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Assessing Patients' Risk for Opioid Use Disorder

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Abstract

Opioid misuse and opioid use disorder (OUD) are two conditions that continue to rapidly escalate in North America. Nurses play a critical role in managing pain in patients who are at risk for OUD. The urgency of the interplay of pain and OUD provides nurses with an opportunity to address these issues while caring for patients across the continuum of care. This paper offers approaches to assess risk for OUD while managing pain, and can improve clinical practice, increase strategies used to assess risk, and encourages implementation into daily nursing practice.

Background

Opioid misuse and opioid use disorder (OUD) are two conditions that continue to rapidly escalate in North America. Whether the opioids are obtained through illicit or legitimate sources of pain management, a nurse has a challenging role of managing pain while minimizing risk for OUD. Today many patients receiving opioids for pain question the risk related to their use or are concerned about OUD, and most healthcare providers are concerned that administering opioids for pain will create risk for OUD. This article will help the critical care nurse address these questions.

Risks for OUD can occur across the healthcare continuum. Recent population-based studies showed that prescribed opioids in the emergency department (ED) ran considerable risk for recurrent opioid use.^{1,2} Another study showed that patients taking opioids prior to surgery remained on opioids beyond their normal postoperative healing period.³ Following total knee replacement 20% of patients experienced prolonged pain at six months which may also prolong opioid use.⁴ In fact, a retrospective analysis of administrative health claims showed a range of chronic opioid use following surgical procedures such as cesarean section (odd ratio 1.28; 95% CI, 1.12-1.46) to total knee arthroplasty (odds ratio 5.10; 95% CI, 4.67-5.58).⁵ Additionally, two studies analyzing health claims data of postsurgical use of chronic opioids showed that patients with preoperative history of benzodiazepine or antidepressant use, depression, alcohol or drug abuse, and over 40 years of age had increased rates of chronic opioid use.^{5,6} Pain continues to exist in epidemic proportions with 25 million people enduring daily chronic pain and 23 million reporting pain so intense they cannot support or care for themselves.⁷ While state and federal policies have addressed prescription opioids for chronic non-malignant pain, opioids will always be used for

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management of acute pain whether as adjunct to neural blockade or multimodal analgesia regimen.⁸

There are guidelines recommending a reduction of opioid prescribing⁹ and tools have been developed to assist in the assessment of a patient's level of risk for OUD and opioid misuse (see Table 1, Assessment tools for aberrant drug related behavior, OUD and opioid misuse). Although additional research is needed on the ability of opioid risk tools to predict aberrant drug-related behaviors and opioid use disorder, federal and state guidelines continue to recommend the use of these tools to assess patients.^{9,10}

The main objectives of this manuscript is to specify opioid use disorder risk factors, summarize key elements of assessment tools for risk for OUD and opioid misuse, and strategies to monitor for OUD and opioid misuse. Clinical Implications for nursing practice are recommended in the areas of clinical practice, education, and research.

Opioid Use Disorder Risk Factors

OUD is a problematic pattern of opioid use leading to clinically significant impairment or distress, unsuccessful efforts to cut down, impaired control, social impairment, tolerance, much time spent procuring and using opioids, and exhibited withdrawal symptoms when stopping or reducing.¹¹ Relevant to nurses working in critical care are patient characteristics indicating risk for OUD, behaviors indicative of misuse, and characteristics of the prescribed opioids (see Table 2, Risk factors for OUD and Opioid Misuse). Studies showing incidence rates vary according to study design, technique for diagnosing, and the clinical setting where data is collected. To address the heterogeneity of these studies, meta-analysis researchers grouped studies across the characteristics of the studies to avoid ranges of incidence of OUD that were difficult to interpret, i.e. 0.10% to 34%¹² or 0.70% to 23.0%.¹³ To address this variability, one group used 3 studies representative across the study samples, 1) in a chronic pain clinic with healthcare providers assessing symptoms of OUD, 2) a commercial insurance database looking at received prescription opioid and diagnosis of OUD within 2 years, and 3) a commercial insurance database looking at patients receiving chronic opioid therapy and diagnosis of OUD within 2 years. In the meta-analysis, they found an incidence rate of OUD from prescribed opioids as 2.5%,¹² providing a result that is understandable and pertinent to those in clinical practice. Also, significant to clinical practice are systematic reviews that found that risk for OUD were highest among certain characteristics of individuals who were opioid naïve when initially prescribed opioids and characteristics of opioids prescribed (see Table 2, Risk Factors for OUD and opioid misuse). All these characteristics are important to the ability to assess risk for OUD.

