ROX INDEX

=Ratio of oxygen saturation/Fio2 to Respiratory rate

The utilization of High flow oxygen devices has become first line treatment for COVID-19 patients experiencing respiratory distress with oxygenation issues. The ROX index score can be used to assist in the monitoring of these patients.

- Prediction tool used to monitor patients on high flow oxygen devices. Aids in the prediction of success or failure of high flow oxygen use.
- Evaluation of ROX index should be monitored for the first 12 hours. (2,6,12 hours of utilization)
- A value equal or greater than 4.88 in non-Covid patients has shown to be a prediction of success with high flow oxygen therapy.
- A trend of the score dropping is a potential sign of failure and consideration of a different mode of respiratory support should be considered.

How to Calculate ROX INDEX

$$\frac{\text{SpO2/FiO2}}{\text{Respiratory Rate}}$$

Example:

Spo2: 90% Fio2 .70, RR= 30

- (90/.7)=128.57
- 128.57/30= 4.28
- Rox score is 4.28

Documenting ROX Index

- ❑ ROX index score will auto-calculate based on Fi02, Spo2, and respiratory rate being entered into the same column under the OXYGEN tab of EPIC.
  - ❑ All three elements must be entered in order for the calculation to occur.
- ❑ Use as tool to evaluate discuss patients current respiratory status.
- ❑ Advance concerns of low ROX scores to critical care physician or EICU.

Oxygen Therapy/Pulse Ox		
O2 Device		
Helmet in Use?		No
O2 Flow Rate (L/min)		
O2 Flow Rate Changed to (L/min)		
FiO2 (%)		100
FIO2 Changed to (%)		
SpO2	!	89
Resp	!	29
SpO2/FiO2 Calculation		89
ROX Index (ROXi)	!	3.07

Reference:

Roca O, Caralt B, Messika J, Samper M, Sztrymf B, Hernández G, García-de-Acilu M, Frat JP, Masclans JR, Ricard JD. An Index Combining Respiratory Rate and Oxygenation to Predict Outcome of Nasal High-Flow Therapy. Am J Respir Crit Care Med. 2019 Jun 1;199(11):1368-1376. doi: 10.1164/rccm.201803-0589OC. PMID: 30576221.

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