

The Surviving Sepsis Campaign

John C Marshall

The Surviving Sepsis Campaign is a project initiated by the International Sepsis Forum (ISF), the Society of Critical Care Medicine, and the European Society of Intensive Care Medicine, which aims to reduce the mortality of sepsis by 25% over 5 years.

The project had its roots in an initiative of the ISF to develop a set of evidence-based guidelines for the management of severe sepsis and septic shock. These guidelines were published in 2001 and represent a synthesis of the best available evidence on the management of sepsis. They were developed using an evidence-based methodology that converted the synthesis of the evidence into a series of supportable recommendations.

Shortly after the publication of these guidelines, representatives from the ISF, the Society of Critical Care Medicine and the European Society of Intensive Care Medicine jointly decided to mount a global campaign to improve the care of patients with sepsis. This initiative followed the publication of not only the guidelines, but also several sentinel clinical trials that established the central importance of early goal-directed resuscitation,¹ the benefits of tight glucose control,² and the evolving roles of adjuvant therapy with activated protein C³ and corticosteroids.⁴ Industrial sponsors (Eli Lilly, Baxter and Edwards) supported the initiative by helping defray the costs of organisation and meetings.

The Surviving Sepsis Campaign was launched in Barcelona at the time of the 2002 meeting of the European Society of Intensive Care Medicine, with a declaration committing the organisations to a major undertaking to reduce sepsis mortality. This goal would be achieved by updating and expanding the ISF guidelines, disseminating the guidelines through a global education program, and evaluating the consequences of their implementation.

A meeting to revise the guidelines was held in England in the summer of 2003. It brought together several dozen experts from a broad range of disciplines and resulted, through work done both in advance and at the meeting itself, in a comprehensive systematic review of the available literature on the management of sepsis. This was synthesised into a series of evidence-based guidelines for the management of severe sepsis and septic shock — the Surviving Sepsis Campaign (SSC) guidelines.⁵

To facilitate the implementation of these guidelines and to assess their effect on clinical outcome, the Surviving Sepsis Campaign partnered with the Institute for Healthcare Improvement in the United States to develop an implementation plan. The result was the drafting of a series of “Sepsis

Bundles”.⁶ These bundles define readily measurable activities whose performance reflects clinical compliance with the SSC Guidelines. They thus provide a metric to determine the extent to which recommendations have been implemented, and to measure change after educational interventions.

The Surviving Sepsis Campaign and the Sepsis Bundles have been implemented at multiple sites throughout Europe and North America, and the campaign of education and guideline implementation is in full swing. While it is too early to analyse its effects, initial reports are promising and suggest that dissemination of practice guidelines is improving outcomes for patients with sepsis.

Although three organisations have led the Surviving Sepsis Campaign from its inception, another 11 societies had endorsed the campaign by the time the original guidelines were published, and more joined later. In January 2006, a meeting was convened in San Francisco to review and update the SCC guidelines, addressing areas which had been omitted in the initial version (eg, selective digestive-tract decontamination), and updating other recommendations on the basis of new information from clinical studies. Additional societies and organisations have joined the campaign for this revision, and it is expected that the revised guidelines will be published before the end of 2006.

The Surviving Sepsis Campaign has been enormously successful in meeting its initial objectives of developing and disseminating guidelines and evaluating the consequences of their implementation. It has also been very controversial. That controversy reflects two main themes.

First and foremost has been the suspicion that the Surviving Sepsis Campaign is an advertising front for its industrial sponsors. The campaign has tried to dispel this misconception by full disclosure of financial support, although ironically this has, in the minds of some, simply fanned the flames. The Surviving Sepsis Campaign received most of its money from Eli Lilly, with lesser amounts from Edwards and Baxter. The total — in the form of unrestricted educational grants — was about US\$500 000. This funded secretarial support and organisation of meetings, as well as travel and accommodation expenses for delegates attending the first guidelines meeting in 2003. The campaign is guided by a steering committee and an executive committee, with none of their members receiving monetary support for their activities. Thus, industrial support has been limited to meeting and organisational expenses. Industrial sponsors have played no role in the development or

wording of the guidelines; rather, these have been a product of group discussions based on agreed principles of evidence-based medicine. Finally, the most recent meeting to revise the SCC guidelines was completely free of industry funding, and attendees were supported by the societies sponsoring the guidelines.

