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CORRESPONDENCE

Realising the full potential of anaesthesiology to promote enhanced recovery after surgery programmes in China

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Editor—Enhanced recovery after surgery (ERAS) has been developed and widely applied in many surgical procedures worldwide.[1] However, different departments and surgical teams tend to sponsor and lead ERAS programmes independently according to their specific requirements.[2,3] This makes it difficult for the successful experience of a surgical team to extend to other departments and surgical procedures around the hospital.

In 2016, we conducted a comprehensive, systematic root cause analysis in our hospital (Supplementary Fig. S1) and identified the main barriers in implementing ERAS programmes in all surgical procedures, including a general resistance to change, poor communication, collaboration, and coordination between departments and lack of time and staff (Supplementary Fig. S2). Notably, we realised that a lack of a unified leading department and coordinated ERAS management system were the main barriers in implementing ERAS for all surgical procedures in our hospital.

As 'patient and surgery-centred' is the core of ERAS, and anaesthetists play important roles in the process of ERAS in various surgery specialties, including preoperative assessment, intraoperative management, and postoperative pain control,[4,5] we took advantage of anaesthesiology as a platform department. We established a unified and coordinated ERAS management system, including establishment of ERAS working committee (EWC), ERAS management workflows, innovative models of patient education and staff training, information management platforms, rounded quality evaluation systems, and disease databases. This 'patient and surgery-centred, anaesthesiology-led' ERAS management project has led to most surgical procedures being performed using ERAS principles in our hospital (a large tertiary hospital). The main innovations and lessons from our experience can be summarised as follows.

First, an EWC was established to take a leading role coordinating communications between departments and promote ERAS in all surgical procedures. Headed by the vice president of the hospital, the EWC was composed of anaesthetists, multiple subspecialists, nursing staff, and others. The Department of Anaesthesiology was assigned to lead ERAS management via the 'one pilot first, and then gradually increasing' method, in which urological surgery was set as a pilot, and then gradually rolled out to other surgical procedures.

To better guide ERAS management, standard work regimes including workflows were developed. As shown in Figure 1, the surgical specialty needed to submit its application to the EWC for ERAS management. After approval, the Department of Anaesthesiology organised an ERAS project kick-off meeting with the surgical specialty and ERAS team. After reviewing the ERAS society guideline for the specific surgery type, the ERAS team discussed the inclusion criteria, specific items to be performed by different professions, which culminated in a specific ERAS protocol based on the surgery type. In addition, respective job responsibilities of technical personnel and programme managers were clearly specified. During the progress of the ERAS project, consistent and well-attended team meetings were organised regularly for interim summary and assessment; meanwhile, managers audited compliance and implemented necessary changes to improve practice according to existing problems and promoted closed-loop management of the ERAS project.

To better publicise ERAS projects and increase acceptance and execution by medical workers, patients, and their families, we also developed innovative models of patient education and staff training. For instance, we transformed the ERAS principle into educational posters, brochures (Supplementary Fig. S3), and a song video (Supplementary video), and made

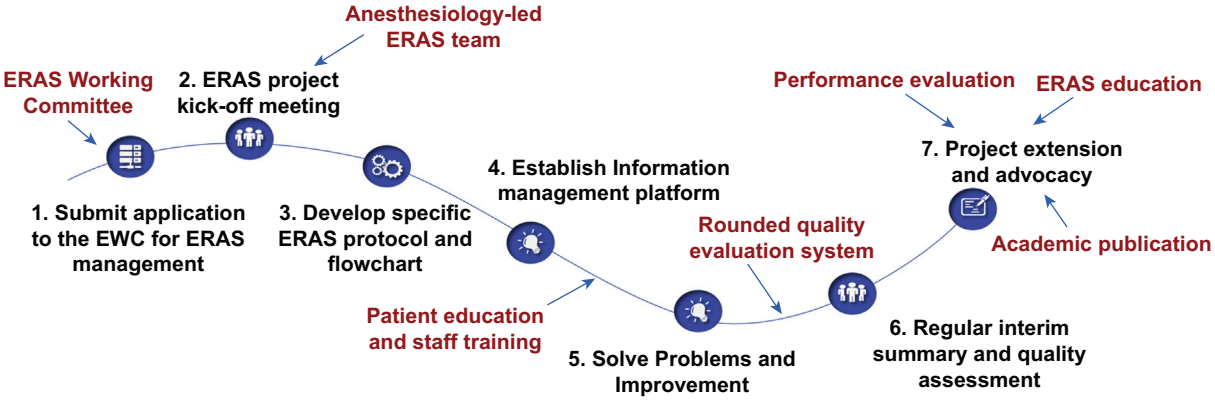

Fig 1. ERAS management workflow. ERAS, enhanced recovery after surgery.

them available to all doctors and patients. Meanwhile, the training contents related to ERAS were added to the curriculum of standardised training for residents, postgraduates, refresher students, undergraduate students, and patients.

