



**Managing  
Deterioration**

# Module 2 – Measuring vital signs

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# When should I assess health/deterioration?



All the time

# When is it appropriate to carry out vital signs monitoring?

Basic vital signs give a wealth of information

- > When the nurse or doctor has requested
- > Is the resident behaving/acting normally?
- > Make an assessment using your the softer signs tool (RESTORE2 Mini)
- > Have you any concerns?
- > Does the resident seem off-colour?



If you think it's important to check the vital signs because of a concern without being asked and the readings are normal for that resident, it's still important to tell someone so everyone can be vigilant/monitor more closely.

*What Now?*

## What do I do now? Who can I ask for help?

- > While you **do not** have responsibility to interpret results, you do have a responsibility to ensure you tell your senior carer, registered nurse (RN).
- > Record the findings right away in the care record
- > Inform someone
- > Team decision as to the most appropriate action

# Why are vital signs important?

**Vital signs are very important indicators of a person's deterioration in health.**

## **Temperature:**

- › Is an important indicator of developing infection. As the body reacts to the invading bugs the temperature rises.

## **Pulse:**

- › When infection is developing, the pulse will rise in response to the body fighting the bugs. This will also happen if the person is in pain. There may also be alterations in heart rate and rhythm.

## **Respirations:**

- › Respirations will become more rapid as infection develops. Breathing may also become more shallow.

## **O2 saturations:**

- › Oxygen is carried around in the blood after inhaling air into the lungs. Adequate oxygen is necessary for all internal organs to function properly. When the lungs are not working to full strength, oxygen will not be transported and so the circulating levels will fall resulting in falling O2 saturation levels.

## Before taking any vital signs:

- > Wash your hands.
- > Clean any equipment before and after following manufacturer's instructions.
- > Explain what you are going to do.
- > Ask permission.
- > Remember: Residents do have the right to refuse, if this happens you should try and persuade them.

# Taking vital signs with confused residents

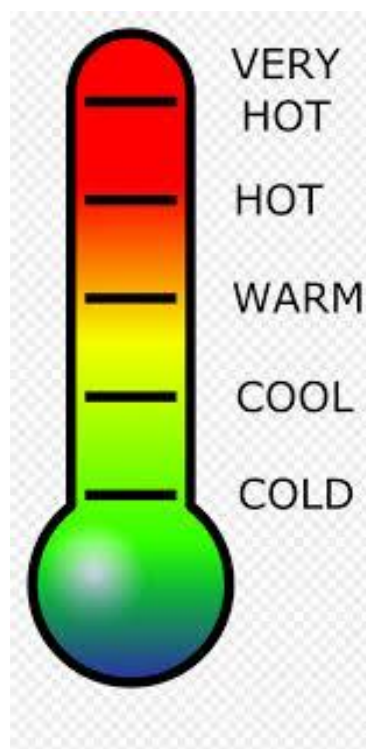
Good communication is especially important when taking vital signs on residents that are confused, feel vulnerable, alone or frightened.

Remember they have the right to refuse, your role is to try and persuade.

## **Some Ideas you could try:**

- > Approach the resident slowly and from the front, without sudden movements, so that they have time to focus (one to one).
- > Speak distinctly and at a natural rate of speed, using a reassuring tone of voice, acknowledge that they may be anxious.
- > If possible, take readings in surroundings that are quiet and where the resident feels safe and reduce distracting noises, such as television, music or other people's voices.
- > Show them the kit you wish to use, explain what it is for.
- > Demonstrate the use of the item if needed and use step-by-step prompts and explain what you are doing at every stage.

# How to measure temperature







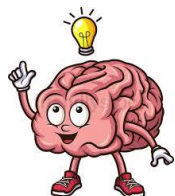
When we measure someone's temperature we are measuring the degree of heat in their body

To do this, we use a thermometer and the reading is given in degrees Celsius e.g.  $36.6^{\circ}\text{C}$



# Core temperature is 37 degrees Celsius

The human body is very clever and works hard to keep our vital organs such as our



