

# Assessing suicide risk in patients with chronic pain and depression

Do you know the red flags for depression and suicide risk in your chronic pain patients? Read on.

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Illustration: Steve Dentino

Nearly one-half of all patients seen in primary care experience persistent pain,<sup>1</sup> and major depressive disorder (MDD) is a common comorbidity with chronic pain. Patients with MDD are significantly more likely to report chronic pain, as compared with those without MDD (66% vs 43%).<sup>2</sup> Because access to mental health services and pain clinics is often limited, primary care physicians provide most pain and mental health care to this patient population.<sup>3</sup>

Although managing chronic pain with MDD can be challenging, a key to timely intervention is to be cognizant of the warning signs that a patient is becoming physically and emotionally less stable. For example, MDD and risk factors for suicidal ideation are highly likely when a patient reports increased pain, sleep disruption, or deterioration in function or grooming.

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Mr. G, age 49, sustained a back injury while working as an automobile mechanic. He developed low back pain and chronic lower extremity radiculopathy. His pain did not respond to conservative measures or to a lumbar laminectomy. Over time, as his pain progressed, he underwent a 2-level lumbar fusion and an extension of the fusion.

He was followed in a pain management center, but his pain did not respond to multiple interventions. He was placed on a regimen of low-dose opioid analgesics, antidepressants, muscle relaxants, and sleeping aids. Eventually he was referred back to his primary care physician, who continued to monitor his care and prescribe his medications. Because of his pain, Mr. G was unable to return to the job he'd held for 23 years. He started receiving Social Security disability benefits, and his wife returned to full-time employment.

Before his injury, Mr. G had enjoyed traveling with his wife and 3 children, hunting, and restoring vintage automobiles. He discontinued these hobbies and became increasingly isolated from his family and friends. He felt hopeless and without a sense of purpose. He considered himself a burden to his wife.

As his depression worsened Mr. G was seen by a psychiatrist, who increased his antidepressant dosage. Mr. G also developed a sleep disorder that did not respond to trials of various hypnotics and other sleeping aids. One evening his wife found him nonresponsive and called 911. He was dead on arrival at the emergency room from a polypharmacy overdose.

**Commentary:** *This case illustrates that despite a clinician's best efforts and best practices in treating depression in patients with chronic pain, an individual's despondence may be irrevocable, and in some cases suicide is unavoidable. Being cognizant of emerging signs of suicidal ideation in this vulnerable patient population—such as sleep disturbance, isolation, and having no daily purpose—can alert a clinician to the potential of suicide and prompt early intervention.*

### Evidence links pain with suicidal thoughts

Compared with the general population, individuals with chronic pain have a significantly higher prevalence of depression (20.2% vs 9.3%), posttraumatic stress disorder (10.7% vs 3.3%), and any anxiety disorder (35.1% vs 18.1%), according to data from the National Comorbidity Survey.<sup>4</sup> Other studies show that people such as Mr. G (see "Case: A spiral of pain and depression," above) who experience chronic pain are more likely to develop depression than those without pain,<sup>5</sup> and suicidal ideation is highly comorbid with chronic pain.<sup>6-16</sup>

Risk factors for suicidal ideation include being unemployed or disabled, poor sleep quality, self-perceived mental health status, pain-related sense of helplessness, and a history of using illicit drugs, according to a survey by Racine et al.<sup>16</sup> Among 88 patients the researchers surveyed at several pain clinics, 24% reported active or passive suicidal ideation. Similarly, a survey of 153 individuals with chronic noncancer pain found passive suicidal ideation in 19%, active ideation in 13%, a plan for suicide in 5%, and a past suicide attempt in 5%. Drug overdose was the most commonly reported method for attempting suicide.<sup>10</sup>

Patients with chronic pain are twice as likely

as nonpain controls to commit suicide, according to a systematic review by Tang and Crane.<sup>15</sup> General risk factors they identified include family history of suicide, previous suicide attempts, female gender, and comorbid depression. Pain-specific risk factors include location (low back and widespread pain), intensity (high), duration, and concomitant insomnia.

Three risk factors—history of sexual/physical abuse, family history of depression, and being socially withdrawn—were predictive of suicidal ideation in patients referred from a community health system to a behaviorally based pain program.<sup>17</sup> In this sample of 466 patients, 28% reported suicidal ideation.

