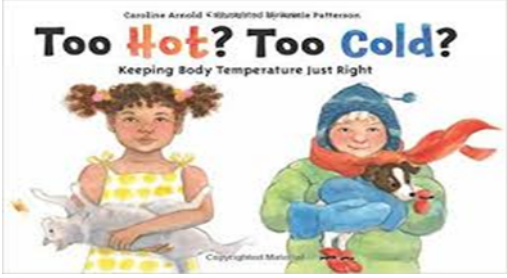
CLINICAL LEAD AND TRAINING DIRECTORS' NEWSLETTER
DECEMBER 2023- Theme; MAINTAINING BODY TEMPERATURE



Human body temperature

Normal. 36.5–37.5 °C (97.7–99.5 °F) is a typically reported range for normal body temperature.

Your body's like a little furnace. It puts out heat all the time. It comes from your body doing the work that keeps you alive. When it puts out a lot more or a lot less heat than usual, it's trying to tell you there's a problem.

Normal Range

Not everyone's "normal" body temperature is the same. Yours could be a whole degree different than someone else's. A German doctor in the 19th century set the standard at 37°C (98.6 F), but more recent studies say the baseline for most people is closer to 36.7 °C (98.2 F).
For a typical adult, body temperature can be anywhere from36.1-37.2°C (97 F to 99 F). Babies and children have a little higher range: 36.6 - 38°C (97.9 F to 100.4 F).

Your temperature doesn't stay the same all day, and it will vary throughout your lifetime, too. Some things that cause your temperature to move around during the day include:

- How active you are
- What time of day it is

- Your age
- Your sex
- What you've eaten or had to drink
- Where you are in your menstrual cycle

Your temperature reading changes based on where on your body you measure it. Underarm readings can be a degree lower than what you'd find from your mouth. Rectal temperatures usually are up to a degree higher than mouth readings.

A body temperature higher than your normal range is a fever. It's hypothermia when the body temperature dips too low. Both need to be watched.

Fever

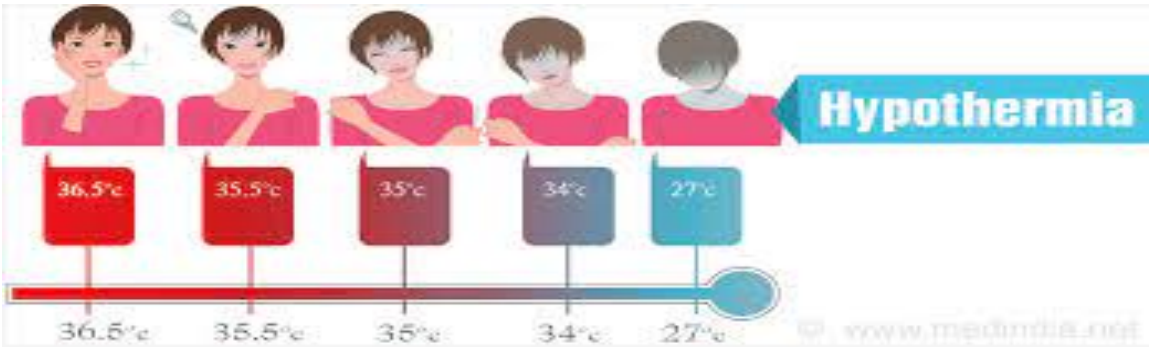
How high is too high when it comes to your temperature? Anything above 38 °C (100.4 F) is considered a fever. You may feel terrible, but on the whole, a fever isn't bad for you. It's a sign your body is doing what it should when germs invade. It's fighting them off.

However, if your temperature is 39.4 °C (103 F) or higher or if you've had a fever for more than 3 days, call your doctor. Also call if you have a fever with symptoms like severe throat swelling, vomiting, headache, chest pain, stiff neck or rash.

For children, fevers are a bit more complicated. Call your paediatrician if your child is:

- Under 3 months and has a rectal temperature of 38 °C (100.4 F) or higher
- Between 3 months and 3 years and has a rectal temperature over 38.8 °C (102 F)
- Older than 3 years and has an oral temperatures above39.4 °C (103 F)
- Between 3 and 6 months and -- along with a fever -- is fussier or more uncomfortable than usual, or doesn't seem alert

- Sick enough for you to be concerned, regardless of what the thermometer says



Hypothermia

If your body loses too much heat, it can be very serious, even fatal. Hypothermia is when your body temperature goes below 35 °C (95 F). You might think of hypothermia as something that only happens when you're exposed to extremely cold weather for a long time. But it happens indoors, too.

