Cardiac Surgical Postoperative Care: The Surgeons Responsibility…

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What are our goals… Benchmarks…

Cardiac stability in the postoperative period

Early extubation

Eliminate Morbidity

Patient and Family Concerns

Short and Long term survival / results

Literature Review

Julius Caesar…

Men are usually willing to believe what they wish to be true…

Meredith Scott, MD

People are always trying to develop a hammer so they can hit YOUR nail…

Available Literature

- Most of the current literature has been developed by "intensivists"
- Most of these "intensivists" are anesthesiologists, pulmonologists, etc…i.e. non-surgeons
- But in addition…We are also turning over training of our residents in CV physiology and peri-operative care to these individuals…

Cardiac Surgeons Responsibility to the patient…

- Question???... Have these studies really defined improvement in Cardiovascular post operative care….or…merely a convenience for the CV surgical team???

Reimbursement for Cardiac Surgery

- Continues to decline…
- There is a portion of our "RVU,s" that are paid in consideration for "patient post operative care"…

How much $$$ are you willing to give up to someone to take care of your patients post-operatively??

Historically Cardiothoracic Surgeons have been reluctant to “hold onto” our specialty

- Angioplasty…”we are surgeons…we don’t need no stinking catheters…”
- Great Vessel / Aortic Surgery…neurosurgeons doing carotids, vascular surgeons doing thoracic aortic procedures…
- Preventative care, maintenance care, follow-up care…
- Etc, etc….and now…post-operative care…

Cardiac Surgery now has come full circle…

Eur J Cardio-thorac Surg (1993) 7:313–318

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Does post-op cardiac surgical care really require or benefit from "intensivists" in the recovery area??

Does modern cardiac surgery require conventional intensive care?

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Abstract. We considered that, with modern perfusion equipment and mildly hypothermic cardiopulmonary bypass, protracted post-operative ventilation in an intensive care unit (ITU) is no longer required after most cardiac operations. We used a three-bedded cardiac recovery area (CRA) within the operating suite for 1,000 patients between January 1990 and June 1991. Forty-five patients with special needs were managed in the ITU. The time to extubation (T50%; range) for coronary bypass, aortic valve, mitral valve, and double-valve patients was 2.0 (0–42), 2.5 (0–12), 3.0 (0–15), and 3.0 (1–36) hours, respectively. Recovery beds were re-used allowing 5–6 operations daily. The difference in nursing staff complement for a CRA versus ITU bed was 4.5/7.8. Patient management was by nurse specialists supported by cardiac surgeons. Intervention by cardiac anaesthetists or intensivists was limited to specific ventilatory problems or renal failure. The early extubation policy failed in ten patients (five coronary, three aortic, one mitral and one double-valve patient) through poor pre-operative respiratory function, left ventricular failure or intra-operative events. The overall mortality in CRA was 1.4%. The mean duration of post-operative stay was 7 days (range 5–12). We conclude that a CRA staffed by nurse practitioners provides a safe and effective alternative to the anaesthetist-managed ITU. A rapid turnover of CRA beds removes the constraints of ITU bed availability. [Eur J Cardio-thorac Surg (1993) 7:313–318]

CARDIOTHORACIC ANESTHESIOLOGY:
The Annals of Thoracic Surgery CME Program is located online at http://cme.ctsnetjournals.org.
To take the CME activity related to this article, you must have either an STS member or an individual non-member subscription to the journal.

Impact of 24-Hour In-House Intensivists on a Dedicated Cardiac Surgery Intensive Care Unit

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Background. Intensive care unit (ICU) physician staffing models for cardiac surgery patients vary widely and correlate poorly with outcomes. Clinical outcomes associated with 24-hour, in-house intensivists working in a dedicated post–cardiac surgical unit has not been previously investigated. We sought to examine the safety and efficacy of such a model.

