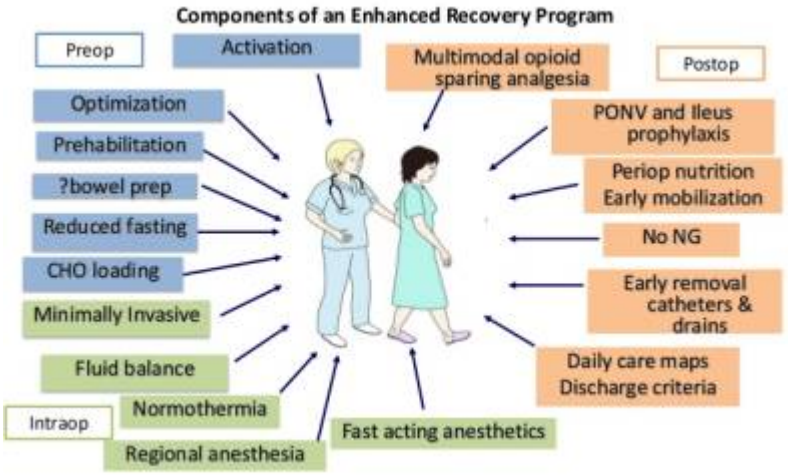
Enhanced recovery after spine surgery



see Enhanced recovery after cervical spine surgery.

The concept of Enhanced Recovery After Surgery (ERAS) entails recovery facilitation of patients who undergo surgery through the implementation of a multidisciplinary and multimodal perioperative care approach. By its application, ERAS improves the overall functional outcome after surgery while maintaining high standards of care [1].

Despite significant data suggesting improved patient outcomes with the adoption of these pathways, development and implementation has been limited in the neurosurgical population.

Still, ERAS remains relatively new to spine surgery.

Staartjes et al., reported their 5-year experience, focusing on ERAS application to a broad population of patients with degenerative spine conditions undergoing elective surgical procedures, including anterior lumbar interbody fusion (ALIF).

A multimodal ERAS protocol was applied between November 2013 and October 2018. The authors analyze hospital stay, perioperative outcomes, readmissions, and adverse events obtained from a prospective institutional registry. Elective tubular microdiscectomy and mini-open decompression as well as minimally invasive (MI) anterior or posterior fusion cases were included. Their institutional ERAS protocol contains 22 pre-, intra-, and postoperative elements, including preoperative patient counseling, MI techniques, early mobilization and oral intake, minimal postoperative restrictions, and regular audits.

A total of 2592 consecutive patients were included, with 199 (8%) undergoing fusion. The mean hospital stay was 1.1 ± 1.2 days, with 20 (0.8%) 30-day and 36 (1.4%) 60-day readmissions. Ninety-four percent of patients were discharged after a maximum 1-night hospital stay. Over the 5-year period, a clear trend toward a higher proportion of patients discharged home after a 1-night stay was observed ($p < 0.001$), with a concomitant decrease in adverse events in the overall cohort ($p = 0.025$) and without increase in readmissions. For fusion procedures, the rate of 1-night hospital stays increased from 26% to 85% ($p < 0.001$). Similarly, the average length of hospital stay decreased steadily from 2.4 ± 1.2 days to 1.5 ± 0.3 days ($p < 0.001$), with a notable concomitant decrease in variance, resulting in an estimated reduction in nursing costs of 46.8%.

Application of an ERAS protocol over 5 years to a diverse population of patients undergoing surgical procedures, including ALIF, for treatment of degenerative spine conditions was safe and effective, without increase in readmissions. The data from this large case series stress the importance of the multidisciplinary, iterative improvement process to overcome the learning curve associated with ERAS implementation, and the importance of a dedicated perioperative care team. Prospective trials are needed to evaluate spinal ERAS on a higher level of evidence [2)].

Unclassified

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