Hypothermia is a special concern for new-borns and the elderly.

Babies may not be good at regulating their temperature. They can lose heat quickly. It's important to keep them warm. A temperature below 36.1 °C (97 F) is considered too low for babies.

Older adults can also struggle to keep their body temperature in a normal range if they're somewhere with intense air conditioning or there's not enough heat.

For both the elderly and young children, a below-normal body temperature can be a sign they're sick.

Other things can also make you more likely to get hypothermia. They include:

- Alcohol or drug use
- Hypothyroidism (an underactive thyroid)
- Anorexia
- Stroke
- Sepsis (overwhelming infection)
- Parkinson's disease

- Nerve damage
- Malnutrition
- Medicines such as antidepressants, antipsychotics, or sedatives
- Anaesthesia

In an effort to defend body temperature, our bodies decrease blood flow to the skin to reduce heat loss. We also increase internal heat production through several mechanisms. One example is shivering—or the rapid contraction of muscles—which can quickly produce large quantities of heat within the body.
Much like a thermostat regulates the temperature inside your home, the hypothalamus regulates your body temperature, responding to internal and external stimuli and adjusting keep the body within one or two degrees of 37°C (98.6 F)
The process of thermoregulation maintains optimum body temperature. The blood plays a role in temperature regulation. It distributes heat throughout the body, from the core to the surface and vice versa. By changing the blood flow to the skin, the body can control heat exchange at its surface with its surroundings.

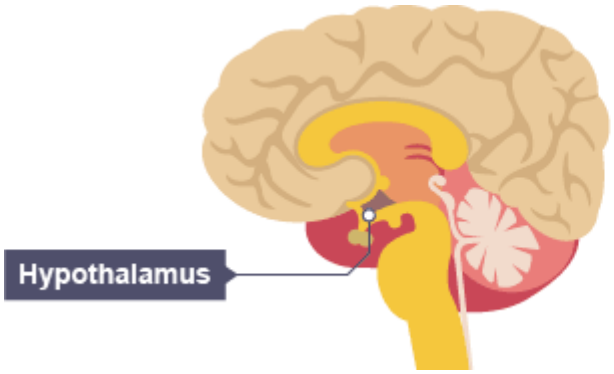
Role of the hypothalamus

The hypothalamus in the brain contains the temperature monitoring centre for the body.

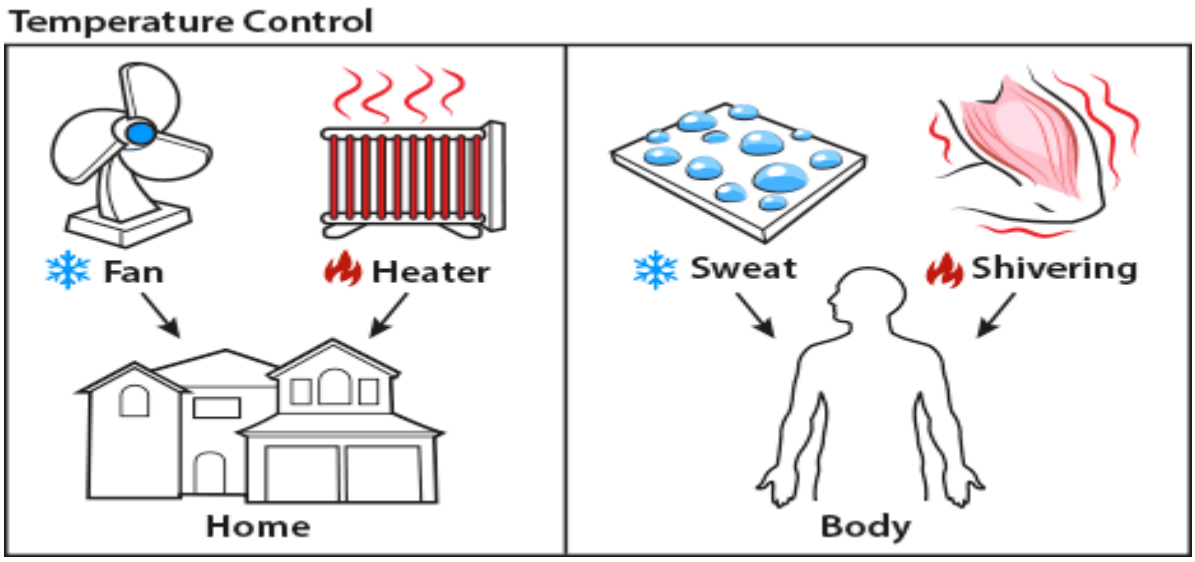
The hypothalamus receives nerve impulses from structures in the skin called Thermoreceptors, which give information about the surface temperature of the body.

