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## Critical Care

### Nine Things Clinicians and Patients Should Question

by

Canadian Critical Care Society

Canadian Association of Critical Care Nurses

Canadian Society of Respiratory Therapists

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**1 Don't start or continue life supporting interventions unless they are consistent with the patient's values and realistic goals of care.**

Patients and their families often value the avoidance of invasive or overly aggressive life-sustaining measures when they are at the end of life. However, many dying patients receive aggressive life-sustaining therapies, in part due to clinicians' failures to elicit patients' preferences and to provide recommendations.

**2 Don't prolong invasive mechanical ventilation by over-use of sedatives and/or analgesics and bed rest.**

Maintaining critically ill patients in an immobile or minimally mobile state during care may potentiate muscle loss and deconditioning. Excessive and/or prolonged use of sedatives is associated with worse outcomes, including increased delirium, excessive use of diagnostic imaging for coma, increased number of tracheostomies, greater duration of mechanical ventilation and ICU length-of-stay.

**3 Don't continue invasive mechanical ventilation without a daily assessment for the patient's ability to breathe spontaneously using coordinated spontaneous breathing and awakening trials.**

Screening for readiness for liberation from mechanical ventilation with spontaneous breathing trials allows clinicians earlier recognition of patients that may be liberated from mechanical ventilation.

**4 Don't order routine investigations including chest radiographs or blood tests in critically ill patients, except to answer a specific clinical question.**

Chest radiographs ("X-rays", CXRs) are not indicated for routine assessment of critically-ill patients except following specific procedures (e.g., endotracheal tube, naso- or orogastric tube, central vein catheter, or other procedure requiring verification after insertion), or to provide information for a specific question related to a change in patient's clinical condition. This includes during cases of suspected or confirmed COVID-19. Blood tests should be ordered to monitor a specific clinical condition, or to answer a specific clinical question. At a minimum, the need for recurring or repetitive blood tests should be reassessed daily.

**5 Don't routinely transfuse red blood cells in hemodynamically stable ICU patients with a hemoglobin concentration greater than 70 g/l (a threshold of 75 g/L may be considered for patients undergoing cardiac surgery, a threshold of 80 g/L may be considered for patients undergoing orthopedic surgery, those receiving extracorporeal membrane oxygenation and those with active cardiovascular disease).**

Unnecessary transfusion of red blood cells (RBCs) is more harmful than helpful, and wastes a limited resource, which should be reserved for patients with proven indications. Transfusing RBCs at a threshold higher than 70 g/L does not improve survival in ICU patients, and is associated with more complications and higher costs. This has been extensively studied and a restrictive transfusion strategy results in similar or lower mortality compared with higher thresholds, and other complications, including stroke and infections, may also be reduced.

**6 Don't use gloves when hand hygiene is sufficient.**

Gloves don't need to be used for most routine healthcare interactions with certain exceptions. Unnecessary use of gloves is common, leads to increased costs, generates waste and may inadvertently increase rates of cross-contamination. A study in the UK found that >100 disposable gloves were used in the ICU per patient per day contributing to the highest carbon footprint compared to other commonly used products.

**7 Don't change ventilator tubing or in-line suction catheters unless they are visibly soiled.**

Less frequent ventilator tubing or in-line suction catheter changes have been shown to result in equal or lower rates of ventilator-associated pneumonia. Current guidelines suggest circuit changes on an as needed basis rather than a more frequent or fixed replacement schedule.

**8 Don't bring surplus supplies or equipment into patient care rooms if they will require disposal after patient transfer/discharge.**

Disposal of unused medical supplies is common in ICUs, particularly at the time of patient transfer. Practices such as centralized supply carts, as-needed in-room restocking, and keeping emergency medication immediately available but unopened, have been suggested to minimize waste generated from unused items.

**9 Don't continue intravenous medications when an oral/enteral alternative is equally safe and effective.**

Intravenous medication administration requires additional equipment including syringes, IV tubing, and/or IV bags, may increase the carbon footprint and negatively affect planetary health, as compared to enteral administration. Intravenous antibiotics have been found to have 10-70 times greater carbon footprint than the equivalent oral form. Several medications may be equally safe and effective when administered enterally including antimicrobials, gastric acid suppressing medications, anti-epileptic medications and pain medications.

## How the list was created

The Choosing Wisely Canada list of recommendations relevant to critical care was assembled by a collaborative task force from Canadian Critical Care Society (CCCS), Canadian Association of Critical Care Nurses, Canadian Society of Respiratory Therapists and representatives from pharmacy, dietician and physiotherapy. The initial list of items were generated by task force, with support from CCCS Google groups. A modified Delphi method was used to retain 10 items from the initial list. A modified Delphi method was then used to generate domains of interest for ranking items and to select the final list of 5 items. Members of all collaborating societies were surveyed during the 2016 Canadian Critical Care Conference, and for 2 weeks afterwards. Items were modified after review of the survey and feedback from the Choosing Wisely Canada campaign leadership.

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### **About The Canadian Critical Care Society**

CCCS is the national specialty society, representing adult and paediatric critical care medicine physicians in Canada. The practice of critical care medicine in Canada is multidisciplinary and CCCS members hold base specialty certification in anaesthesia, medicine, paediatrics, emergency medicine or surgery and some surgical subspecialties such as cardiac surgery and neurosurgery.

### **About The Canadian Association of Critical Care Nurses**

CACCN is a volunteer organization of critical care nurses. CACCN is the voice for excellence in Canadian critical care nursing. Their shared goal is promote quality patient- and family-centered care for Canadian's experiencing life threatening illness and injury.

### **About The Canadian Society of Respiratory Therapists**

CSRT is the national professional association for respiratory therapists. Founded in 1964 as the Canadian Society of Inhalation Therapy Technicians, the CSRT is dedicated to excellence in cardiorespiratory care.

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### **About Choosing Wisely Canada**

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

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