



## Opioids: The role of opioid medications in an orthopedic regenerative medicine practice

By Michael N. Brown, DC, MD, DABPMR-PAIN. Reprinted with permission.

### INTRODUCTION:

I have had the privilege and opportunity to have completed a fellowship in pain medicine at the University of Washington in Seattle. I think there are times when patients seeking opioid medications from doctors especially those who are board-certified and pain medicine forget the training, background and experience that is required to be Board certified in this specialty. Imagine for just a moment what experiences you may have working in a university-based pain medicine clinic. Do you not think that we have seen just about everything and heard just about every story? The answer is probably.

A classic encounter: A new patient is scheduled to see you. The institution has scheduled one hour for a new consultation for a patient who has a long and very complicated history. The patient does a very poor job of explaining that history. The patient provides no medical records in regards to the history. No diagnostic imaging, no laboratory testing, no additional information. They inform you that they are on opioid pain medications and have been for years and suddenly they have been referred to you and that their doctor is no longer able or possibly unwilling to prescribe the medications for them. They inform you that they have taken their “last pill last night” just in time to get here today. The patients forget about the “prescription monitoring system” that physicians have available to them. You look up the patient and find out that Dr. Jones prescribed him OxyContin 2 weeks ago and Dr. Smith prescribed him hydrocodone one week ago at two different clinics. You do not notify the patient that you have this information. You inform the patient that the University clinic’s policy is that opioid medications cannot be prescribed on the first visit. The patient goes into a rage of anger yelling and screaming at you and the staff. They refused to calm down and reason with you. You now question them about the OxyContin prescription and the hydrocodone prescription they have received in the last 2 weeks and things escalate. Security is called and the patient is escorted out of the door yelling and screaming at everyone in the clinic. And you did not inform them of the positive urinary toxicology screen that was positive for marijuana and Valium. Just another day in the chronic pain clinic. Almost every pain physician has experienced this same clinical scenario which provides an excellent example of the trouble we are currently having in the 90s states with opioid medications.

Before we address the issue of opioid pain medications its indications, use, risks, benefits and exactly how we use opioid pain medications in a “regenerative orthopedic practice” I would like to cover issues on our national opioid crisis and then issues with opioid medications specifically. America consumes 80% of the world opioid supply and 99% of the world’s hydrocodone supply, but has only 5% of the world’s population.<sup>1</sup> Is there any question whether or not America has an opioid problem? I will say for those who do not want to read on our focus in this practice is not opioid medications. Chronic opioid therapy especially as a monotherapy has been a dismal failure in this country. Our focus is to identify the source of pain and treat it and hopefully resolve or improve symptoms sufficient enough that medications will not be required to manage pain. This requires somewhat of a “boutique practice” were significant time and effort is spent with the patients trying to sort out the complexity of the problem. Because of time constraints, shrinking reimbursement and other failures within the current healthcare system unfortunately physicians are becoming less and less likely to spend the type of time that we spend with our patients sorting out complex pain problems.

Prescription opioids are killing Americans at more than five times the rate that heroin is, according to the most recent numbers from the Centers for Disease Control and Prevention. Prescription painkillers are among the most abused narcotics in the United States. These drugs are just as addictive and harmful as the hardest street drugs, but because they are obtained legally by doctors that are prescribing them. Opioids in the state of Washington before our new opioid laws were passed were the 3rd leading cause of accidental death!

A physician with a license to prescribe opioid medications does not require advanced training to treat acute and chronic pain conditions. They do not require orthopedic and interventional procedure skills. They do not require advanced diagnostic skills to prescribe opioid medications. All they need to do is to put his signature on a prescription and prescribe opioid pain medication. For this reason a significant number of individuals with chronic pain conditions are prescribed opioid medications as the single method of treatment. This opioid monotherapy in my opinion is suboptimal in care and unfortunately this occurs frequently and again does not require a multidisciplinary understanding of what is the best care for the individual patient. We often also fail to recognize the "mind-body connection" and the neurochemical changes of depression and anxiety that are often present and worsened pain and the pain experience.