The hypothalamus also contains its own thermoreceptors, which are sensitive to the temperature of the blood.

The hypothalamus responds to the information it gets from thermoreceptors by sending nerve impulses to effectors, such as the skin, to return the body temperature back to normal.



When the hypothalamus senses that you're too cold, it sends signals to your muscles that make your shiver and create warmth. This is called maintaining homeostasis. The hypothalamus also maintains homeostasis in lots of other ways, such as by controlling your blood pressure.

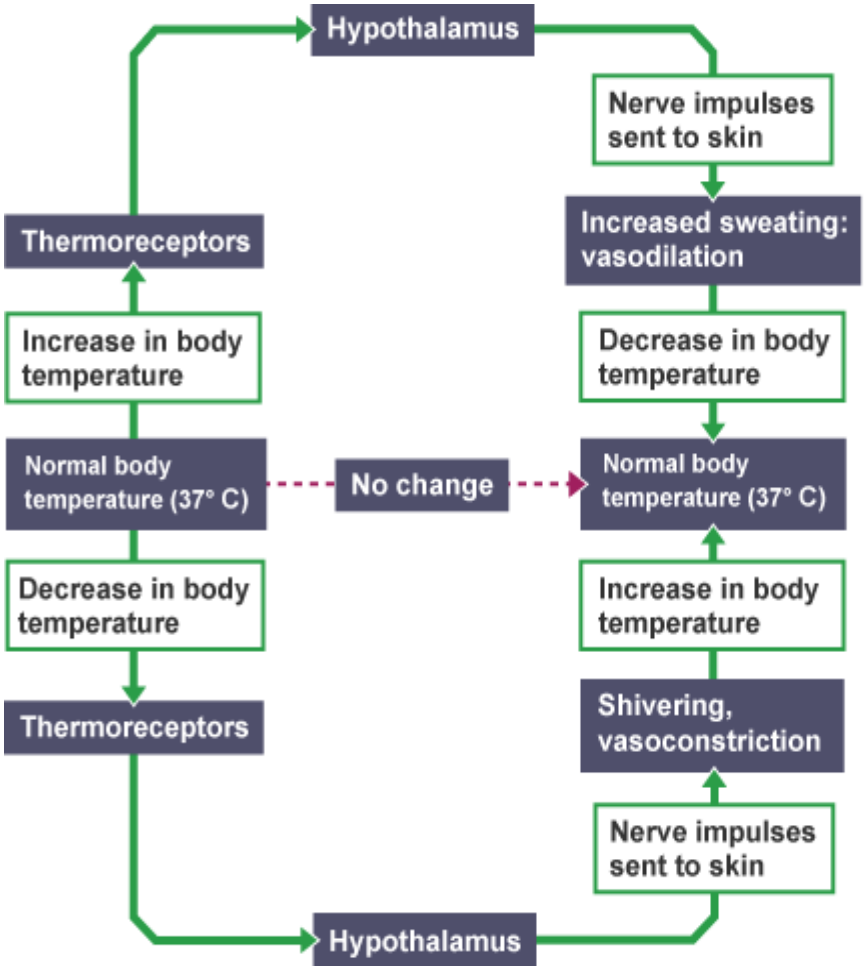


The temperature in your body, like the temperature in your home, is a balance between different cooling and heating systems.

