



# **Opioid Management - A Realistic Approach to Change**

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## Executive summary

With the issues of side effects, misuse, overdose, addiction, as well as both direct and indirect cost, is an opioid pain reliever a problem rather than a solution? Suffice to say the answer is not as straightforward as we hope. This paper highlights the most actionable aspects of eliminating inappropriate opioid usage.

### Understanding the issue:

- **Not all opioid usage is inappropriate:** Possibly a surprise to many. Appreciating the background and complexity of opioid usage in both acute and chronic pain is paramount in devising an effective plan to curb its overuse. Only a medically reasonable and humane plan should succeed.
- **Form an alliance:** Educate providers so that they understand the potential long term impact of even one single opioid prescription. Let patients know how an opioid may negatively affect their overall health.
- **Know limitations:** Look to guidelines for guidance, but know that there are discrepancies and challenges in applying guidelines in real life. Individual circumstances may merit a variance from guideline suggestions.
- **Track outcomes:** Important for cost-benefit analysis.

### OPIOIDS—WHAT IS PROVEN AND WHAT IS NOT?

An opioid is one class of medication used for alleviating pain. Research shows that an opioid can be effective in controlling severe, acute pain. Some studies even suggest that successful treatment of post-operative acute pain decreases the likelihood of pain becoming chronic. One study shows “Local morphine reduced post-operative pain, and after one year only 5% had persistent pain compared with 32% in placebo group and 37% after i.m. morphine.” However, there has been an increasing trend of opioid use in non-acute situations. Opioids certainly have a place in the treatment of chronic pain. The medical community appreciates how an opioid improves the quality of life for terminally ill patients, especially that of cancer patients. However, chronic opioid usage has extended beyond treating terminally ill cancer patients.

Opioids are now considered by some an essential tool in treating any chronic pain, including that of non-specific musculoskeletal pain syndrome such as chronic low back pain. The principles applied in the treatment of terminally ill cancer patients are applied in many otherwise healthy patients with non-life threatening chronic pain. Unfortunately, the response of this population is not nearly as favorable as we hope. While there are trials (often sponsored by pharmaceutical companies) that show some efficacy, many of them have significant limitations and are considered to have “low-moderate quality, high drop-out rates, short duration, and limited interpretability of functional improvement” according to the most recent meta-analysis “Opioids Compared to Placebo or Other Treatments for Chronic Low Back Pain: An Update of the Cochrane Review.”

Not only is it questionable whether the use of an opioid is beneficial in non-acute, non-cancer patients, there are numerous side effects associated with their use. It negatively affects most organ systems in the body. Constipation is almost universal and sedation that prevents patients from engaging in active lives (including return to work) is also very common. Potentially dangerous complications include respiratory depression. (Morphine is specifically used to slow down breathing in terminally ill patients in some instances of comfort care.) Dental cavities due to a decrease in saliva output can occur and hormonal changes are regular occurrences. It can be said that it is a rare organ system that is not negatively affected by chronic opioid use.

Two of the most concerning side effects are tolerance and dependence. According to NIH National Institute on Drug Abuse, tolerance is “a state in which an organism no longer responds to a drug; a higher dose is required to achieve the same effect”. The definition of dependence is “A state in which an organism functions normally only in the presence of a drug; manifested as a physical disturbance when the drug is removed (withdrawal).” While they are different from addictions, defined as “a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences”, tolerance and dependence mean it is perfectly normal to have difficulty stopping opioids once one starts taking them. In other words, patients may “need” to continue to take opioids despite the fact that opioids do not help them anymore.

## **A TRUE MULTI-FACETED CHALLENGE**

### **Complexity of Pain**

Despite often being hailed as the “fifth vital sign”, pain is not an objective physiological measurement. The four primary vital signs are objectively measurable: blood pressure, heart rate, respiratory (breathing) rate and body temperature. Pain is subjective and while physiological abnormalities certainly play a role, pain is as psychosocial as it is physical and therefore difficult to accurately measure. A certain injury may cause minimal pain in an individual, while the identical injury may cause severe pain in another. The duration of pain experienced by an individual is also variable. Some recover quickly, while others may experience disabling pain for life. Pain is affected by so many factors such that there is no single research study that is able to adequately address all known factors, much less not yet known ones.

### **“Learned” Prescribing Patterns by Physicians are difficult to change**

Physicians are motivated by the desire to help patients. The Joint Commission also indicates that physicians must comply with pain management standards. Under treatment of pain can be considered reckless or negligent. Physicians may also be concerned that under treatment of pain would lead patients to seek treatment from other providers.

When patients complain of pain, physicians often prescribe medications. Most physicians follow the World Health Organization (WHO) analgesic (pain killer) ladder, which recommends acetaminophen (Tylenol) and non-steroidal anti-inflammatory drugs (NSAIDs) as the first line medications. If a patient does not respond adequately to the first line medications, weak opioids

are considered second line medications and prescribed. When a patient's pain is deemed not adequately treated by weak opioids, stronger opioids are often used.