If we were not already convinced of the prevalence of opioid problems in the United States a study from Johns Hopkins recently has unfortunately demonstrated how bad the problem has escalated in the US. The office of the study reported opioid prescriptions which include OxyContin and morphine have skyrocketed in the last decade while pain identification and management is largely remained the same.<sup>2</sup> This study looked at doctor visits in 2000 through 2010 for people seeking relief from pain that was not cancer-related. In 2000 approximately 50% were treated with some type of medication. This was similar in 2010 where 164 million office visits occurred for pain. In 2010 however despite a similar number of individuals seeking pain treatment opioid prescriptions almost doubled.<sup>2</sup> While opioid medications use is on the rise as well as accidental opioid deaths in this country the treatment of pain has not improved much. It would appear that national efforts to recognize pain have resulted in no significant improvement in the management of pain but in the increased prescription of opioid medications.

One of my colleagues at the University of Washington Mark Sullivan, PhD, M.D. who is a pain psychiatrist that I had the pleasure of working with states that a patient who has been on opioid medications even for 1 year will experience withdrawal, anhedonia and a dullness that occurs and withdrawal from the medication takes some "getting used to". There are protracted withdrawal symptoms that occur when patients discontinue opioid medications that can occur for months which include difficulties with sleeping, metabolic abnormalities, hormonal abnormalities, etc. "the recent increase in the number of patients taking opioids chronically for pain has not yielded the expected benefits in reduction of symptoms and improved function. Chronic pain patients typically respond well initially to opioid medications, but regular use is associated with adverse psychological and physical effects"

#### HOW DID WE GET INTO THE OPIOID MESS?

One of the problems that we began to see emerging in the 1980s was a failure to recognize severe pain and manage severe pain in cancer pain patients. We witnessed a revolution at that time and physicians began to adopt the use of aggressive opioid management in cancer pain patients using both a combination of long-acting and short-acting opioids. This improved the management of pain in this population. But the question was what we do with individuals suffering pain and disability associated with non-cancer pain or nonmalignant pain? The change really began in the 1980s with a number of events. We had pain physicians writing articles educating physicians on the benefit of chronic opioid use and nonmalignant pain.<sup>3</sup> We also had a simultaneous marketing push from pharmaceutical companies who were now manufacturing long-acting opioid medications which become more readily available to physicians. Gradually physicians became more liberal and prescribing opioid medications as well as the American population demands of opioid medications in a social and cultural environment of

medicine and healthcare at the time which provided access to this care. We now live in a situation where doctors can expect up to 30% of their patients on opioids to be participating in abuse, overuse, misuse, diversion or other issues surrounding the opioid prescription that doctor is providing. The worse thing is that often times you have no idea who is using them properly, who is stock piling drugs or if there are other issues of compliance within a medical practice. Most physicians do operate a compliance program that often requires sophisticated random urinary drug toxicology screens and this technology is getting better and better over time.

#### HOW DOES OPIOIDS WORK?

The brain and spinal cord have numerous types of opioid receptors and when activated can create some euphoria, relaxation and decrease pain. There are 3 regions of the central nervous system that are specifically affected by opiates:

The Limbic System (includes the hippocampus, amygdala, hypothalamus, and other structures) – Controls human emotion, behavior, long term

memory, sense of smell. Opiate effect here is primarily one of producing pleasure, relaxation, and feelings of well-being.

- The Brainstem (includes the medulla oblongata, pons, and midbrain) – Regulates vital functions such as breathing and cardiovascular system control, alertness, and consciousness. Opiate effect here is to slow breathing, stop coughing, and lessen feelings of pain.
- The Spinal Cord (a thin, tubular column of nerves which extend downward from the medulla oblongata) – Serves as a conduit for motor and sensory messages and a center for coordinating reflexes. Opiate effect here is to decrease feelings of pain.

#### Opiate Receptors:

There are 3 identified types of opioid receptors found in the body:

- mu,
- delta
- kappa

These receptors can be located in the brain, spinal cord, and digestive tract. Each receptor serves specific functions. It is the mu receptor that is predominantly responsible for pain relief provided by opioid medications.