What does the body do when it gets too cold?
Contraction of hair erector muscles - this traps a layer of warm air at the skin that acts as extra insulation.
Decreased rate of sweating - little or no energy is lost trying to evaporate sweat.

Vasoconstriction - blood vessels near the surface of the skin called arterioles constrict (become narrower) allowing less blood to the skin surface and therefore less heat is lost by radiation.
Shivering - nerve impulses are sent by the hypothalamus to the skeletal muscles to bring about rapid contractions that generate heat. Shivering therefore helps raise the body temperature.
Increase in metabolic rate - the liver produces extra heat in order to raise the temperature of the body.

Negative feedback control brings about changes that help return the body to normal conditions. If the body temperature drops, negative feedback control raises the temperature back to normal. If the body temperature rises, negative feedback control lowers the temperature back to normal.



All of the methods to regulate body temperature mentioned so far are involuntary responses - we do not consciously decide to sweat or to shiver. In contrast, humans are also able to make voluntary responses, for example when we decide to take action to help regulate our body temperature.

Examples of voluntary responses when the environment is cold:

- ✓ putting on extra clothes
- ✓ having a hot drink
- ✓ turning up the heating

10 ways to protect your home against cold weather

1. **Arrange for a home energy audit**-This is done by a professional and can help you uncover any issues or problems with your home before the cold weather sets in.
2. **Feel for under-door drafts**-You may be surprised at how much energy we lose underneath doors that are not properly sealed. To cut down on energy loss, you can use a "draft snake" or replace the weather stripping beneath your door.
3. **Seal around windows**-You may be losing heat around your windows as well. By making sure they are properly caulked, you may cut your heating bill dramatically.
4. **Add insulation – especially around pipes**-Many older homes have little or no insulation in the attic. Adding insulation to the attic, walls or floors can make a big difference in winter (conserving heat) and summer (keeping the cool air in). Insulation helps with home efficiency as well as protection plumbing pipes. Inspect and add insulation, if needed, around exposed pipes located close to exterior walls, in unheated basements, and attic areas.
5. **Update your appliances**-By upgrading an old furnace, or purchasing more efficient appliances, you can increase your home's energy efficiency while keeping it warm during those cold weather months.
6. **Install a programmable thermostat and keep temperature no lower than 65 degrees**-Keeping temperatures lower at night can save you a lot of money on heating costs. But dropping below 12degrees Celsius can

lead to many other problems. It's best to keep your home no lower than 18.3 degrees Celsius. You also need to make sure your pipes don't freeze and expand, causing connecting faucets and pipes to freeze and break. Smart thermostats or temperature monitors will wirelessly alert you to unusually low temperatures in the home, which is a possible precursor to freezing pipes.

7. **Protect water pipes from freezing**-Be sure to install a flow-based water leak detection system to shut down the water system in an emergency and alert you of any issues (see preferred vendors). Additionally, cover all outside faucets with insulation kits.
8. **Lower your water heater temperature** -By keeping the maximum temperature of your water heater just a little lower it will consume less energy, which can also save money.
9. **Consider installing a backup generator**-Your furnace and water heaters cannot do their job if there is no electricity. Consider a dual use generator for natural gas and liquid propane or gasoline to automatically power your home. Besides maintaining heating systems, a generator can keep the WiFi connected, the leak detection operating, and cold food in your refrigerator.
10. **Clean your gutters regularly**-Clear roof gutters, downspouts, and exterior drainage systems so they can drain properly and won't cause issues with ice build-up or water overflow during a storm.

How can you prevent yourself from cold weather?
Wear several layers of loose fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent. Wear mittens, which are warmer than gloves. Wear a hat.

