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## Benefits of Early Sepsis Interventions

*Use of the 6-hour sepsis resuscitation bundle was associated with reductions in mortality and hospital costs.*

As part of a continuous quality improvement initiative, investigators analyzed data from 5 community and 6 tertiary hospitals in the U.S. that implemented an evidence-based, 6-hour sepsis resuscitation bundle for patients with suspected sepsis:

- 1) Measure serum lactate
- 2) Obtain blood cultures before antibiotic administration
- 3) Administer broad-spectrum antibiotic within 3 hours of emergency department (ED) admission and within 1 hour of non-ED intensive care unit admission
- 4) In the event of hypotension, serum lactate  $\geq 4$  mmol/L, or both:
  - Administer an initial minimum of 20 mL/kg of crystalloid or an equivalent
  - If hypotension does not respond to initial fluid resuscitation, administer vasopressors to maintain mean arterial pressure  $>65$  mm Hg
- 5) In the event of persistent hypotension despite fluid resuscitation (septic shock), serum lactate  $\geq 4$  mmol/L, or both:
  - Achieve central venous pressure  $\geq 8$  mm Hg
  - Achieve central venous oxygen saturation  $\geq 70\%$

In an analysis of 952 patients treated before and 4109 patients treated after implementation of the bundle at 8 hospitals, in-hospital mortality was significantly higher in the before group (43% vs. 29%). In an analysis of 1294 patients treated at 3 different hospitals after implementation of the bundle, mortality was significantly higher among the 602 patients who did not receive the full bundle than among the 692 patients who did (42% vs. 27%). In a combined analysis, hospital stay was 5.1 days shorter and 24-hour APACHE-II and SOFA scores were significantly lower in the treatment group (the 4109 patients treated after implementation and the 692 patients who received the full bundle) than in the control group (the 952 patients treated before implementation and the 602 patients who did not receive the full bundle).

The authors conclude that use of the sepsis resuscitation bundle is associated with significant reductions in hospital length of stay and mortality, with one life saved for every seven patients treated.

**Comment:** This observational study supports implementation of a sepsis resuscitation bundle in both community and tertiary hospitals and broad application of the bundle to all patients with suspected sepsis.

— **Kristi L. Koenig, MD, FACEP, FIFEM** (Link to: [http://emergency-medicine.jwatch.org/misc/board\\_about.dtl#aKoenig](http://emergency-medicine.jwatch.org/misc/board_about.dtl#aKoenig))

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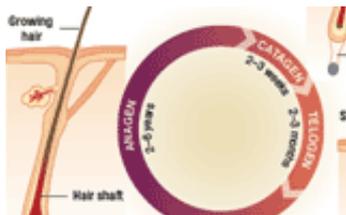
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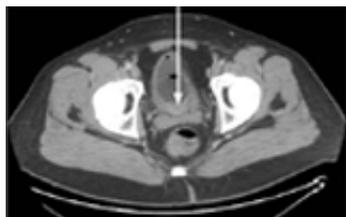
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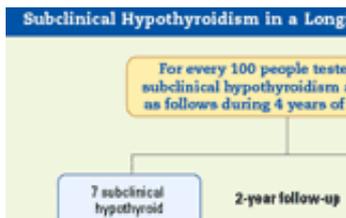
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