Evidence supports 'weekend effect' for mortality after surgery

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As for other types of medical care, surgery appears to be prone to a significant "weekend effect"— with higher odds of death when surgery is performed during or one or two days before the weekend, suggests a report in the February issue of *Medical Care*.

"Postoperative mortality rises as the day of the week of elective surgery approaches the weekend, and is higher after admission for urgent/emergent surgery on the weekend compared to weekdays," according to the study by Stephen Smith, MD, MSc, and colleagues of University of Calgary, Alberta, Canada. The findings include higher odds of death after operations scheduled for Thursdays or Fridays, possibly reflecting increased complications when the early recovery period falls on the weekend.

Weekends May Affect Outcomes of Surgical Care

The researchers performed a comprehensive analysis of research on the link between weekend surgical care and postoperative mortality. The analysis included 10 previous studies of elective (scheduled) surgery including approximately 6.7 million patients.

Elective operations usually aren't scheduled on the weekend. But patients undergoing surgery later in the week might still be at increased risk because the early postoperative period—a time of known vulnerability to complications—occurs on the weekend.

On meta-analysis of pooled data, postoperative mortality increased gradually as the day of surgery approached the weekend. The difference became significant for elective surgery performed on Thursday or Friday: the odds of death were 12 percent higher for Thursday operations and 24 percent higher for Friday operations, compared to operations performed on Monday.

Analysis of urgent/emergent surgery included 19 studies totaling more than 1.4 million patients. The odds of postoperative mortality were 27 percent higher for patients admitted to the hospital on Saturday or Sunday, compared to those hospitalized on a weekday.

Studies from various medical disciplines have reported an increased risk of poor outcomes with healthcare provided on the weekends. "This phenomenon has become known as the 'weekend effect' and has been speculated to result from decreased staffing and resource availability, leading to shortfalls in care and poor outcomes," Dr. Smith and coauthors write.

Their study is the largest and most comprehensive synthesis of evidence on whether a similar weekend effect influences the risks and outcomes of surgery. The results suggest a significant increase in the odds of postoperative death for patients who undergo elective surgery late in the week or urgent/emergent surgery on the weekends.

The researchers emphasize some important limitations of their study—especially the fact that it can't reach any conclusions about the underlying cause of the increase in mortality with surgery or early recovery over the weekend. Dr. Smith and colleagues conclude, "Future studies should focus on clarifying the contributing factors to poor outcomes and developing strategies to potentially improve safety and mitigate adverse events associated with weekend surgical care."

More information: Stephen A. Smith et al. Weekend Surgical Care and Postoperative Mortality, *Medical Care* (2017). DOI: 10.1097/MLR.0000000000000860