



# Pittsburgh Regional Healthcare Initiative

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## Regional Mortality Review: Glycemic Control among the topics

### **Cardiac Forum VII**

Regional mortality and glycemic control topped the discussion at the Cardiac Forum VII March 2, hosted by George Magovern, Jr., MD.

#### **Regional Mortality Review**

Spurred by a slight increase in the in-hospital mortality rate after CABG surgery, the Cardiac Working Group (CWG) embarked on its first regional mortality review to examine factors that cannot be obtained from the registry. A panel of CT surgeons reviewed information collected on all in-hospital mortalities for one year (Jul03-Jun04). Of the 3016 CABG procedures in the registry for the year, 81 resulted in in-hospital mortality. The panel examined medical records for 65 cases. They assessed the event(s) leading to death; determined how many days post-op each event occurred; assigned a primary cause of death (chart, p.2); and assessed the initial decision to operate.

CT surgeons and cardi-ologists reviewed clinical details of several cases and revisited the decision to operate. Many acknowledged sometimes being confronted with inappropriate pressure to perform surgery.

Can we better assess patients' risk factors, and hence surgical advisability, before surgery? Almost all CT surgeons use a clinical risk scoring algorithm to predict the risk of mortality. PRHI is collecting these risk

assessment tools from various facilities to analyze and share with the CWG.

#### **Glycemic control**

Peter Perreiah, Managing Director at PRHI, has been working with Dr. Harsha Rao at the VA Pittsburgh Health System to improve their insulin protocol. Since 2002 the VA has worked toward controlling glucose levels between 80-110 mg/dL. Peter created an Excel-based data entry tool that allows nurses to enter blood glucose readings, receive the proper insulin IV drip rate, and know when to recheck. With this interface, the VA was able to increase the complexity of the protocols according to patient needs while keeping it user-friendly. Current results: 1) blood glucose generally under 150 mg/dL for all patients; 2) elevated glucose levels due to vaso-pressors and stress addressed; 3) no wild swings in glucose levels while on the protocol.

At the VA, the glycemic control protocol is refined patient by patient. A VA learning session is scheduled for CWG members (box).

Murray Gordon, MD, an AGH endocrinologist, and Peter Perreiah facilitated a discussion on insulin protocols. All agreed that the goal is to keep glucose levels between 80-110 mg/dL. Although many institutions have access to electronic data, few use it to examine glycemic control

systematically. Implementation of protocols is typically inconsistent across ICUs within the same facility. Next steps include: 1) measuring how well insulin protocols are being implemented; 2) examining transition from IV to subcutaneous protocols; 3) lowering the range achieved.

### ***Perfusion***

Perfusionists discussed the possibility of adding perfusion-specific variables to the registry. The group's primary goals will be to demonstrate the value of retrograde autologous priming (RAP) and the use of mini-circuits. Proving that these result in superior clinical outcomes and value would build the case for surgeons and hospital administrators to switch to these practices and equipment.

To avoid "recreational data collection," the group will collect only data they know they will use. A draft list of variables will be refined in a follow-up meeting (see box).

### ***Sharing what we're learning***

The CWG has told PRHI that it values regional learning and sharing of experiences. We at PRHI will soon revamp our website to host more information. Meanwhile, we will gather various protocols and disseminate them to CWG members.

### ***You can help***

1. Do you have protocols that you would be willing to share for:
  - a. Insulin protocol
  - b. Atrial fibrillation protocol
  - c. Pre-operative mortality risk assessment/scoring algorithm
2. What clinical quality areas are you are pursuing now? (Please provide a short description for each.)
3. Is there a topic about which you would like information from other facilities?

Send your information to Peter Perreiah,  
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