To ensure efficient communication among ERAS teams, we deployed management and communication WeChat groups for each surgery specialty. Combined with the operating room scheduling system and electronic medical record system, we realised timely communication, information sharing, and scientific management throughout the whole project from operation appointment, operation sequencing, preoperative preparation, anaesthesia management, operation progress to postoperative recovery and follow-up. All team members could update progress of the project and patient prognosis, and problems with the projects could be fed back to improve the programme based on this platform.

We also established a mutual evaluation system among anaesthetists, surgeons, nursing staff, and patients, and conducted regular evaluation to promote the continuous improvement of medical service quality. To promote ERAS management as the new normal, the Quality Control Department also set assessment indicators and appropriately linked them with the performance evaluation of medical staff.

A disease database was also established to enrol all patients whose surgery was carried out using ERAS principle in all surgical specialties. We analysed the clinical data in several ways. Firstly, case reports and discussion were arranged by the ERAS team for exceptional cases and typical cases. Secondly, dozens of prospective and retrospective clinical trials were carried out to explore the efficiency of ERAS in different surgeries.

As of the end of 2020, almost all surgical departments in our hospital have joined the ERAS programme led by anaesthesiology, and almost 30 000 patients have benefited from our 'patient and surgery-centred, anaesthesiology-led' ERAS programme, including enhanced recovery, higher satisfaction, fewer complications, shorter hospital stay, and lower cost.[6–9] This ERAS strategy has also been initiated in several Chinese hospitals and proved to be efficient in promoting ERAS programmes.

Through appointing the team leader of ERAS in each subspecialty, formulating the standardised ERAS protocol for each subspecialty and organising frequent ERAS team meetings for new project training, interim reports, and summaries, our hospital has established a unified and coordinated ERAS management system with four main highlights (Supplementary Fig. S4). Being a central platform department, the Department of Anaesthesiology has unique advantages in promoting ERAS principles in all surgical procedures in a unified, orderly, and efficient manner. The 'patient and surgery-centred, anaesthesiology-led' approach can facilitate the successful and rapid dissemination of ERAS protocols.

Our experience in promoting a central role of anaesthesiology in promoting ERAS might be highly instructive for overcoming barriers in implementing ERAS programmes throughout the hospital, which has been challenging so far.

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Declarations of interest

The authors declare that they have no conflicts of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.bja.2021.01.016.

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The UK anaesthesia workforce is in deepening crisis

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Editor—The Royal College of Anaesthetists (RCoA) has released its Medical Workforce Census Report 2020.[1] The principal issues recorded are that 90% of anaesthesia departments have one or more posts unfilled, and that current consultant vacancies have doubled since 2015 to 680. These data pre-date the coronavirus disease 2019 (COVID-19) pandemic; thus, the stress of individuals and crisis management in the departments means these gaps will unlikely have been plugged. The RCoA, General Medical Council (GMC), British Medical Association (BMA), universities, and government bodies urgently need a coordinated plan to be able to tackle this shortfall and stem the worsening trend. As an Australian-trained anaesthetist working in the NHS for more than 5 yr, some of my experiences and recommended solutions are discussed as follows.

Supply and demand

At 2.8 doctors per 1000 people, the UK is well below the EU average of 3.4 doctors per 1000 people. The government recognised this shortfall in 2016 with a plan for the NHS to be 'self-sufficient' with local doctors by 2025. An extra 500 medical student places for 2018 and 1000 for 2019 were proposed. The impact of this will not be felt in the short term, especially because medical student graduate numbers have been static for 10 yr, at around 8500 each year.[2,3] The position of the government to tie junior doctors working for the NHS for a minimum number of years or be forced to repay the cost of their education would further 'impact morale and potentially discourage students from entering medicine', warned the BMA.[4]

Before COVID-19, 2016 was seen as the worst year in NHS history, reflecting a disconnect from the realities of the attitude of the government towards the NHS, to the staff, and the patients they look after.[5] We saw the first strike action by junior doctors in 40 yr as failure of leadership between the government and the BMA led to the breakdown of negotiations and subsequently a drop in morale of junior doctors and trainees. It was adversarial on all sides. In the end, the public lost trust in their doctors, and the doctors lost trust in their employers.

The most recent GMC national training survey (the largest annual survey of doctors in the UK) includes the period of those working during the first COVID-19 pandemic wave.[6] It reports that 59% and 68% of anaesthetic trainees and trainers, respectively, stated that their workload had increased because of COVID-19. Around a quarter of trainees said that their work was emotionally exhausting to a high or very high degree, with the majority of respondents stating that opportunities and chances to gain required competencies had been reduced. Whilst it was pleasing to note that during this difficult time most doctors stated the support they received from their