



Hospital

# Doctor's Handbook

(Diagnosis made easy)

# Diagnosis Techniques

1. **Thermometer:** Used to measure body temperature.



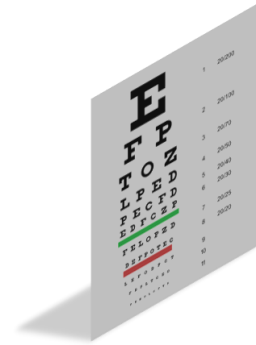
Normal body temperature is 37 °C. This is an average temperature and can vary by 0.5 °C either way.

A change of 3 °C above, or 2 °C below, that temperature can be dangerous and requires medical attention.

2. **Eye Test:** Can be used to determine if a patient is long or short sighted.

Short sighted patients cannot see things that are far away.

Long sighted patients cannot see things that are close.



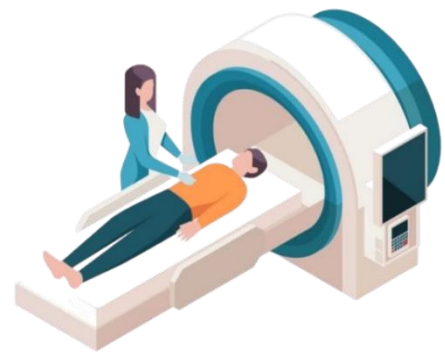
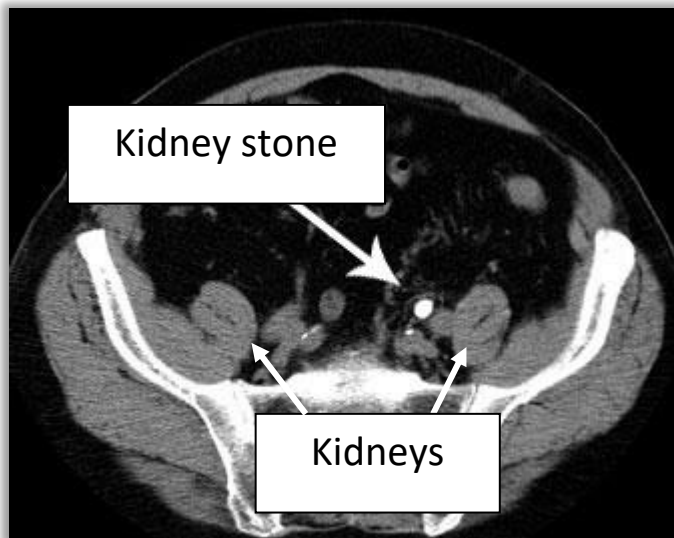
3. **Stethoscope:** Used to measure BPM

Age	Men	Women
18-25	62-73 bpm	64-80 bpm
26-35	62-73 bpm	64-81 bpm
36-45	63-75 bpm	65-82 bpm
46-55	64-76 bpm	66-83 bpm
56-65	62-75 bpm	64-82 bpm
Over 65	62-73 bpm	64-81 bpm



