

# Western Trauma Association Critical Decisions in Trauma: Foreword

Robert C. McIntyre, Jr., MD, Frederick A. Moore, MD, James W. Davis, MD, Christine S. Cocanour, MD, Michael A. West, MD, and Ernest E. Moore, Jr., MD

*J Trauma.* 2008;65:1005–1006.

In this issue of the Journal, The Western Trauma Association (WTA) Critical Decisions in Trauma ad hoc committee presents the first two annotated algorithms focusing on adult spleen injury and pelvic fracture.<sup>1,2</sup> This effort was born out of a call for evidence-based care by our Past Presidents to aid the clinician at the point of care with a tool that could be easily accessed and implemented.<sup>3</sup>

An algorithm is an illustration of a series of medical decisions that address certain patient-specific conditions outlining appropriate responses intended to lead to an outcome.<sup>4,5</sup> The goals of an algorithm are to identify diagnostic alternatives, treatment options, and outcomes by weighing decision benefits against risks and costs. A primary benefit of a well-developed algorithm is that it focuses the reader on the critical decision points in any clinical scenario and specifically lists the input data that leads to a decision. Algorithms can be applied to specific problems, processes, or diseases. They allow for evolution of a disease-related topic with new information or clinical conditions that may affect decision-making later in the time course of a situation. They can convey the scope of a clinical condition from presentation, through testing and assessment, followed by a clinical judgment and action leading to an eventual outcome. Annotations are added to appropriate points on the algorithm and are necessary for all decision nodes. The purpose of the annotation is to explain all critical factors affecting decisions

in as concise a manner as possible. The primary advantage of an algorithm is that it can summarize an evidence-based guideline into an easily and quickly available practice protocol for use in the clinical care setting. The WTA has played a significant role in guiding the practice of trauma surgery based on sound scientific evidence through publication of its multicenter trials.<sup>6–10</sup> High-quality practice algorithms will further serve the trauma community by an efficient review of current recommendations in trauma decision making.

The President of the WTA appointed an ad hoc committee to oversee the development of these algorithms. For the purpose of the first set of algorithms the ad hoc committee also served as the writing committee. After a thorough literature review, which included review of currently published guidelines, a draft document was distributed to the committee. Critical review by the committee members was used to develop a second draft. The algorithm was reviewed and revised at a meeting of the committee. The algorithms were presented to the WTA membership at the 38th Annual Meeting (February 24–March 1, 2008). Membership discussion resulted in further refinement before final submission to the Journal.

We anticipate that implementation of the algorithms will require consideration of institution-specific capability. An additional benefit of algorithm development is to reveal areas of uncertainty thereby defining the “gray areas”.<sup>3</sup> These areas are perfect questions to be developed into clinical research projects. Algorithms will be forwarded to the WTA Multi-institutional Trials Committee for consideration of study development to test application of the algorithm. Further, a study group may be formed to perform decision analysis if appropriate for the given question.<sup>11</sup> Each algorithm will be reviewed on a cycle of every 3 years by the steering committee. If substantial revision is necessary the algorithm may be directed back to the expert panel for revision. The algorithms in the current issue will be the first in a series to follow and we look forward to the trauma community testing the algorithms and further refining care by eliminating the “gray areas” in decision making.

Submitted for publication July 22, 2008.

Accepted for publication August 8, 2008.

Copyright © 2008 by Lippincott Williams & Wilkins

From the Department of Surgery (R.C.M.), University of Colorado Denver School of Medicine, Aurora, Colorado; Department of Surgery (F.A.M.); Weil Cornell Medical College, New York; Department of Surgery (J.W.D.), University of California, San Francisco/Fresno, San Francisco, California; Department of Surgery (C.S.C.), University of California Davis Medical Center, Sacramento, California; Department of Surgery (M.A.W.), Northwestern University, Chicago, Illinois; and Department of Surgery (E.E.M.), Denver Health Medical Center and University of Colorado Denver School of Medicine, Denver, Colorado.

Address for reprints: Robert C. McIntyre, MD, Department of Surgery, University of Colorado Denver School of Medicine, 12631 E 17th Avenue MS C313, PO Box 6511, Aurora, CO 80045; email: robert.mcintyre@ucdenver.edu.

DOI: 10.1097/TA.0b013e318189a84b

## REFERENCES

1. Davis J, Moore F, McIntyre RC Jr, et al. WTA critical decisions in trauma: management of pelvis fracture with hemodynamic instability. *J Trauma.* 2008;65:1012–1015.

2. Moore F, Davis J, Moore E, et al. WTA critical decisions in trauma: management of adult blunt splenic trauma. *J Trauma*. 2008; 65:1007–1011.
3. Moore FA. Evidence-based medical information technology: the next generation. *J Trauma*. 2007;63:1195–1205.
4. Moore E, Eiseman B, Van Way C. *Critical Decisions in Trauma*. Saint Louis, Missouri: Mosby; 1984.
5. McIntyre RC Jr, Stiegmann G, Eiseman B. *Surgical Decision Making*. 5th ed. Philadelphia, Pennsylvania: Elsevier Sanders; 2004.
6. Karmy-Jones R, Nathens A, Jurkovich GJ, et al. Urgent and emergent thoracotomy for penetrating chest trauma. *J Trauma*. 2004; 56:664–668; discussion 668–669.
7. Livingston DH, Lavery RF, Mosenthal AC, et al. Recovery at one year following isolated traumatic brain injury: a Western Trauma Association prospective multicenter trial. *J Trauma*. 2005;59:1298–1304; discussion 1304.
8. Rozycki GS, Knudson MM, Shackford SR, Dicker R. Surgeon-performed bedside organ assessment with sonography after trauma (BOAST): a pilot study from the WTA Multicenter Group. *J Trauma*. 2005;59:1356–1364.
9. Biffl W, Cothren C, Brasel KJ, et al. A prospective observation study of the optimal management of patients with anterior abdominal stab wounds. *J Trauma*. In press.
10. Cogbill T, Group WM-iT. Management of severe hemorrhage associated with maxillofacial injuries: a multicenter perspective. *J Trauma*. In press.
11. Detsky AS, Naglie G, Krahn MD, Naimark D, Redelmeier DA. Primer on medical decision analysis: part 1—getting started. *Med Decis Making*. 1997;17:123–125.