

The Responder

"Progress Saves Lives..."

Edition 89 | July 2026

From the Editor's Desk

Greetings friends, clients and fellow healthcare professionals, welcome to the July 2026 edition of The Responder.

Winter has finally truly set in. Cape Town is really chilly at the moment. It has been ages since I last had to wear a thickish jacket for most of the day. Thank goodness for the fireplace in the evenings. There is very little that can match a lovely warm fire on a freezing evening. The one thing I really enjoy about Winter is the fact that we tend to eat many more stews. I grew up on stews, so for me there is nothing better than a wonderfully tasty oxtail stew or potjie. I really enjoy cooking, so I am always trying new things and new recipes. What could possibly be better?

The initial feedback on our new CritiCare® ParamedicPAC EMS Jump Bag has been extremely positive, thank you. People have also commented that it is very well priced. We agree, it is quite a lot of bag for the price. Value for money has always been something we feel strongly about. So, if you are in the market for a new jump bag that offers a great deal and at a very reasonable price, we would love for you to take a closer look at our ParamedicPAC. You can view the jump bag on our website [here](#).

For those of you who have not yet joined our WhatsApp group, I have included the QR code for easy access. Simply scan the QR code and request to join the group. Our administrator will approve your request and you are all set to go. We will never bombard you with unnecessary messages because we know just how annoying that can be. We look forward to seeing you there.



We are very excited to announce that we will be exhibiting at the World Health Expo Nairobi from the 16 – 18 September 2026 at the Kenyatta International Convention Centre, Nairobi, Kenya. If you are attending the event, we would love for you to come and visit our stand. We will post our stand details on our social media pages in the next couple of weeks. This was an excellent event last year and we expect this year to be even better. We would love to see you there.

In this edition's article, we will be discussing oxygen delivery devices. It really is about selecting the correct device for the correct clinical application. It is a pretty short read, but we hope you find it interesting. Be Safe Paramedical stocks a wide range of oxygen delivery devices, oxygen cylinders and high-quality cylinder bags. Feel free to visit our website at www.be-safe.co.za where you will find a wealth of information.

As always, we have some great special deals lined up for you, so you will definitely want to check them out for some great savings.

With that said, we hope you enjoy this edition of The Responder.

Yours in Healthcare

Gavin Sutton

Editor – The Responder

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Health Focus

Oxygen Delivery Devices

Over the past 30 years that I have been registered as a paramedic, I administered oxygen to patients on literally thousands of occasions. Oxygen delivery always begins with a thorough clinical assessment of the patient's needs. It is never about simply putting a mask on a patient, cranking up the oxygen and you're done. At its most basic level, supplemental oxygen is prescribed for patients experiencing hypoxemia (low oxygen levels in the blood). While it is common to think of oxygen as a treatment for shortness of breath (dyspnoea), clinical guidelines explicitly clarify that oxygen does not treat breathlessness if blood oxygen levels are normal. It is a drug meant to protect organs and tissues when the lungs cannot transfer enough oxygen into the bloodstream.

It is important that the clinician has a thorough understanding of the different types of oxygen delivery devices, when they should be used and when they should not be used. Selecting the right oxygen delivery device depends entirely on the patient's respiratory drive, required oxygen concentration (FiO_2), and flow demands. Oxygen delivery devices are broadly classified into low-flow, fixed-performance (variable-flow high-accuracy), and true high-flow systems.

Oxygen Delivery Devices

Nasal Cannula

- 1-6 L/min, 25-45% FiO_2
- Low flow
- Patient can eat, drink, talk

Simple Face Mask

- 6-10 L/min, 35-60% FiO_2
- Humidification
- Low flow

High Flow Nasal Cannula

- Up to 60 L/min, up to 100% FiO_2
- Heated and humidified
- PEEP

Venturi Mask

- Precise titration of FiO_2
- 4-8 L/min, 24-60% FiO_2

Common Oxygen Delivery Devices & Parameters. Source: ACLS Certification Association

1. Nasal Cannula Standard Nasal Cannula

- Flow Rate: 1–6 L/min
- FiO_2 Range: ~24%–44% (increases by roughly 4% per L/min)
- Classification: Low-flow / Variable performance
- **Clinical Notes:** Best for stable patients requiring low-level support. It is highly tolerated because the patient can comfortably eat, drink, and speak. Flows above 4 L/min can cause significant mucosal drying and discomfort unless external humidification is added.



