

Risk-Assessment Instruments for Pain Populations

The Screener and Opioid Assessment for Patients with Pain (SOAPP)

The SOAPP is a 14-item, self-report measure that is designed to assess the appropriateness of long-term opioid therapy for chronic pain patients.⁽⁵⁾ Each item is measured on a 5-point scale (0 = never, to 4 = very often), with a cutoff score of 8. The SOAPP—created by an expert panel of 26 members—was reduced from an initial 24 items to 14 items after Butler et al. ⁽⁶⁾ tested each item's reliability and validity. Akbik et al. ⁽⁵⁾ found that 355 of 396 noncancer chronic pain patients (90%) answered all 14 items. (A high rate of completion is important, as partially completed tools have limited usability.) Patients with scores of 8 or higher were younger (mean age, 40.7 vs. 45.5 years, $P < .05$), more likely to have had a urine screen (46.4% vs. 31.1%, $P < .01$), and more likely to have had abnormal urine screen results (33.7% vs. 27.5%, $P < .05$) than those with scores below 8. The SOAPP is given a low cutoff of 8, because individuals who believe that their responses may determine their opioid treatment may underreport their behavior, and because some patients fear that their answers may be misconstrued. Whereas the SOAPP is an accurate tool for assessing abuse potential in patients being considered for opioid therapy, it remains problematic in a few areas, most notably in that the data are correlational and not causal. Another problem is that very few demographic and medical data were recorded in the validation of SOAPP, raising the possibility of there being differences in the cutoff scores among different subpopulations.

Comment: The SOAPP has undergone a number of iterations. It is presently briefer and perhaps less susceptible to deception than some of the more “face-valid” tools. The assessment is also more accurate at predicting problematic behavior in people prescribed opioids for pain than expert clinician predictions (T. Jones, personal communication 2007). In high-risk pain populations, these advantages may make its use desirable despite its greater length and scoring requirements as compared with other similar measures, most notably the Opiate Risk Tool (ORT), below. The SOAPP probably has the best psychometrics of any of the measures designed to predict aberrant drug-taking behavior prior to the initiation of opioid therapy.

Diagnosis, Intractability, Risk, and Efficacy Score (DIRE)

The DIRE is a clinician-rated scale designed to predict the analgesic efficacy of, and patient compliance to, long-term opioid treatment in the primary care setting. The scale is intended for use in patients who have chronic noncancer pain and who are currently being treated with opioids or are being considered for opioid treatment. The DIRE includes 4 categories: diagnosis, intractability, risk, and efficacy. The risk category is further divided into 4 subcategories: psychological, chemical health, reliability, and social support. Each factor is rated from 1 to 3, with higher scores indicating a more persuasive case for opioid therapy in terms of treatment efficacy and compliance. Patients with scores of 14 and above are

considered good candidates for long-term opioid treatment, whereas those with lower scores are not considered good candidates.

Belgrade and colleagues (7) performed a retrospective analysis of the DIRE score in 61 patients who had been treated with opioids for chronic noncancer pain at an outpatient pain management center. Most patients had chronic musculoskeletal back and neck pain (41%), abdominal pain (15%), or neuropathic pain (13%) and were treated with opioids for a median duration of 37.5 months. In this cohort, the DIRE score exhibited high internal consistency, with a Cronbach's alpha coefficient of 0.80. All factors besides diagnosis were significantly related to treatment compliance ($P < .001$), and all except intractability were significantly associated with efficacy ($P < .05$). This was to be expected because, by definition, efficacy is hard to achieve in an intractable condition. Although the diagnosis subscore was not correlated with outcome, it is included in order to avoid treating with opioids patients who do not have a diagnosis or condition that is associated with moderate or severe pain. At a cutoff point of 13, the sensitivity and specificity of the DIRE score for predicting compliance in the study cohort were 94% and 87%, respectively, and for predicting efficacy, 81% and 76%, respectively. Interclass correlation for interrater reliability and intrarater reliability was 0.94 and 0.95, respectively.

Comment: The DIRE score performed well in identifying suitable candidates with chronic noncancer pain for long-term opioid therapy, but the retrospective nature of the study raises several limitations, most notably that investigators scored patients according to case history. Moreover, the study population was relatively small and included a variety of chronic pain etiologies. Prospective analyses in more homogeneous chronic pain populations are still needed for confirming the utility of the DIRE score. However, for pain clinicians who prefer an observer-based, clinician-rated assessment strategy, the DIRE has tremendous potential. Using the DIRE is actually a process of systematizing the clinical judgments that pain clinicians typically make and quantifying them. This process is comfortable for, and familiar to, most pain clinicians and avoids the use of paper-and-pencil measures, where these may be less a part of particular clinics' routines.

Opioid Risk Tool (ORT)

The ORT is a 5-item yes-or-no self-report that is designed to predict the probability of a patient's displaying aberrant behavior when prescribed opioids for chronic pain. It consists of items on family history of substance abuse, personal history of substance abuse, age, history of preadolescent sexual abuse, and psychological disease. The items on substance abuse contain three subsections covering alcohol, illegal drugs, and prescription drugs, and the item on psychological disease has two subsections that distinguish depression from other disorders. Each positive response is given a score based on patient gender, and then the scores are summed to derive the probability of opioid-related aberrant behavior. Scores of 0 to 3 are associated with low risk, 4 to 7 with moderate risk, and 8 and over with high risk. Webster and Webster (8) evaluated the ORT in 185 consecutive new patients at a pain clinic. Seventeen of 18 patients (94.4%)

in the low-risk category did not display aberrant behavior. In contrast, 40 of 44 patients (90.9%) in the high-risk category and 35 of 123 patients (28.5%) in the moderate-risk category did display aberrant behaviors. The most common aberrant behaviors were solicitation of opioids from other providers, unauthorized escalation of opioid dose, abnormal urine or blood screening, and use of more opioids than those prescribed. The ORT displayed excellent discriminatory ability in both men and women, with observed *c* statistic values of 0.82 and 0.85, respectively.

