

Supplemental Comments by James Fann, MD
“Postoperative Care,” Oz Shapira, MD

In this presentation, Dr. Shapira discusses clinically important issues in the postoperative management of the cardiac surgery patient. The importance of critical care management cannot be overemphasized; hence, this presentation should be carefully reviewed by all cardiac surgery residents. As the patient population becomes more complex with increased comorbidities, recognition of many systems affected by the stress and trauma associated with cardiac surgery is of paramount importance.

The system-based approach to critical care discussed in this presentation is a commonly employed and highly effective method of patient management. Such an approach ensures complete assessment and treatment of all relevant medical issues. Emphasis is placed on the following systems: cardiovascular, respiratory, hematologic, renal, neurologic, and gastrointestinal. Additionally, postoperative wound infection and mediastinitis are discussed. Particularly helpful is Dr. Shapira's discussion of the importance of monitoring cardiac output/index and the inverse relationship of the risk of mortality and cardiac index. Also well-presented is the diagnosis of postoperative tamponade emphasizing the utility of bedside echocardiography and the phenomenon of localized tamponade. Less recognized but highly important is postoperative cardiac diastolic dysfunction, which the resident should further review. Clearly relevant is understanding impaired contractility and its treatment, indications of IABP, and appropriate use of LVAD along with outcomes of those requiring such device. While the scope of the presentation does not permit an in-depth discussion of these topics, Dr. Shapira provides a reasonable framework for further reading. Not often appreciated in the postoperative period is the correlation of mixed O₂ saturation/content to surgical outcome, since such measurement is a reflection of the cardiac output. Important topics also include treatment of increased afterload with the many causes, postoperative atrial fibrillation, criteria for extubation, and need to avoid renal failure, which is associated with an inordinately high mortality (upwards of 50%) should oliguria develop. The causes and mechanisms of respiratory dysfunction are well-summarized along with treatment and commonly proposed interventions to minimize this complication. The discussion on postoperative neurologic dysfunction complements Dr. Gold's presentation and reaffirms the need to understand the pathophysiology of such injury, including but not limited to embolization, hypoxia, hypoperfusion, inflammatory response and other postoperative factors.

In summary, Dr. Shapira has provided a superb overview of major postoperative disorders with their diagnosis and management. Other postoperative issues, such as heparin-induced thrombocytopenia and thrombosis, other infectious complications, and hepatic dysfunction, need to be considered but as noted are beyond the scope of this presentation.