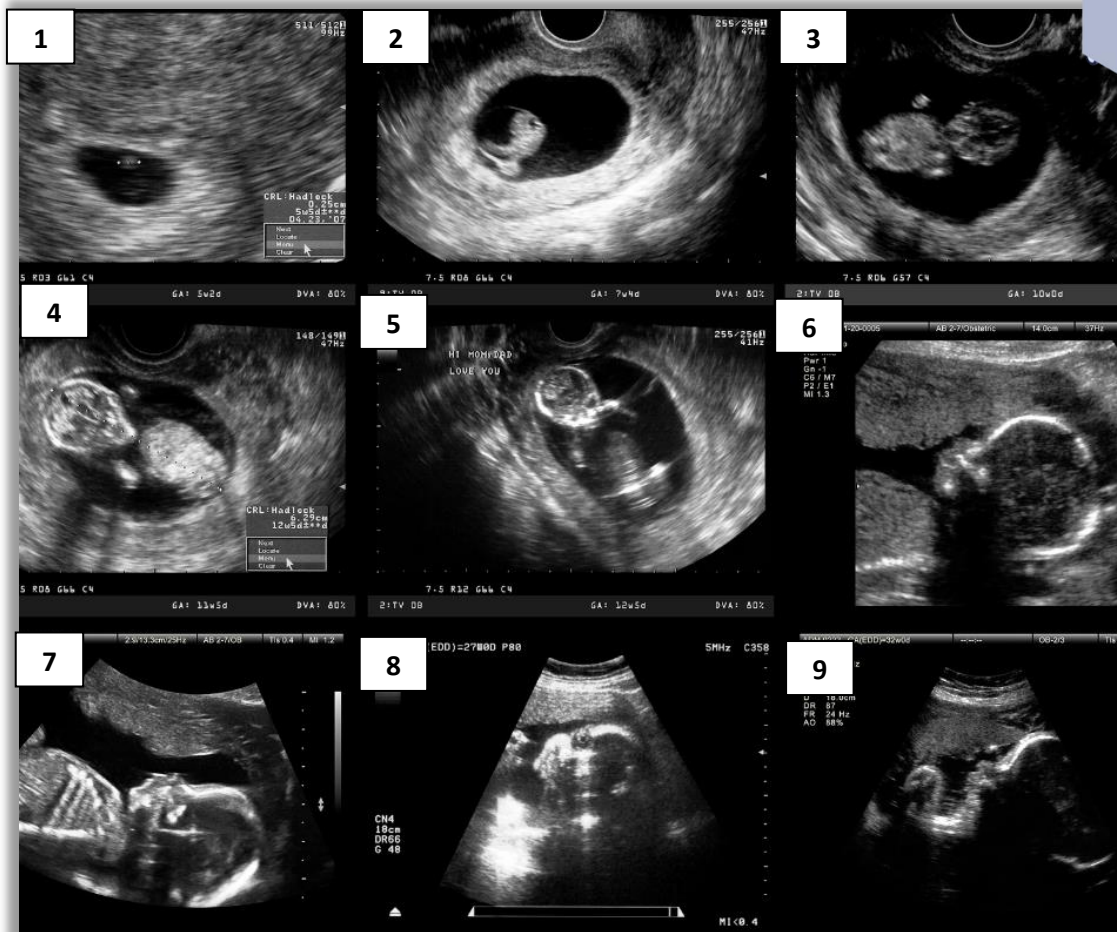
These are the expected values. Note athletes can have lower heart rates than this due to their lifestyles and this is not a health concern.

4. **CT scan:** when used on kidneys it can detect kidney stones.

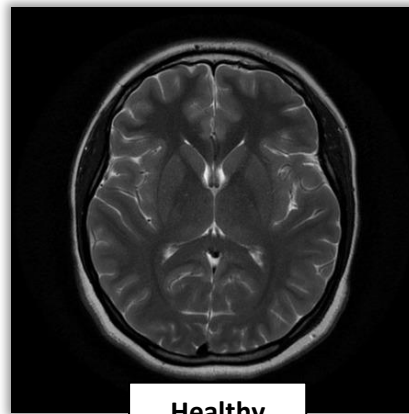
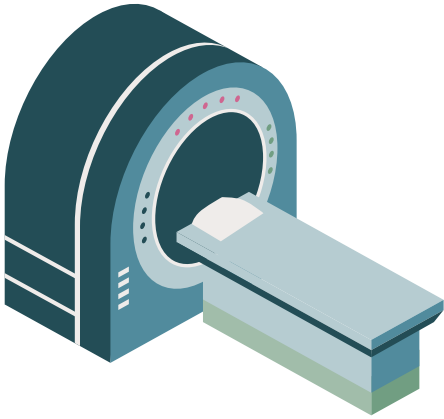


5. **Ultrasound:** Can be used to monitor pregnancy.

Below are example ultrasounds for each month during pregnancy:



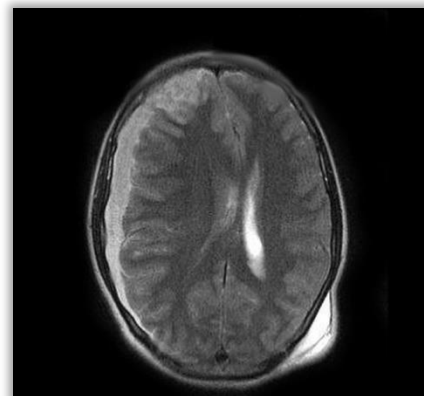
6. **MRI:** detailed scan using magnets and radio waves to create high-quality 3D images of the brain. Can be used to diagnose issues like tumours, strokes, MS, concussions, infections, or headaches by showing abnormalities in soft tissues, blood vessels, and nerves.



