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Recovery

The role of autophagy in the metabolism and outcomes after surgery, *J. Gunst et al.*

Fast-track surgery: a multidisciplinary collaboration, *H. Kehlet*

The patient voice in Enhanced Recovery After Surgery, *A. Balfour & R. Alldridge*

The role of physiotherapy in Enhanced Recovery after Surgery in the ICU, *T.W. Wainwright et al.*

Innovations in monitoring: from smartphones to wearables, *F. Michard*

Physical rehabilitation in the ICU: understanding the evidence, *C. M. Goodson et al.*

Optimising nutrition for recovery after ICU, *P.E. Wischmeyer*

Outcomes after 1 week of mechanical ventilation for patients and families, *M. Parotto & M.S. Herridge*

Continuing rehabilitation after intensive care unit discharge, *S. Evans et al.*

The hidden faces of sepsis, what do they tell us? *I. Nutma-Bade*

PLUS

Ultrasound-guided mechanical ventilation, *F. Mojoli & S. Mongodi*

Haemodynamic monitoring: stuff we never talk about, *C. Boerma*

Animal-assisted activity in the intensive care unit, *M.M. Hosey et al.*

From command and control to

modern approaches to leadership, *T. Dorman*

Enabling machine learning in critical care, *T.J. Pollard & L.A. Celi*



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Fast-Track Surgery

A Multidisciplinary Collaboration

Prof. Henrik Kehlet reflects on the progress of fast-track surgery and the need for multidisciplinary teamwork in optimising perioperative care.

You are the “father” of fast-track surgery. What motivated you to develop this concept?

It all started when I was a young surgeon and had to perform some major operations. The technical aspects of surgery went well, but patients developed medical complications like myocardial infarction or pulmonary embolism. I started to question why, if you do it well, there should be a risk for these medical complications. Then it all started step by step—pain management, fluid management, nursing care etc. etc. It was a stepwise development, based on the simple question of why patients have a risk of a medical complication if the surgery was successful technically.

How do you see the progress of fast-track surgery?

This was developed in major colonic surgery more than 20 years ago, and published in the *Lancet* (Bardram et al. 1995). In the beginning it had a very slow uptake, because people didn't believe it. In the last five years there has been major attention to this concept, and there are societies on fast track or enhanced recovery in many parts of the world. It is catching on, but as usual in medicine and healthcare it takes time, because the cultural and economic aspects are different between countries and the different professions. That's the main explanation for delayed acceptance and implementation. But now everybody agrees that this is right and it moves forward.

What is the business case for fast-track surgery? How should any cost savings be shared?

This is a very important and complicated question. Everybody agrees that you save money, because hospital stay is decreased and the risk of medical complications decreases. There are also benefits post-discharge, because patients are in better condition and rehabilitation is facilitated. Then it begins to be complicated, because if you decrease length of stay who will get the money? This is different in different countries, but all agree that you save money. In the beginning I experienced that when we reduced hospital stay the hospital administration either sent in medical patients with brain injury to surgical departments, which killed our department because of the workload, or they closed the beds without thinking that those patients who remain in the department are always a little more sick than the general population before. Thus, administration allocates so much money per bed and so many nurses per bed and that can create a problem. In the end we agreed that savings should be shared so that further development can be instituted, for instance by giving support for a research nurse or a PhD student etc. This requires collaboration between the administration, the hospital and the surgical departments, but this is difficult. In some countries, for example Germany, the reimbursement system is such that if you do surgery too well, too fast, you are punished, and get less money. That prevents development. There is no simple answer because countries have

different economic and reimbursement systems. What is happening now, especially in the U.S., is the concept of bundled care payment. That means that the hospital gets a given amount of dollars to cover everything that happens within the first 30 days. Therefore they have to optimise, because before they got money for the hospital stay, and if the patient was readmitted after 14 days they got more money. The new system will be that you have to optimise care, because you get given a certain amount of dollars whatever happens. Whatsoever, the basic conclusion is definite, you save money with the concept. It's a very unique combination that you increase quality of care and at the same time save money; this is not common in healthcare.

Who should start the process of implementing enhanced recovery after surgery programmes?