Thus, while industrial funds supported guideline development, the reporting of this funding has been much more transparent than the reporting of industry funding for other professionally sponsored events. Furthermore, industry has had no involvement in the development of the guidelines.

The other area of controversy relates to the specific recommendations of the guidelines and the concept of guidelines implementation. The guidelines are not fixed but a work in progress, which will be modified as new information is available. Indeed, publication of the second iteration of the guidelines awaits the results of several large international studies, including the Corticus study of corticosteroids in septic shock, and the VASST study evaluating the role of vasopressin in septic shock. For this second iteration, the evidence is synthesised using the newly described Grade system, developed by the evidence-based medicine team at McMaster University in Canada.⁷ Gordon Guyatt and Roman Jaeschke — two of the originators of the Grade system — advised on the process and aided immeasurably in converting imperfect clinical trials data into sensible guidelines that represented the current state of knowledge.

Guidelines are not rules, but simply a method of ensuring that a core body of knowledge of best practice is consistently applied to a patient population. Just as the guidelines promulgated through courses on advanced cardiac life support and advanced trauma life support have improved the outcomes for patients after cardiac arrest and trauma, respectively, so it has been a general observation that codifying practice through the use of guidelines minimises errors of omission and can be expected to improve patient outcome. Whether this will happen in severe sepsis and

septic shock, and, if it does, the magnitude of the resulting effect, remains to be seen. However, it should be remembered that the mortality associated with myocardial infarction 30–40 years ago was in the range of 30%, and that this has fallen dramatically with the availability of evidence from large randomised trials and efforts to implement that evidence through the development of clinical practice guidelines.

Author details

John C Marshall, Chair, Canadian Critical Care Trials Group, and Professor of Surgery
Department of Surgery, and Interdepartmental Division of Critical Care Medicine, University of Toronto, Ontario, Canada.
Correspondence: marshallj@smh.toronto.on.ca

References

- 1 Rivers E, Nguyen B, Havstad S, et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. *N Engl J Med* 2001; 345: 1368-77.
- 2 Van den Berghe G, Wouters P, Weekers F, et al. Intensive insulin therapy in the surgical intensive care unit. *N Engl J Med* 2001; 345: 1359-67.
- 3 Bernard GR, Vincent J-L, Laterre PF, et al. Efficacy and safety of recombinant human activated protein C for severe sepsis. *N Engl J Med* 2001; 344: 699-709.
- 4 Annane D, Sebille V, Charpentier C, et al. Effect of treatment with low doses of hydrocortisone and fludrocortisone on mortality in patients with septic shock. *JAMA* 2002; 288: 862-71.
- 5 Dellinger RP, Carlet JM, Masur H, et al. Surviving Sepsis Campaign guidelines for management of severe sepsis and septic shock. *Crit Care Med* 2004; 32: 858-73.
- 6 Institute of Healthcare Improvement. Surviving Sepsis Campaign. Changes. Sepsis. Cambridge, Mass, USA: IHI. Available at: <http://www.ihl.org/IHI/Topics/CriticalCare/Sepsis/Changes/> (accessed Jun 2006).
- 7 Guyatt G, Schunemann HJ, Cook D, et al. Applying the grades of recommendation for antithrombotic and thrombolytic therapy: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004; 126 (3 Suppl):179S-187S □

Australasian Medical Publishing Company (AMPCo)

Established 1914

Publisher of

- Critical Care and Resuscitation
- The Medical Journal of Australia
- Australian Health Review
- ADF Health, Journal of the Australian Defence Health Service
- Health Information Management Journal
- The Medical Directory of Australia

For more information about AMPCo's book and journal publishing, see <http://www.mja.com.au/public/publish/service.html>

AMPCo
Locked Bag 3030
Strawberry Hills
NSW 2012 Australia
tel +61 2 9562 6666
fax +61 2 9562 6699
ampco@ampco.com.au