Healthy

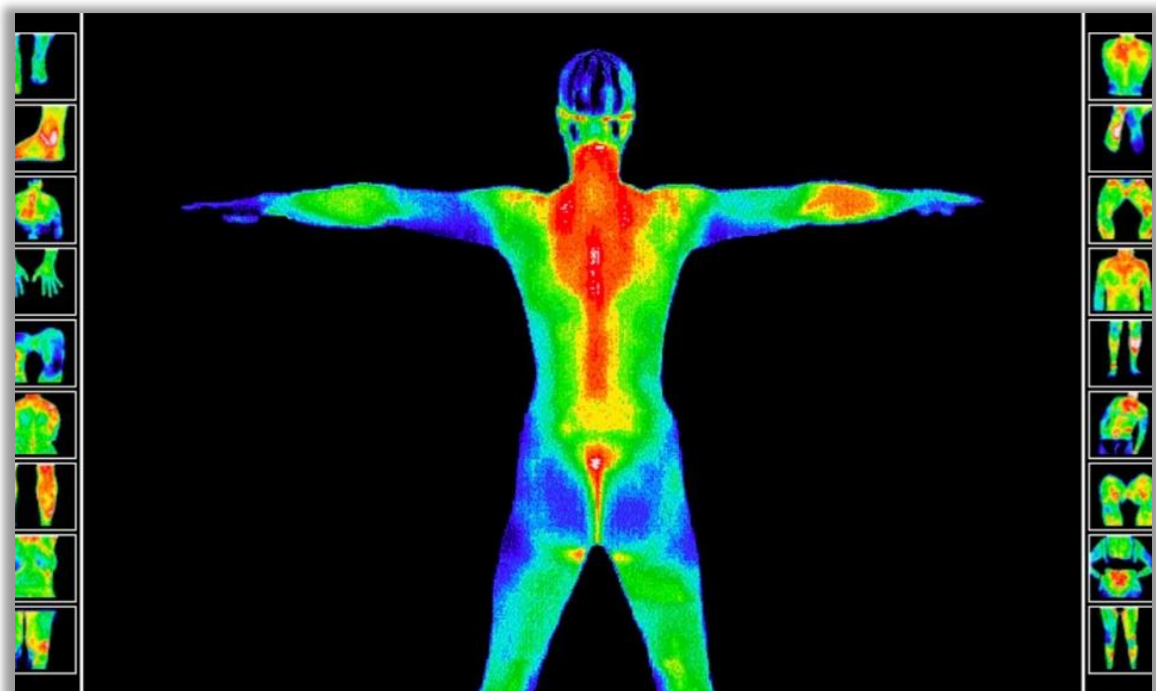


The white shape indicates a tumour.

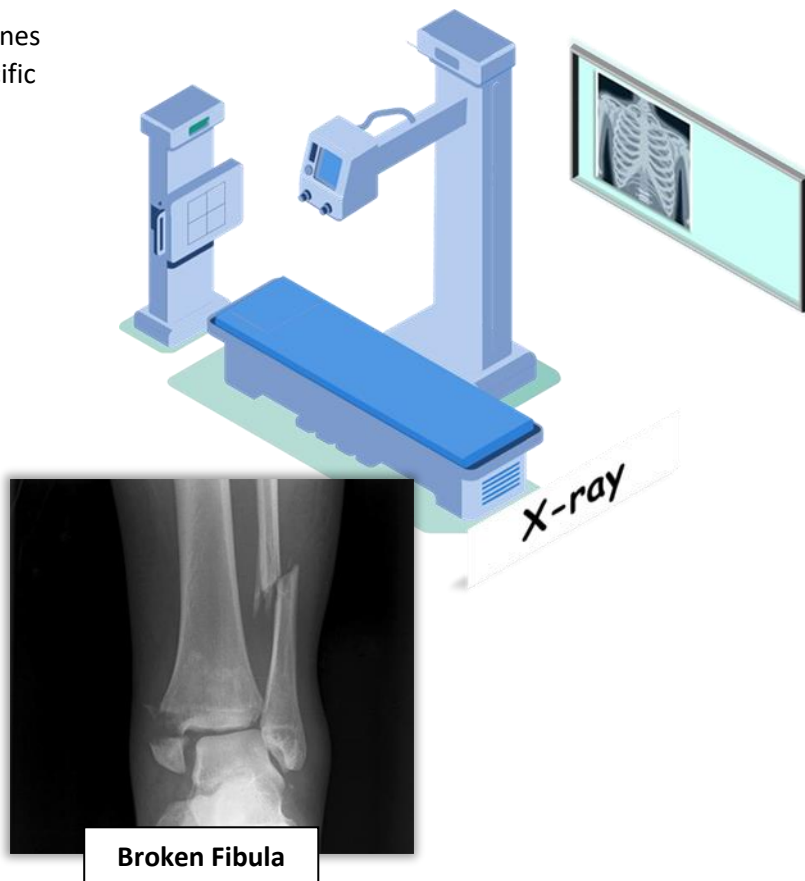
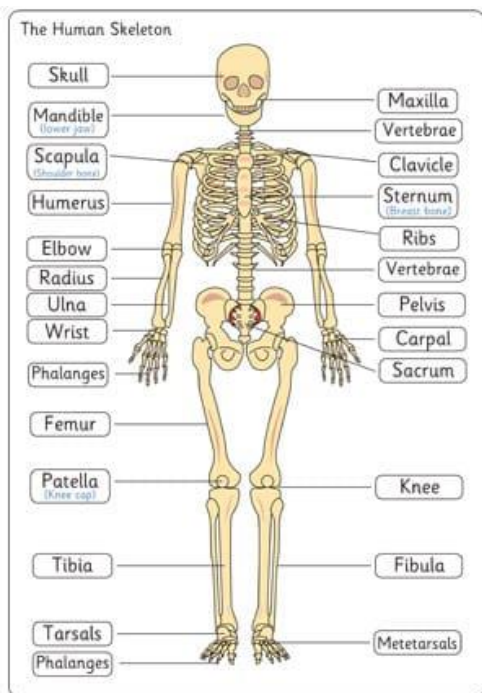


