INTRODUCTION. Postoperative pain management in scoliosis correction has traditionally relied on opioids. Multimodal analgesia has been used in adult patients to reduce opioid use but there is little information in pediatric patients. The purpose of this study was to evaluate how the introduction of elastomeric pain pumps and multimodal medication changed discharge practices.

METHODS. A retrospective chart review of 81 adolescent patients who underwent scoliosis surgery by a single orthopedic surgeon in a 7 year period was performed. These were divided into three groups as practice changed with the first group (12) using IV opioids with oral opioids; group 2 (28) added the use of 3 day elastomeric pain pumps and the third group of 41 patients added multimodal pain management including gabapentin and methocarbamol. End points were analyzed for length of stay (LOS), and complications such as acute infection within 12 months and postoperative bowel retention. The elastomeric pain pumps were placed subfascially and were removed on postoperative day 3.

RESULTS. There was no significant difference in age, sex or neurogenic status. Between the three groups. The 3-month infection rate decreased from 25% to 0% (p = 0.0006) in the patients in whom the elastomeric pain pumps was used. The incidence of prolonged postoperative gastric retention decreased significantly from 25% to 17.9% to 2.4% (p = 0.03). The length of stay for the traditional group was 8.25 days and the elastomeric pump group only was 5.18 days. The multimodal group had a length of stay of 4.83 days (p = 0.0009) On average, LOS in the traditional group was 3.07 days more than LOS in the elastomeric group (p-value of 0.004) and 3.4 days than the multimodal group (p-value of 0.001)

DISCUSSION AND CONCLUSION. Using elastomeric pain pumps should be a consideration for postoperative pain control in conjunction with other pain control methods in adolescent patients undergoing correction of scoliosis. This study showed that multimodal pain control, including the elastomeric pain pumps, methocarbamol and gabapentin shortens length of stay and decreases complications.