#### The stigma of methadone:

Methadone carries with it somewhat of a stigma since most individuals recognize it as a medication used in heroin addiction clinics and therefore carries with it somewhat of a stigma. This is one of the more unique opioid medications. It was developed in Germany under Adolf Hitler and in fact used to be called “Alodfine” ! This unique medication has 3 effects that make this medication helpful in certain circumstances:

1. Methadone is a long acting synthetic opioid that binds to the mu opiate receptor is one of the reasons and provides pain relief. However it also affects kappa and delta receptors as well.
2. It also affects the release of a number of neurotransmitters that provides an antidepressant type effect.
3. It also has unique NMDA antagonist activity which we will describe in another article on neuropathic pain.

Methadone is longer acting than heroin with less euphoric effects and side effects. It is the reason why it is used in opioid drug addiction since it binds to opioid receptors providing extended relief from withdrawal symptoms. It also binds to the opiate receptor blocking the effects of other opiates.

There are certain pain states in the body that are “neuropathic pain states”. Since methadone works in various ways as described above this particular opioid medication can be effective in certain neuropathic pain conditions. It also is very inexpensive.

#### OPIOIDS IN FIBROMYALGIA:

I have addressed the topic of fibromyalgia in another article on the website. In that article I discussed the problems with the diagnosis of fibromyalgia and the fact that there are primary fibromyalgia conditions and secondary fibromyalgia conditions which I described in detail in the article. The utilization of opioid medications and fibromyalgia is controversy. Studies in the use of opioids with fibromyalgia patients on opioid medications tended to have more pain; they were more functionally impaired and more likely to be on disability and twice as likely not to be employed. There has been a question as to whether or not opioids worsen the pain and fibromyalgia because of opioid-induced hyperalgesia. We will discuss this topic at a later section of this article. However the basic concept is that opioids can increase pain sensitivity which can lead to central sensitization which is thought to be the very pathology of fibromyalgia in the first place. There are a couple of honorable mentions with regard to opioid medications. One of them is tramadol. This is a medication that is somewhat unique in the opioid group. It has serotonin reuptake effects therefore has an effects similar to an antidepressant plus a weak opioid medication. The combination however of the antidepressant effect and opioid medication together seems to be more tailor-made for a neuropathic pain phenomenon and probably why fibromyalgia has been shown in some studies to show some benefit.<sup>4,5</sup>

I do have to say that there is an opioid medication that I do have experience with that has been beneficial more consistently and other narcotic pain medications for fibromyalgia. That medication would be low- dose naltrexone (LDN). There is research evidence that continues to show that low-dose naltrexone has a specific and clinically beneficial impact on fibromyalgia pain. The medication is widely available, inexpensive, safe, and well-tolerated.<sup>6</sup>

Low Dose Naltrexone has a number of interesting effects that may benefit the fibromyalgia patient. Because it is an opioid antagonist it blocks the receptors for endorphins and appears to trick the brain into producing more of them. The endorphins are known as the “natural pain relievers” and the more endorphins to better you feel.

In addition LDN also has an interesting effect on immune cells in the central nervous system called microglial cells. When these cells become damaged they produce pro-inflammatory cytokines and reactive oxygen species as well as nitrous oxide although which are currently under study with fibromyalgia. Microglial cells may be a key component of the “sickness response” that produces fatigue and flu-like symptoms and may be the reason patients have improved fatigue on low-dose naltrexone.

#### OPIOID MEDICATION AND CONSTIPATION:

Remember there are opioid receptors in the gastrointestinal tract. When opioid binds with these receptors it slows motility. In other words it paralyzes the bowel. Some individuals can have significant complications such as bowel obstruction that sometimes requires hospitalization and surgery. Constipation is the most common complaint when taking opioid medications. Many people take stool softeners when they are on opioid medications. It is my professional opinion that stool softeners are probably not the most effective method of treatment of opioid-induced constipation. Remember the opioid medications reduced motility of your gut. A stool softener can make your stool softer but it does not mobilize the bowel! Therefore a stimulant may be more effective. I personally recommend Senokot which is an herbal stimulant that I find to be very effective in treatment of opioid related constipation. There are new emerging medications such as Methylnaltrexone (available as Relistor(R)) however I typically suggest people increase fluids, get plenty of exercise and use Senokot. Senokot is available over-the-counter and does not require a prescription.

## ADVERSE SIDE EFFECTS OF OPIOID MEDICATIONS:

A discussion on opioid medications would not be complete without at least a brief discussion of the side effects and potential complications of these medications. There are numerous side effects related to opioid use which includes accidental death with higher doses sufficient enough to cause respiratory depression.

