

# No 'weekend effect' seen following appendix removal operations

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Patients who undergo surgical removal of the appendix on a weekend do not experience more postoperative complications than those who undergo the same operation on weekdays, but they do pay slightly more in hospital charges, a new national study finds. Results were presented during a scientific poster session at the 2013 Clinical Congress of the American College of Surgeons.

Prior studies have shown higher rates of illness after other types of urgent abdominal operations performed on Saturdays and Sundays, the so-called "weekend effect."<sup>1,2</sup> Authors of the new study, however, found no such difference for appendectomy (surgical removal of the [appendix](#)), which is one of the most common urgent operations performed.

"From what we can see, there's no difference in the quality of patient care between weekend and weekday admissions of patients who have an appendectomy," said John N. Afthinos, MD, the study's lead author and a surgeon specializing in minimally invasive surgery at Staten Island (New York) University Hospital. "Patients with symptoms of acute appendicitis should not wait for the weekend to pass to go to the [hospital](#)."

Dr. Afthinos said the study's patient population is likely the largest group studied for the weekend effect in appendectomy. Using the U.S. Nationwide Inpatient Sample (NIS) data-base, the researchers identified nearly 826,000 appendectomies performed between 2006 and 2009 because of acute nonperforated appendicitis—a sudden infection of the

appendix without perforation, or hole. NIS is the largest registry of information about inpatient care. It includes information regarding eight million hospital stays in more than 1,000 hospitals.

Almost 96 percent of patients (790,940) who had the operation entered the hospital on a weekday, and 4.2 percent (35,024) represented weekend hospital admissions according to the data. The study authors assumed that the day of admission was the same as the day of the appendectomy, which usually is an urgent procedure.

About 68 percent of the appendix operations were laparoscopic, or minimally invasive, and the remaining 32 percent were open procedures. This 2-to-1 ratio was similar between the weekend and weekday groups, Dr. Afthinos reported.

Results showed that the weekend and weekday groups did not differ in patient characteristics such as sex, average age, and coexisting illnesses. Likewise, patients who had their appendix surgically removed on the weekend were apparently no more likely to have post-operative complications or to die in the hospital compared with those operated on during weekdays. According to the researchers, the data indicate that each group had a rate of major complications of 1.4 percent and a death rate of 0.0002 percent, or 2 in every 10,000 patients.

Although the average length of the hospital stay was the same in both groups (1.8 days), [hospital charges](#) were reportedly an average of \$419 higher for patients who had the operation on a weekend. Their hospitalization cost \$22,028, on average, versus \$21,609 for the weekday group, the investigators reported. Dr. Afthinos said the reason for this disparity is unclear because the database captures only the total charge of the patient's entire hospital service.

Previous studies have found an increased risk of [postoperative](#)

[complications](#) on week- ends for [patients](#) who had other urgent gastrointestinal (GI) operations.<sup>1, 2</sup> Authors have speculated that reduced weekend staffing in hospitals might play a role.

Dr. Afthinos suggested a possible reason why their study results demonstrated no [weekend](#) effect, explaining that an "[appendectomy](#) typically is a less major abdominal operation" than the GI procedures performed in the previous studies. Symptoms of appendicitis, such as abdominal pain, fever and nausea, require urgent medical attention because of the risk of the appendix bursting, he cautioned.

**More information:** 1 Ananthakrishnan AN, McGinley EL. Weekend Hospitalizations and Post-operative Complications Following Urgent Surgery for Ulcerative Colitis and Crohn's Disease. *Aliment Pharmacol Ther.* 2013 May; 37(9):895-904.

2 Worni M, Schudel IM, Østbye T, et al. Worse Outcomes in Patients Undergoing Urgent Surgery for Left-sided Diverticulitis Admitted on Weekends vs Weekdays: A Population-based Study of 31 832 Patients. *Arch Surg.* 2012 Jul; 147(7):649-655.

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