

Hypothermia essay



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The symptoms of hypothermia have been dubbed the four - umbles: the stumbles, mumbles, fumbles, and grumbles. They're signs of gradual loss of muscle coordination and movement.

Various people are at risk of hypothermia. These include small babies, the elderly and people with severe illness. And it has been said that hypothermia is the number one killer of people who take part in outdoor sports and recreation. For example, walking, mountaineering or sailing. Measurements of body temperature are used to confirm the condition.

The normal body temperature is 37oC and if a person's body temperature goes below 32oC, then it means that the person has got Hypothermia.

Microscopic structure of the skin
The skin is the biggest organ in your body. It covers and protects everything inside your body. Without skin, people's muscles, bones, and organs would be hanging out all over the place.

The skin holds everything together and it is also responsible for protecting our bodies, helps keep our bodies at just the right temperature and it allows us to have the sense of touch. The skin is made up of three layers. The layer on the outside is called the epidermis. When the cells are ready, they start moving toward the top of your epidermis and newer cells continue to move up, older cells near the top die and rise to the surface of your skin. The epidermis is the outer protective layer of the skin and it consists of a living layer of epithelial tissue and a hard layer of dead cells.

The second layer is called the dermis and this is hidden under your epidermis. The dermis is a thick layer of connective tissue underneath the epidermis of the skin. The dermis contains nerve endings, blood vessels, oil

glands and sweat glands. Sweat gland is a small exocrine gland in the subcutaneous layer which secretes sweat. Sweat is a watery fluid with small amounts of salt and urea.

Sweat passes along a narrow tube to the surface of the skin. It cools the body by evaporation. It also contains collagen and elastic fibres, which are tough and stretchy. As a person ages, these fibres lose their elasticity and the skin becomes wrinkled. The third and the bottom layer of the skin are called the subcutaneous layer. The subcutaneous layer is the layer of fatty tissue underneath the skin.

This is made up of mostly fat and this helps your body to stay warm and absorb shocks, like if you bang into something or fall down. It also helps hold your skin to all the tissues underneath it. It is also a store of food. This is the layer where you'll find the start of hair and each hair on your body grows out of a tiny tube in the skin called a follicle. Hair follicle is a long narrow tube in the epidermis which contains a hair.

The hair grows as new cells are added at its base from cells lining the follicle. The adipose tissue or fat is an anatomical term for loose connective tissue composed of adipocytes. The main role of the adipose tissue is to store energy in the form of fat, although it also cushions and insulates the body. The obesity in animals and humans are not dependent on the amount of body weight, but they are dependent on the amount of body fat and specifically adipose tissue.

In mammals, there are two types of adipose tissue that are present which are white adipose tissue and brown adipose tissue. The adipose tissue is

located beneath the skin, but it is also found around internal organs, which includes the skin, it accumulates in the deepest level, the subcutaneous layer, providing insulation from heat and cold. It also provides protective padding around organs and it also functions as a reserve of nutrients.

Homeostasis Homeostasis is the ability or tendency of an organism or cell to maintain internal equilibrium by adjusting its physiological processes. The role of the skin in homeostasis includes protection, regulation of body temperature, sensory reception, and water balance, synthesis of vitamins and hormones, and absorption of materials.

The skin's primary functions are to serve as a barrier to the entry of microbes and viruses, and to prevent water and extracellular fluid loss. When your body starts to react to the cold, the blood vessels closest to the surface of your skin shrink in order to reduce the heat loss from the skin's surface. This means that you begin to shiver, which are muscle spasms designed to generate body heat. The hairs all over your body will stand on end, and it will try and attempt to create a pocket of air to trap warmth against the surface of your skin. The heat is produced by the energy that comes from glucose and food, and this is broken down to ATP and heat is produced.

Most of the heat is generated by the liver and muscles, and Respiration also produces heat. Heat is lost through the extreme part of the body such as the hands, ears and feet. If heat is lost, the enzymes will stop working, therefore reaction will take place slowly. When your body starts to get very hot, your pores will open and your retained body fluid starts to exit, sweating. This is the body's air conditioning system and works much like an evaporative cooler.

If the body gets too hot, then it starts to shut down looking for ways to reduce the heat. If it's not done then this will result in the person eventually dying.

Treating Hypothermia*

- Put on additional layers of clothing, or replace wet clothes with dry*
- Get the person moving to increase their activity,*
- Ensure the surroundings are as warm and still as possible*
- Provide food, initially as hot liquids*
- Add warmth with a fire or from body to body contact

There are things that a person should do for hypothermia and I have listed some of them below:*

- Wrap them in blankets, towels, and coats, protecting the head first*
- Remove any wet clothing and dry the person*
- Move the person indoors or somewhere warm as soon as possible*
- Increase activity if possible, but not to the point where sweating occurs, as that cools the skin down again*
- Your own body heat can help them*
- Give the person warm drinks but not alcohol

There are things that you should not do when you have hypothermia and I have also listed some of them below:*

- Don't give the person any alcohol, as this will decrease the body's ability to retain heat*
- Don't apply direct heat to the arms and legs, as this forces cold blood back to the major organs, making the conditions worse*
- Don't rub or massage the person's skin, as this can cause the blood vessels to widen and decrease the body's ability to retain heat

When to seek medical help? If a person has been exposed to the cold and their distressed or confused, and they have slow, shallow breathing or their unconscious, they may have severe hypothermia and this means they have to seek medical help immediately as it could be life threatening. If you look at a person's skin that has hypothermia, it might look healthy, but they would feel cold and babies may also be limp, unusually quiet and refuse to feed.

As the body temperature drops, shivering will stop completely. The heart rate will slow and a person will gradually lose consciousness. They won't appear to have a pulse or be breathing. If possible, cardio-pulmonary resuscitation (CPR) should be given while the person is being warmed. CPR is an emergency procedure that involves giving mouth-to-mouth resuscitation and chest compressions.