Methods. A retrospective, propensity-matched, cohort study of all patients undergoing a cardiac surgical procedure at a single tertiary center was performed. The control cohort (n = 1,467) consisted of patients admitted to the traditional, mixed surgical intensive care unit (SICU) from January 2005 to January 2007. The intervention cohort (n = 1,089) consisted of patients admitted to a newly created "hybrid" cardiac surgery ICU (CICU) from January 2007 to January 2008, which was staffed by 24-hour in-house consultant intensivists and a daytime, fast track cardiac anesthesiologist. The primary outcomes were blood product utilization, requirement for ventilation, and ICU recidivism.

Results. The proportion of patients in the CICU cohort who received transfused red blood cells was decreased compared with the SICU cohort (30.2% versus 42.3%, $p < 0.001$). Similar reductions in platelets and fresh frozen plasma were also observed. The CICU patients were less likely to arrive to the ICU intubated (43.7% versus 66.5%, $p < 0.001$). There were no differences in postoperative complications. Overall hospital length of stay was reduced in the CICU cohort by a median of 1 day (6 days [interquartile range, 5 to 8] versus 7 days [5 to 9], $p < 0.001$). Significant reductions in mortality and ICU recidivism were not observed.

Conclusions. The current Manitoba CICU model of 24-hour intensive care physician/cardiac anesthesiologist staffing in postoperative cardiac surgery care is associated with reduced transfusion of blood components, decreased requirement for mechanical ventilation, and shorter hospital length of stay.

(Ann Thorac Surg 2009;88:1153–61)

Post Operative Blood Utilization

This is confusing…as blood loss and/or utilization is an "OR event"…relative to surgical technique or coagulopathies secondary to patients pre-operative status…