Opioid misuse is more common than OUD and refers to the use of opioids in a manner other than how it was indicated or prescribed¹⁴ such as using a prescribed opioid medication longer than directed or in greater amounts regardless of harm.^{14,15} A systematic review using robust measures with sample size by study-quality interaction and mean of high quality studies showed a range of misuse from 23.6% to 24.9%.¹³ Terms such as opioid use disorder and opioid misuse, are endorsed and used by federal organizations and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).^{11,16} Avoid using terms

such as “addict,” “abuser,” “drug seeker,” or “doctor shopping” to reduce stigma of those with substance use disorder.

Assessment Tools to Identify Risk for OUD and Opioid Misuse

Risk assessment tools were originally designed to screen for risk of developing aberrant drug related behaviors in those prescribed opioids for pain. Aberrant drug related behaviors can include a patient demanding opioids, rejecting alternative methods of care, demonstrating anger and hostility, or providing an inconsistent history.¹⁷ However, those types of behaviors can occur with a variety of situations within the patient and clinician encounter. The first risk assessment tool to challenge the current paradigm of screening for aberrant drug related behavior is the Opioid Risk Tool for Opioid Use Disorder (ORT-OUD),¹⁸ which shifted to screening for risk of OUD.

There are three purposes of opioid risk assessment tools: 1) To reassure patients who are anxious about their risk, and to explain that their history does not mean their pain will not be managed;¹⁹ 2) To inform patients that planning for safe and effective pain management will be enhanced through the use of these tools;²⁰ and 3) To discuss with patients who have a history of substance use disorder, that safeguards will be used to help them manage pain and referral for treatment is available if needed.²¹ Risk stratification can be incorporated into the patient’s medical record and demonstrates thorough assessment and accountability for the treatment plan. Maintaining open and respectful conversations with patients is imperative and the use of these tools provide entrée to those conversations.

Opioid risk assessment tools vary by design, ease of administration, risk variables monitored or predicted, and psychometrics used. There are over 25 opioid risk assessment tools. A systematic review revealed insufficient or low evidence of diagnostic accuracy of opioid risk assessment tools to predict risk for misuse, abuse, or overdose of prescribed opioids.²² Furthermore, prior to 2014, there was a lack of good validity and reliability for any of the available opioid risk tools used to predict the likelihood of developing OUD when prescribed opioids for pain.²² Four risk assessment tools were selected for discussion in this paper based on the literature indicating high utilization and the author’s experience using the tools. Three assessment tools are for use prior to prescribing opioids and one is for use while the patients continue on opioids. These tools are the Screener and Opioid Assessment for Patients with Pain (SOAPP-R);²³ Diagnosis, Intractability, Risk, and Efficacy (DIRE);²⁴ and the Opioid Risk Tool for Opioid Use Disorder (ORT-OUD).¹⁸ These tools will be described by purpose, patient population for which the tool was developed, context of care where it was tested, dimensions assessed, and psychometric evaluations (i.e., reliability and validity).

Screener and Opioid Assessment for Patients with Pain.

