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Anesthesia Group Management

The operations research relevant to anesthesia groups has become very sophisticated over the past decade. References describing what is known about anesthesia group management are available in the comprehensive bibliography of articles at our web site: www.FranklinDexter.net

Optimal afternoon, evening, weekend, and holiday OR, obstetrical, and satellite case staffing

The objective of anesthesia staffing analyses can be to increase anesthesiologists' and nurse anesthetists' productivity and to reduce costs by optimizing daily, afternoon, evening, weekend, and holiday OR, obstetrical, and satellite case staffing. That way, a group can increase the number of patients to whom they provide care, given the available number of anesthesiologists and nurse anesthetists. In addition, a group can decide whether to hire another anesthesiologist or nurse anesthetist based on a sound analysis, rather than vague impressions of current and future workload.

[Click here](#) and view the first page for details. [Click here](#) for a lecture describing some of the analyses. [Click here](#) for a sample PDF report from OR data. Training decision-makers in using the reports can be done during a web conference. The University charges \$4250 for these analyses.

Appropriate subsidy to anesthesia group because ORs are not allocated and cases are not scheduled to maximize OR efficiency, and/or because cases are longer than average

At some hospitals, determination of OR block allocation and case scheduling is based not on maximizing OR efficiency, but rather on tradition and surgeon convenience. As a result, the anesthesia group incurs additional labor costs. When negotiating financial support from a hospital, medical school, or multi-specialty medical practice, the anesthesia group is often challenged to justify the support necessary to offset these additional labor costs. This can be done using the anesthesia group's billing data, anesthesia information system data, and/or the OR information systems data. [Click here](#) for a paper on the topic. Click on the preceding hyperlinks for details of the consultation process. Financial data from the anesthesia group are *not used*, just national survey data. The included assessments of turnover times, bias in case duration estimates, etc., are important to evaluate the sensitivity of estimates of fair (reasonable) support on decision-making processes that can be changed over several months.

When the appropriate institutional support is being calculated, there is often also value in estimating the expected financial return per hour of time contracted for with the anesthesia group. [Click here](#) for that "block time" (profitability) analysis.

Reducing hospital's anesthesia costs

Cost reduction is often addressed as part of consultations focusing on one of the preceding topics. [Click here](#) for a relevant lecture.

Opportunities for cost reduction include the following:

- Implement phase I PACU bypass and other "fast-tracking" protocols
- Compare induction times, emergence times, and drug costs among anesthesia providers, while quantifying their impacts on hospital costs and surgeons' schedules

- Implement clinical pathways for anesthetic plans for different surgical procedures, to improve surgeon satisfaction, OR efficiency, and supervising anesthesiologists' convenience
- Implement practice guidelines and programs for reducing anesthesia drug costs

For exploration of opportunities for these cost savings, add 10 hours to an existing on-site consultation for anesthesia staffing. On one day, plan four 2 hour meetings, each with interested individuals from one of the four relevant departments. On a subsequent day, plan one 2 hr meeting with senior anesthesia providers to discuss potential recommendation. Budget 1 day after the on-site visit is over for writing recommendations, for which the University will charge \$2500.

Non-operating room (non-OR) “satellite” staffing and case scheduling

Non-OR staffing and case scheduling needs to be addressed differently from OR scheduling:

Dexter F, Macario A, Cowen DS. [Staffing and case scheduling for anesthesia in geographically dispersed locations outside of operating rooms](#). Current Opinion in Anaesthesiology 19: 453-458, 2006

The appropriate methods of case duration prediction also are different:

Dexter F, Yue JC, Dow AJ. [Predicting anesthesia times for diagnostic and interventional radiological procedures](#). Anesthesia and Analgesia 102:1491-1500, 2006

Furthermore, usually an enterprise-wide scheduling system needs to be used in addition to or instead of an OR information system ([click here](#)). Consequently, calculations need to be performed separately from that for OR cases (e.g., see www.CaseDuration.com and [click here](#) for a paper).

Plan for three individuals to learn how to implement the science: a clinician, a scheduler, and a systems programmer. Because implementation characteristically is done slowly over at least six months, work is done by e-mail and web conferences. The University charges \$250 per hour for Dr. Dexter's time. A typical budget is 40 hours (i.e., \$10,000).