Brain

Heart

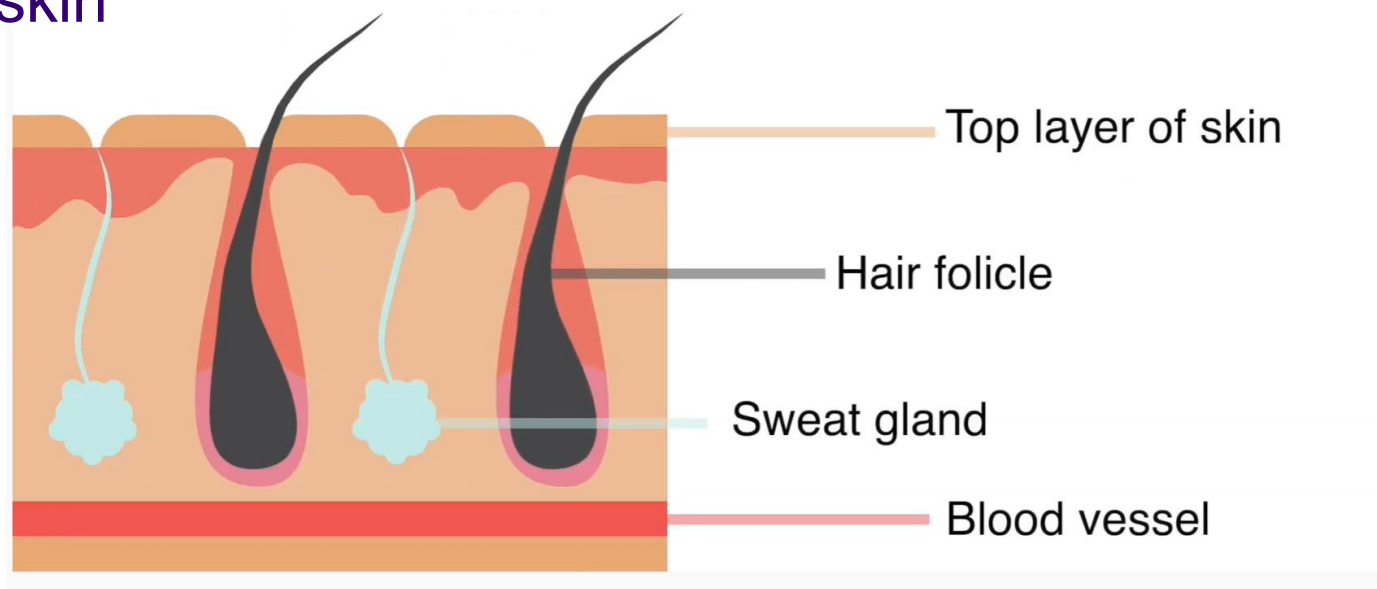


Kidneys

at a core temperature of 37° C

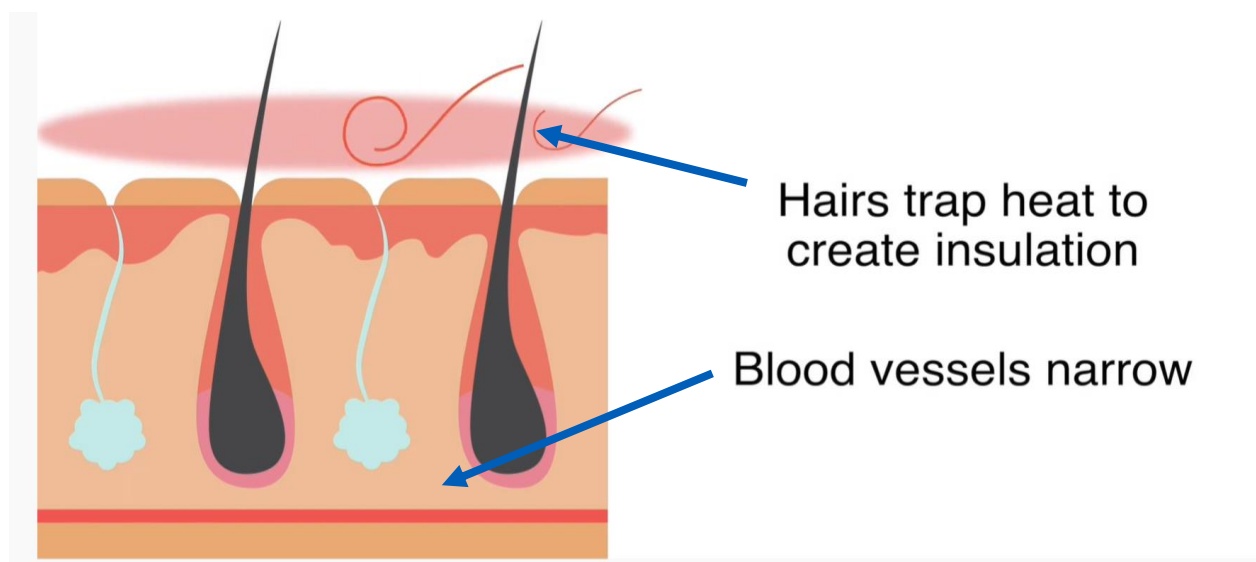
# In order to keep our core temperature constant our blood vessels and skin works to either warm us up or cool us down