Screener and Opioid Assessment for Patients with Pain (SOAPP-R) is a 24 item self-report questionnaire that the patient completes. The purpose of the opioid assessment tool is to determine potential risk for aberrant drug related behaviors when prescribed for pain treatment. The tool was revised in 2008 to reduce susceptibility to patients’ deception, to increase discrimination, and to improve predictive ability. Dimensions assessed are mood swings, feelings of boredom, over concern with medications, patient with friends who abuse

alcohol and/or drugs, and patient themselves with alcohol and/or drug issues.²³ Testing occurred on patients with chronic pain who received long-term opioid therapy. The initial psychometric evaluation of the revised tool revealed an internal consistency through a coefficient alpha of 0.88. As a standard criterion for prediction of aberrant behaviors, the area under the curve (AUC) was .81 ($p<.001$). In clinical practice, the cut off score can be somewhat arbitrary based on the judgment of the clinician. However, for the purposes of psychometric evaluation, a cut off score of 18 showed a sensitivity of 81% and specificity of 68% and can be interpreted as a score over 18 indicate the patient is 2.5 times likely to be high risk for aberrant drug related behavior. Overall, the psychometric evaluation for predicting aberrant drug related behavior were good; and at the time the tool was developed and tested, the current thinking of clinicians and researchers was that determining aberrant drug related behaviors was the best way to stratify opioid risk prior to initiating opioid treatment for pain.

Diagnosis, Intractability, Risk, and Efficacy.

Diagnosis, Intractability, Risk, and Efficacy (DIRE) is a clinician-rated scale completed by the clinician. The purpose of the tool is to predict analgesic efficacy and patient compliance for long term opioid treatment in primary care. The targeted population for the initial psychometric evaluation were patients with chronic non-cancer pain, and primary care providers. Sixty-one vignettes were derived from de-identified pain clinic patients' medical records. The raters were instructed on scoring the vignettes using the DIRE tool and were primary care providers, i.e. three were family practice physicians and two were internal medicine physicians. Four dimensions are measured: diagnosis, intractability, risk and efficacy. Risk subcategories are psychological, chemical health, reliability, and social support. The psychometric evaluation of this tool showed internal consistency through Cronbach's alpha coefficient of .80 with a cut off score of 13 and interpreted as 13 or below the patient is not a candidate for long-term opioid therapy. The receiver operating characteristic (ROC) was used to measure diagnostic ability to predict compliance with a sensitivity of 94% and specificity of 87%; predict efficacy with a sensitivity of 81% and specificity of 76%. The interclass correlation for intra-rater reliability was .95 and inter-rater reliability was .94.²⁴ Furthermore, the primary care providers in this study were asked to estimate the amount of time it would take to complete a DIRE score on a patient in primary care and the mean estimate was less than two minutes. In summary, the four dimensions measured in this tool creates a comprehensive perspective of patient behavior with opioids. The DIRE tool is not time intensive, and structures and quantifies the healthcare clinicians' judgements made with the patient encounter. This tool has not been tested across the care continuum but with the comprehensive nature of the four dimensions may have potential in this regard.

Opioid Risk Tool for Opioid Use Disorder.

Opioid Risk Tool for Opioid Use Disorder (ORT-OD) is a 9 item self-report tool completed by the patient. The tool was revised from the "original" ORT in a unique cohort of patients with chronic nonmalignant pain on long term opioid therapy who have no evidence of OUD ($n=781$) and a group who developed OUD ($n= 397$) when initially prescribed an opioid for pain treatment. The purpose of this tool was to predict the

development of OUD in patients with chronic nonmalignant pain on long term opioid therapy and did not measure aberrant drug related behavior. The variables measured in the psychometric evaluation were age, gender, marital status, living arrangements, education level, socioeconomic status, disability, mental health, personal and family history of substance use disorder. Clinicians using the tool were able to predict the development of OUD in patients with chronic nonmalignant pain on long term opioid therapy (odds ratio = 3.085; 95% confidence interval = 2.725 – 3.493; $p < .001$), with high sensitivity of 85.4% (95% CI = .799-- .898), and high specificity of 85.1% (95% CI = .811-- .885). A cut off score of 2.5 (0-2 indicated non-OUD), and ≥ 3 (indicated OUD). The ORT-OUD depicted excellent ability to predict the development of OUD in patient with chronic pain and long term opioid therapy.¹⁸ In summary, the study of this revised innovative tool, showed that personal and family history of substance use disorder, patient age, and concomitant psychiatric conditions may be sufficient to determine general risk for developing OUD in those with chronic pain on long term opioid therapy.