The non-symmetrical scan indicates bleeding within the brain.

7. **Thermograph:** Can be used to pinpoint localised pain



8. **X-ray:** Allows for detection of broken bones (the chart can be used to reference specific names for each bone):

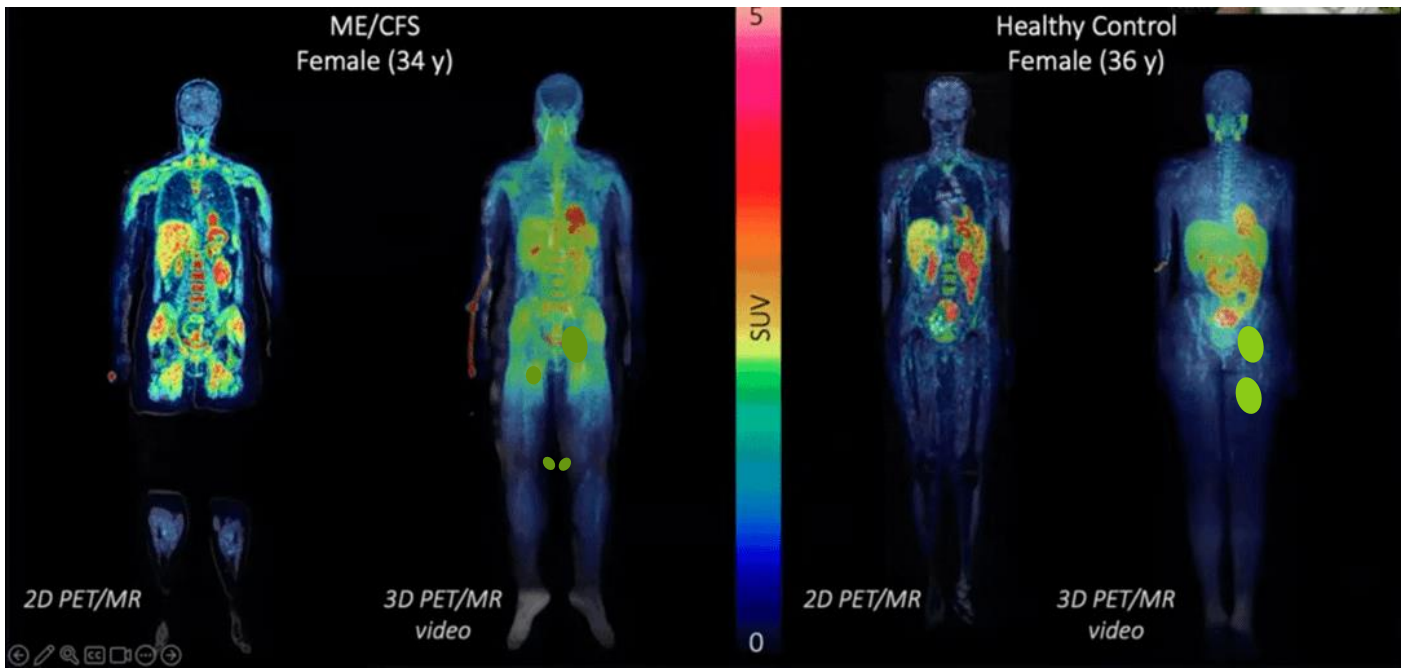


9. **Radioactive Tracer:** A radioactive tracer is injected into the patient's bloodstream and is taken up by the tumours once scanned they appear as glowing spots.