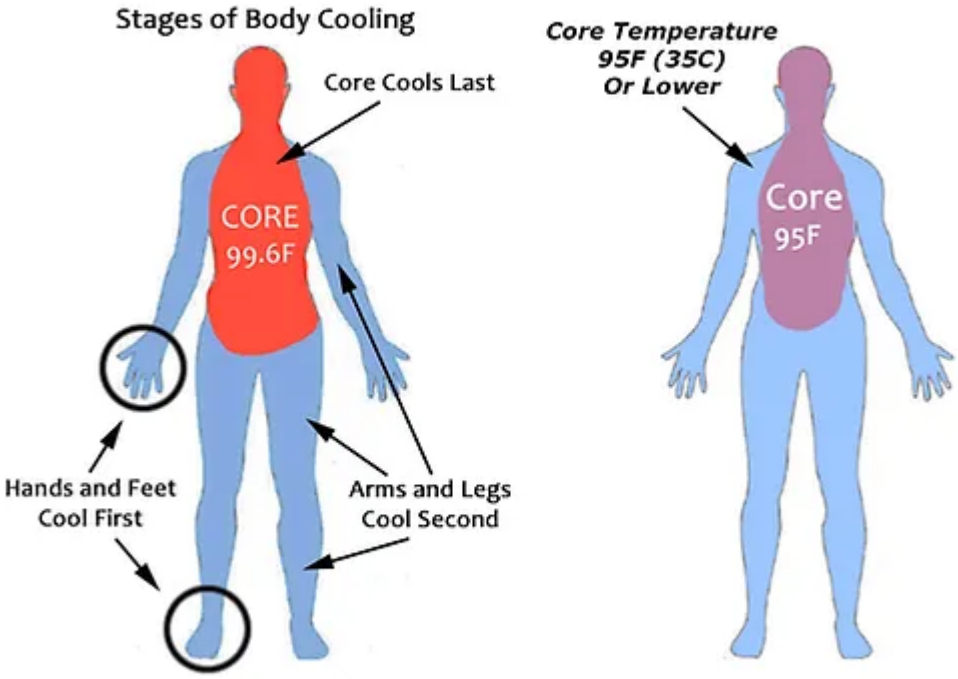
What are the signs and symptoms of hypothermia?

- Shivering.
- Exhaustion or feeling very tired.
- Confusion.

- Fumbling hands.
- Memory loss.
- Slurred speech.
- Drowsiness.

Hypothermia is a dangerous drop in body temperature below 35C (normal body temperature is around 37C). It's a medical emergency that needs to be treated in hospital.

What happens during hypothermia?
When exposed to cold temperatures, your body begins to lose heat faster than it's produced. Lengthy exposures will eventually use up your body's stored energy, which leads to lower body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well.



Symptoms of hypothermia include shivering, cold skin, slurred speech and confusion. Babies with hypothermia may feel cold and floppy.
Hypothermia needs to be treated quickly. If you think someone has it, call 999 and try to gradually warm them up while you wait for help to arrive.

If you have hypothermia, your heart rate will be monitored and you may be given oxygen to help you breathe. You may be treated in intensive care.

Causes of hypothermia include not wearing warm clothes in cold weather, falling into cold water and living in a cold house.