Opioid Compliance Check list.

The Opioid Compliance Check list is an 8 item list that is self-reported for chronic pain patients receiving prescriptions for long-term opioid therapy. The purpose of this tool is to monitor ongoing opioid compliance in patients receiving opioids from primary care settings. The population studied were patients with a diagnosis of chronic noncancer pain and primary care providers treating patients with chronic pain and prescribing opioids for pain. These 8 items are answered as “yes” or “no,” with 1 “yes” response as the cut-off contributing to an AUC of .645 (95% CI, .562-- .721, $p < .01$), a sensitivity of 59.7%, specificity of 65.3%, which showed high prediction capability. Examples of dimensions used in the items were running out of medications early, missing scheduled medical appointments, taking opioid medication in other ways than prescribed. Using the 8 items was endorsed as clinically useful in identifying misuse of opioids with repeated administrations.²⁵ In summary, the Opioid Compliance Checklist is reliable and valid in detecting current and future aberrant drug-related behavior and nonadherence among patients with chronic pain in primary care and potentially other clinic populations.

Other Strategies to Monitor Opioid Misuse

Prescription Drug Monitoring Program and urine toxicology screens are methods to help clinicians monitor for ongoing opioid misuse. These can be used in conjunction with opioid risk assessment tools to further enhance assessment throughout the delivery of care. These strategies should be documented in the medical record.

Prescription Drug Monitoring Program.

The purpose of the Prescription Drug Monitoring Program (PDMP) is to help healthcare prescribers in the United States gain information about the control of the prescribed opioids. The goal is to decrease inappropriate prescribing of opioids, improve clinical outcomes, and decrease overdose deaths involving opioids. PDMPs are operational in 49 states in the U.S.; the District of Columbia; and two territories, Guam and Puerto Rico as of February 2018.²⁶ May, 2019, the state of Missouri continued to not provide legislative support of a state

PDMP. However in 2017, St. Louis County in Missouri Department of Public Health created a voluntary tracking system on patients' prescriptions of schedule II to IV.²⁷

Available data.—Data available about each patient prescribed opioids includes demographic details and their controlled substance prescription history. The prescription data generally includes the medications, quantity and daily dose, written and fill dates, prescribers, and dispensing pharmacies. The drugs listed in PDMPs vary by state and range from prescription drugs of high abuse potential to all controlled prescription in addition to other drugs of concern.

Interstate information sharing allows sharing of PDMP data with other states. Currently there are no federal requirements for PDMP data sharing, forty-three states were engaged in interstate data sharing as of September, 2017, and five states continue to implement interstate data sharing. Furthermore, there is variability among states on how information is shared with other states. For data sharing to be successful, funding for technology that supports data sharing is necessary, there needs to be education of users, and individual state participation in real time data collection.²⁸

Variability among healthcare prescribers.—Some states continue to have healthcare prescribers' access be voluntary. One study showed, healthcare providers accessed the database when they needed to evaluate patient history, to look for patterns of potential misuse, and dangerous medication combinations such as benzodiazepines and opioids.²⁹ Another study showed that healthcare providers access PDMP for every new patient, new prescription opioids, or if patient was suspected of misuse or abuse.³⁰ Evidence supports that PDMPs have been successful in reducing inappropriate prescribing behavior, multiple prescriber use, and overdose deaths.^{31–35}

Urine Drug Toxicology.

