

C-10 Waste Not, Want Not: Rethinking Routine Oxygen Supplementation and Intravenous Hydration

Moderator(s)/Facilitator(s): Deirdre Kelleher, M.D., Linjia Jia, M.D.

Objective

After completion of this session, the participant will be able to:

- Examine opportunities to maintain supply conservation efforts without compromising patient care.

Case Stem Question

A recent hurricane caused significant damage in several locations, including a factory that manufactures sterile IV fluid bags. Since the disaster, your hospital has been calling for restrictive IV fluid use to conserve the remaining in-stock supply. Due to disruptions in shipping, there is also a shortage of oxygen tanks. While there was frequent hospital communication immediately following the event, now several weeks out, you have yet to receive updated guidance. You run into an anesthesia colleague in the morning break room who asks, “Are we back to business as usual now?”

Guiding Questions 1-4

Case Stem Continued:

After discussing the potential environmental and financial benefits of maintaining a conservative approach to supplemental oxygen and intravenous hydration, you go to see your first patient: a healthy 41-year-old marathon-runner presenting for screening colonoscopy. They have no past medical or surgical history and take only supplements. They were on a clear liquid diet for the last 24 hours (last electrolyte drink 3 hours ago) and took a polyethylene glycol laxative bowel prep.

Guiding Questions 5-8

Guiding Questions for Discussion

1. What supply conservation techniques did you use during COVID-19 and recent supply-chain disrupting natural disasters? Following resolution of those supply-chain disruptions, were any conservation efforts maintained? Any new efforts to prevent supply chain disruptions (e.g., diversifying sourcing)?
2. Was clinical care compromised during times of restricted supply use? In what ways? In what ways, if any, was clinical care improved?
3. In the above scenario, what areas outside of the physical supply of oxygen, intravenous fluid, and related care delivery items (e.g., nasal cannulas, intravenous tubing) would be affected by conservation efforts? What are the environmental impacts? Workflow impacts?

4. How is medical oxygen delivered to your hospital? What is the environmental impact of the production and use of medical oxygen? Intravenous fluid?

****Case Stem Continued****

5. Given the patient's presentation, is it appropriate to withhold intravenous fluids during anesthesia? Supplemental oxygen? What clinical factors would change your answers?

6. How much intravenous fluid is typically given during a colonoscopy? If intravenous fluid is restricted, what clinical consequences may occur?

7. Are there ways to limit oxygen waste without changing the amount of oxygen delivered to the patient? What about intravenous fluid waste?

8. Are there negative effects of inappropriate (too much) use of intravenous fluid or medical oxygen?

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