

The effect of enhanced recovery after surgery (ERAS) may have collateral, positive effect on length of stay (LOS) in a different patient group than the group intended for ERAS. Study design Prospective, observational Introduction ERAS protocols are often specific to a specific type of surgery without assessing the overall effect on the ward. Previous studies have demonstrated reduced LOS with ERAS protocols in patients with adolescent idiopathic scoliosis (AIS), although the patients are often healthy and with few or no comorbidities. In 2018, we employed ERAS principles for patients undergoing AIS surgery with subsequent 40% reduced LOS. The current study aims to assess the potential collateral effect on LOS in patients surgically treated for neuromuscular scoliosis (NM) admitted to the same ward and treated by the same staff but without an ERAS protocol. Methods All patients undergoing NM surgery two years before and after ERAS introduction (AIS patients) with a Gross motor function classification score of 4-5 were included. LOS, intensive care stay (LIS) and postoperative complications were recorded. Following discharge, all complications leading to readmission and mortality were recorded with minimum two year of follow-up using a nationwide registry. Results Forty-six patients were included; 20 pre-ERAS and 26 post-ERAS. Across groups, there were no differences in diagnosis, preoperative curve size, pulmonary or cardiac comorbidities, weight, sex, or age. Mean LIS was also unchanged (1.2 vs 1.1; $P=0.298$). When comparing LOS, we found a 41% reduction in the post-ERAS group (11 vs. 6.5; $P<.001$) while the 90-day readmission rates were without any significant difference (45% vs. 34% $P=.22$) We found no difference in the 2 year mortality in either group. Conclusion The employment of ERAS principles in a relatively uncomplicated patient group had a positive, collateral effect on more complex patients treated in the same ward. We believe that training involving the caregiving staff is equally important as pharmacological protocols.