Urine drug toxicology (UDT) screening is standard of care in managing patients with chronic nonmalignant pain and/or for those receiving opioids for pain.⁹ UDT can provide information not readily available, such as opioids prescribed by other prescribers or illegally obtained drugs, or it can indicate when patients are not taking prescribed opioids, potentially signifying adverse effects or diversion.³⁶

Population.—UDT have been used for monitoring those with substance use disorder including opioid use disorder, for people with chronic pain who are prescribed opioids, and for initiating opioids on patients with an acute need for pain management. It can also be used for patient populations at risk for misuse of opioids when opioids are combined with nonprescribed opioids, benzodiazepines and heroin. Using UDT may help prevent overdose and facilitate the healthcare provider to guide patients to appropriate care.³⁷

Types of tests.—There are two types of drug testing techniques discussed in this article. These are immunoassays and gas chromatography mass spectrometry (GCMS). Immunoassays are easy to use, less expensive, and is a qualitative testing technique. Immunoassays bind to drug metabolites and is most commonly used across the healthcare continuum. With a higher cut off level, false negatives are more common. There is risk for

other agents causing a cross reactivity which can increase the frequency of false positives. GCMS provides more advanced laboratory services and directly measures drugs and their metabolites. There is less cross reactivity which will minimize false positives, and is very sensitive at low levels minimizing false negatives. The disadvantages of GCMS is that it is very expensive and obtaining results take time.³⁸

Difficulties with UDT.—There are problems associated with using UDT for screening. UDT does not provide information about the dose of opioids taken making overuse difficult to determine through UDT. The cost to the patient is problematic when insurance does not pay. This cost can range between \$211 to \$363 for one immunoassay screen test plus a confirmatory laboratory test using GCMS technique.³⁹ The expert panel on the CDC guidelines did not completely agree on the frequency of UDT however, most agreed with a frequency of once per year unless there were signs of misuse.⁹ And finally, UDTs are often misinterpreted resulting in stigmatization, inappropriate termination of care, or discontinuation of the opioids.

Toxicology interpretation is a specialty field and specialists are often available in the clinical setting to consult. There are two examples used to illustrate how nurses who practice in clinical care can interpret the results. In the first example, an immunoassay is positive for opiates and the healthcare team questions if this positive test resulted from an administration of morphine in the ambulance to the hospital or a high risk finding that required further investigation. The urine specimen was sent to the lab for a confirmatory test using GCMS. A couple days later, the confirmatory test showed a positive result for 6-MAM (monoacetylmorphine). 6-MAM is a metabolite of heroin, and does not reflect a metabolite of morphine sulfate. 6-MAM can be detected in the urine 12-24 hours after use. The correct interpretation of this result may indicate heroin use, further screening for opioid use disorder is needed and referral to treatment.³⁸ The second example is about a patient prescribed methadone for OUD. The immunoassay result was negative for any drug. A member of the healthcare team questioned the patient about diversion of their methadone, which the patient denied. Methadone is not derived from natural opium and is considered a synthetic opioid. Immunoassays will often not detect synthetic opioids, creating a false negative.³⁸ If the patient is adherent to methadone maintenance therapy, a confirmatory GCMS will detect methadone and confirm they were receiving appropriate care.

Implications for Nurses

Risk factors for developing OUD when opioids are prescribed to treat pain have been identified. Additionally, the use of PDMPs and urine toxicology can provide added value to the care of patients with pain in the context of OUD. Areas of nursing where this information can be used are in clinical practice, education, and research.

Clinical Practice.

There are direct implications for nurses in clinical practice in all settings and a call to improve care so it is safe and effective for patients in pain. When risk is assessed and acknowledged, strategies can be established to include using an opioid risk assessment tool

on admission to the hospital or unit, and continued monitoring upon discharge and follow-up.

