

## ASSESSMENT & PREPARATION

# 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 SpO<sub>2</sub> is

- **90–95%** for patients **on** O<sub>2</sub>
- **90–100%** for patients **off** O<sub>2</sub>

**Pulse oximeters do not give meaningful clinical information below their accuracy threshold of 70%**



## ? 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 SpO<sub>2</sub> is less than 90%, the patient should be considered for supplemental oxygen therapy

## 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**

The probe must display a **flashing red light**



## 3 PREPARE PATIENT

### Follow hand washing protocol

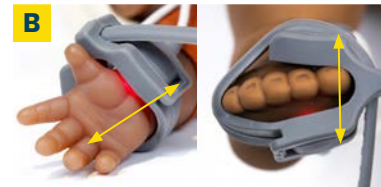
Position patient in a neutral position

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:

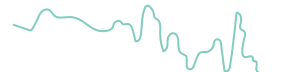
**✓** normal signal



**✗** check skin for blood flow



**✗** motion artefact



**✗** noise artefact



## 5 REMOVE PATIENT FROM DEVICE

Loosen and unthread rubber connecting strap



## ! 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

**i** Refer to the General Infection Prevention Module

## REPAIR & MAINTENANCE

# Pulse Oximeter

The device should be kept on a charger when not in use to ensure power in the event of a power outage



### ⚙️ 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%**)

#### 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



**! CONTACT A TECHNICIAN OR MAINTENANCE DEPARTMENT IF DEVICE CONTINUES TO NOT WORK PROPERLY AFTER ADDRESSING THE COMMON ISSUES !**