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High-Flow Nasal Cannula (HFNC)

- Flow Rate: Up to 60 L/min (sometimes up to 80 L/min in specialised systems)
- FiO₂ Range: 21%–100% (blended precisely)
- Classification: High-flow / Fixed performance
- **Clinical Notes:** Delivers heated, humidified gas matching or exceeding the patient's peak inspiratory flow. The high flow rates wash out anatomical dead space in the upper airway, reduce the work of breathing, and generate a modest amount of positive end-expiratory pressure (PEEP) roughly 1 cm H₂O of PEEP for every 10 L/min of flow with a closed mouth.



2. Low-Flow / Variable-Performance Face Masks Simple Face Mask

- Flow Rate: 5–10 L/min
- FiO₂ Range: ~35%–50%
- **Clinical Notes:** Requires a minimum flow of 5 L/min to actively flush out expired carbon dioxide (CO₂) from the mask reservoir and prevent rebreathing. It is generally intended for short-term use during transport or emergencies when tight fraction titration isn't critical.



Partial Rebreather Mask

- Flow Rate: 10–15 L/min
- FiO₂ Range: ~40%–70%
- **Clinical Notes:** Features an attached reservoir bag but lacks one-way valves. The patient exhales the first portion of their breath (which originates from dead space and contains minimal CO₂ but is high in oxygen) back into the bag to blend with incoming fresh oxygen.



Non-Rebreather Mask (NRB)

- Flow Rate: 10–15 L/min (the flow meter must be adjusted to keep the reservoir bag inflated at least two-thirds full during inspiration)
- FiO₂ Range: ~60%–90% (real-world values vary due to mask fit leakage)
- **Clinical Notes:** Utilises a series of one-way valves. One valve prevents exhaled air from entering the reservoir bag, while side valves on the mask allow exhaled air to escape while blocking room air from diluting the inspired oxygen. This is the standard choice for acute, severe hypoxemic emergencies and trauma.



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3. High-Flow / Fixed-Performance Face Masks Venturi Mask (Air-Entrainment Mask)

- Flow Rate: Varies based on the specific-coloured jet adapter (typically 4–12 L/min)
- FiO₂ Range: 24%, 28%, 31%, 35%, 40%, 50%, 60% (highly precise fixed steps)
- **Clinical Notes:** Operates on the Bernoulli principle. Oxygen passing through a narrowed orifice creates a local drop in pressure, entraining a predictable volume of ambient room air through side ports. Because the total gas flow delivered meets or exceeds the patient's inspiratory flow rate, the FiO₂ remains stable regardless of the patient's respiratory rate or tidal volume. This makes it the tool of choice for managing acute-on-chronic respiratory failure in COPD patients, where precise oxygen titration is vital to safeguard the hypoxic respiratory drive.



I hope you found the read informative. If you have specific oxygen delivery device needs, you are more than welcome to drop us a mail on info@be-safe.co.za or feel free to visit our respiratory care page <https://be-safe.co.za/product-category/respiratory-care/> on our website.

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Special Deals

CritiCare® CrashPAC EMS Jump Bag

Product Code: BAG.CP.TB.CC



R1 700.00 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® StrapPAC Moonbag

Product Code: REF:BAG.SP.MN.CC.BLK



R190.42 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

Pulse Oximeter YK-81 Fingertip

Product Code: PO.F.YK-81C



R260.00 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

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CritiCare® Cardiology Stethoscope

Product Code: STETH.CARDIO



R260.00 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

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CritiCare® Handheld Suction Unit

Product Code: SUC.HNDHELD



R594.30 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® O2PAC Oxygen Therapy Jump Bag (Red)

Product Code: REF:BAG.O2PAC.CC.R



R760.00 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® Silicone Resuscitator (Adult)

Product Code: RES.SIL.A.I



R645.00 Inclusive of Vat each

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CritiCare® Pocket Bag-Valve Resuscitator

Product Code: CC.PBVM



R1 125.30 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

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MedIce Instant Ice Pack

Product Code: REF:MI



R14.20 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® EVA Splint

Product Code: SPL.EVA



R125.70 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® CPR Keyring Pouch Unstocked (excluding red)

Product Code: REF:KRP.CC.



R11.70 Inclusive of Vat each

Offer valid until 10 August 2026 or while stocks last

[Buy Now](#)

CritiCare® Multi-function Shears (Black)

Product Code: SC.UNIV.S.20.B



R440.00 Inclusive of Vat each

Offer valid will stocks last

[Buy Now](#)