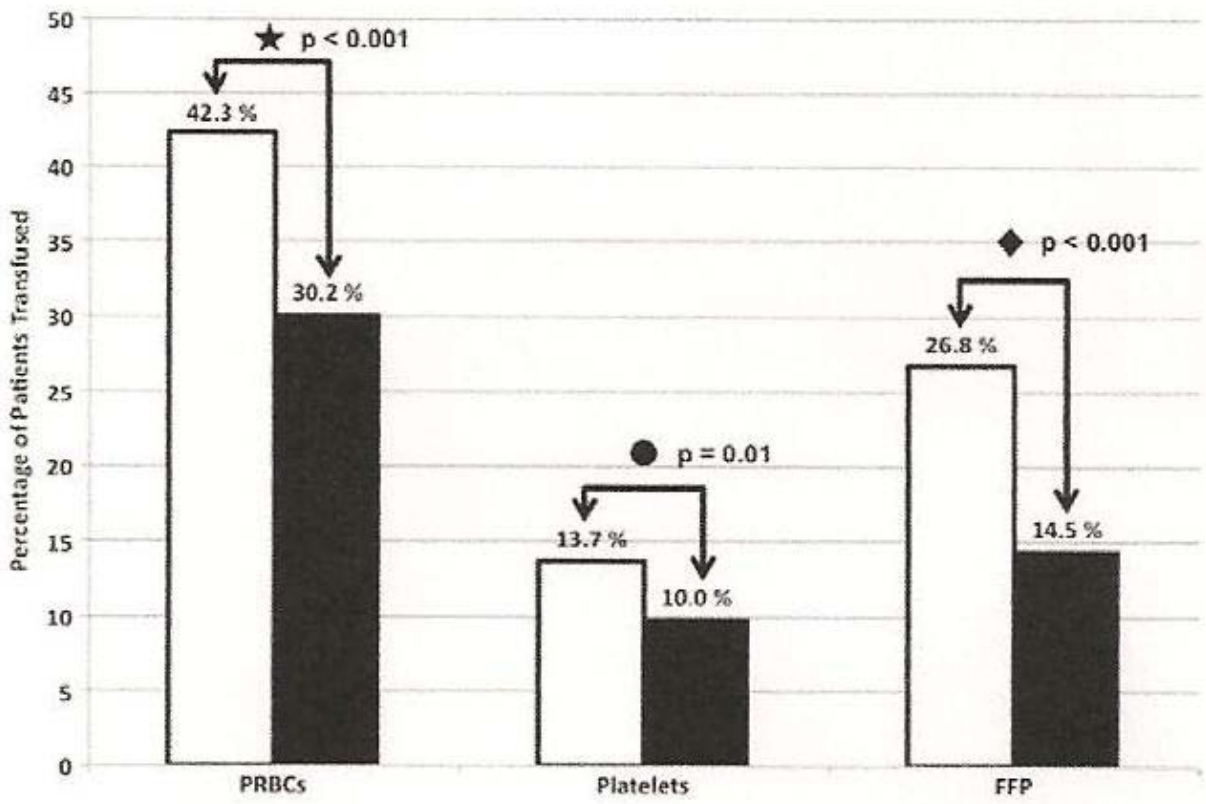

Fig 2. A significant reduction in the proportion of patient receiving packed red blood cells (PRBCs), platelets, and fresh frozen plasma (FFP) was observed in the cardiac surgery intensive care unit cohort (solid bars) compared with the surgical intensive care unit cohort (open bars).

Early Extubation / Length of Stay

- Early extubation begins in the OR and can effectively be initiated with respiratory therapy protocols…
- The equation for "length of stay" is quite complicated and has numerous variables…

Both of these benchmarks require cultural changes within the entire CV team…

Cardiothoracic Surgeons Providing Cardiac Critical Care Improve Patient Management And Decrease Cost.

Running Title: Cardiothoracic Surgeons Improve Postop Care

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Looking after their own: Surgeons may provide better care than intensivists in ICU

JANUARY 28, 2010 | Reed Miller

STS **Fort Lauderdale, FL -** Thoracic surgeons can provide better care to critical cardiac patients in the ICU than intensivists not board-certified in thoracic surgery, a new study suggests [1]. Researchers say there are multiple possible explanations for the differences between specialists' outcomes beyond their different medical skills.

Here at the **Society for Thoracic Surgeons** (STS) **2010 Annual Meeting**, **Dr Glenn Whitman** (Jefferson Medical College, Philadelphia) presented data from his institution's investigation conducted to determine whether the quality of ICU care provided by thoracic surgeons was different from that given by intensivists not board-certified in thoracic surgery. Whitman cited research by the **Institute for Healthcare Improvement** showing that if all ICU patients in the US were cared for by trained intensivists, more than 200 000 lives per year would be saved.

Given the potential of high-quality ICU care to save lives, this study was intended to determine whether "all intensivists are created equal," Whitman explained. "By virtue of their operative and nonoperative training, specifically concentrating on cardiac surgical diseases, we speculate that thoracic surgeons may be uniquely qualified to provide critical care to postoperative cardiac-surgery patients."

Comparison of outcomes for ICU care by intensivists and surgeons

Measurement	Intensivist care (168 patients)	Surgeon care (272 patients)	p
Mortality rate (%)	3.1	2.5	0.15
Central-line infection (n)	1.3	1.6	0.81
Ventilator-acquired pneumonias per 1000 device-days (n)	7.6	4.2	0.19
PRBC exposure (%)	46	57	0.28
Blood sugar compliance (%)	83	88	0.19
Average postoperative length of stay (d)	9.8	8.3	0.04
Average time from admission to discharge (d)	13.4	11.2	0.01
Average ICU drug costs ($)	4300	1800	0.001

Whitman G, et al. Society of Thoracic Surgeons 2010 Annual Meeting; January 26, 2010; Fort Lauderdale, FL.

Conclusions…

- CT Surgeons can not afford to relinquish cardiac surgical care now or in the future …
- CT Surgeons are the most qualified and have the most vested interest to care for postoperative patients
- As Health Care Reform continues CT Surgeons must maintain control of our patients …the CV surgical ship is taking on water…we can ask others to bail it out while we sit idle and watch, or we can be proactive and plug the hole...
- We must remain "Captain of the ship" in regards to post-operative cardiac care for the benefit of our patients…

Thank you