**Pulse Oximeter**

Pulse oximeters measure oxygen saturation and heart rate using red light.

**USE FOR**
- Routine assessment of all infants on admission
- All sick or at risk patients or those being treated with oxygen therapy, bCPAP, or ventilation

**STANDARD OF CARE**
Target SpO2 is:
- 90–95% for patients on O2
- 90–100% for patients off O2

**COMPLICATIONS**
- Misdiagnosis due to poor trace
- Patient movement and poorly fitting probes can hinder measurement
- Strong light interference leading to incorrect results
- Pressure sores or skin damage

If SpO2 is less than 90%, the patient should be considered for supplemental oxygen therapy.

**DISINFECTION & INFECTION PREVENTION**
- Clean hands with soap and water or alcohol before and after handling materials that will be used on a patient
- Always wipe the pulse oximeter & probe with 70% alcohol between patients
- Do not submerge pulse oximeter in alcohol
- Never place pulse oximeter in the bed with patient
- Refer to the General Infection Prevention Module

**ASSESSMENT & PREPARATION**

1. **CHECK COMPONENTS**
   - Check the shapes of the pulse oximeter port and external probe sensor before connecting the probe

2. **PREPARE DEVICE**
   - Turn on device by pressing and holding the power button for at least 5 seconds
   - Confirm patient setting is set to **baby mode**
   - The probe must display a flashing red light

3. **PREPARE PATIENT**
   - **Follow hand washing protocol**
   - Position patient in a neutral position
   - Select a well-perfused location on patient’s wrist or foot
   - **A** Place probe light side down on wrist or foot
   - **B** Ensure that light and photodetector are opposite each other
   - Wrap the rubber strap around wrist or foot and gently tighten

4. **USING THE PULSE OXIMETER**
   - Allow the patient’s trace to establish. It should look like the example below:

5. **REMOVE PATIENT FROM DEVICE**
   - Loosen and unthread rubber connecting strap
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The device should be kept on a charger when not in use to ensure power in the event of a power outage.

### Repair & Maintenance

**If the pulse oximeter is not turning on**
- Press and hold the power button for at least 5 seconds
- Check the battery level
  - If low, plug in the device to charge or get new batteries

**If the pulse oximeter is turning on but is not displaying a trace**
- Check the probe for a flashing red light
  - If there is no light, check that the probe is properly connected to the pulse oximeter
- If the probe is connected and no light is showing try replacing the probe
- If the probe is connected and the red light is showing, but no probe is detected or no trace is displayed, replace with a different probe

**If the pulse oximeter is turning on but taking time to stabilise the trace**
- Check that no powerful light sources are shining on the pulse oximeter probe
- Confirm that the patient is not moving and the probe is still securely attached
- Confirm the probe is dry and clean
- Choose an extremity that is warm, dry, and well perfused
- Wait at least 1 minute for the signal to stabilise before trying an alternate extremity

### Daily Maintenance

Always wipe the pulse oximeter with 70% alcohol using gauze or a cotton swab before first use and between patients.

### Preventive Maintenance

Weekly, turn on device and check for a red light on the probe, then connect a clip probe and test readings on your finger for normal saturations (above 90%).

**Contact a technician or maintenance department if device continues to not work properly after addressing the common issues.**