### 10 WARNING SIGNS THAT A PAIN PATIENT MAY BE THINKING OF SUICIDE<sup>15-19,35</sup>

1. Screening score indicates moderate or more severe depression
2. Increased pain intensity or duration
3. Poor sleep quality
4. Social isolation and withdrawal
5. Deterioration in function or grooming
6. Pain-related sense of helplessness
7. Catastrophizing
8. Feelings of being a burden or liability to others
9. Drug screen reveals absence of prescribed opioids, suggestive of hoarding medications
10. Unwillingness to contract for safety

**TABLE 1****Factors shown to increase suicide risk in patients with chronic pain<sup>15-21,25</sup>**

General risk factors	Pain-specific risk factors
Unemployed/disabled	Pain location (low back, generalized)
Poor sleep quality	High pain intensity
History of illicit drug use	Pain duration
Family history of suicide	Pre-pain history of depression
Previous suicide attempts	Pain etiology (CRPS, fibromyalgia)
Concomitant mental health history (especially depression)	Catastrophizing
Social isolation	Pain-related helplessness
Family history of depression	History of sexual or physical abuse
Hopelessness	Burdensomeness (“I am a burden”)

CRPS, complex regional pain syndrome.

Catastrophizing<sup>18</sup> and feelings of being a burden<sup>19</sup> also are associated with suicidal ideation in the pain population. Studies of patients with complex regional pain syndrome (CRPS) or fibromyalgia have shown particularly high rates of suicidal ideation (74% and 48%, respectively).<sup>20,21</sup>

### Interpersonal theory of suicidal ideation

How does a person with chronic pain develop suicidal ideation? A prevailing model, called the interpersonal theory of suicide,<sup>22,23</sup> proposes that suicidal thoughts or desire arise from the confluence of 2 factors:

- thwarted belongingness (unfulfilled need for social interaction or connectedness) and
- perceived burdensomeness (perceiving oneself as a burden or liability to others).

Suicidal desire progresses to lethal action when an individual habituates to the fear of the potential pain of self-harm. Patients with debilitating pain often become isolated and perceive that they are unable to contribute to their family or society (“I am a burden”). Over time, they may become numb to their emotional and physical pain, which increases the risk of suicide.

Opioid use is another contributing factor, as the rate of “unintentional” opioid-related fatalities is related to the dosage of prescribed opioids.<sup>24</sup> A notable number of these overdoses most likely are suicides.

Based on this model, the risk of suicide is

high in a person who perceives no purpose in life, becomes isolated from family and friends, and is on a high-dose opioid or is abusing opioids.

### Suicide risk factors and screening

In the chronic pain population, risk factors for suicide may be general or pain-specific (TABLE 1).<sup>15-21,25</sup> Individuals with the following risk factors may be particularly vulnerable to suicide:

- inability to return to gainful employment
- isolation and feelings of burdensomeness
- loss of important family and social roles
- recent or current substance use disorder
- depression.

**Depression screening.** A number of screening tools for depression have sufficient validity and reliability.<sup>26-34</sup> Given the high prevalence of depression in the pain population, depression screening should be conducted at every office visit. Be aware that these screening tools have poor predictive value for suicide. Instead, they can provide important information to prompt an open discussion with the patient and explore more subtle signs of suicide risk (such as burdensomeness or isolation).

The Beck Depression Inventory (BDI)<sup>26</sup> and the Profile of Mood States (POMS)<sup>27</sup> are most appropriate for measuring emotional functioning in the chronic pain population, according to Initiative on Methods, Measurements and Pain Assessment in Clinical Trials (IMMPACT) recommendations.<sup>28</sup> The BDI is a 21-item, self-

**TABLE 2**  
**Self-report depression screening tools**

Tool name	Number of items	Time to complete (min)	Access
Beck Depression Inventory-II <sup>26</sup>	21	5-10	Proprietary
Beck Depression Inventory–Fast Screen for Medical Patients <sup>29</sup>	7	<5	Proprietary
Profile of Mood States, 2nd Edition <sup>27</sup> Full-length version (POMS 2-A)	65	10-15	Proprietary
POMS 2 Short version	35	5-10	
Zung Self-rating Depression Scale <sup>30</sup>	20	10	Free
Center for Epidemiologic Studies Depression scale (CES-D): Full version <sup>31</sup>	20	5-10	Free
CES-D Short version	10	5	
Patient Health Questionnaire <sup>33</sup> PHQ-9 (full diagnosis of depression)	9	5	Free
PHQ-2 (short screen) <sup>34</sup>	2	<5	

report measure of the severity of depression symptoms assessed over the past week. The POMS evaluates 6 mood states—including depression, anxiety, and anger—considered most relevant in pain. The Beck Depression Inventory–Fast Screen for Medical Patients (BDI-FS)<sup>29</sup> is a 7-item assessment of depression in the medical population that excludes somatic symptoms, possibly more accurately assessing depression in the pain population.

