

Potential way to improve cancer surgery outcomes by managing nontraditional risk factors

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In a study of 142 patients preparing for cancer surgery, Johns Hopkins Medicine researchers say they have evidence that psychological or social risk factors such as depression, limited resilience and lack of emergency resources along with standard medical risk factors such as high blood

pressure or diabetes are linked with higher risks of surgical complications.

"When it comes to [cancer surgery](#), the conventional strategy has always been to treat the cancer as fast as you can," says Ira Leeds, M.D., M.B.A., a research fellow in the Department of Surgery at the Johns Hopkins University School of Medicine. "But our study suggests that there are things related to their psychosocial lives that we could and should be managing ahead of time, and that would help our [patients](#) have better outcomes after their [surgery](#)."

The researchers caution that their study wasn't designed to determine cause and effect, but to identify associations between [risk factors](#) and outcomes.

In a report on the study, published Jan. 7 in *Annals of Surgical Oncology*, the researchers said such psychological and [social factors](#) as mood, the ability to handle stress, resources patients can pull together in a pinch, and a history of drug, alcohol or smoking addiction were tied observationally to poor surgical outcomes in their study population. Taking note of them, and perhaps taking some time to address them, may help reduce complications and improve outcomes.

Leeds said his study was prompted in part by the better outcomes documented in other kinds of surgery where there may be less of a sense of immediate urgency, such as weight reduction and orthopaedic operations. In those fields, he noted, surgeons generally require that their patients have a good psychosocial safety net and plan before surgery, because such things as quitting smoking and having a plan for after-surgery care can result in fewer [adverse events](#).

To see whether that might be the case for cancer surgery patients, the researchers compiled a special questionnaire based on well-known terms

and concepts used to measure psychosocial risk factors. For example, the questions ask a patient how well they bounce back from a difficult event, or how likely they could cope with and care for a minor infection from home after surgery.

Between March and October 2017, they gave the survey to 142 patients before they had abdominal cancer surgery at The Johns Hopkins Hospital or its local affiliates. Each survey took an average of 10 minutes to complete and asked patients to rank their answers to about 20 questions on a 1 to 5 scale.

The patients were an average of 65 years old; 56 percent were men and 23 percent were nonwhite. More than half the patients had a liver or pancreatic tumor, and the rest had primarily colorectal tumors. The researchers assessed patient outcomes 30 days after surgery, using [medical records](#) to count such complications after surgery as infections, blood clots, bleeding from surgery, heart attack, kidney problems, stroke and spending excessive time on a ventilator.

Of those who had operations, 43 percent had other medical risk factors prior to surgery, such as [high blood pressure](#), diabetes, lung disease or heart failure, all of which may lead to post-operative complications. Almost three-quarters had at least one psychosocial risk factor, with the most frequent reported as smoking (43 percent) and limited resourcefulness (29 percent).

The researchers found that one psychosocial risk factor alone did not make a person more likely to have complications after cancer surgery. However, they found that if people had medical risk factors and a single psychosocial risk factor, it made them 28 percent more likely than those without those factors to have complications after surgery, even after accounting for the extra complications tied to medical risk factors.

Those patients who had a medical risk factor and two or more psychosocial risk factors were 3.4 times more likely to develop a [complication](#) after surgery than those with no risk factors.

"Our results suggest that there is an opportunity to test new interventions focused on managing psychosocial risks before surgery in order to improve outcomes, and that is what we plan to do next," says Leeds.

More information: Ira L. Leeds et al. Psychosocial Risks are Independently Associated with Cancer Surgery Outcomes in Medically Comorbid Patients, *Annals of Surgical Oncology* (2019). [DOI: 10.1245/s10434-018-07136-3](#)

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