### Technical Scenario

**Pulse Oximeter**

**Reminder to Facilitator**

The facilitator team decides what is essential for participants’ understanding. We suggest the team underline or mark these essential items in the INFORMATION/RESULT column before beginning the session to ensure these are highlighted throughout the practice.

**ALWAYS REMEMBER THE CANDIDATE SHOULD START WITH THE 4 Ss**

- **Safety**: for you, the staff around you and the patient on the device
- **Setting**: for possible checks and repairs to the devices
- **Supplies**: adequate tools and spare parts for this device
- **Shout**: for additional technical support if necessary

### Begin Scenario

**SETTING THE SCENE:** The nurse in the nursery cannot make the pulse oximeter give a good trace reading. She has been trying for quite some time. She has called you for help. **WHAT DO YOU DO?**

<table>
<thead>
<tr>
<th>#</th>
<th>ACTION REQUIRED</th>
<th>INFORMATION / RESULT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Go to the ward and introduce yourself to the in-charge.</td>
<td>Sister Amissah is glad to see you.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ask what the problem is.</td>
<td>The nurse has been trying to use the pulse oximeter all morning but has been unable to get a stable trace.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Ask to see the device.</td>
<td>The pulse oximeter is in a patient cot next to a newborn patient.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Advise the in-charge of the link between device location and infection prevention on the ward. Pulse oximeters should never be kept in the cot with the patient to ensure appropriate infection prevention control. As pulse oximeters are used on many patients, you may find that infections are passed from bed to bed with the pulse oximeter.</td>
<td>Sister Amissah is advised about the link between infection and devices. Alarmed, she immediately removes the pulse oximeter and probe from the patient cot and disinfects it.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Ask if it is okay for you to do some minor checks on the machine where it is.</td>
<td>Sister Amissah is happy for you to do so.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Perform minor checks on the device.</td>
<td>The pulse oximeter shows the alarm “No Probe Connected”.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Interpret these results for Sister Amissah.</td>
<td>Explain the results to Sister Amissah in layman’s terms.</td>
<td></td>
</tr>
</tbody>
</table>

- There is another pulse oximeter probe, but it is currently connected to another device. Sister Amissah removes it and brings it to this pulse oximeter to try.
- Sister Amissah clears the probe.
- No alarms are visible.

---

**Scenario Overview**

The scenario is set in the newborn care ward where a pulse oximeter has malfunctioned. Participants should assess and troubleshoot the device, implement needed repairs and return the device for use.
<table>
<thead>
<tr>
<th>#</th>
<th>ACTION REQUIRED</th>
<th>INFORMATION / RESULT</th>
<th>COMMENTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>What do you do next?</td>
<td>Sister Amissah places the probe on the foot of a newborn patient. A trace appears and begins to stabilise.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Advise the in-charge that an additional replacement probe should be procured.</td>
<td>Three additional paediatric clip probes with generic ports are available.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Return to the Newborn Care Unit.</td>
<td>No alarms are visible.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Remove the inappropriate probe to the Maintenance Unit.</td>
<td>Documentation is completed.</td>
<td></td>
</tr>
</tbody>
</table>

**THANK YOU**

**REMIND PARTICIPANTS**

Poorly fitting probes and patient movement can lead to inaccurate readings. Pulse oximeters should also never be placed in the cot of a patient to ensure appropriate infection prevention on the ward.

**INFECTION PREVENTION AND CONTROL**

Be sure to wash your hands thoroughly and to put on gloves before handling any equipment. After every use, remember to disinfect all consumables and equipment before using them again. Pulse oximeters should also never be placed in the cot of a patient to ensure appropriate infection prevention on the ward.

---

Scenario end
Disclaimer

Newborn Essential Solutions and Technologies—Education Technical Scenarios

This series reflects the work of the NEST360° team. Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International license (CC BY-NC-ND 4.0; https://creativecommons.org/licenses/by-nc-nd/4.0/).

Under the terms of this license, you may copy and redistribute the work for non-commercial purposes, provided the work has not been modified, and it is appropriately cited as indicated below. In any use of this work, there should be no suggestion that NEST360° endorses any specific organisation, products, or services. The unauthorized use of the NEST360° names or logos is not permitted. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by Newborn Essential Solutions and Technologies (NEST360°). NEST360° is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition."

SUGGESTED CITATION

RIGHTS AND LICENSING
For queries on rights and licensing, see the full legal code for the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Public License (https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode).

THIRD-PARTY MATERIALS
If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

GENERAL DISCLAIMERS
All reasonable precautions have been taken by NEST360° to verify the information contained in this publication. The mention of specific companies or of certain manufacturers’ products does not imply that they are endorsed or recommended by NEST360° in preference to others of a similar nature that are not mentioned. The published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall NEST360° or affiliated partner institutions be liable for damages arising from its use.

The authors have made every effort to check the accuracy of all information. As knowledge base continues to expand, readers are advised to check current product information provided by the manufacturer of each device, instrument, or piece of equipment to verify recommendations for use and/or operating instructions.

In addition, all forms, instructions, checklists, guidelines, and examples are intended as training resources to meet national and local health care settings' needs and requirements.