SPINE SURGEONS CAN PREDICT WHICH PATIENTS ARE AT RISK FOR CHRONIC NARCOTIC USE

Pre-Operative Psychological Factors Predict Narcotics Use Even Two Years after Surgery

LOS ANGELES, CA—Physicians have a new weapon in the fight against opioid addiction: prediction. Using pre-operative psychological factors, researchers were able to predict with nearly 80% accuracy which patients would still be using narcotics two years after spine surgery. The study was presented at the 33rd Annual Meeting of the North American Spine Society (NASS).

“Knowing which people will be most vulnerable to chronic narcotic use after surgery can allow physicians to be selective in their prescribing procedures,” said Erin Bigney BA, MA, the study’s lead author. “By treating the patient holistically—and including them in the conversation—alternatives to narcotics, including education, cognitive-based therapy, and other medications such as acetaminophen and NSAIDs, can be considered.”

According to the Centers for Disease Control and Prevention, more than 115 Americans die from an opioid overdose each day. The misuse of and addiction to opioids—including prescription pain relievers, heroin, and synthetic opioids such as fentanyl—is a serious national crisis that affects public health as well as social and economic welfare.

The study, “Preoperative Psychological Factors Significantly Add to the Predictability of Chronic Narcotic Use: A Two-Year Prospective Study,” is a prospective observational study using Canadian Spine Outcomes and Research Network (CSORN) data alongside validated psychological measures. The participants were consecutively enrolled adult patients having undergone thoracolumbar spine surgery (N = 191). Those having undergone previous spine surgery were excluded.

Baseline measures included the Pain Catastrophizing Scale (PCS), Tampa Scale for Kinesiophobia, Multidimensional Scale for Perceived Social Support (MSPSS), Chronic Pain Acceptance Questionnaire (CPAQ-8), Oswestry Disability Index (ODI), Numeric Rating Scales for back and leg pain (NRS-B/L), SF-12’s Mental Component Summary (MCS), narcotic use and demographic variables. The postoperative measure of interest was narcotic use at the two-year follow-up. Narcotic use was collapsed into binary categories of “use” and “no use.” Descriptive statistics were run. Chi Square analysis was used for categorical variables and an analysis of variance (ANOVA) for continuous variables. Significant variables were built into a binary logistic regression to determine predictors of postoperative narcotic use. Significance was set at $\alpha<0.05$.

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A total of 27.23% of the sample was using narcotics two years after surgery. The regression model included ODI, NRS-Leg, time with condition, chief complaint, preoperative drug use, gender, MCS, PCS subscale helplessness, and CPAQ subscale pain willingness and was significant $\chi^2 = (13, N=191) 54.99; p = .000$. The model accounted for 39.6% of the variance in narcotic use and correctly predicted in 79.7% of cases. Psychological variables accounted for 9.6% of the variance over and above the other predictors.

The results show that surgeons can predict which patients are at risk for chronic narcotic use prior to surgery. Patients with moderate-severe disability, high levels of leg pain, high scores on PCS helplessness (“There’s nothing I can do to help reduce my pain”), and low pain willingness (low preparedness of a person to experience increased pain in order to get something important done) at baseline were more likely to use narcotics two years after their surgery. Narcotic use was also predicted by gender with males being more at risk, having their condition for more than two years prior to seeing a surgeon, and using narcotics prior to surgery.

“The majority of the conditions that predicted chronic narcotic use are not changeable, including gender, pain levels, and disability. However, perception of your personal control over pain and your willingness to endure pain for increased function can be treated or altered,” said Bigney.

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This abstract does not discuss or include any applicable devices or drugs. The NASS 2018 Disclosure Index can be found on pages 174-194 of the NASS 33rd Annual Meeting’s final program.

More than 3,000 spine professionals will meet at the NASS 33rd Annual Meeting in Los Angeles September 26-29, 2018 at the Los Angeles Convention Center to share the latest information, innovative techniques and procedures, best practices and new technologies in the spine field. NASS is a multidisciplinary medical organization dedicated to fostering the highest quality, evidenced-based and ethical spine care by promoting education, research and advocacy. NASS is comprised of more than 8,000 members from several disciplines, including orthopedic surgery, neurosurgery, physical therapy. For more information, visit www.spine.org, NASS Facebook and NASS Twitter.

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