

The average VAS evolution is shown in the following table:

Day	Group 1		Group 2		Group 3	
	n	VAS (mean)	n	VAS (mean)	n	VAS (mean)
D 0	50	4.9	50	5.1	50	5.2
D 1	46	3.0	45	3.5	48	2.6
D 2	43	1.8	44	2.8	45	1.7
D 3	42	1.6	41	2.3	42	1.5

Conclusions: The analgesic levels in the 3 groups appear satisfactory (the group piroxicam + paracetamol is logically slightly better). The method for collecting the information figures seems practical despite the loss of 31.3% of the patients.

References

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Key words: analgesics; paracetamol; piroxicam; visual analog scale

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Experimental Model allowing Comparison between Different Ways of Oxygen Administration

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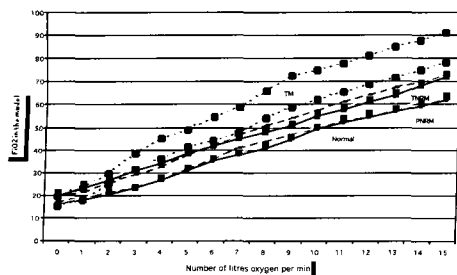
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Objectives: We compared the FiO₂ available in a normal mask, a partial non-rebreathing mask (PNRM), a total non-rebreathing mask (TNRM), and a new way of administering oxygen, the Tusk Mask II (TM II).

Method: The Tusk Mask II is made up of a normal mask in which a lateral 22 mm hole is made on each side. A fixed a ringed tube 18 cm long and 22 mm in diameter is attached to each side. The experimental model consists of tightly sealing the four types of masks successively onto a board. A hole made in the board allows an oxygen monitor, the OM-100, to be fixed tightly into a T form.

Ten healthy volunteers breathed normally into the apparatus. The FiO₂ are measured at the end of the breathing-out phase and at the end of the breathing-in phase for an intake of oxygen increasing successively from 0 to 15 litres per minute. A 20-minute stabilisation period between each measure was necessary at each change in the number of litres of oxygen administered.

Results: The results for administration of oxygen for the four types of masks were:



Conclusion: The FiO₂ always is higher when oxygen is given by the Tusk Mask II. In this example, there are no significant differences of FiO₂ between the normal mask and the non-rebreathing mask.

References

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Key words: administration; masks; oxygen; Tusk Mask II
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Theoretical Saving of Oxygen in Disaster Situations Using a New Oxygen Administration Mode: The Tusk Mask II

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Objectives: The aim is to calculate possible savings in using a new oxygen administration mode in a disaster situation—the Tusk Mask II (TM II).

Method: We start with a concrete example, a carbon-monoxide intoxication of 20 patients. All of them received 6 litres of oxygen per minute during 45 minutes, the time required for their evaluation, triage, and evacuation to hospitals for their admission. We calculated the quantity of carboys of 2.8 litres necessary to provide such oxygenation. The administration of 6 litres per minute generates a certain FiO₂ within the mask (measured in a reproducible experimental model). To obtain the same value of FiO₂, we identified which oxygen output should be administered by the TM II. The latter is constituted by a normal mask in which one would pierce a lateral hole of 22 mm of diameter on each side joined by an annulated pipe of 18 cm long and 22 mm diameter.

Result: 6 litres per minute x 45 minutes x 20 patients = 5,400 litres and a carboy of 2.8 litres contains 2.8 x 150 bars = 420 litres. Therefore, the need with classic masks will be 5400/420 = 13 carboys. The following table taking the measures done on experimental model allows to compare the FiO₂ in a classic mask and in a TM II.

Litres/min 0	1	2	3	4	5	6	7
FiO₂ in classic mask	19.2	21.1	25.0	28.7	32.3	37.4	41.6
FiO₂ in TM II	19.6	23.0	29.5	38.6	45.0	49.0	54.6
Litres/min 8	9	10	11	12	13	14	15
FiO₂ in classic mask	50.6	54.1	57.4	61.1	63.8	67.2	69.9
FiO₂ in TM II	66.1	72.4	75.0	77.7	80.9	84.8	87.8

This table allows prediction of the same FiO₂ administered to the patient, we will need a theoretical flow of 3.5 litres per minute. Using the same computation used above: 3.5 litres per minute X 45 minutes X 20 patients = 3,150 litres of oxygen; A carboy of 2.8 litres contains 2.8 X 150 bars = 420 litres; The need with TM II will be 3,150/420 = 8 carboys.