GUIDELINES FOR THE USE OF PULSE OXIMETRY IN CHILDREN’S WARDS

A pulse oximeter can tell you vital information about a sick child. It is the best way to tell if a child needs oxygen, and must be available in all children’s wards in South Africa.

Pulse oximeters should be used to monitor:
- Every child or neonate at admission (not just those with pneumonia)
- During ward rounds and nursing observations to monitor progress
- Any child who deteriorates with respiratory distress, apnoea or decreased conscious state

Hypoxaemia (lack of oxygen in the blood) is a major cause of child deaths. The normal oxygen saturation (SpO2) is 95-100%. Children with an SpO2 less than 90% are hypoxaemic and need to be given oxygen. All children should be screened for hypoxaemia using a pulse oximeter at the time of admission to the ward.

How to use a pulse oximeter:
- Turn the pulse oximeter on
- Have the child sitting comfortably in the parent’s lap
- Attach the oximeter probe to the finger or toe of the child
- Wait until there is a consistent pulse signal (this may take 20-30 seconds)
- Record the SpO2 on a monitoring chart.
- If the SpO2 is less than 90% the child should receive oxygen.

Giving oxygen
- If the SpO2 is less than 90% the child should receive oxygen
- Use nasal prongs or a nasal catheter
- Give oxygen at a flow rate of 0.5-2 litres per minute continuously
- Recheck the SpO2
- Record the SpO2 15 minutes after giving oxygen on a monitoring chart

Daily monitoring using pulse oximetry
- At least once a day all children who are receiving oxygen should be tested using pulse oximetry
- Take the child off oxygen (unless they have severe respiratory distress)
- Monitor the SpO2
- If the SpO2 is greater than 90% 10-15 minutes after coming off oxygen, they can stay off oxygen
- Check the child’s SpO2 again in one hour
- If the SpO2 is less than 90% the child should go back on oxygen.
- Each day record the SpO2 on the patient’s monitoring chart, and beside it record if there are sufficient supplies of oxygen to give oxygen to that particular child at the time of recording.

Oximetry should be used regularly to monitor any child who develops worsening respiratory distress, apnoea, any deterioration in consciousness or any other clinical sign of deterioration.

Discharge planning
Pulse oximetry can be used to determine when it is safe to send a child home. In most circumstances it is unsafe to send a child home when their SpO2 is less than 90%.

Care of a pulse oximeter
The pulse oximeter finger probes and leads are fragile, so it is important to look after them carefully. They should not be put on the floor or where they could be stepped on.

- It is important to keep pulse oximeter probes clean so that they do not spread infection from one patient to another. They should be wiped with an alcohol swab between patients, and health workers must always wash their hands before and after monitoring each patient.
- Always remember to plug the oximeter into the mains power after every use to recharge the internal battery.

Remember, it is the child’s ACTUAL OXYGEN REQUIREMENT that indicates how sick the child is, rather than the ‘sats’ measurement on its own.

Adapted from WHO: “Clinical Use of Oxygen”