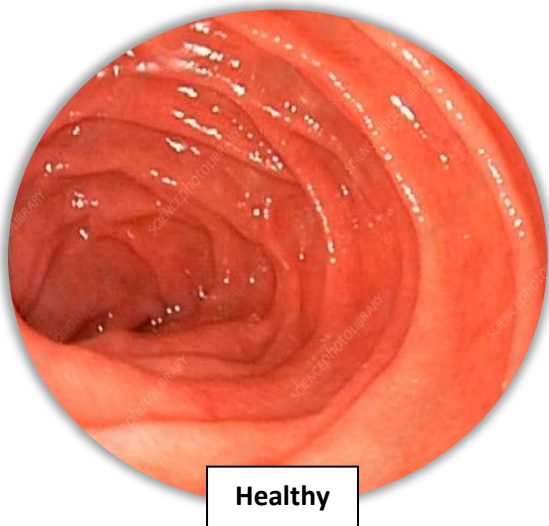


Patient with two tumours in spine

Colour	Metabolic Activity	Interpretation
Red	Very High	High radiotracer uptake often indicates active metabolic processes such as cancer cells or inflammation.
Orange	High	Elevated metabolic activity can suggest areas of infection, inflammation, or tumours.
Yellow	Moderate to High	Intermediate level of radiotracer uptake, potentially indicating regions of concern that require further investigation.
Green	Moderate	Normal metabolic activity generally indicates healthy tissue or a stable condition.
Blue	Low	Normal metabolic activity, generally indicates healthy tissue or a stable condition.
Black	Very Low or None	Minimal to no radiotracer uptake, often indicating areas of necrosis, infarction, or tissues that are not metabolically active.



10. **Endoscope:** Flexible camera that can be used to see the inside of a patient's body.



## Conditions

Possible Conditions	Symptoms	Test	Prescription
<b>Short sighted</b>	Patient struggles to see things that are far away. This can cause headaches if not treated.	Eye test	Glasses with concave lenses
<b>Long sighted</b>	Patient struggles to see things that are close. This can cause headaches if not treated.	Eye test	Glasses with convex lenses
<b>Hyperthermia</b>	Patient has elevated temperature. Vomiting, headaches	Thermometer will give quick reading of temperature. Symptoms may also appear on a thermograph among others.	Remove heat and continue to monitor.
<b>Hypothermia</b>	Patient has a low temperature, tiredness.	Thermometer will give quick reading of temperature. Symptoms may also appear on a thermograph among others.	Apply heat and continue to monitor.
<b>Atrial Fibrillation</b>	heart palpitations, shortness of breath, dizziness, light headedness, and chest pain	BPM significantly above expected amount when resting	Lifestyle changes (eg. drink less caffeine)
<b>Broken Bones</b>	Pain in localised area	X-ray	Metal pins, a cast and/or bed rest as appropriate.
<b>Vocal cord injury</b>	Pain in localised area	Endoscope, thermograph	Vocal spray and rest voice

<b>Pregnancy</b>	Tiredness, vomiting	Ultrasound	Identify how many months pregnant the patient is and inform them.
<b>Muscle Injury</b>	Pain in localised area	Thermograph	Infrared therapy
<b>Kidney stones</b>	Pain in localised area	CT Scan	Ultrasound treatment to shatter kidney stones
<b>Cancer</b>		Gamma tracer	Microwave ablation if tumour is in liver, kidneys, bone.  If not use Radiotherapy
<b>Psoriasis</b>	Itchy/ red skin	Skin condition that is visible upon inspection. No other test should reveal further symptoms	Ultraviolet Therapy
<b>Subdural haematoma</b> (bleeding inside the brain)	a bad headache that does not get better after taking painkillers feeling and being sick confusion and memory problems changes in personality, such as being unusually aggressive drowsiness slurred speech and problems with swallowing	MRI	Send patient to surgery
<b>None</b>	Patient may believe they have any symptoms	All tests so no signs of abnormalities	Reassuring words