



SNS COLLEGE OF NURSING



SARAVANAMPATTI, COIMBATORE-35

**AFFILIATED TO THE TAMILNADU DR.M.G.R MEDICAL
UNIVERSITY,CHENNAI**

**DEPARTEMENT OF FOUNDATION OF
NURSING**

COURSE :1 YEAR BSC NURSING

**UNIT IX- MEETING NEEDS OF
PATIENT**

TOPIC- PULSE OXIMETRY

INTRODUCTION

Mr.x admitted in the hospital with the complaints of difficulty in breathing, what's your priority for assessing patient.



DEFINITION

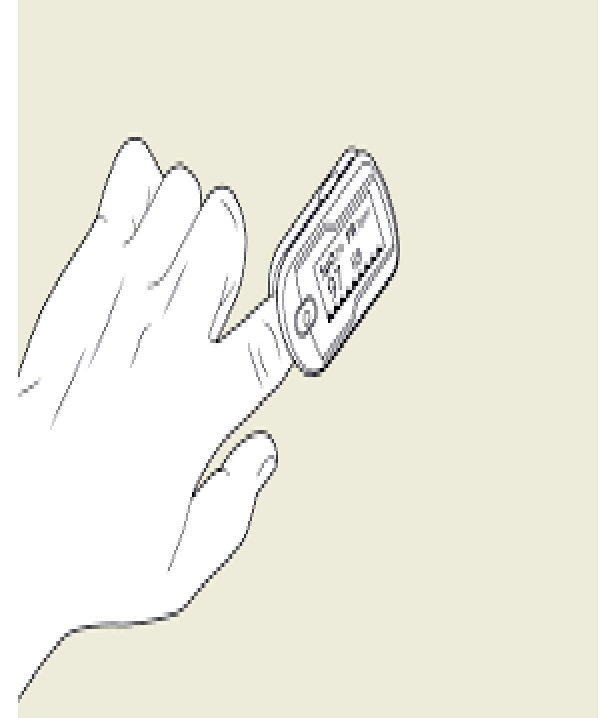
It is a non invasive device used to measure blood oxygen levels and can also display heart rate.



- Nisha Clement

PURPOSE OF PULSE OXIMETRY

- Pulse oximeters measure oxygen saturation of haemoglobin in arterial blood.
- It measure the pulse rate in beats per minute.



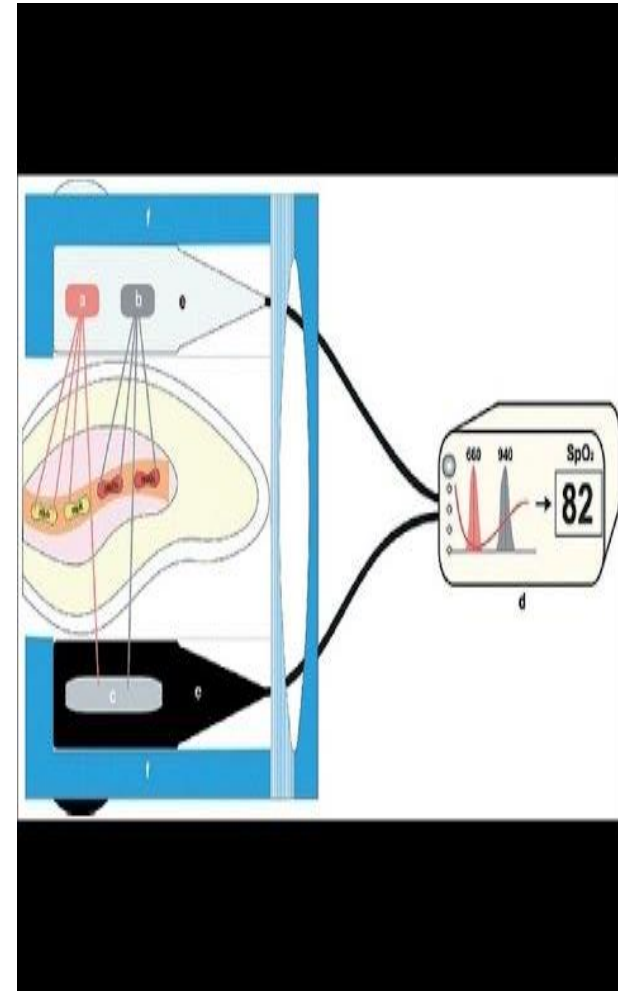
OXIMETERS CONSIST OF

- ❖ Red and infrared light emitters detector.
- ❖ Most oximeters also have an audible pulse tone.



PRINCIPLES OF PULSE OXIMETRY TECHNOLOGY

- ✓ It is based on the red and infrared light absorption.
- ✓ photodetector records the relative amount of each color absorbed by arterial blood and transmits the data to monitor.