## The skin



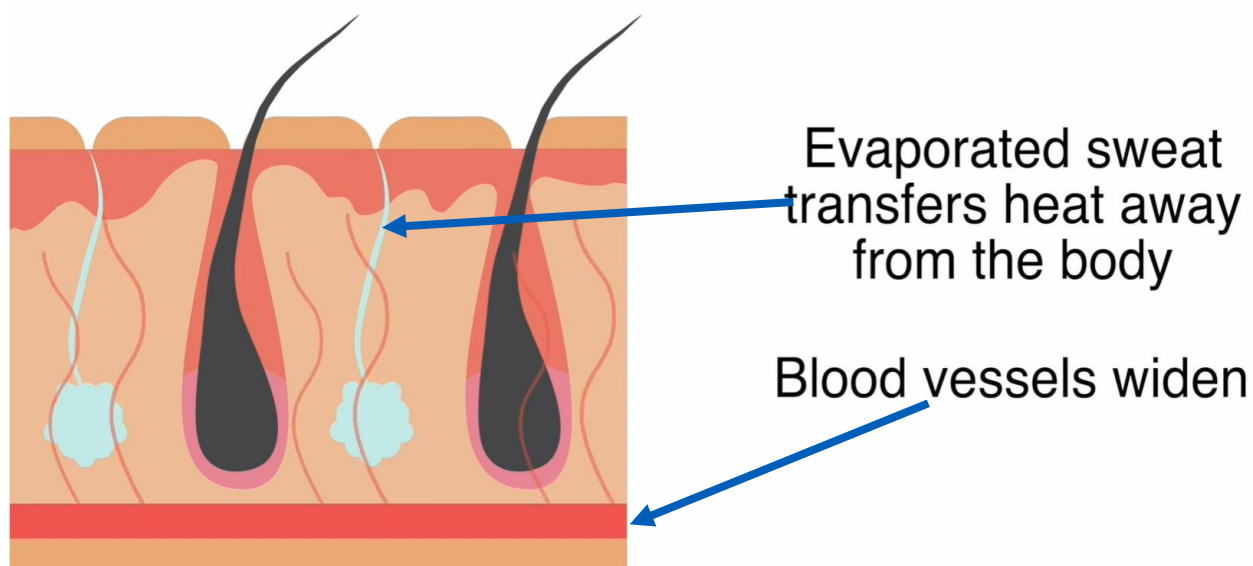
## When we get too cold:

- The hairs on our skin stand up to trap heat and create a layer of insulation.
- Our blood vessels narrow so that less blood flows to our skin and less heat is lost to the environment



## When we get too hot:

- Sweat glands release sweat from our skin. Sweat evaporates and transfers heat from our body into the environment
- Our blood vessels widen so more blood flows to our fingers and toes and heat can be lost to the environment



## High temperature readings

A high core temperature of above 38°C is described as a fever

### Reasons for fever over 38° C

- > Infections (bacterial, viral, fungal)
- > Some medications
- > Over exposure to the sun or heatstroke



# Low temperature readings

## Reasons for a low core body temperature

- > Cold environment
- > Infections (bacterial, viral, fungal)
- > Diabetes or thyroid disease



# Taking a temperature

- > When taking a temperature you need to be familiar with the type of thermometer available
- > The most common ones are Ear and Forehead





## To use a thermometer:

- > Ask permission from the individual
- > Make sure the thermometer is clean
- > Place a new clean disposable tip on the end of the probe/clean the probe
- > Make sure all the team is familiar with the manufacturer's instructions

## Document and action:



- Record the reading in the care plan/record.
- If the reading doesn't make sense try using another device and tell someone!
- Inform a senior colleague if the reading is not normal or you have any concerns.



