

User Guide to StarMed CaStar Up CPAP Hood.

WarningThe CaStar Up CPAP helmet should not be used for NIV on the ventilator

Indications:

The CaStar CPAP Hood for CPAP therapy is a comfortable, versatile and lightweight CPAP patient interface designed to offer an alternative to traditional methods of CPAP delivery. The CaStar is well tolerated for extended periods and can reduce the risks associated with both endotracheal intubation and face mask use.

Non-invasive continuous positive airway pressure (CPAP) can improve oxygenation in patients suffering from moderate hypoxemic acute respiratory failure.

INSERT INTERSURGICAL User Guide to CPAP Hood poster here.....

Tips for putting the helmet on the patient (full step by step instructions & diagrams are provided on the User Guide)

- Once the helmet is opened, & before putting onto the patient, attach the straps to the rear of the hood. It is important that these are evenly spaced, for example if one strap is at notch 3 the other should be at notch 3 as well. They should both fasten on the same notch at the front (ideally if they are both at notch 3 at the back of the helmet they will both be at notch 3 at the front). This is to ensure that the padded part of the strap sits under the armpits & minimises pressure there, but also to stabilise the helmet.
- The hood comes in 2 sections, the collar and the hood, place the collar piece onto the patient first. There is an inflatable cuff around the neck section of the hood, inflate the cuff using the small black

pump, to ensure a good seal and comfort for the patient.

- If the cuff is sufficiently inflated, there should be 2 fingers width between the bottom of the helmet & the patient's shoulders. This avoids pressure damage.
- Place the hood section over the patient's head, line up the 'locking pins' between the hood and collar. Twist hood and lock into place. Then begin inflating with the CPAP flow system.
- Each time the access port cap has been removed or adjusted, the anti-asphyxiation valve button must be pulled & activated to reinflate until the hood.
- Whilst the hood is on, the patient can be positioned lying on their sides. There is a baffle over the inspiratory and expiratory ports to prevent them becoming blocked. The anti asphyxia device also has a safety mechanism so it can't become blocked by the patient leaning against it.

Key points:

- CPAP systems should provide a gas flow > 40-45L/min or the risk of rebreathing CO₂ is increased. The "Vital Flow 100" CPAP system used here, provides in excess of this
- The CPAP manometer on the expiratory valve will show the level of CPAP provided, check regularly to ensure adequate pressures being achieved..
- Gas flow should be adjusted to ensure that the membrane in the CPAP valve never fully closes. The movement of the membrane should be checked as part of regular patient observations & the gas flow adjusted accordingly.

- There is a small hole at the top of the pressure manometer and some of the gas flow will escape from here (this is normal). This might cause the membrane in the CPAP valve to close (because some of the expiratory flow has been diverted). This is not necessarily a problem – just be aware & monitor the patient's observations and blood gases.
- Heated humidifier cannot be used with the helmet because it causes condensation within the helmet. The helmet itself provides a degree of humidification (& it's warm in there).
- There is no way to add a nebuliser into the system. To administer a nebuliser, either open the port & give via a mask with/without the tubing going through the sealed access port, or remove helmet.
- It is best to start at lower levels of PEEP eg 5cms PEEP valve & increase as necessary

References

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STARMed CaStar UP hood user guide CPAP
For CPAP therapy

Stage 1 Fitting the hood

1. Some configurations include a tape measure outside the box so that the correct size can be selected before opening the package.
2. Open the bag using the perforated edge.
3. Separate the two parts of the device (upper and lower rings).
4. Reshape the hood and remove the patient access port cap.
5. Check the smooth operation of the bi-directional anti-asphyxiation valve and place to one side.
6. Attach the arm straps to the rear of the hood to suit the patient.
7. Two people firmly open the collar using their finger tips and thumbs along the rigid ring so that the patient's head can pass through.
8. Put the lower part of the hood on.

Stage 2 Activating the hood

9. Raise the patient's arms to ensure that the straps are tucked well under for strap sizing.
10. Complete positioning of the fastening system on the front of the hood.
11. Attach 22mm breathing system to the inspiratory connector and the PEEP valve to the expiratory connector.
12. Activate the ventilation flow
13. Attach the upper part of the hood to the lower ring.
14. Lock into place using the levers.
15. Fit the access port cap then pull the anti-asphyxiation valve button until the hood inflates.
16. If fitted, inflate the cushion full but not under pressure. Close the clamp.

Stage 3 Removing the hood

17. Open the clamp to allow the internal pressure to deflate the cushion and remove the access port cap.
18. Separate the upper part of the hood from the lower using the levers located on the rigid rings.
19. Remove the upper part of the hood.
Stop the ventilation flow
20. After detaching the fastening systems two people firmly open out the collar and remove the lower part of the hood.

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