GENERALLY MEASURED ON

Various sites like

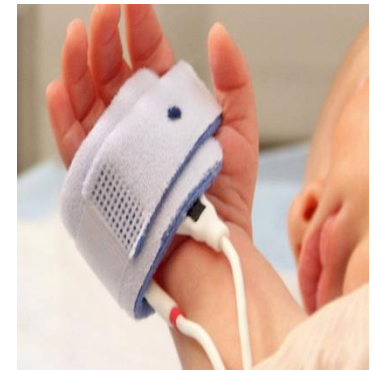
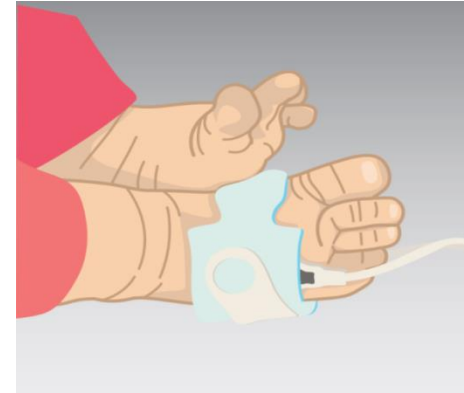
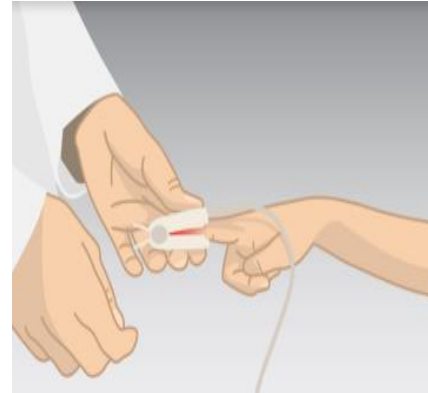
❖ The finger

❖ Toe

❖ Pinna top or lobe the ear

❖ Infants-The bridge of the nose

palm of the hand . The big toe or the thumb.



EQUIPEMENT



ARTICLES

- Pulse oximetre
- Probe of connecting
- Cotton swab
- Nail polish remover



PROCEDURE

STEP 1

Explain the procedure
to the patient.



Step2

To perform hand
hygiene



Step 3

- Select an appropriate site for application of the sensor.

Use the patient's index, middle (or) ring finger.



step4

Use the proper equipment/
probe

ARSTN



Neonate Sensor



Children Sensor



Temperate Probe



Adult Sensor

Step 5

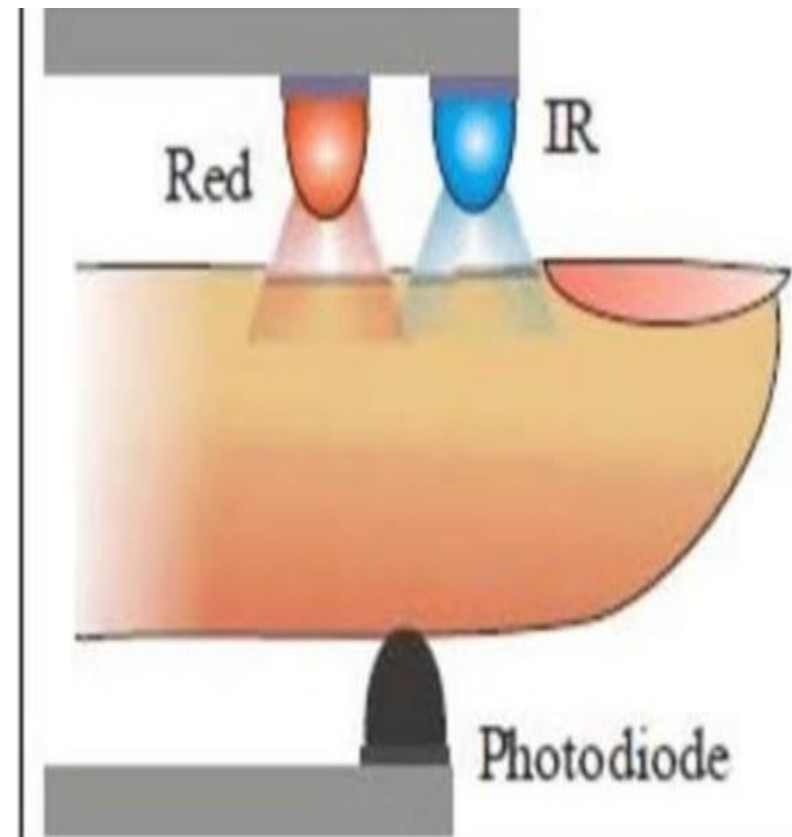
The monitoring site

- (a) cleanse the selected area and allow it to dry
- (b) remove nail polish and artificial nails.