At times when opioids are initially prescribed, physicians do not take tolerance and dependence into serious consideration. Perhaps a physician only intends the opioids for short term use and plans to stop prescribing before the physician thinks tolerance and dependence can develop. Perhaps a physician believes a weak or "new"/synthetic opioid is not of concern because of the lower advertised addictive potential. Perhaps a physician does not have a better answer to the patient's condition at the moment. Some physicians still believe in the dogma that patients do not become addicted to pain medications as long as patients follow physicians' instructions.

No matter what the reason is, while a physician may be correctly prescribing opioids for acute pain, the physician is also exposing patients to the risks of becoming at least opioid tolerant and dependent, if not addicted. It is especially problematic when a physician does not explain that the opioid prescribing is supposed to be short term. A patient may come back to the physician's office for a second and a third prescription, expecting that he would continue to be prescribed the opioid medications until pain resolves. Studies have shown that if a patient is on opioids for 90 days, which is only three prescriptions of a one-month supply, the patient is likely to have developed a tolerance and become a lifelong opioid user.

Physicians also may not be taking advantage of adjunct treatments that come in both non-medication and medication forms, even though they can be just as effective as opioids. For example, certain anti-seizure medications have been shown to be very useful in reducing neuropathic pain. Yet, because these medications are categorized as "adjunct" in the WHO analgesic ladder; some physicians do not prescribe or take them into consideration before prescribing opioids.

High quality clinical studies have not shown opioids to be useful in axial low back pain, fibromyalgia, and headache. To neurologists' credit, opioids are rarely used in treating headaches. However, opioids are frequently prescribed in chronic conditions in which opioids showed no long-term efficacy, because some physicians do not believe there are better alternatives. Physicians may not consider that, especially without functional improvement, no opioid medications may actually be the better option.

### **Patient's "right to be pain-free", quickly too**

In our society, many patients expect a "quick-fix" when they have pain. Understandably, we all want pain to go away, now.

Patients may be reluctant to engage in physically demanding therapy that is beneficial long-term. After all, few of us love exercise, especially the boring ones that are often prescribed.

Based on the principle of progressing with the most conservative care to more invasive procedures, most physicians start out with oral medication rather than injection therapeutic approaches.

In addition, patients are looking to have less or no pain rather than focusing on functional improvement. Knowing that tolerance can develop, without a proper focus on function, the patient will need to take more opioids to maintain even the same level of pain. As noted above, most non-malignant chronic pain patients are not actually good candidates for long term opioid treatment. Patients have to learn to accept that they may have pain not treatable by medications or invasive interventions. Patients have to be educated about the possible psychosocial components of their pain and develop coping skills under proper guidance to enhance their functional improvement

### **Confusing Guidelines**

While there are a number of guidelines that provide assistance on how to approach opioid use in chronic pain, much in the guidelines is based on research performed on a terminally ill population. Experts extrapolate from those data and suggest the best treatments based on their understanding. Unfortunately, this understanding is at best suboptimal. For example, most guidelines recommend a urine drug screen as part of the aberrant behavior monitoring. However, studies have not shown urine drug screens themselves decrease the aberrant behavior. Furthermore, some guidelines would recommend not changing opioid dosage if the patient is deemed stable. The same guidelines would also indicate opioids should be continued only if there were functional improvements. However, the guidelines do not elaborate on whether a mere self-reported decrease in pain without functional improvement would qualify as “stable”.

Different guidelines also recommend different “maximum” morphine equivalent doses (MED). In addition, almost all guidelines specify that “safe” MED is patient specific, which makes the recommendation not very helpful. Furthermore, there are different calculators that convert certain opioids to MED at different rates. The calculator also does not apply to the newer, synthetic opioids.

The recommended MED is usually somewhere between 50 and 120, which is a big range. This range is based on the significantly increased mortality rate of patients on opioids above 50 to 120 MED compared to that of patients with otherwise matching demographics and medical issues. The most recent published study shows, “After extensive multivariable adjustment, we found that an average daily dose of 200 mg or more of morphine (or equivalent), was associated with a nearly 3-fold increase in the risk of opioid-related mortality... relative to low daily doses (<20 mg of morphine, or equivalent). We found significant but attenuated increases in opioid-related mortality with intermediate doses of opioids (50-99 mg/d of morphine: OR, 1.92...; 100-199 mg/d of morphine: OR, 2.04...)” (OR stands for odd ratio and means how much more likely an event would occur compared to the control population.) Of note, there are now more deaths caused by a drug overdose than motor vehicle accidents. And most of the drug overdoses involve prescribed opioids. There are more deaths involving prescribed opioids than cocaine and heroine combined.

Most guidelines do recommend a signed patient contract that identifies the terms under which opioids are prescribed. This approach is usually informative to the patient and identifies circumstances which would dictate a discontinuation of medications.