I am getting older and have been disappointed with the speed of implementation. Ideally it should start locally with the heads of surgery, anaesthesia and nursing. These are the people who take care of patients. If it doesn't work, of course the hospital leadership should monitor what is going on in their own hospital, compared to other places in the world. If there is a huge discrepancy then the hospital leaders must go in and stimulate the departments of surgery, anaesthesia and nursing. If the hospitals don't do it, then the last step is the government. Again history has shown a huge variability; sometimes it starts fantastically in the

departments, sometimes very slow, sometimes hospital leaders go in, sometimes not. Here in Denmark we had support from the government in the beginning to improve knowledge and implementation of nursing care. In England they also received funding to monitor the data and outcomes in a certain number of operations and that facilitated the process.

Is there a potential for ‘turf wars’?

In perioperative medicine, including fast-track surgery, there is a power play as to which profession should lead all this. In some countries they have started organisations totally focused on anaesthesiologists, and this was why I wrote an editorial in the *British Journal of Anaesthesia* against that (Kehlet et al. 2015), because from the very beginning the concept is based upon multidisciplinary collaboration. Therefore we should not say from the beginning it has to be surgeons who should lead this, or anaesthesiologists or nurses. It is a joint effort. Therefore in some hospitals the key person who has the knowledge should lead it and it may be another profession in another place. We shouldn't have this power play that it's all based on a given profession as that is not fruitful or positive to increase implementation of knowledge. The previous editorial from anaesthesiologists (Cannesson et al. 2015) was very provocative; they didn't even mention the word surgeon, despite the fact that it was a surgeon who developed the concept. This is not about a power game between the professions. It's about facilitating the concept. Locally it can be anyone who has knowledge and the ability to work together.

How can enhanced recovery programmes affect admissions to intensive care following surgery?

Ideally the purpose of the concept is to avoid postoperative organ dysfunction. Consequently the need for postoperative intensive care should decrease. The data have shown worldwide that the risk of medical complications decreases, but they are not eliminated. Consequently, there are implications for the need for intensive care beds. The unsolved question is about the need for

semi-intensive or intermediate care beds. The studies on enhanced recovery mostly come from elective surgery. Unfortunately, there are only a few studies on hip fracture and acute abdominal surgery so we have a black spot of knowledge about fast-track emergency surgical procedures and the need for intensive care beds.

You have made recommendations on reporting of enhanced recovery elements in clinical studies. Please comment.

The ERAS[®] society has published many guidelines on enhanced recovery and they always include a large number of elements of care. This is a problem, because if you go to a department and say you have to modify or change 23 elements of care, it is very difficult. I see this in all the places

■ I am getting older and have been disappointed with the speed of implementation ■

I visit that one problem with implementation is the too many elements. Not all are sufficiently evidence-based, so future efforts should go to implement enhanced recovery after surgery (ERAS) as simply, pragmatically and as evidence-based as possible. Other smaller elements can be researched by interested people to find out if they are important in this or that operation. For example, if people believe that preoperative glucose load is crucial, they have to do the research. If you look at the literature every month reports come out that compliance with the ERAS recommendations is 70 percent or so. This doesn't help us. We have to focus on the few elements that are really important, as we showed more than 20 years ago.

For enhanced recovery, the number of elements really necessary depends on the type of surgery. In joint replacement surgery it's almost all about pain management, organisation and information, because you

don't have the pronounced physiological disturbances with impaired pulmonary function, ileus etc.

Part of the concept of enhanced recovery is providing information to patients and families. How is this done?

When we started in Denmark, we had some television programmes with the patients and me. There may be potential negative reactions to shortening length of stay. People may think they are discharged from hospital too early, which is not the case. We treat them better, they are better and therefore they can go home faster. The key element is to inform the patients and relatives ahead of time—not the day they come in for surgery, but when the indication for surgery is made. Then they should have information about the care programme, how they should be involved, what the expected length of stay is and the discharge criteria. This information is crucial, otherwise it will not work. They have to participate in the programme, they have to understand what is going on. You can also have patient education videos or patient classes. If you have a high-volume orthopaedic department with many hip and knee replacements, you can get patients together or even include a patient who was operated on a week before, to let them see. Again it has to be individualised, depending on the disease and the procedure. ■

References

- Bardram L, Funch-Jensen P, Jensen P et al. (1995) Recovery after laparoscopic colonic surgery with epidural analgesia, and early oral nutrition and mobilisation. *Lancet*, 345(8952): 763-4.
- Cannesson M, Ani F, Mythen MM et al. (2015) Anaesthesiology and perioperative medicine around the world: different names, same goals. *Br J Anaesth*, 114(1): 8-9.
- Kehlet H, Delaney CP, Hill AG (2015) Perioperative medicine – the second round will need a change of tactics. *Br J Anaesth*, 115(1): 13-4.