Special Editorial

Choosing Wisely® in Critical Care: Maximizing Value in the Intensive Care Unit

Derek C. Angus, MD, MPH;[1]
Clifford S. Deutschman, MS, MD;[2,3]
Jesse B. Hall, MD;[4,5] Kevin C. Wilson, MD;[6]
Cindy L. Munro, APRN-BC, PhD;[7,8] and
Nicholas S. Hill, MD[9,10]

Overuse of medical tests and treatments wastes healthcare resources and leads to unnecessary complications, while underuse results in delayed or missed diagnoses and treatment opportunities (1). Such problems are well recognized, and multiple attempts to correct inappropriate diagnostic testing and treatment have been undertaken over the past several decades (2). However, sustainable solutions have proven to be elusive (3).

Several years ago, medical ethicist Howard Brody suggested that physicians take leadership in declaring what tests and interventions should be used less commonly. He recommended that professional societies develop a specialty's top five list of "diagnostic tests or treatments that are very commonly ordered, that are among the most expensive services provided, and that have been shown by the currently available evidence not to provide any meaningful benefit to at least some major categories of patients" (4). Brody's vision gave rise to the Choosing Wisely® Campaign, an effort designed to empower providers and patients by acting on Brody's recommendation to develop lists of medical services "that patients and physicians should question" (5).

The top five list for critical care medicine was developed by the Critical Care Societies Collaborative (CCSC), a consortium representing the four professional societies most involved with providing care to critically ill patients: the American Association of Critical-Care Nurses, American College of Chest Physicians, American Thoracic Society, and Society of Critical Care Medicine. The critical care list is the only Choosing Wisely® list developed in partnership with a nursing professional society; this is noteworthy because it reflects the multiprofessional nature of critical care. The CCSC represents 150,000 members; therefore, its list reflects the thinking of a wide range of stakeholders. It is hoped that such broad input will improve both the value and the acceptance of the list.

The Choosing Wisely® list for critical care medicine contains these top five services that patients and providers should question: 1) ordering diagnostic tests at regular intervals (for example, every day) rather than when seeking answers to specific clinical questions; 2) transfusing red blood cells in hemodynamically stable, non-bleeding intensive care unit (ICU) patients with a hemoglobin concentration of 7 g/dL or greater; 3) using parenteral nutrition in adequately nourished critically ill patients within the first 7 days of an ICU stay; 4) deeply sedating mechanically ventilated patients without a specific indication for doing so and without daily attempts to lighten sedation; and 5) continuing life support for patients at high risk of death or severely impaired functional recovery without offering patients and their families the alternative of care focused entirely on comfort (**Table 1**) (6).

The process and rationale for selecting each item on the critical care list are described in detail in an official statement from the CCSC (7). Briefly, the CCSC formed a task force composed of representatives of each organization; the composition of the group ensured input from multi-professional perspectives. This task force reviewed the literature, identified 56 candidate items and, using the Delphi methodology to reach consensus, chose the final five believed to be most appropriate for the list. Although use of an iterative consensus strategy, rather than the rigorous systematic approach that is now expected of clinical practice guidelines, increased the likelihood that applicable evidence may have been missed (8, 9), we expect the Choosing Wisely® Campaign's critical care list to be beneficial because the items included appear robust and the estimated value of the selected tests and treatments are unlikely to be changed by additional evidence.

[1]University of Pittsburgh Schools of the Health Sciences, Pittsburgh, PA.
[2]University of Pennsylvania School of Medicine, Philadelphia, PA.
[3]Society of Critical Care Medicine, Mount Prospect, IL.
[4]University of Chicago School of Medicine, Chicago, IL.
[5]American College of Chest Physicians, Glenview, IL.
[6]Boston University School of Medicine, Boston, MA.
[7]University of South Florida College of Nursing, Tampa, FL.
[8]American Association of Critical-Care Nurses, Aliso Viejo, CA.
[9]Tufts University School of Medicine, Boston, MA.
[10]American Thoracic Society, New York, NY.

Dr. Angus has disclosed that he does not have any potential conflicts of interest. Dr. Deutschman reported that he was President of the Society of Critical Care Medicine (SCCM) in 2012, during which time he received salary support of $100,000 and travel expenses to any meeting where he represented SCCM. Dr. Hall reported service as an editorial board member of *Chest*, *Critical Care Medicine*, and the *American Journal of Respiratory and Critical Care Medicine*. Dr. Wilson reported employment by the American Thoracic Society (ATS) as both the Documents Editor and the Senior Director for Documents and Medical Affairs. Dr. Munro reported serving as Co-Editor-in-Chief of the *American Journal of Critical Care*. Dr. Hill reported that he was the 2011–2012 President of ATS.

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TABLE 1. The Choosing Wisely® Critical Care List

1	Don't order diagnostic tests at regular intervals (such as every day), but rather in response to specific clinical questions.
2	Don't transfuse red blood cells in hemodynamically stable, non-bleeding ICU patients with a hemoglobin concentration greater than 7 mg/dL.
3	Don't use parenteral nutrition in adequately nourished critically ill patients within the fist seven days of an ICU stay.
4	Don't deeply sedate mechanically ventilated patients without a specific indication and without daily attempts to lighten sedation
5	Don't continue life support for patients at high risk for death or severely impaired functional recovery without offering patients and their families the alternative of care focused entirely on comfort.

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To maximize the benefits of the critical care list, efforts must be deployed to encourage compliance, including education and possible links to performance measurement and reimbursement. The critical care community must also guard against unintended consequences. Perhaps the biggest concern is the possibility that the items on the list may evolve from "choice" to "dictum," from "suggestion" to "requirement." The Choosing Wisely® Campaign charged the specialty task forces with listing services that patients and providers "should question," not services that providers should eliminate and patients should refuse. Any strategy to increase compliance with the Choosing Wisely® recommendations should not remove choice by penalizing the provider for tailoring management to the individual and the circumstance. Another concern is the possibility that the effort to curb overutilization of tests and treatments could inadvertently promote underutilization. Clearly, tests like chest radiographs and treatments like blood transfusions and sedation have important roles in critical care.

It is imperative that the Choosing Wisely® Campaign perform periodic self-evaluations to determine whether its aims—curbing healthcare costs and improving patient care by reducing unnecessary testing and treatment—are being achieved. Early detection of poor outcomes may prompt adjustments that turn failure into success. The importance of reevaluation is supported by the history of unsuccessful efforts to improve appropriate utilization of tests and treatments (2, 3).

Organized medicine as a whole may want to ask, "Why is the Choosing Wisely® Campaign necessary?" It is tempting to blame overuse of diagnostic testing and treatments on the pressure to "be complete" and to avoid the potentially dire legal consequences of "missing something." It is similarly tempting to blame underuse on administrative pressures to minimize interventions and to limit costs. However, these notions are not supported by evidence.[4,10] The underlying causes of inappropriate testing and treatment remain uncertain, but they are complex, likely multifactorial, and merit ongoing investigation. Physicians may also want to ask whether the Choosing Wisely® lists for their specialties should be broadened to address tests and treatments important in multiprofessional care. The inclusion of nurses and other providers strengthened the development of the critical care list and may similarly strengthen the lists of other specialties.

The success of the Choosing Wisely® campaign is our responsibility as care providers; we cannot leave it to others to determine how we practice. The items on the Choosing Wisely® lists are intended to prompt discussion and shared decision-making between the patient and the provider; the goal is to determine the optimal approach for each individual and specific set of circumstances. Avoiding unintended consequences and assuring ongoing re-examination of value require concerted efforts to ensure that the recommendations are implemented by choice and applied wisely.

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