

## Interdisciplinary cooperation between surgery and anaesthesiology: the surgical viewpoint

A. Encke

Department of General Surgery, University Hospital Frankfurt am Main, Germany

Operative intensive care medicine, perioperative diagnostic and therapeutic procedures, analgesia in postoperative and chronic pain, and the management of central operative units (theatres) characterize special fields where surgery and anaesthesiology overlap, entailing possible cooperation but also potential sources of conflict. Indisputably both specialities have a common responsibility during the surgical procedure. In this phase, the surgeon is also willing to give special credit to the anaesthesiologist for his/her essential contribution in high risk operations or patients.

While speakers of both specialities confirm these common interests in their Sunday speeches, the situation in reality is often different and may in addition differ between large institutions including university hospitals and smaller hospitals, which have to provide basic or regional care. Conflicts can be of a practical but also professional-political nature, depending on the situation.

Individual personality, personal influence, prestige and professional pride all play a part in determining the relationship between surgeons and anaesthesiologists, in addition to the external pressure put upon both by health economic constraints. The surgeon does not like to be considered the serviceman of the physician, but is often in danger of looking upon the anaesthetist as his serviceman. However, mutual cooperation between the two is vital for the quality of performance in both spheres.

### Intensive care medicine

Intensive care medicine by definition is not a specialty or subspecialty in its own right but an essential part of medical activity in many clinical specialties, and this is also true for surgery and its subspecialties.

The increase of high risk operations on extremely young and old patients, those with preexisting organic defects, extended cancers, polytrauma, cardiovascular and transplant procedures require an intensive pre-, intra-, and postoperative monitoring and additional therapies. Special aspects of surgical intensive care medicine are

therefore surgical emergencies (haemorrhage, ileus, peritonitis), extended procedures in abdominal, thoracic, cardiac and vascular surgery, polytrauma and complications of surgical treatment, especially sepsis and multiorgan failure. Intensive care medicine aims at the monitoring and therapy or temporary compensation of disturbed or broken vital organ functions in addition to the treatment of the underlying disease. This means that we try to cope with life-threatening situations and complications to gain time for the causal treatment of the basic disease. Modern surgery and intensive care medicine are highly dependent upon each other. High-risk procedures cannot be performed without intensive care capacity. Typical intensive care situations like polytrauma or multiorgan failure in abdominal sepsis need concomitant and additional surgical procedures at the right time.

A successful operative intensive care medicine requires diagnostic and therapeutic competence, continuity and consensus of all partners. The surgeon by his personal affiliation to the patient, and his responsibility for the indication and performance of the surgical procedure also accepts overall responsibility for his patient. He is, however, well advised to allow others to participate.

The intraoperative success of elective and emergency procedures is also dependent on optimal anaesthesia and narcosis. In the postoperative period, only the operating surgeon can assess the individual danger to the patient by local complications because he knows the operative situs. The anaesthetist, however, may already detect respiratory and cardiocirculatory problems during the operative phase and can then take them into consideration postoperatively. The most difficult decision is when to perform relaparotomy because the patient, under the influence of analgetica, sedativa and antibiotics, is difficult to assess. A common concept was therefore developed by the German Interdisciplinary Association of Intensive Care Medicine (DIVI), and this has also been introduced into the official postgraduate training of both disciplines. In 1999, a multidisciplinary joint commission on intensive care medicine of the UEMS fortunately adopted these DIVI recommendations.

Apart from optimal patient care, other arguments substantiate the active participation of surgeons in intensive care medicine (Table 1). These include postgraduate

Correspondence: A. Encke, M.D., Department of General Surgery, University Hospital Frankfurt am Main, Theodor Stern Kai 7, 60590 Frankfurt/Main, Germany.  
Fax: ++49/69/6301 83564  
E-mail: A.Encke@em.uni-Frankfurt.de

**Table 1.** Arguments for a surgical intensive care medicine

---

Responsibility for the surgical core performance: indication, choice of procedure, planning and performance of the operation, monitoring of the postoperative course, long-term results (quality)
Post-graduate surgical training
Workflow (logistics)
Surgical know-how of postoperative complications
Clinical research
Future remuneration systems (DRG's)

---

training, workflow, clinical research and future payment models (DRG's, Disease related groups).

