



ROX Index Management Guidelines for HFNC

Background information:

- Ratio of oxygen saturation as measured by pulse oximetry, FIO₂, and respiratory rate
- Formula:

$$\text{spO}_2/\text{RR} \times \text{FiO}_2$$

Predictors of HFNC success include:

- ROX ≥ 4.88 at 2, 6 and 12 hours after HFNC initiation was associated with a lower risk for intubation

Predictors of HFNC failure include:

- ROX < 2.85 at 2 hours
- ROX < 3.47 at 6 hours
- ROX < 3.85 at 12 hours

Management Guidelines:

Upon Initiation of HFNC a ROX Index should be measured at:

- 2 hours
- 6 hours
- 12 hours
- If any of the measured values are below those listed above this triggers an automatic ICU consultation

Thereafter a ROX Index should be measured:

- Every 12 hours
- PRN if there is a change in the patient's respiratory status concerning for the need of intubation

Note: ROX score < 3.85 is 100% predictive of failure at 12 hours for HFNC. This requires an automatic ICU consultation

Note: ROX Scores between 3.85 and 4.88 at 12hrs and thereafter requires clinical judgement and an automatic ICU consultation

References:

Roca: Am J Respir Crit Care Med. 2019;199(11):1368-1376

