

StO₂ Monitoring Tissue Oxygenation

Concepts and clinical applications

Program Description:

Throughout the history of medicine, clinicians have used physical assessment to assess patients, despite clear research showing this method of assessment is inadequate and at times misleading. In this program, the newest monitor of tissue oxygenation (StO₂) is discussed along with lactate incorporation. Methods of measurement are also presented, illustrating how this non invasive assessment is superior to current techniques, and how it holds the promise of becoming a key monitor on acute or critically ill patients. Internet links and references are provided to aid the learner after the program is completed

Using research that indicates how learning best takes place, our program is structured to engage the learner, using real life learning skills. Our course is designed to educate with short, targeted classroom videos and interactive books. Building from that foundation, learners can practice their knowledge in our virtual reality hospital. 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 could complete the class in a given time period, e.g. 2-4 weeks. Access to the course is one year in duration, so learners can learn the material and return for refreshers as needed. 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 current status of patient tissue oxygen and successfully manage patients using StO₂ monitoring.

Participant Learning Objectives:

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

- 1) Describe why StO₂ optimization can improve patient outcome
- 2) Discuss the limitations of physical assessment and pulse oximetry to assess oxygenation
- 3) Discuss how StO₂ monitoring might become commonplace on all acutely ill patients
- 4) Discuss how to obtain the cooperation of key physicians, nurses and administrators in improving assessment of tissue oxygenation

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 learner interacts within the room and with 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 multiple learning rooms that focus on StO₂ monitoring. Each case is designed to teach specific aspects of care of patients using StO₂ monitoring. The key teaching points in each room are identification of normal and abnormal situations and applying the correct treatment to optimize the patient.

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 the most important aspects of pulmonary disturbances and treatment, including potential life threatening situations.

Bibliography / Reference List

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