

Medical Oxygen

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In News: Recently, The Government of India will import medical oxygen from abroad amid a massive flood of novel coronavirus disease (COVID-19) cases.

Medical oxygen

- Most living things need oxygen to survive and oxygen's importance in the field of healthcare cannot be underestimated.
- Oxygen is widely used in every healthcare setting, with applications from resuscitation to inhalation therapy.
- Oxygen was known to be the only element that supports respiration as early as 1800 and was first used in the medical field in 1810.
- However, it took about 150 years for the gas to be used throughout medicine.
- In the early to mid 20th century oxygen therapy became rational and scientific, and today modern medicine could not be practiced without the support that oxygen supplies.

Medical oxygen uses

- Provide a basis for virtually all modern anaesthetic techniques
- Restore tissue oxygen tension by improving oxygen availability in a wide range of conditions such as COPD, cyanosis, shock, severe hemorrhage, carbon monoxide poisoning, major trauma, cardiac/respiratory arrest
- Aid resuscitation
- Provide life support for artificially ventilated patients
- Aid cardiovascular stability

Side Effects

- There are no absolute contraindications to the use of oxygen but the inspired concentration should be limited in the case of premature infants and those patients with chronic bronchitis and emphysema.
- However guidelines have been published by the British Thoracic Society (BTS) on the safe therapeutic use of medical oxygen, which encourages proper assessment of the patient before use.

Compressed medical oxygen toxicity may manifest itself in the following ways

- Retrolenticular fibroplasia in premature infants exposed to oxygen concentrations greater than 40%
- Convulsions appear after a few hours exposure to medical oxygen at pressures above 3bar(g)
- Retrosternal soreness associated with coughing and breathing difficulties, made worse by smoking and exposure to cold air after breathing pure medical oxygen at atmospheric pressure for several hours.