Other assessment tools for depression include the Zung Self-rating Depression Scale<sup>30</sup>; the Center for Epidemiologic Studies Depression Scale, with both a short and full version<sup>31</sup>; and the Patient Health Questionnaire (PHQ), derived from the Primary Care Evaluation of Mental Disorders.<sup>32</sup> The PHQ has 2 versions for depression:

- PHQ-9 measures 9 symptoms of depression based on the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition, text revision (DSM-IV TR)<sup>33</sup>
- PHQ-2, a 2-item screening tool.<sup>34</sup>

The PHQ-2 can be used to screen for depression, but the PHQ-9 is required to render the diagnosis of depressive disorder.

For a busy primary care practice, select an assessment tool that matches the financial resources, time to complete, and ease

of interpretation of your clinic structure (TABLE 2).<sup>26,27,29,30,31,33,34</sup> These tools can help document the severity of depression, presence of suicidal ideation, and efficacy of prescribed treatments such as antidepressant therapy. Many of these scales can be easily integrated into the electronic health record.

### Proactive care and intervention

**Routine care strategies.** To reduce the risk of suicidal ideation, target potential mediators of pain and suicide such as inadequate pain control, poor pain coping skills, and sleep disorders. To reduce isolation and promote a sense of belonging and purpose, strongly encourage patients to structure out-of-house time and to be productive in some manner, such as volunteering in the community.

When possible, co-treat these complex patients with a team consisting of psychiatrists, psychologists or other mental health clinicians, and pain physicians. Maintain an active list of crisis centers and local behavioral health practitioners and the type of insurance they accept.

**If a patient begins to display signs of distress,** set a low threshold to evaluate and treat depression with antidepressants and referral to mental health services. Maintain an

Patients with chronic depression and chronic suicidal ideation, but no active suicide plans, have the potential to become acutely suicidal when facing new stressors.

open, nonjudgmental dialogue with the patient in discussing the risk of suicide and the importance of adhering to treatment. Strengthening the clinician-patient relationship will provide ongoing opportunity to effectively monitor, intervene, and promote improvement in quality of life.

For outpatients receiving opioids as part of the treatment strategy, prescribe the opioids in small amounts with family members dispensing the medications. Perform frequent urine drug screenings to ensure that they are using their opioids appropriately and not hoarding them for a suicide attempt.<sup>35</sup>

**Low or high risk of suicide?** With the clinical evaluation of risk factors and depression screening results, an individual's suicide risk can be estimated as low or high, based on various factors, including:

- specific plans for suicide
- means (access to guns, lethal supply of medications)
- history of suicide attempts
- level of social support
- effectiveness of coping skills
- relationship with the health care provider (does the patient communicate emotional status and life stressors?)
- willingness to contract for safety (a written compact stating that if they become seriously suicidal with plans and intent, they will call 911, go the local emergency department, and contact your office).

Patients with chronic depression and chronic suicidal ideation, but no active suicide plans, have the potential to become acutely suicidal when facing new stressors (eg, divorce, financial losses, poorly controlled pain). Maintain these patients under psychiatric and psychological care as part of the overall pain management strategy, with ongoing mental health screening and close monitoring of medication use—particularly opioids and benzodiazepines.

**If a patient's screening score indicates moderate or more severe depression,** referral to local behavioral health specialists is indicated. Where qualified behavioral health specialists are scarce, the Substance Abuse and Mental Health Services Administration Web site (<http://findtreatment.samhsa.gov>) may help you locate mental health and substance abuse treatment services in or near your community.<sup>36</sup>

If a patient admits to an acute suicidal ideation, is unwilling to contract, and has a plan for suicide, inpatient admission is warranted.

**Telehealth resources.** Because local access

to mental health services can be limited, interest in the use of telecommunication technologies is growing. The term “telehealth” includes telemedicine, which has been extremely effective in the long-distance diagnosis and treatment of medical and mental health problems, including pain.<sup>37,38</sup> Internet-based cognitive-behavioral therapy for pain and substance abuse disorders<sup>39,40</sup> and smartphone applications<sup>41-43</sup> have shown mixed results in the pain community but have the potential for providing needed services to individuals unable to directly access mental health care.

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