# Taking a Pulse



**When you feel a pulse you are feeling the heart beating.....**

You are feeling for several things at the same time:



Rate  
Rhythm  
Strength

# Heart Rate

- › The heart or pulse rate is the number of times the heart beats in one minute
- › Normal heart rate is between 50 and 90 beats per minute but can vary
- › The heart can beat faster or slower

## Reasons for a fast heart rate

- > Developing an infection
- > Exercising
- > Very anxious
- > Dehydrated
- > Pain
- > Heart isn't pumping properly or regularly



## Reasons for a slow heart rate



- > Certain medication
- > Problems due to the electrical circuit in the heart

You must raise a concern about a change in a person's heart rate even if other vital signs are normal

# Heart Rhythm

The pulse (heart rate) can be regular or irregular

A regular pulse rate is when each beat happens consistently

An irregular pulse feels different

- It may feel like a missed beat
- Or may go from fast to slow

**If a pulse has become irregular, inform your manager or senior colleague**



# Strength



The pulse should feel strong



It may feel weak or thready

Take note of the skin: Is it dry or clammy?



## Ways to measure the heart rate

- › Blood Pressure machines and pulse oximeters can measure the heart rate but they cannot assess rhythm

The most reliable way to measure heart rate is to feel the pulse in the wrist

Turn the arm so it is palm side up  
2 fingertips in the groove of the wrist about  
1" from the thumb.

Count the beats for one minute



Write the findings in the care record

## Document and action



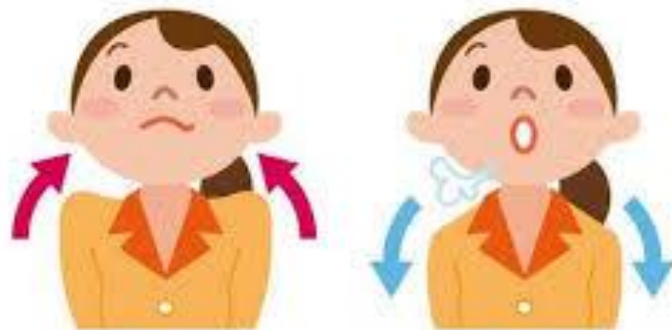
> Record the reading in the care plan/record.

> Inform a senior colleague if the reading is not normal or you have any concerns.



# Measuring the respiratory rate

- > The speed at which someone is breathing is a really useful indicator of whether they are unwell or not



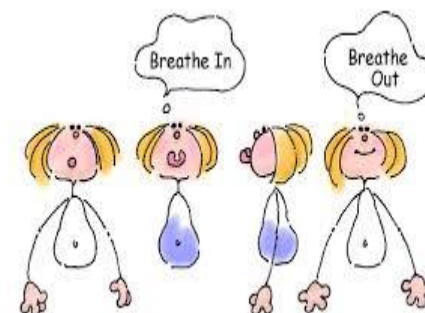
## Normal respiratory rate is between 12 and 20 breaths per minute

- > A breathing or respiratory rate above or below this rate can be worrying BUT can be because of underlying medical conditions e.g. Chronic Obstructive Pulmonary Disease (COPD) or some medications.
- > The key is knowing what is the NORMAL respiratory rate for your resident.



# How to measure respiratory rate

- > The key to getting an accurate measure of someone's respiratory rate is not to let them know that you are counting their breaths. This is because once someone becomes aware of their breathing, they may start breathing faster or slower than normal



## To measure someone's respiratory rate:

- > Ensure the person is comfortable in their chair or bed
- > Watch their chest rise and fall as they breathe in and out
- > Use a timer
- > Count how many breaths they take over a full minute to rule out irregular breathing patterns

Be aware that people tend to breathe a little more slowly when they are asleep and breathe more quickly when they are agitated or in pain



## Document and action



- > Record the reading in the care plan/record.
- > Inform a senior colleague if the reading is not normal or you have any concerns.





