine.com/emerg/topic279.htm