Comment: Because of its brevity and ease of scoring, the ORT has tremendous clinician appeal and is clearly the easiest way to perform a risk assessment with a tool validated in pain patients and specifically designed to predict problematic behavior in people prescribed opioids for pain. Its lone drawback is its susceptibility to deception. Clinicians will have to decide if guarding against deception is important enough to use a longer and more cumbersome tool or if the documentation of risk assessment (not to mention clear evidence of deception, should it occur) satisfies their requirements.

Atluri Screening Tool

Atluri and Sudarshan (9) developed a clinician-rated screening tool to detect the risk of inappropriate prescription opioid use in patients with chronic pain. Using a case-control design, the investigators retrospectively identified 107 patients who were dismissed from the pain clinic for inappropriate prescription opioid use, and compared them with 103 randomly chosen chronic pain patients who did not have evidence of inappropriate prescription opioid use. On multivariate analysis, 6 clinical criteria were significantly associated with opioid abuse; these included focus on opioids, opioid overuse, other substance abuse, low functional status, unclear pain etiology, and exaggeration of pain. The investigators identified a checklist of questions for each of these 6 criteria. The screening tool is based on the number of positive criteria, ranging from 0 to 6. Most patients (77%) in the inappropriate use group scored above the cutoff of 3, whereas most (84%) in the control group scored below this cutoff level. Notably, patients with scores greater than 3 had an odds ratio of 16.6 (95% CI: 8.3-33; $P \leq .001$) for opioid abuse, compared with the odds ratio for those with scores below this cutoff.

Comment: These preliminary results are promising, but it is important to recognize that the study was retrospective in design, included only patients being treated with opioids for chronic pain, and excluded those with cancer pain or acute pain.

Screening Instrument for Substance Abuse Potential (SISAP)

SISAP is a physician-administered screening tool designed to identify chronic noncancer pain patients who may be at risk of abusing opioids if prescribed. The instrument is easy to use and takes only a few minutes to administer. SISAP was developed and validated using data from the National Alcohol and Drug Survey (NADS), conducted in Canada in 1989.(10) The 5 questions elicit information

about the number of drinks in a typical day and typical week, use of marijuana in the past year, history of cigarette smoking, and age. In the development cohort of 4,948 NADS respondents, SISAP correctly identified 91% of substance abusers and 77% of those who did not have alcohol or drug abuse problems. SISAP was validated in the other half of the subject pool from NADS and showed comparable performance by correctly classifying 91% of the actual substance abusers and 78% of the nonabusers. Overall, SISAP exhibited an accuracy of 80%, with sensitivity of 91% and specificity of 78%. Thus, SISAP can stratify chronic pain patients seen in a primary care setting, thereby allowing increased opioid availability to those who are not at risk of opioid abuse and providing improved monitoring or referral to those who are at risk.

Comment: The SISAP was developed on perhaps the largest database of pain patients of any of the screening tools included in this review. It is unclear why, in the several years since its development, the tool has not received further validation in prospective trials. Perhaps the requirement that clinicians ask a set of pointed questions about alcohol and drug use has delayed the tool's adoption by pain clinicians. Its brief format, though, would lend itself to use in pain clinics, and a prospective trial of the tool's ability to predict aberrant drug-taking behaviors is needed.

Screening Tool for Addiction Risk (STAR)

STAR, a screening tool for addiction risk, consists of 14 yes-or-no questions relating to cigarette, alcohol, and drug use; family or household members with drug or alcohol abuse; visits to pain clinics and emergency rooms; and feelings of depression, anxiety, and altered mood. Friedman and coworkers (11) evaluated STAR in a sample of 48 chronic pain patients, including 14 with a history of substance abuse. Individual screening questions related to tobacco abuse, prior treatment in a drug or alcohol rehabilitation facility, or treatment at another pain clinic were more likely to be positive in patients with current substance abuse ($P < .05$). On logistic regression, a history of treatment in a drug or alcohol rehabilitation facility was a significant predictor of addiction (positive predictive value 93%; negative predictive value 5.9%).

Comment: The STAR is brief, has been used in chronic pain patients, and has potential as an aid to screening and treatment planning. Larger prospective studies that examine the tool's ability to predict aberrant drug-taking behaviors are needed.

Chemical Coping Inventory (CCI)

The CCI is a tool in development meant to capture personality traits and attitudes that could lead to problematic drug use, failure to progress toward functional goals, and an overreliance on medication as a sole way of coping with chronic pain.(12) Inventory items are designed to assess somatization, sensation-seeking, alexithymia, and overcentrality of drug-taking. Kirsh and colleagues (12) contend that there is a vast middle ground of chronic pain patients who have some of the aforementioned personality

traits and who are at risk for problematic drug use unrelated to substance use disorder (SUD). Initial instrument development work has been promising, and a large validation trial is under way.

Comment: The CCI will add a great deal to pain treatment planning (i.e., to bring in psychosocial treatments early and to utilize drug regimens that are unlikely to become problematic for psychological reasons) should its psychometrics prove to be acceptable.