The Use of Pulse Oximeter by Public & Healthcare Providers in the Community for Suspected and Confirmed COVID-19 Cases

Objectives

This is a document to support the use of pulse oximeter for assessment of suspected and confirmed cases of Covid-19 in the community.

Rationale

It is a well-known fact that Covid-19 can present as "happy hypoxia" with minimum symptoms of severe respiratory distress despite significant low oxygen levels in the blood. The use of pulse oximeter for clinical assessment significantly augments decision making, save lives and provide high quality care. It allows for early detection of patients with hypoxia requiring either close monitoring in the community or timely referral for hospital care.

How to use a pulse oximeter

Follow these instructions to make sure the pulse oximeter gives an accurate reading:

- Remove any nail polish or false nails and warm the hand if cold.
- Ensure patient has been resting for at least five minutes before taking the measurement.
- Rest the hand on the chest at heart level and hold still.
- Switch the pulse oximeter on and place it on the finger. It works best on the middle or index finger. It should not be used on the ear.
- The reading takes time to steady. Keep the pulse oximeter in place for at least a minute, or longer if the reading keeps changing.
- Record the highest result once the reading has not changed for five seconds.
- Be careful to identify which reading is the heart rate and which is the blood oxygen level
- Wash your hands carefully after the procedure, and if being used on different patients then ensure that it is cleaned after each usage.

Red Flag Symptoms & Signs (Community)

- Unable to complete short sentences when at rest
- Sudden worsening of breathing
- Blood Oxygen saturation (SaO_2) level of 92-94% in room air
- Development of skin rash that does not fade
- Episodes of fainting or collapse
- Confusion, agitation, significant drowsiness
- Reduced urine output

Action

- Apply Oxygen 1-2 L via nasal prong – may need to increase to 5 L
- Maintain SaO_2 above 95%
- Check body temperature
- Transfer to the nearest hospital within 60 minutes
- Apply safety and risk assessment when using oxygen in the community to prevent inflammable accidents
- Follow Covid-19 Infection Prevention and Control (IPC) measures

Red Flag Signs & Symptoms + SaO2 < 90% (Community)

- Recheck pulse oximeter if SaO_2 remains below 92%
- Apply high flow oxygen supply via facial mask to maintain oxygen saturation > 95%
- Immediate transfer to hospital
- Follow Covid-19 IPC measures

Amber Flag Symptoms & Signs (Community)

- Feeling unwell and breathless
- Finding difficulty to get up and perform personal care
- SaO_2 level > 95% and remains the same when checked within one hour
- Family concerns that patient is deteriorating

Action

- Advice regarding home care and encouraging oral intake
- Monitor urine frequency
- Advise patient to check SaO_2 and pulse rate at least three times per day, at the same time each day.
- Educate family regarding red flag signs and symptoms
- Advise patient to call for help or seek medical attention if they feel unwell
- Arrange for a remote assessment in 12 hours

Clinical audit standards/monitoring compliance

- Audit the use of the pulse oximeters in the community and referrals to hospitals
- Identify delayed presentation and serious incidents and near miss cases
- Report any technical faults in regards to pulse oximeters
- Ensure that this practice is compliant with the national standards
- The monitoring processes should be completed weekly.

References

1. *https://www.england.nhs.uk/coronavirus/publication/pulse-oximetry-to-detect-early-deterioration-of-patients-with-covid-19-in-primary-and-community-care-settings/*

2. *https://youtu.be/ifnYjD4lKus*

3. *C0445-remote-monitoring-in-primary-care-annex-2-diary-jan-21-v1.2.pdf(england.nhs.uk)*