

Pediatric Surgical Coverage is Associated with Increased Costs in the Operative Management of Uncomplicated Appendicitis

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Objectives: Optimal management of acute, uncomplicated appendicitis in the pediatric population is controversial, however the current standard of care remains appendectomy. It remains unclear if this population benefits from management by Pediatric Surgeons (PS) rather than General Surgeons (GS).

Methods: Virginia Health Information (VHI) database was retrospectively analyzed for cases of operatively managed pediatric (ages 5-18), uncomplicated appendicitis. Length of stay, total charges, operative charges and radiology charges were compared between patients cared for by Pediatric and General Surgeons. Patients were further stratified into three age groups (5-8, 8-13 and 14-18 years) for comparisons.

Results: A total of 793 patients aged 5-18 were identified by ICD-10 codes between 2015 and 2019. A majority (70%) of patients received care from PS hospitals. Total charges (\$32,165.49 vs \$44,330, $p < 0.01$), OR charges (\$10,445.92 vs \$13,500.37, $p < 0.01$), radiology charges (\$486.27 vs \$954.72, $p < 0.01$) and Length of stay (2.38 vs 2.83 days, $p = 0.05$) were significantly lower in the GS group. The costs remained significantly lower across all groups for GS except for radiology charges which were equivalent in the 5-8 year old group. When comparing specific age groups, length of stay was no longer significantly different.

Conclusions: Based upon this administrative database, operative management of uncomplicated appendicitis in the pediatric population can more efficiently be completed by general surgeons. It remains unclear exactly which patients benefit most from transfer to specialty PS hospitals. Our data suggest routine operative management of uncomplicated appendicitis does not require Pediatric Surgical coverage.

	General	Pediatric	
Total Patients	254	539	
Age 5-7	17	92	
Age 8-13	92	286	
Age 14-18	145	161	
Total Charges	\$32,165.49	\$44,330.85	p < 0.01
Age 5-7	\$21,542.31	\$37,029.16	p=0.019
Age 8-13	\$29,126.34	\$44,585.51	P<0.01
Age 14-18	\$35,390.87	\$48,065.16	p<0.01
OR Charges	\$10,445.92	\$13,500.37	p < 0.01
Age 5-7	\$8,031.06	\$11,398.00	p=0.034
Age 8-13	\$9,509.30	\$13,459.85	P<0.01
Age 14-18	\$11,363.53	\$14,794.33	p<0.01
Radiology Charges	\$486.27	\$954.72	p < 0.01
Age 5-7	\$725.44	\$1,001.71	p=0.24
Age 8-13	\$641.25	\$1,029.58	P<0.01
Age 14-18	\$359.22	\$797.79	p<0.01
LOS (days)	2.38	2.83	p = 0.05
Age 5-7	2.56	2.85	p=0.61
Age 8-13	2.64	3.03	p=0.35
Age 14-18	2.17	2.44	p=0.38

Figure 1: Outcomes