# Measuring oxygen saturation



- > Oxygen saturation describes the level of oxygen in your blood
- > It is measured using a pulse oximeter



**A Pulse Oximeter measures pulse rate (PR bpm)  
and how much oxygen is in someone's blood (SpO<sub>2</sub>)  
- known as Oxygen Saturation.**

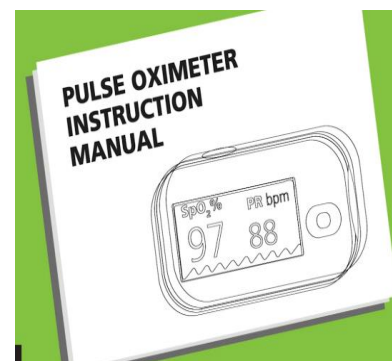


## Pulse oximeter

- > A pulse oximeter measures oxygen levels using a probe that is usually placed on the end of someone's finger
- > The display screen shows the oxygen level as a percentage
- > Pulse oximetry is very useful as it identifies low blood oxygen levels quickly

# Before using a pulse oximeter

- > Read the instructions
- > Ensure correct batteries are installed



# How to take a reading

## Using pulse oximetry is straight forward

- > Make sure the pulse oximeter is clean and working
- > Ask permission to take a reading and explain what you are going to do
- > Select a finger for the probe
- > Apply the probe
- > Ask the person to rest their hand
- > Allow the oximeter to take a reading, it usually flashes a bit before the numbers appear

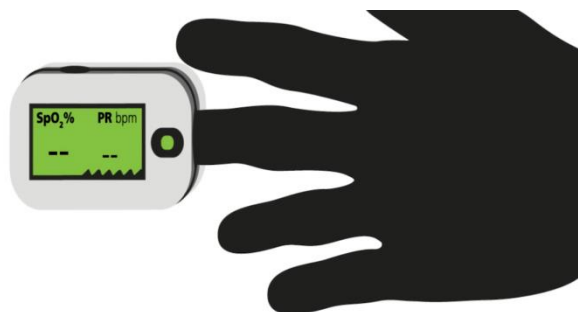




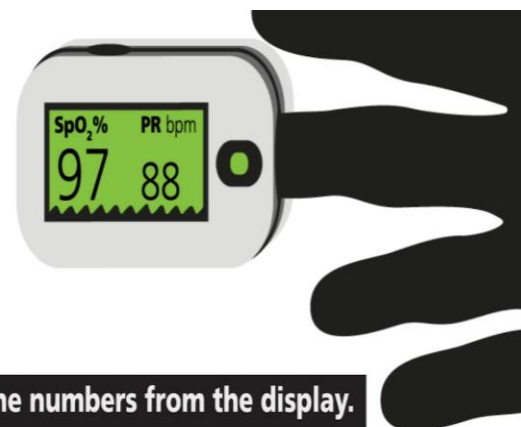
**Turn it on by pressing the power button.**



**Place a middle finger into the rubber opening.**



**Keep still and wait for the reading to display.**



**Read the numbers from the display.**

# Limitations

- > The person must have a good pulse and blood flow to the fingers for the pulse oximeter to work
- > Cold hands, dehydration or a dirty probe can make it difficult to get an accurate reading
- > Nail varnish and false nails can also affect the reading



# Normal Oxygen saturations

- > Normal oxygen saturation range is 96% or higher
- > Some people with the lung condition COPD will have lower oxygen in their blood which is normal for them but this will clearly be written in the notes by a senior clinician. If it is not written, assume normal is 96% or higher.
- > COVID 19 - The RCP suggest that all staff should be aware that you may see reductions in oxygen saturations if a resident has COVID before you will see changes in other clinical indicators. We need to be extra vigilant in measuring oxygen saturations if we can.



- > Record the reading in the care plan/record
- > If the reading does not make sense i.e. does not show recognised valid reading – try again, check batteries and if necessary use another device, report to your senior team member
- > Inform a senior colleague if the reading is not normal for that resident or you have any concerns
- > NOTE: although your pulse oximeter will record a pulse rate, we encourage you to still take pulses manually for better accuracy



# Recording Vital Signs

Documentation of vital signs will be written like this:

- > Temperature: 36.6 (or sometimes abbreviated to T 36.6)
- > Oxygen saturations: 97% (or sometimes abbreviated to Spo2 97%)
- > Pulse: 55 (or sometimes abbreviated to P 55)
- > Respiratory Rate: 14 (or sometimes abbreviated to RR 14)
  
- > As well as looking at individual results, senior clinicians are also looking for changes in readings over time.
- > For some residents a senior clinician will have documented specific ranges for some indicators (e.g. Oxygen saturations for a resident with COPD).
- > Some residents may have special instructions documented by senior clinicians.



# Questions?

Contact for further support/information:

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