Opioid risk assessment tools can be used when patients are admitted for care. Results from these validated tools help guide care and should be part of the electronic medical record. Studies showed that risk assessment include obtaining the patient's thorough substance use or abuse history, current drug use pattern, and should be part of routine care.⁴⁰ Timing for use of an opioid risk assessment tool upon admission would be the same time as other admission assessments. When the nurse performs opioid risk assessment, it results in communicating about a topic that is as important as communicating about a patient's diabetes management or cardiac management. A study in a methadone clinic on the experiences of patients with coexisting addiction and pain, participants stated, "Secrets keep you sick."⁴¹ Patients want their healthcare team to know about their substance use history so the team can provide comprehensive and safe care.

Nurses should also gain access to the PDMP databases. In certain states, registered practitioners (MD, DO, NP, PA) can designate healthcare professionals to be an agent to gain access to the PDMP. In order to be that agent, the nurse can apply through the State Board of Nursing or State Board of Pharmacy to receive access credentials directed by a registered prescriber. When directed by a registered prescriber, the nurse can include the PDMP information in the medical record, if this procedure is supported by the institution policy. This information is protected in the same way as other healthcare information, and the nurse can play a key role to identify problems early so the patient can receive appropriate care.

Upon discharge from inpatient or outpatient care with opioids, the nurse should ensure that appropriate and safe follow up is provided for patients with pain. A cross-sectional study showed that less than 10% of admissions to treatment were referrals from their healthcare provider.²¹ This percentage should be improved upon so that patients receive the care they need. We can no longer be reticent about referral to treatment. If patients with high risk are discharged from the hospital in pain, they are options for safe care:

1. Designate a responsible person (usually a family member) to be in charge of the opioid medications, provide this individual with instructions, and gain assurance and document that this person is a responsible caregiver.
2. Order a computerized lock box for the medication and coordinate a public health nurse or home health nurse to set up these medications so they dispense to the patient on a pre-determined schedule. Some insurance companies will pay for these computerized lock boxes. One systematic review showed that 73-77% of postsurgical patients stored opioids without locking them despite U.S. Food and Drug Administration and the Centers for Disease Control and Prevention guidelines recommending this.⁴² Lock boxes can be found at community pharmacy or ordered on-line and are endorsed as a strategy to keep patients safe when receiving opioids for pain.⁴³

3. Transfer patient to a transitional care unit where the opioid medications can be administered to the patient for short term pain management. The social services department can determine if there is reimbursement for this level of care.
4. Instead of sending the patient home with opioids, ensure that pain management can be effective with non-opioid medications (e.g. high dose acetaminophen or gabapentin) and non-pharmacologic intervention (e.g. cold and heat therapy as directed, transcutaneous electrical nerve stimulation [TENS unit], physical therapy for movement, psychologist for cognitive behavioral therapy). For more information about non-opioid medications and non-pharmacologic intervention, the nurse can refer to the Core Curriculum for Pain Management Nursing.⁴⁴

Education.

Core competencies in assessing for opioid risk in all patients can become part of standardized education for nurses. Recommendations by Herr et al.,⁴⁵ required identifying and communicating biases that influence patient care in particular, those with pain and a history of OUD. Withdrawing care from people with OUD or stigmatizing and marginalizing patients with OUD should not be tolerated among those in the nursing profession. A patient receiving treatment for heroin abuse revealed in a study that when he was not treated with respect, or was called a “drug seeker,” it made him want to use drugs again.⁴¹ Nurse educators must model care, concern, open communication with all patients, including those with OUD and pain.

Nurses must be educated on methods of assessing patients in pain for risk of OUD in a non-judgmental manner. The highest utilized and validated opioid risk assessment tools must be taught in nursing education and knowledge of their use should be tested in standardized testing, i.e. National Council Licensure Examination as an entry-level nurse. Post graduate education must include safe use of opioids for pain management and assessment for opioid risk in order to stratify care that is safe and effective. Board examinations for advanced practice nurses must include safe prescribing of opioids for acute and chronic pain, and stratification of care according to that assessment. Once nurses know how to assess risk, they must become educated on the safe use of opioids for pain management, non-pharmacologic management of pain, and non-opioid medications that can enhance pain management. When nursing curricula and examination boards emphasize improving pain management in those with risk for OUD, the nursing knowledge will go far in mitigating risk for patients.

