

## Toxicology Rounds



# The Dark Truth Behind Pain as the Fifth Vital Sign

By Leon Gussow, MD

New York City officials recently announced severe restrictions on writing prescriptions for strong opiate analgesics in the emergency departments of the city's 11 public hospitals.

Emergency physicians will not be allowed to write for more than three days of medications such as hydrocodone and oxycodone, and they will not be able to write for long-acting opiates — OxyContin, methadone, and fentanyl patches — under any circumstances. Previous prescriptions for these drugs will not be refilled if they were reported as lost or stolen.

The city does not have the power to require other hospitals to adopt these restrictions, but several private institutions, NYU Langone Medical Center among them, plan to follow the rule anyway.

Some critics complained that these developments were an example of “legislative medicine” that would prevent many patients from receiving adequate pain relief, but others argued that they were an unfortunate but necessary response to what the Centers for Disease Control and Prevention has called a public health epidemic of addiction and overdose from prescription opioids.

The figures involved in this epidemic are astounding. The number of



Watch a video interview of Dr. Russell Portenoy, right, by Wall Street Journal reporter Thomas Catan at <http://bit.ly/XhIKle>.

overdose deaths from prescription opioids in the United States has more than tripled in the past decade, resulting in nearly 15,000 fatalities in 2008 alone. This amounts to more than 40 deaths every day. Estimated annual health care costs from this epidemic are as high as \$72.5 billion.

The escalation of opioid-related overdose deaths has tracked the increased use of these medications for chronic pain control since the mid-1990s. Opioids today are the drug class most frequently prescribed in the United States: four million patients a year receive scripts for long-acting narcotics.

How did we get here? Why are opioid analgesics — once feared by many physicians as dangerous medications with high risk for addiction and overdose — now prescribed so commonly? Was this an inevitable shift in medical thinking? A spontaneous reaction against the inarguable fact that pain, acute and chronic, was frequently undertreated? An example of good intentions gone awry? Or was it something more deliberate and planned?

A recent article in the *Wall Street Journal* sheds considerable light on the history of the movement to make pain the fifth vital sign. (See FastLinks.) It focuses on Dr. Russell Portenoy, a New York pain specialist. The story starts in 1986, when he and Kathleen Foley published a paper advocating using long-term opioids in patients with chronic nonmalignant pain. (*Pain* 1986;25[2]:171.) The authors concluded that their paper offered “suggestive evidence that opioid medications can be safely and effectively prescribed to selected patients with relatively little risk of producing the maladaptive behaviors which define opioid abuse.”

Reading that paper today, I am amazed at just how poor the science behind it was. The authors reviewed a mere 38 cases from among the many patients followed in a busy specialized pain clinic. The methods section contains absolutely no indication of how these cases were selected. In retrospect, it's surprising the paper was published at all.

But based on this terribly flawed study, Dr. Portenoy hit the lecture circuit. “Charming and articulate, he became a sought-after public speaker. He argued that opioids are a ‘gift from nature’ that were being forsaken because of ‘opiophobia’ among doctors,” according to the *Journal*. “We had to destigmatize these drugs,” said Dr. Portenoy.”

He was joined at conferences and CME courses by other pain specialists, all advocating increased use of chronic opiates while minimizing potential adverse effects. Purdue Pharma released OxyContin in 1996, an extended-release formulation of oxycodone. “In 2007, Purdue Pharma and three executives pleaded guilty to ‘misbranding’ of the drug as less addictive and less subject to abuse than other pain medicines and paid \$635 million in fines,” the *Wall Street Journal* article noted.

A few years later, the American Pain Foundation (Russell Portenoy, director) joined the push for more aggressive treatment of chronic pain. At about the same time, the American Pain Society (Russell Portenoy, President) began advocating that pain level be considered the fifth vital sign. Both organizations collaborated on a position statement (Russell Portenoy, co-author) stating that using long-term opioids to treat nonmalignant pain carried only minimal risk of overdose or addiction.

The figure Dr. Portenoy often mentioned in lectures was that this risk of

addiction was less than one percent. The main basis for this claim seems to have been a one-paragraph letter to the *New England Journal of Medicine* that anecdotally described the authors' experience with *short-term* use of narcotics in hospitalized patients. (“Addiction Rare in Patients Treated with Narcotics.” 1980;302[2]:123.) “Dr. Portenoy now says he shouldn't have used the information in lectures because it wasn't relevant for patients with chronic noncancer pain,” according to the *Wall Street Journal* article.

