

CONCLUSION: The overall rates of expected reimbursement increased among the surgical procedures performed by the EGS service after ACA expansion. Furthermore, the proportion of uninsured patients decreased, likely due to the increase in coverage by Medicaid.

Table. Reimbursement Rates: Pre- and Post-Affordable Care Act (ACA) Medicaid Expansion

Variable	Pre-ACA	Post-ACA
Mean length of stay, d ($p < 0.002$)	7.94	9.19
Mean reimbursement, \$ ($p < 0.001$)	24,992.37	29,726.88
Insurance, % ($p < 0.001$)		
Medicaid	28	32
Self-pay/uninsured	14	4
Mean reimbursement by procedure, \$ (n)		
Emergency exploratory laparotomy	57,100.13 (303)	60,744.62 (558)
Exploratory laparotomy	48,321.97 (640)	46,761.18 (517)
Incision and drainage of abscess/wound	20,364.83 (405)	34,186.33 (290)
Laparoscopic appendectomy	8,137.20 (405)	9,166.37 (444)
Laparoscopic cholecystectomy	7,035.76 (947)	10,526.24 (952)

Improved Patient Outcomes and Reduced Cost in Treating Acute Appendicitis with a Shift-Based Acute Care Surgery Model Compared with Traditional General Surgery Call

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INTRODUCTION: There is recent evidence that emergency general surgery patients do better when treated at hospitals by acute care surgeons. Concurrently, concern for surgeon burnout has led to several busy referral centers adopting shift-based models. We explored the difference in outcomes for acute appendicitis, a common surgical emergency, at the same institution under acute care surgery (ACS) in 12-hour shift model compared with the traditional (TRAD) 24-hour general surgery call during the same period.

METHODS: September 2017 to June 2018 represented a transition from TRAD to ACS at an academic tertiary referral

center. A retrospective review of patients admitted with acute appendicitis during this period was performed. Demographics, time to operation, operative details, length of stay (LOS), complications, and cost were compared using ANOVA and chi-square.

RESULTS: Demographics, clinical presentation, incidence of perforation and operative duration were similar between groups. ACS was associated with reduced LOS (0.7 vs 2.1 days; $p = 0.05$), organ space infection (0.0% vs 27.8%; $p = 0.01$), time until seen by a surgeon (133 vs 179 minutes; $p = 0.03$), and cost (\$5,510 vs \$8,002; $p < 0.0001$).

CONCLUSION: This is the first study to compare patient outcomes with TRAD and ACS concurrently at the same institution. Patient outcomes for appendicitis were improved, and hospital costs reduced, with the transition to a shift-based ACS model.

Incisional Hernia Prevention Using Autologous Cutis Grafts in Rat Model

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INTRODUCTION: Prophylactic mesh implantation reduces the incidence of incisional hernia (IH) after laparotomy but also introduces new and serious risks. Autologous cutis grafts (CG) are a longstanding adjunct for IH repair but have not been evaluated for IH prophylaxis. We hypothesized that CG would significantly reduce IH rates. We therefore performed a double-blinded, prospective, randomized controlled trial (RCT) of CG using a validated rat model of acute IH.

METHODS: CG underlay was compared with primary closure and saline injection controls. Male Sprague-Dawley rats (400 g) were randomized to 1 of 3 experimental groups ($n = 10$ per group): CG, saline injection, no treatment/primary closure. Midline laparotomy incisions were made and closed by a surgeon blinded to group assignment. A separate surgeon administered the intervention. Primary endpoints were IH formation and hernia size on postoperative day 28. Secondary endpoints included fascia tensile strength, local inflammatory markers, and fascial scar collagen ratios.

RESULTS: CG significantly decreased IH formation vs controls (10% vs 82.4%; $p = 0.027$). CG had no cyst, fistula, or hair formation, and intra-abdominal adhesions were similar to controls. The single CG hernia case had suture failure. Molecular characterization of fascial scar demonstrated trends toward improved tensile strength and collagen I/III ratios. Incision site inflammatory markers were similar between treatment and control groups.