The reality is, however, far removed from what is being claimed. Surgeons may not have the necessary time, capacity or interest in intensive care. The anaesthetist may regard himself as being more competent and try to keep the surgeon out of intensive care or just use him as a consultant. Other surgeons may insist upon their sole responsibility for the patient. The worst case is if both are incompetent but still try to run a separate intensive care unit on their own.

### Preoperative diagnosis and therapy

Preoperative diagnostic procedures and therapeutic measures are only performed to prepare the patient for the operation i.e. after the indication for an elective operation has already been made. The aim is the detection of relevant risk factors which may be caused by disposition or exposition. The second goal is to gain information for the best possible planning of the operation. From the surgical point of view, the anaesthetist must be integrated closely in the preoperative evaluation, but he should restrict himself to diagnostic and therapeutic problems which are directly related to his role during the operation (Table 2). The preoperative risk assessment and careful preparation of the patient is considered to be an essential part of the common responsibility because it both helps to avoid complications and mismanagement of operative planning, which again saves financial resources.

### Analgesia

With the possibilities of modern analgesia, no patient needs suffer acute or chronic pain. However, the knowledge and use of analgetics by doctors is not yet satisfac-

**Table 2.** Joint preoperative evaluation

---

Detection of relevant risk factors – disposition and exposition
Collection of information for the best possible operative planning
Basic/extended diagnostic procedures
History and clinical investigation
Special diagnostic and therapeutic problems, for instance coagulation disorders, need of blood transfusions, pulmonary training etc.

---

**Table 3.** Definition and tasks of the perioperative management centre

### Anaesthetist

---

Pre- and postoperative risk analysis
Information of the patient
Improvement and economy of the pre- and postoperative treatment
Economy of operative planning
Coordination in the operative unit
PACU management (Post-Anaesthetic Care Unit)
Pain therapy
Higher effectiveness, use of limited resources
Morbidity, mortality, quality of life

### Surgeon

---

No institution, but joint organisation
Interdisciplinary cooperation
Respect of speciality limits
Efficiency – rationalization, patient comfort,
Satisfaction of personnel
Exchange of knowledge and experience
Principle of mutual trust

---

tory. Nevertheless to cure or to diminish pain remains one of the primary responsibilities of each doctor. In Germany, special pain centres have been developed for chronic pain and in hospitals, the anaesthetists often take over this special task. Basically, both specialities can perform the postoperative analgetic therapy and we as surgeons must insist on our own colleagues learning and getting to know the different methods.

A great advantage has been the introduction of peridural analgesia during and following surgical procedures. This is especially true for all major abdominal operations. The indication, application and care of the peridural catheter clearly fall under the responsibility of the anaesthetists, who also bear the forensic risk.

### Operative management

For the optimal use of operative capacities and to save resources by avoiding uncoordinated steps taken by the different partners in the operating theatre, an operative management for all major or interdisciplinary operative units seems to be desirable, if not mandatory. Essential factors for successful management are organizational competence, the relinquishing of "personal property claims" and fair consideration of the interests of all participating specialities. The operative management must include the anaesthetist, the headnurse and the surgeon. The personality of the daily acting manager is decisive. I am of the opinion that in an average operative unit the anaesthetist or even a non-medical person are seemingly more qualified for this task. Table 3 summarizes the surgical and anaesthesiological views of operative management.

### Summary

Successful operative intensive care requires diagnostic and therapeutic competence, continuity and con-

sensus. This can only be reached by an interdisciplinary approach on the part of surgeons and anaesthesiologists. Besides this aspect intensive care represents an important part of the total surgical responsibility for the patient, and an essential part of surgical education and post-graduate training and of clinical surgical research.

The preoperative diagnostic and therapeutic evaluation of the patient – apart from the operative indication – must be performed jointly by surgeons and anaesthesiologists. Operative management is a common task, which has to be organized together by the anaesthetist, head-nurse and the surgeon. The anaesthetist would seem to be the best leader of this team.