Research.

Nurses are well educated and accustomed to providing pain management through non-pharmacological strategies. Outcome measures, quality of life, reduction of re-hospitalizations, and decrease in healthcare cost can be measured through nursing research. Risk assessment tools need to be validated for use among the nursing profession as use of these tools belong within the scope of the nursing discipline.

Examples of nursing research in pain management to mitigate risk for OUD follow. These include studies of Acceptance Commitment Therapy which is a cognitive behavioral therapy intervention,⁴⁶ psychometric or validation testing of a tool to measure nurses clinical

knowledge of pain in the changing inpatient population of acute or chronic pain and OUD,⁴⁷ and the effect of TENS on postoperative pain with movement.⁴⁸

Nurses partner with patients every day as they continually assess and intervene. Appropriate assessment and interventions of those with pain and at risk for OUD requires continual research. Quality research programs require funding at the level of the National Institute of Health and the Agency for Healthcare Research and Quality. Nurses can team with nurse researchers or interdisciplinary research teams who are familiar with these funding mechanisms.

Conclusion

Nurses have important roles in managing pain in patients who are at risk for OUD. The urgency of the interplay of pain and OUD provides nurses with an opportunity to responsibly address these issues while caring for patients across the continuum of care. This paper offers approaches to assess risk for OUD while managing pain, and can improve clinical practice, increase strategies used to assess risk, and to implement into daily nursing practice.

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Table 1.

Assessment tools for aberrant drug related behaviors, OUD and opioid misuse.

Name of tool	Number of items	Dimensions	Delivery method	Length of administration	Score interpretation
Screening and Opioid Assessment for Patient in Pain (SOAPP-R)	24	Mood swings, feelings of boredom, overconcern with medications, friends who abuse alcohol and/or drugs, personal history of alcohol and/or drug use.	Self-report	Less than 8 minutes to complete.	Over 18, patient would be 2.5 times likely to be high risk for aberrant drug related behavior.
Diagnosis, Intractability, Risk, and Efficacy (DIRE)	7	Psychological health, chemical health, reliability with treatment, and social support.	Healthcare provider in primary care	Less than 2 minutes.	13 or below, the patient is not a candidate for long term opioid therapy.
Opioid Risk Tool for Opioid Use Disorder (ORT-OD)	9	Family history of substance abuse, personal history of substance abuse, age, psychological disease	Self-report	Less than 5 minutes	3 or greater indicating risk for opioid use disorder.
Opioid Compliance Check list (OCC)	8	Running out of medications early, missing scheduled medical appointments, taking opioid medications in other ways than prescribed.	Self-report	Less than 2 minutes	1 or more "yes" response shows high prediction for identifying misuse of opioids.

Table 2.

Risk Factors for OUD and Opioid Misuse

Patient Risk Factors for OUD	Behaviors indicative of Misuse	Prescription Opioid Risk Factors
Family history of any SUD. Personal history of any SUD. Mental health diagnosis such as psychotic disorder, somatoform disorder, and personality disorder.	Use of prescribed opioid longer than directed. Use of opioid in greater amounts than prescribed. Erratic use of opioids. Inappropriate use to manage symptoms other an pain, such as anxiety. Use of opioid with alcohol or illegal substance. Over concern with opioid medications. Demanding opioids. Rejecting or missing appointments for alternative methods of pain management care. Demonstrating anger and hostility. Providing an inconsistent history. Urine toxicology not concordant with the prescription.	Opioids received for more than 30 days. Daily dose of opioid greater than 120 MME. Concurrent use of atypical antipsychotic agents. Opioids prescribed from multiple prescribers and received from multiple pharmacies as indicated by the PDMP.