Even so, regulatory organizations were recruited at this point to lend teeth to the movement. The Federation of State Medical Boards in 2004 urged that state boards punish physicians and hospitals for not treating pain adequately. Coincidentally or not, the federation has reported receiving almost \$2 million in funding from opioid manufacturers since 1997.

The Joint Commission mandated in 2001 that hospitals focus on monitoring and treating patients' pain. And lo, the 1-10 pain score and thousands of smiley-frowny face scales spread throughout the land. A Joint Commission guidebook, paid for by Purdue, stated, “There is no evidence that addiction is a significant issue when persons are given opioids for pain control.”

It is now generally accepted, even by former evangelists such as Dr. Portenoy, that the risk of addiction in patients prescribed opiates for chronic pain is substantial; some say as high as 40 percent. And, of course, many other significant problems are associated with the long-term use of opioids, including tolerance, gastrointestinal dysfunction, *increased* sensitivity to pain, immunosuppression, and decreased levels of cortisol, testosterone, and estrogen. By the way, no studies have demonstrated that long-term opioid therapy is effective, let alone safe, treatment for chronic nonmalignant pain. Almost all studies of the topic are limited to 16 weeks or less.

Alexander et al point out in a recent essay that the Senate Finance Committee is now looking into the “opaque flow of funding from industry to consumer and advocacy organizations that promote increased use of pain medication.” (*JAMA* 2012;308[18]:1865.) He refused to provide details, but the *Wall Street Journal* reported that Dr. Portenoy's program has previously disclosed receiving millions of dollars in funding from multiple opioid manufacturers.

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### FastLinks



■ Read the *Wall Street Journal* article, “A Pain-Drug Champion Has Second Thoughts” at <http://on.wsj.com/UxAKYu>.

■ Watch a video of the *Wall Street Journal's* interview with Dr. Portenoy at <http://bit.ly/XhIKle>.

■ See another video interview of Dr. Portenoy by Physicians for Responsible Opioid Prescribing at <http://bit.ly/U4p1YF>.

■ Read the *NY Times* article, “New York City to Restrict Prescription Painkillers in Public Hospitals' Emergency Room” at <http://nyti.ms/UxHIIX>.

■ Visit Dr. Gussow's blog at [www.thepoisonreview.com](http://www.thepoisonreview.com).

■ Read all of Dr. Gussow's past columns at <http://bit.ly/GussowToxRounds>.

■ Comments about this article? Write to EMN at [emn@lww.com](mailto:emn@lww.com).



## The Speed of Sound



# Ultrasound Trumps X-Rays at Identifying Foreign Bodies

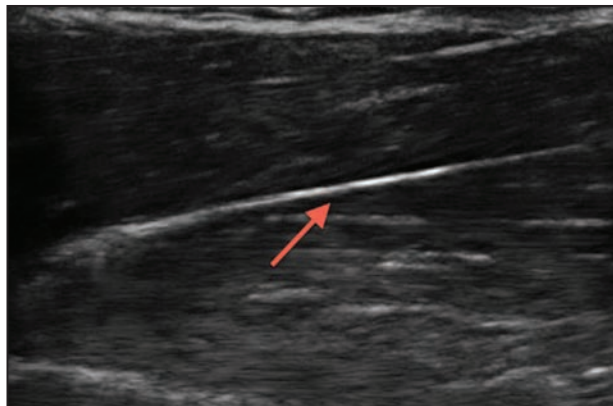
By Rebecca Martinez, MD,  
& Christine Butts, MD

A 40-year-old woman presents to the ED from the neurology clinic after having a needle break off in her left lateral neck during a procedure. She is anxious, but has no complaints, and her vital signs are stable. The patient asks if the ED can remove the needle without surgical intervention. Bedside ultrasound is applied to the area in question. (Image 1.)

A patient with a possible retained foreign body can be a source of frustration for emergency physicians. Plain radiographs may fail to reveal the objects, and fare poorly in clearly localizing them. This may result in a time-consuming and frustrating search that may endanger underlying structures such as nerves or vessels.

