



health

Department:  
Health  
REPUBLIC OF SOUTH AFRICA



Enquiries: Prof S Abdool Karim  
E-mail: salim.abdoolkarim@caprisa.org

**INTERNAL MEMO**

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| Date: | 2 December 2020   |       |   |
| To:   | <b>The Honorable Dr ZL Mkhize,<br/>Minister of Health</b> | From: | <b>Ministerial Advisory Committee<br/>(MAC) on Covid-19</b> |

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| <b>NATIONAL VENTILATOR PROJECT (NVP), HFNC AND CPAP EQUIPMENT<br/>USE FOR COVID-19 DISEASE AND BEYOND DTHE EPIDEMIC</b> |
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**Problem Statement**

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| This MAC on Covid-19 advisory aims to support the use of oxygen and respiratory devices in multiple clinical situations, to strengthen the critical care pathway at district health service level. |
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**Task to Committee**

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| The Surge Capacity Technical Working Group evaluated this intervention as a strategy to reduce the need for mechanical ventilation in patients with respiratory failure. |
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**Background**

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| The NVP has produced large numbers (n=27,000) of CPAP devices for distribution to the provinces for the treatment of Covid-19, together with commercially available HFNO, CPAP and ventilators. These devices are variably implemented. This advisory addresses the use in Covid-19 and beyond. Bulk liquid oxygen supply is required to deliver the treatment modes. |
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**Evidence review**

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| <p><i>Refer to attached report of Equipment for Covid-19 cases and beyond.</i></p> <p>Preliminary evidence shows that treating patients with CPAP and/or HFNC oxygen may avoid the need for mechanical ventilation. In addition, the therapy is better tolerated by patients, is less complex, requires far less supervision by trained providers, and can even be used outside of the Intensive Care Unit (ICU) in general ward beds.</p> <p><u>Advantages of CPAP and HFNC Oxygen:</u></p> <ul style="list-style-type: none"> <li>• Can be implemented and managed by non-ICU specialists, with non-invasive monitoring of an awake patient.</li> <li>• Can be combined with awake self-proning (another strategy shown to improve oxygenation).</li> </ul> |
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- CPAP/HFNC Oxygen is a well-established treatment for respiratory distress in cardiac and respiratory failure, including Covid-19 pneumonia).<sup>1</sup>
- Non-invasive oxygen ventilation devices reduce the need for Covid-19 pneumonia.

### Recommendations

- HFNC oxygen and Continuous Positive Airway Pressure (CPAP) is considered as an alternative to intubation and ventilation.
- Provision, in terms of oxygen supply and infrastructural readiness should be made for the use of HFNC.
- The implementation of CPAP and HFNC oxygen is recommended for all hospital settings, tertiary and general medical ward beds where ventilation may not be available.
- Implementation is recommended in conjunction with a structured training programme for the use of these devices in District Hospitals.
- The long-term implementation of CPAP and HFNC Oxygen is recommended for clinical situations where life-threatening respiratory and cardiac failure require oxygen and end-expiratory pressure support.

### Rationale for recommendation

The implementation of CPAP and HFNC oxygen is required to address the shortage of ICU beds and ventilation, to support the procurement of the equipment, supply of highflow oxygen at rates of up to 60L/min (sixty litres per minute), to enable the treatment of Covid-19 pneumonia in a lucid and cooperative patient that is able to maintain their airway and cooperate with awake self-proning.

Thank you for consideration of this request.

Kind regards,



**PROFESSOR SALIM S. ABDOOL KARIM      PROF MARIAN JACOBS**  
**CO-CHAIRPERSONS: MINISTERIAL ADVISORY COMMITTEE ON COVID-19**  
**DATE: 2 December 2020**

### CC:

- » **Dr S Buthelezi (Director-General: Health)**
- » **Dr T Pillay (Deputy Director-General)**
- » **Incident Management Team**

<sup>1</sup> Elharrar X, Trigui Y, Dols AM, Touchon F, Martinez S, Prud'homme E, Papazian L. Use of Prone Positioning in Nonintubated Patients With COVID-19 and Hypoxemic Acute Respiratory Failure. *Jama*. 2020. Epub 2020/05/16. doi: 10.1001/jama.2020.8255. PubMed PMID: 32412581; PMCID: PMC7229532