## **TEAM APPROACH NECESSARY FOR THIS COMPLICATED ISSUE**

### **Start with the Source of Opioid—the Physicians**

While one may argue the cause of opioid use is pain, this author would argue that most patients do not start off specifically asking for opioids when they initially seek medical treatment—physicians prescribe opioids as part of an acute treatment. This author further believes that the onset of the treatment is the best time to discuss expectations. Studies clearly show that dependence and tolerance develop in most patients within 90 days of usage. The TROUP studies show “lower days supply, lower average doses, and use of non-Schedule II opioids only, were all associated with a lower likelihood of opioid abuse/dependence” and “over half of persons receiving 90 days of continuous opioid therapy remain on opioids years later.” It should be appreciated that in some patients tolerance can develop at an earlier stage, thus increasing risks of initial opioid prescribing.

If a patient understands that the amount of time opioid medications are prescribed is limited, the patient might not be expecting a refill on a follow up visit. The lack of expectation allows the treating physician an opportunity to objectively evaluate the clinical situation to determine where the patient is in terms of long term risks and short term benefits, rather than pressured into writing an additional prescription.

Physicians should also reach for the “adjuncts” that are perfectly accepted (but often ignored) in the WHO analgesic ladder. As pointed out earlier in this article, a number of adjunct medications exist for pain. They are equally supported by evidence-based medicine for control of pain. They are not as commonly used as they should be, because the WHO analgesic ladder is not very specific and some physicians may not have a comfort level in prescribing those medications on a day to day basis. Physicians should be educated so that they are familiar with these options and can exercise them as appropriate early on.

Because of the “learned” prescribing pattern mentioned above, it is important to educate treating physicians on a new approach to opioid prescribing and update them on adjunct treatment options. It should be noted that a successful outreach program should not have physician educators only to discuss options in current problematic cases, but also to discuss the general approach in preventing recurring issues in future cases. Experienced physician educators can provide convincing information built upon the guidelines. However, because guidelines are imperfect, experienced physician educators can also point the treating physicians in the right direction to resolving guideline discrepancies and handle the “outlier” cases—patients with clinical situations that do not fall within the guidelines. Such education must include treatment scenarios relating to acute and chronic pain. Guideline recommendations and acceptable variances should also be covered.

The impact of physician education can be amplified by reaching out to treating physicians in the network, and to channel patients to the educated treating physicians in the network, for a mutually beneficial relationship—the carrier will see more appropriate opioid usage limited primarily to acute, stressing the importance of patient referrals in chronic pain situations and the enhancement of communication between primary and secondary treaters.

## **Patients have to buy in too!**

Patients should be educated on pain in general as well as the risks and benefits of opioid use. Education should also occur earlier rather than later. In an ideal world, a patient educator would communicate with the patient to reinforce the treating physician's message—an opioid is gratifying short term but can be very problematic down the road. If a patient understands early on how tolerance and dependence can develop relatively quickly, and that long term opioid use is of general negative health consequences, the patient may exercise an educated decision to not take opioids to start. A pamphlet, while not as interactive as a patient educator, may also be used to repeat the key points.

Through education, a patient will learn that he/she has to be willing to be actively engaged in physical therapy, overcome the initial hurdles of the therapy, to gain motion and strength that would benefit him or her long term. (Increased pain is a common side effect of early physical therapy.)

Education may be reassuring but a patient with pain is going to want relief. It is therefore important for the patient's appropriate medical treatments to be authorized and carried out as efficiently as possible. When a patient's care is expedited, a patient would be more willing to wait for the natural recovery course when pain gradually lessens with time.

For patients with a more difficult time coping with pain, a one-time evaluation by a psychologist may be helpful. Provided the patient is receiving the appropriate medical treatment, most pain is expected to resolve in a reasonably timely manner. If a patient is not getting better, factors other than the initial injury must be considered. A targeted cognitive behavioral therapy program with a focus on functional goals can be used to overcome barriers and obstacles to recovery. For those who are unable to successfully recover, the concept of chronic pain and coping strategies other than opioids can be addressed in this type of program.

Note that a patient with significant psychological issues and/or issues pertaining to prior substance abuse is not an ideal long term opioid treatment recipient, according to multiple studies. Such patients are at risk for addiction. A good targeted cognitive behavioral program would also introduce the patients to the idea of their additional risks, which may impact their decisions on taking opioids.

## **Summary**

Opioid treatment is complicated. The best time to prevent misuse is when a patient is in the acute phase: effective alternative treatments can be offered, expectations can be set, understanding can be established. Both physician and patient education is important. However, physician education may be of higher yield because patients hopefully recover and physicians will continue to treat patients. Nevertheless, a more successful program would incorporate patient buy in. The latter may require targeted cognitive behavior intervention as well as specific medical treatment.

- Be proactive about chronic opioid use prevention. Identify cases that may require intervention before opioids have been used for more than 90 days so that you are not fighting an uphill battle.
- Contact treating physicians about the concern. Have another experienced physician who can appreciate the clinical situation speak to the treating physician to advise them of the guidelines and statistics as well as the most evidence-based support treatment course.
- Reach out to patients and alert them of the potential risks so everyone is on the same page. Methods of reaching out may depend on the risk categories.

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