

## **“Creating a Virtual Surgical Department” Presentation at NEHES 2010 Fall Conference**

Steve Clayman, Vice President of Lavallee Brensinger Architects, and Kathy Cowette, Director of Planning, St Joseph Hospital, Nashua, NH present “Creating a Virtual Surgical Department” which describes their innovative use of Process Simulation tools to determine the optimal space needs of St. Joseph Hospital’s surgical department.

Surgical departments are among the most complicated and expensive to build, yet the determination of space requirements is often based on intuition or simple rules of thumb and guidelines. This presentation reviews the use of process simulation to determine the optimal program for surgical departments based upon historic and projected data.

Process simulation can help the designer and owner understand the needs of a complex surgical department. How many OR’s are needed? Are bottlenecks caused by the lack of expensive OR’s or relatively inexpensive preparation and recovery spaces? What are the implications of modest shifts in times of arrivals or lengths of stay? Is an expansion really needed, or can the process be adjusted?

St Joseph Hospital is undertaking the reorganization of two surgical departments, with anticipated major renovations to aging infrastructure and spaces. Ultimately, the project is intended to improve operational efficiencies with better distribution of patient types and improved flow. Lavallee Brensinger Architects and St. Joseph Hospital worked together to create a virtual process model of their surgical program in order to answer the following questions: How much volume can be shifted between suites? How many OR’s are needed? What is the optimal mix of prep/recovery rooms? The renovation is occurring over a year and half with more than 5 phases. The department must remain in operation throughout the project. The simulation model will be further used to analyze the impact of each phase including needed volume shifts and temporary facilities. This presentation addresses both the designer’s and Owner’s perspective on the use of simulation in a surgical design project.