

Decision conflict before cancer surgery correlates with lower activity after surgery

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Nearly one-third of cancer patients who decide to undergo surgery for their condition may have second thoughts, and this decision conflict may lead to less favorable treatment outcomes in both the near- and long-term, according to a team of investigators at Massachusetts General Hospital (MGH) and Ariadne Labs, a joint center for health systems innovation at the Harvard T.H. Chan School of Public Health and Brigham and Women's Hospital (BWH).

In a [pilot study](#) to see whether a survey and [sensor data](#) collected from a [smartphone app](#) could help identify clinically significant decision conflict in patients scheduled to undergo [cancer surgery](#), Nikhil Panda, MD, MPH, from MGH and colleagues found that 27 percent reported having a conflict about their decision.

"When we followed that group out to 90 days after surgery, and even after accounting for potential differences between the group that reported conflict before surgery and the group that didn't, the people who said they had conflict were less active overall," Panda said. "In surgery, we know

that if people are more active, it's an independent predictor of having better functional outcomes over the long term."

The findings are reported in the journal *Annals of Surgery*.

Patients with cancers that can be treated by surgery often wrestle with issues such as their treatment goals (for example, the potential for cure or symptom relief) and their health-related quality of life following treatment.

Cancer specialists try their best to engage patients in decision making regarding their care, but as Panda and colleagues write, "the lack of scalable, generalizable, and patient-centered outcome measurement tools means that many patients face cancer treatment, including surgery, without an understanding of how the intervention will affect outcomes that matter the most to them."

That lack of understanding can lead to clinically significant decision conflict, which has been shown in previous studies to be associated with problems such as patients not following treatment plans, strained patient-provider relationships and poorer emotional and psychological health.

To get a better understanding of the effects of decision conflict on postoperative health, the investigators recruited patients who were scheduled for surgery within a week or so to treat cancers of the breast, skin, soft tissues, abdomen or thyroid/parathyroid, and who owned a smartphone running on the Apple iOS or Android operating systems.

The patients were asked to download a data-gathering application that delivered to their phones the Decision Conflict Scale, a certified tool for measuring clinically significant decision conflict. The app also used the phone's motion-sensing accelerometer to gather continual data about

activity following surgery.

Of 85 patients who downloaded the app and completed the Decision Conflict Scale, 27 percent reported clinically significant decision conflict, and although this group did not differ in pre-operative physical activity from the patients who did not report decision conflict, Panda and colleagues found that at 30, 60, and 90 days after [surgery](#) the patients with decision conflict had significantly lower levels of physical activity.

"If we can find something that's easily modifiable to improve that outcome, that would be a good thing. Factors such as obesity and smoking are very difficult to modify in the short term, but we may be able to reduce [conflict](#) by better informed consent, using [decision](#) aids, or improving communication between patients and their surgeons. These are all low-hanging fruit," Panda said.

More information: Nikhil Panda et al, Smartphone-Based Assessment of Preoperative Decision Conflict and Postoperative Physical Activity Among Patients Undergoing Cancer Surgery, *Annals of Surgery* (2020). [DOI: 10.1097/SLA.0000000000004487](#)

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