Nasal high-flow oxygen and critical care tariffs

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Nasal high flow oxygen (NHFO) therapy is of increasing interest within critical care; common uses include non-invasive treatment of acute respiratory failure, pre-oxygenation before endotracheal intubation, and prophylaxis against failed extubation. Other putative roles such as the avoidance of dyspnoea in palliation warrant further evaluation.

NHFO provides warmed and humidified oxygen to patients via nasal cannulae at flow rates up to 60 L/minute and FiO_2 from 0.21 to 1.0. The high flow rate renders NHFO predominantly a fixed-performance device; other beneficial effects include the generation of PEEP (despite being an open system), CO_2 wash-out and effective deadspace reduction, and possible lung recruitment.¹ These physiological effects (and increased pharyngeal FiO_2) are heavily dependant upon the flow rate administered via NHFO devices, and not simply the FiO_2 applied.²

The recent FLORALI trial demonstrated the superiority of NHFO as compared with traditional non-invasive ventilation (NIV); it significantly reduced the need for mechanical ventilation in type-I respiratory failure in the more hypoxic subgroup ($\text{PaO}_2\text{:FiO}_2 < 26.7 \text{ kPa}$), and reduced overall 90-day mortality.³

The NHFO patient interface is better tolerated than NIV or continuous positive airway pressure (CPAP) devices. Patients are more able to speak, hear, drink, less scared, and less bloated as compared with CPAP, also with a reduced nursing workload (J Ruddy, Monklands Hospital, personal communication).

Despite these benefits, the use of NHFO on critical care for respiratory failure might only indirectly and sporadically meet the criteria for the basic respiratory support tariff; NIV & CPAP are specifically included.

Strictly speaking, even the FiO_2 criterion of ≥ 0.50 cannot be met as this mandates *facemask* oxygen administration. It is therefore conceivable that a higher tariff could be generated for patients receiving NIV or CPAP, alternative but potentially inferior therapies. The payment by results system incentivises improved standards of care via the best-practice tariff system (e.g. perioperative care for neck of femur fracture patients). Given this wider commissioning climate, it is illogical that the use of NHFO could result in effective financial penalty. We believe the criteria for basic respiratory support in critical care require updating to reflect this increasingly established treatment modality.

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