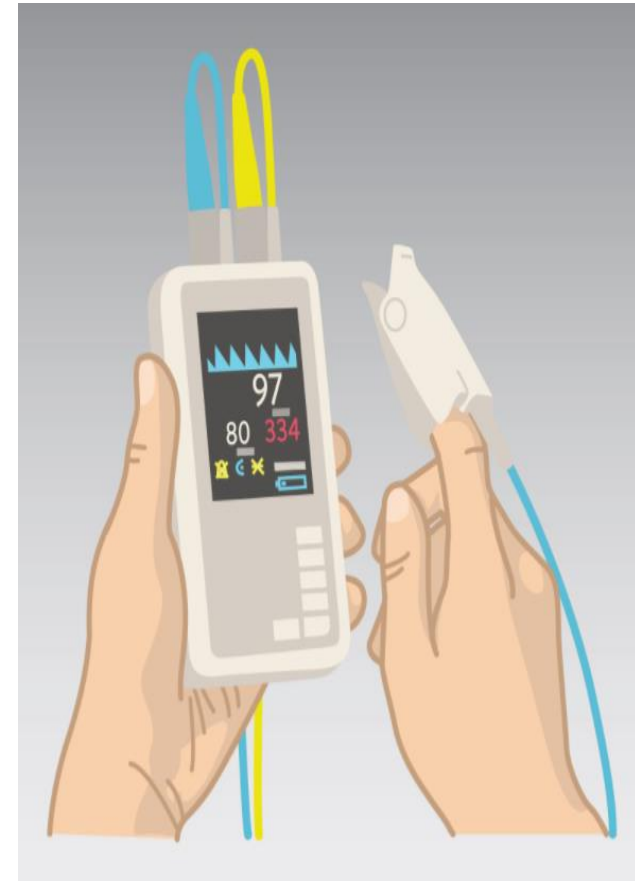
step6

- Apply the probe securely to the skin, make sure that light emitting sensor and the light receiving sensor are aligned opposite to each other.



Step7

The sensor probe to the pulse oximeter and check operation of the equipment like presence of audible beep and fluctuation of bar of light(or) wave form on the monitor of the oximeter.



Step8

Set the alarms on the pulse oximeter check manufacture's alarm limits for high and low pulse rate setting.





Step9

Check oxygen saturation at regular intervals as ordered by physician and necessitated by alarms. Monitor patient's hemoglobin level.



Step 10

Remove sensor on a regular basis and check for skin irritation (or) sign of pressure.



Step 11

Evaluate any malfunctions (or) problems with equipment





Step12

Record the application of pulse oximeter. Its type and size and all nursing assessments vital signs flow sheet

WEIGHT	TEMP	BP	PULSE	RESPIRATION	PAIN

ADVANTAGES

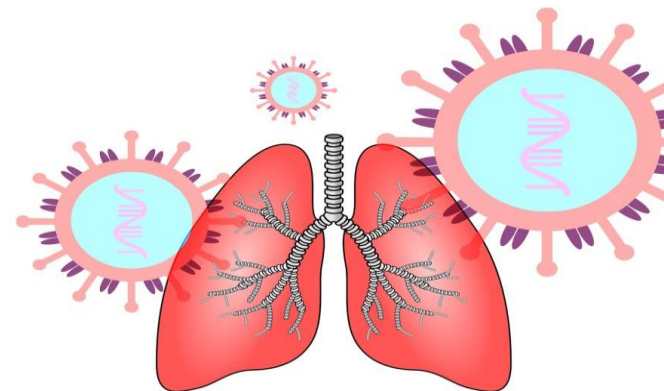
A pulse oximeter is useful in any setting where a patient's oxygenation is unstable:

- Including intensive care units
- Operation theatre and recovery rooms
- Emergency or casualty



LIMITATIONS

- Oximetry is not a complete measure of respiratory sufficiency
- It is also not a complete measure of circulatory sufficiency



NURSING RESPONSIBILITIES

- Provide the patient with a simple explanation of pulse oximetry and its value.
- After procedure remove sensor from monitoring site.





ASSESSMENT

1. Define pulse oximetry?

Ans.....

2. What are the purpose of pulse oximetry?

Ans.....

3. Enlist the indications of pulse oximetry?

Ans.....

4. Explain the procedure of pulse oximetry?

Ans.....



Referances

1. Nisha Clement,'Principles and Practice of Nursing- I',EMMESSMedical Publishers,Bangalore,First edition,2015.
2. SR.Nancy,'Stephanie's Principles and Practice of Nursing ',N.R Brothers Publications, Indore,Sixth edition,2014.

THANKING YOU