HYPOTHERMIA SYMPTOMS & TREATMENT

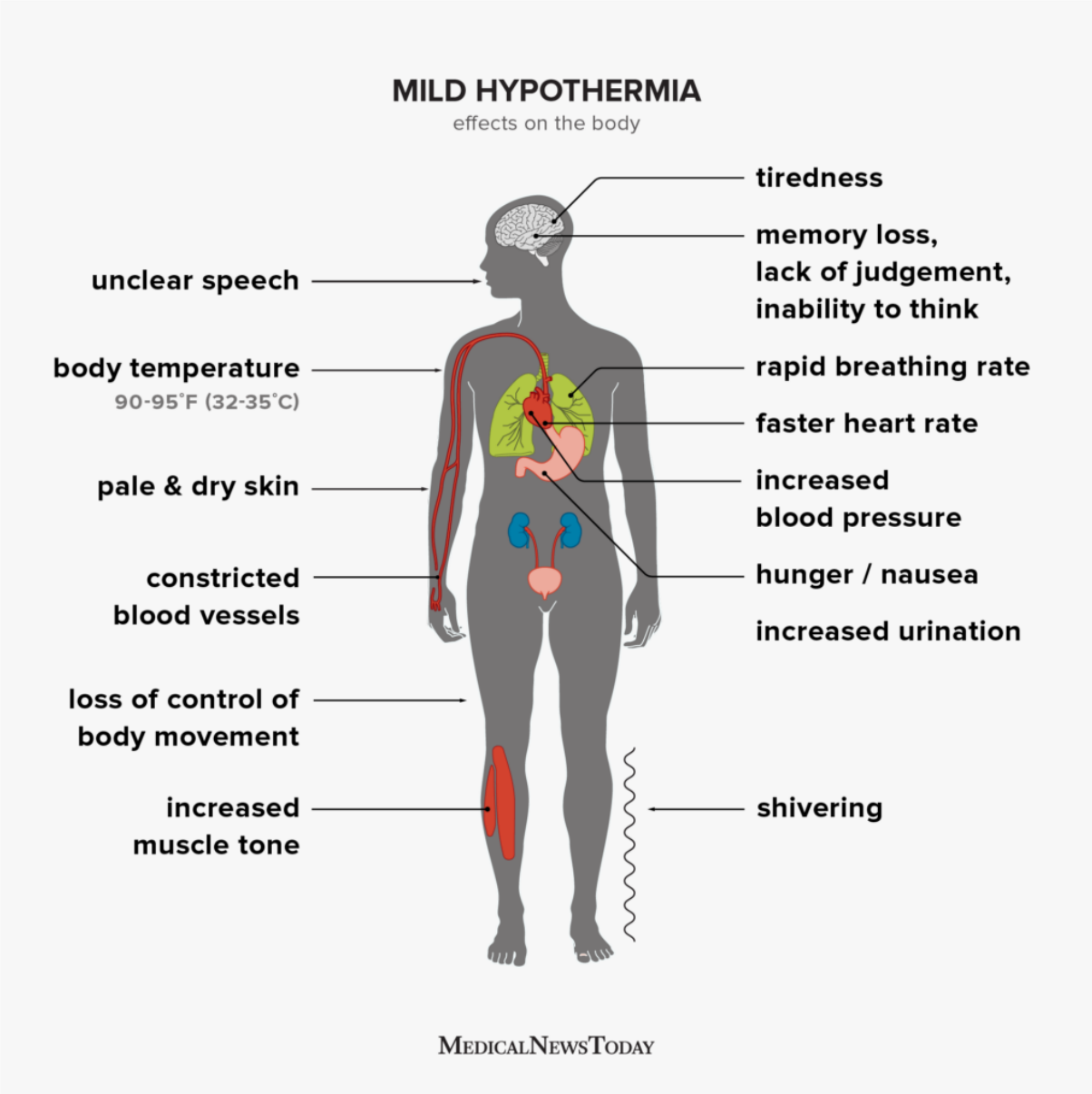
Symptoms

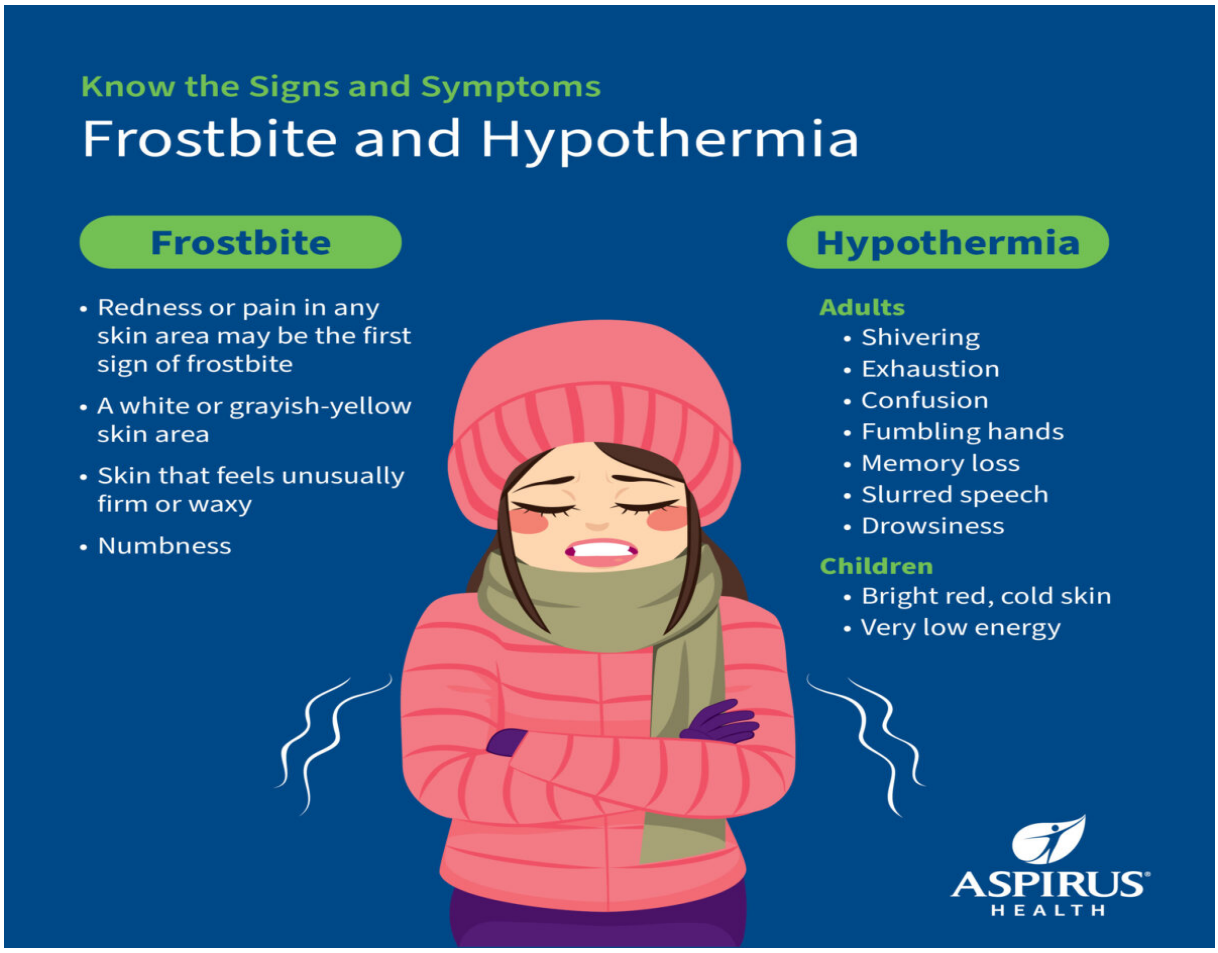
- Shivering
- Cold skin
- Slurred speech
- Slow/Shallow breathing
- Weak pulse
- Lack of coordination
- Fatigue & drowsiness
- Confusion & Memory loss
- Loss of consciousness

Treatment

- Call for medical help
- Move to a warm place
- Remove wet clothing
- Offer warm liquids
- Handle gently
- Cover with blankets

Left untreated, hypothermia can lead to complete failure of your heart and respiratory system and eventually to death. Hypothermia is often caused by exposure to cold weather or immersion in cold water. Primary treatments for hypothermia are methods to warm the body back to a normal temperature




Know the Signs and Symptoms
Frostbite and Hypothermia
Frostbite
• Redness or pain in any skin area may be the first sign of frostbite
• A white or grayish-yellow skin area
• Skin that feels unusually firm or waxy
