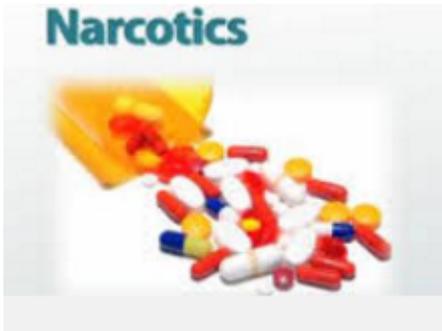


Opioid Implant: First Good Idea to Tackle Narcotic Abuse?



By Josh Bloom — January 14, 2016



[1]As I have written numerous times, such as [here](#) [2], and [here](#)

[3], the "War on Drugs" has been a dismal failure by any measure. The clumsy and misguided attempt by the Drug Enforcement Administration to address the enormous (and growing) narcotic abuse problem in the country has already backfired.

Now at last, however, there seems to be a pharmacological approach that may very well succeed where legislation and criminalization have failed. It is not a new concept, but, rather, an application of an existing approach, and it makes sense. There is a good chance that it will actually help.

The administration's "solution" has consisted of restricting access of everyone to painkiller, but this failed on many levels:

1. Patients who are suffering from severe, chronic pain had a much more difficult time getting the imperfect, but necessary drugs to make their lives bearable
2. As narcotic pills, particularly Vicodin and Percocet, became ever more difficult to get, addicts turned to heroin, and overdoses skyrocketed
3. Needle sharing is common among heroin users; this created outbreaks of HIV and hepatitis C. All of this was predictable

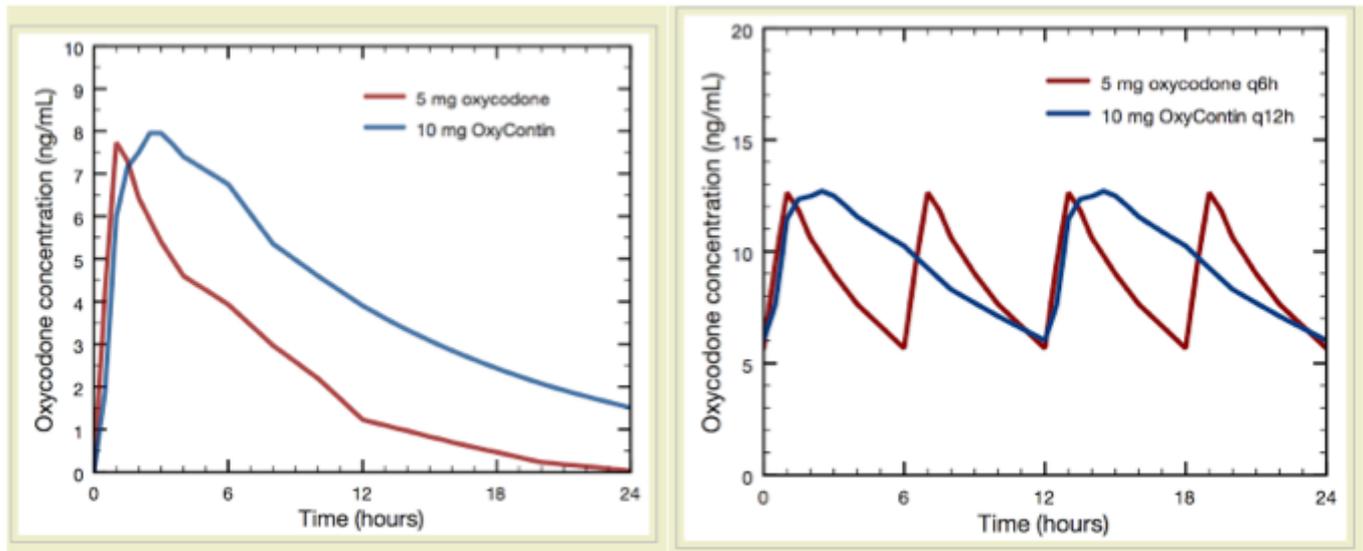
The good news is that this week, an FDA advisory panel [voted 12-5](#) [4] to recommend the approval of an implant that contains Probutaphine a non-active drug that is converted into the active species in the body. This is called a pro-drug, and they have been used routinely to treat a wide variety of conditions because they deliver the active drug in a way that is superior to taking the actual drug.

A common example is Valtrex, a pro-drug of acyclovir, the only drug that is used to treat and prevent herpes outbreaks. Two Valtrex pills per day provide higher blood levels of acyclovir the active drug than five acyclovir pills because Valtrex is better absorbed into the blood, where it then breaks down into acyclovir.

Probuphine is a pro-drug of buprenorphine, which itself is an opioid narcotic. However, even though it is weaker than hydrocodone or oxycodone, it can still be abused and cause dependence.

This is why the advisory committee's approval of Titan Pharmaceuticals and Braeburn Pharmaceuticals Probuphine, a six-month implant that delivers steady, regular amounts of buprenorphine make much sense.

This can be illustrated by the graphic below, which compares blood levels in people who take OxyContin (time released) and oxycodone.



[5]

Source: <http://soayacs.blogspot.com/2009/06/oxycodone-and-oxycontin.html> [6]

It is intuitively obvious why time-release formulations of medicines are usually superior to those that are not. The graph on the left shows blood levels following a dose of OxyContin. Note the slow decline over 24 hours. By contrast, oxycodone itself behaves much like any other drug: rapid increases and decreases of drug in the blood (also called a sawtooth pattern). The rapid change in blood levels, in addition to the magnitude of the highs and lows is the perfect way to encourage addiction. Eventually, as the response to the dose decreases, the lows feel worse, and people make up for this by dosing more frequently. Next thing they know, they are addicted.

This is why the Probuphine implant is, at least in theory, a big step forward. The steady state concentration of the drug will minimize the highs and lows that often lead people down the path to addiction.

Smart stuff. I wish them well.

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Links

[1] <http://acsh.org/wp-content/uploads/2016/01/Screen-Shot-2016-01-14-at-3.15.25-PM.png>

[2] <http://nypost.com/2013/12/02/new-painful-casualties-of-the-drug-war/>

[3] <http://acsh.org/2015/12/opioid-abuse-and-death-nothing-close-to-a-good-answer/>

[4] <https://braeburnpharmaceuticals.com/titan-pharmaceuticals-and-braeburn-pharmaceuticals-announce-fda-advisory-committee-recommends-approval-of-probuphine-first-6-month-implant-to-treat-opioid-addiction/>

[5] <http://acsh.org/wp-content/uploads/2016/01/Screen-Shot-2016-01-14-at-1.41.54-PM.png>

[6] <http://soayacs.blogspot.com/2009/06/oxycodone-and-oxycotin.html>