Measuring temperature

1. Before measuring a patient’s temperature you should familiarise yourself with the current techniques.

2. To help you diagnose ophthalmic conditions such as cellulitis (preseptal and orbital), it may be valuable to check and record the patient’s temperature.

3. The aim of measuring a patient’s temperature is to determine the deep body or ‘core’ temperature. Core temperature is relatively constant despite wide fluctuations in environmental conditions, while the ‘shell’ temperature of more superficial structures such as the skin is highly variable. Since core temperature can only be measured internally (for example, in the blood of the pulmonary artery), a number of sites in the body have been selected for clinical approximations to this temperature.

4. Mercury-in-glass thermometers are no longer favoured because of the risk of glass breakage and mercury toxicity.

5. The preferred method of temperature measurement is determined by the age of the patient.

   - **Adults and children over 5 years:** electronic digital thermometer in the mouth, chemical dot thermometer in the mouth, infra-red tympanic thermometer in the ear
   - **Children aged 4 weeks to 5 years:** electronic digital thermometer in the axilla, chemical dot thermometer in the axilla, infra-red tympanic thermometer in the ear depending on the size of the child’s ear
   - **Children under the age of 4 weeks:** electronic digital thermometer in the axilla

6. Many electronic digital and infra-red tympanic thermometers are supplied with disposable tip or probe covers. You should never re-use these. If disposable covers are not available, you should wash, rinse and dry the thermometer after use, or follow the manufacturer’s instructions.

8. Normal body temperature is 37°C. Mean values in children aged up to 5 years are up to 1°C higher.
10. There is a normal diurnal variation in temperature of around 1°C with the lowest temperature at around two hours before waking.

11. Hormonal changes cause a woman’s temperature to rise at ovulation in the menstrual cycle. Body temperature during the subsequent luteal phase exceeds that during the follicular phase by around 0.6°C.

12. Body temperature rises during exercise, after hot bathing and after eating, drinking and smoking. You should wait for at least an hour after the patient has exercised or had a hot bath before measuring body temperature and 20-30 minutes after they have eaten, drunk or smoked. You should check with the patient whether this is the case for them.

13. You should check whether the patient has been taking anti-pyretic medications such as aspirin, paracetamol or ibuprofen.

14. You should consider the patient to have a fever if their body temperature is elevated above the normal daily variation. A temperature of 37°C or over is probably raised.