• Numbness
Hypothermia
Adults
• Shivering
• Exhaustion
• Confusion
• Fumbling hands
• Memory loss
• Slurred speech
• Drowsiness
Children
• Bright red, cold skin
• Very low energy
ASPIRUS HEALTH

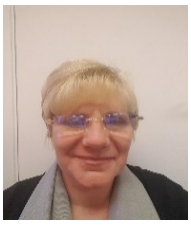

WHAT TO DO
FOLLOW DRSABCD, THEN:
St John
Move the person to a warm, dry place
Help patient to lie down
Remove wet clothing & place person in blanket
Cover the head to retain body heat
Give patient warm drinks
Use hot water bottles & heat packs

ASSOCIATED DOCUMENTS (MOBIZIO):

- ✓ SU – Maintaining body temperature Care plan
- ✓ SU- Risk Assessment for Body temperature
- ✓ SU- MCA1 form
- ✓ SU- Evaluation
- ✓ SU– NEWS 2 score daily
- ✓ SU- Observation chart
- ✓ SU- Food and Fluid chart

ASSOCIATED AUDITS (ACCESS CARE COMPLIANCE):

- ✓ Provider Quality Audit
- ✓ Care plan Audit
- ✓ Hot Weather Audit



Shiny Joe (RGN) & Sarah Jones (RNLD)
Clinical Lead & Training Directors