

## Latest Trends in Identification and Treatment of Sepsis

### Program Description:

This innovative, reality based program is designed to involve the learner in real life situations regarding the identification and proper management of sepsis. The learner has three opportunities for learning material, i.e. classes (video with illustrations), library (animated books) and near virtual reality interactive rooms. The content presented is based on the best available science (evidence based practice), using national or international standards when possible. In this program, information for the Surviving Sepsis Campaign is extensively used, as well as the concept of "bundle" implementation from the Institute for Healthcare Improvement.

The program is targeted to the practicing clinicians. It is not designed to create experts, but clinicians who are competent at addressing the major aspects of sepsis. References are provided for additional learning opportunity.

Using research that indicates how learning best takes place, our program is structured to engage the learner, using real life learning skills. Our learners fill whatever learning needs they have in our short, targeted classroom videos or learn on their own in our interactive library. Once the learner feels ready to proceed, they enter our virtual reality hospital. Our hospital allows the learner to enter their specific clinical area, e.g. MICU, SICU, CTCCU, ED, floor. They can also enter other clinical areas at their interest. The clinical areas are divided into learning/practicing rooms and testing/evaluation rooms.

The program is web based so learning can occur anytime, anywhere. The learner can complete the class in a given time period, e.g. 2-4 weeks. The specific clinical area the learner is employed can be completed in about 2 hours, including the testing/evaluation phase. Except for the testing section, the learner can enter and leave the program whenever they want. This allows improved use so the learner can learn at their convenience, either at work or at home.

### Program Objective:

*The objective of this program is to:*

Develop the knowledge base of practicing clinicians to recognize and successfully manage patients with sepsis.

### Participant Learning Objectives:

*At the completion of this course, the participant will be able to:*

- 1) Recognize infections and proper antibiotic therapy
- 2) Recognize the signs and symptoms of sepsis
- 3) Differentiate sepsis from severe sepsis using key clinical indicators
- 4) Understand the use of lactate as a screening tool
- 5) Understand the treatments for sepsis, including early goal directed therapy, tight glycemic control, replacement dose steroids and activated protein C.
- 6) Understand which patients benefit from each treatment as well as the strengths and limitations of each therapy
- 7) Understand how to titrate therapies to reach specific (goal) end points
- 8) Recognize how implementation of "bundles" holds the potential to standardize care and achieve success in identification and treatment of sepsis

**Learning Rooms** - The learner enters rooms in each clinical area. Each room has a different problem to solve. As the learner enters a room, they must act as they would in real life. The room is interactive, including the patient. If the learner wants information, they must seek the information. As in real life, no information is given without their effort. The learner must make an assessment and if treatment is indicated, administer that treatment. Treatments can be accessed in real life format, e.g. medication carts. Depending on the treatment selected, the patient may get better. Incorrect answers are identified for the learner and suggestions are made to help learning. The learner must solve the problem before being allowed to advance. However, the learner can leave the room if they want and complete the same room at a later time.

There are 10 learning rooms in each clinical area, each designed to teach specific aspects of identifying and treating sepsis. The key teaching points in each room are:

- 1) Identification of a patient who does not have sepsis (1 room where patient is normal)
- 2) Identification of a patient who does not have sepsis but needs antibiotic therapy (1 room)
- 3) Identification of a patients who does not want further therapy (1 room with end of life decision)
- 4) Implementing early goal directed therapy (3 rooms, some with titration of therapy required)
  - a. Fluid therapy
  - b. Vasopressor therapy
  - c. Inotropic therapy
- 5) Implementing tight glycemic control (1 room)
- 6) Implementing replacement dose steroids (1 room)
- 7) Implementing activated protein C therapy (2 rooms)

**Testing Rooms** – in the evaluation section, the hospital room is identical to the learning rooms. However, in these rooms, once the learner has selected a response, no guidelines are given whether the answer is correct or not. The learner chooses to exit the room at any time. Success will be identified by if the learner has completed all the required steps to ensure the patient was adequately treated.

The testing cases involve five of the most important aspects of sepsis recognition and treatment:

- 1) Identifying a septic patient and beginning proper antibiotic therapy
- 2) Implementing early goal directed therapy - Fluid therapy
- 3) Implementing tight glycemic control (1 room)
- 4) Implementing replacement dose steroids (1 room)
- 5) Implementing activated protein C therapy (1 rooms)

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