Spinal surgeries are performed in the United States at a rate up to five times higher than in any other developed country, even though spinal disease and injury are no more prevalent in the U.S. than elsewhere.  

Even when spinal surgery appears to be successful, it does not necessarily improve patient functioning or satisfaction with care. In one study of lumbar fusion surgery, even though surgery was objectively successful in 84% of patients, following the surgery 49% had worse pain, 44% were dissatisfied with their outcome, and 38% were totally disabled at follow-up. Another study found that opioid pain medication use actually increased following lumbar fusion surgery.

A number of psychological, social, and behavioral variables are known to affect the outcome of surgery, and do so in the following ways:

- Emotional stress can affect both the inflammatory response and the immune system, both of which can negatively impact surgical outcome.
- Depression increases the risk of nonadherence to physical therapy, poor outcome, and not taking medications as prescribed.
- Depression prior to surgery has been shown to be a predictor of dissatisfaction with the outcome of the surgery.
- Deep sleep promotes the release of growth hormones, which the body requires for wound healing. Emotional stress can interfere with recovery by reducing deep sleep, which also increases the risk of chronic pain.

A thorough review of the evidence determined that psychological tests are the scientific equivalent of medical tests. In the case of spinal pain, studies show that psychological tests can be more predictive of surgical outcome than MRIs. Standards for the psychological assessment of spinal patients have been established, as have clinical protocols for assessment.

Research has provided strong evidence for which psychological variables predict surgical outcome, and indicators of both moderate and severe presurgical risk factors have been identified. Psychological evaluations
have been shown to predict not only spinal surgery outcome, but also the outcome of other surgeries and medical treatments.\textsuperscript{4}

• One state mandated a biopsychosocial system for treating injured workers. One part of this system was that psychological evaluations were recommended or required prior to a number of invasive procedures and other medical treatments.\textsuperscript{*} These evaluations were used to help select appropriate patients for surgery versus conservative care. This approach reduced the duration of disability and was associated with an estimated $859 million savings in one year.\textsuperscript{22}

\textsuperscript{*} These medical treatments included lumbar fusion, back surgery if Waddell signs are greater than 2, artificial disk surgery, spinal cord stimulation, discography, facet rhizotomy, intradiscal electrothermal annuloplasty, some cervical and shoulder surgeries, chronic opioid therapy, biofeedback, and treatments for chronic pain and delayed recovery generally.

\section*{References}


The American Psychological Association (APA) gratefully acknowledges the contributions of Daniel Bruns, PsyD (Health Psychology Associates, Greeley, CO), fellow of APA Division 38, Health Psychology, in developing this briefing sheet on presurgical psychological evaluations. This briefing sheet series is a joint project of APA and the Interdivisional Healthcare Committee, a coalition of health-oriented divisions within APA. © 2015 by Daniel Bruns, PsyD.