Foreign body identification with ultrasound is useful to identify not only radiopaque foreign bodies but other objects as well. Radiolucent objects, such as wood or plastic, can be easily missed on standard x-rays, but foreign bodies usually appear hyperechoic (white) when viewed with ultrasound. Metal and glass foreign bodies produce reverberations or comet tail effects (Image 2), and wood or plastic objects produce shadowing effects (Image 3).

A high-frequency transducer should be used to obtain the best resolution possible because some objects can be difficult to differentiate from normal tissue. A stand-off pad can be made by placing gel in a glove and applying it to the area to improve visualization in



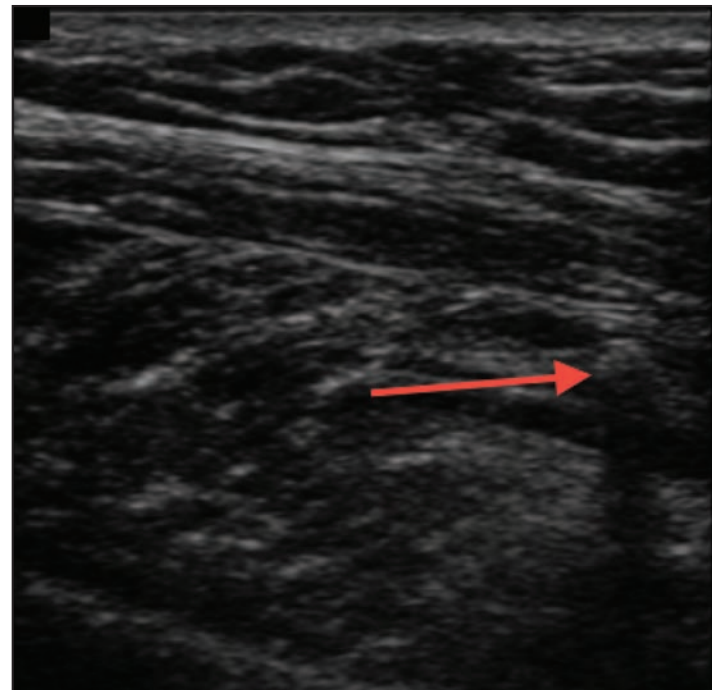
**Image 1. A needle viewed in long axis within the muscles of the neck. It is distinguished from the surrounding tissues because it is strongly echogenic (white). Slight movements of the transducer will reveal reverberation or comet tail effects, which are characteristic of metal or glass foreign bodies.**



**Image 2. A glass foreign body within the soft tissue demonstrates the reverberation effect emanating from the inferior aspect (arrow). This is typical of glass or metal foreign bodies, which helps identify them.**

hands and feet. Placing an extremity in a water bath also allows better sound transmission and a better view of the object. Once located, the depth, size, and orientation of the object can be evaluated. Surrounding structures also can be evaluated for nerves or vessels that should be avoided if removal of the foreign body is attempted in the ED.

To remove the foreign body, center the transducer over the object and mark the optimal site for incision, taking into consideration the depth and position of the object. Inject lidocaine into the area to be incised, and then make a lateral incision. Guide hemostats toward the foreign body while




**Image 3. The foreign body here — wood within the soft tissue — is less obvious, but it is identified by the shadow extending deep to the object.**

visualizing the object in the long axis. Once the foreign body is felt, grab it and slowly retract the object from the site. Attempt removal in the short axis if you are unable to locate the object in

long axis. Another option, which is useful for small objects, is to use two needles to localize the object in the short and long axis by ultrasound. An incision can then be made down to where the two needles meet.

Bedside ultrasound is reliable for localizing foreign bodies and ascer-

taining their position and proximity to other important structures. Removing the objects at this point becomes much more straightforward than searching blindly. This technique can also save the patient further consultation and procedures. It requires some practice, but multiple studies prove that emergency physicians can be successful in using ultrasound at the bedside to find and remove foreign bodies. 

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### FastLinks




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### PAIN

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The group Physicians for Responsible Opioid Prescribing recently posted on YouTube a short interview in which Dr. Portenoy said, "Clearly, if I had an inkling of what I know now then, I wouldn't have spoken in the way that I spoke. It was clearly

the wrong thing to do." (See FastLinks.)

He told the *Wall Street Journal*, "My viewpoint is that I can have those [financial] relationships [with the makers of opioids], they would benefit my educational mission, they benefit in my research mission, and to some extent, they can benefit my own pocketbook, without producing in me any tendency to engage in undue influence or misinformation." 

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