There are a few opioid side effects that you may not be aware of and I will discuss some of those issues. Common side effects include sedation, dizziness, nausea, vomiting, constipation, physical dependence, tolerance, and respiratory depression. Respiratory depression is a significant concern to any physician prescribing opioid medications. If you take a high enough dose for opioid medications, especially when you are naïve to opioids, you can die of respiratory depression. I have personally had family members and friends of family members die from respiratory depression associated with opioid use. Opioid medications in the state of Washington, where I practice, and prior to opioid laws being passed were the third most common cause of accidental death in the state. This is typically a consistent figure throughout the US.

Physical dependence and addiction is of course a significant concern which will not be covered as a detailed topic of discussion within this article. Tolerance is a significant issue with opioid medications where the same dose of medication has reduced effects over time. This often results in patients escalating their use. I commonly recommend opioid drug holidays for 3 consecutive days per month. I have been using this technique for years and those who comply with this have experienced a significant reduction in opioid tolerance. I rarely encounter an individual who has sufficient discipline to do this. Other less common side effects include delayed gastric emptying, opioid induced hyperalgesia where pain becomes worse with opioid use rather than better. There are also immunologic effects of opioid medications. Yes, opioid medications can affect your immune system! Opioid medications have been shown to reduce your resistance to infection.<sup>7</sup>

Opioid medications have been known to cause muscle rigidity and a condition called myoclonus. We have already discussed the fact that opioid medications can also cause issues with constipation. Opioids also have a deleterious effect on bladder function causing urinary retention. Opioids also have an effect on the heart with a cause what is called a “prolongation of QT interval” that can lead to fatal arrhythmias.

Another important complication of opioid medications that often is not realized by individuals is the deleterious effects on the hormone system. Opioid medications reduce hormones for example opioid use can cause an opioid-induced androgen deficiency (OPIAD).<sup>8-11</sup> The reduction in testosterone for example can have profound effects with vitality, sexual function and overall feelings of well-being.

Because of this I recommended anyone on opioid medications for any significant length of time to have hormonal panels obtained. Many individuals may require hormonal replacement therapy.

Opioid hyperalgesia: Imagine working in a University pain Center for individuals dependent on opioids coming to a Center of pain medicine reporting progressively worsening pain where the pain has now become intolerable expecting that the pain specialty clinic is going to be prescribing you more drugs and higher dose drugs that your physician was unwilling to provide and the pain specialist tells you that you have opioid-induced hyperalgesia! This is a condition where opioids have an adverse effect on the central nervous system and progressively worsen pain until the patient has pain all over. Trying to convince the patient that the best thing they can do to reduce pain is to stop their pain medication is a daunting task. For the few that would actually believe you and go off the medications it was an amazing thing to see as the patient got better not worse. Most individuals simply will not believe that this is the case and often leaves seeking another physician's care willing to continue the opioid medications and thus never recover. Opioid

hyperalgesia is a phenomenon where one experiences increased pain sensitivity despite increasing doses of opioids.<sup>12</sup> There are a number of reported mechanisms that are reported to cause this problem.<sup>13-15</sup>

Opioid-induced sleep disturbance: Opioid medications are typically considered sedating and one would think would assist in sleep. However opioids increase the number of shifts in sleepwalking states<sup>16</sup>, and decreased total sleep time<sup>17</sup>, and reduced sleep efficiency reducing delta sleep and REM sleep<sup>18</sup>. In randomized double-blind clinical control trial of 42 healthy volunteers given 5 mg of methadone or 15 mg of sustained release morphine showed that both opioids increase the percentage of time the individuals in light sleep and substantially decreased (30%-50%) the percentage of time in deep sleep states (stage 3 and 4).<sup>19</sup> So the opioid that you are taking at night to improve your sleep may in fact not be improving the quality of your sleep at all but reducing the time that you spend in the state of “restorative sleep”.

#### SIDE EFFECTS OF SPECIFIC OPIOID MEDICATIONS:

There are a few particular opioid medications that we will address specifically that have unique side effects and problems associated with their use. This is not to be a comprehensive discussion of all opioids on the market.

**HYDROCODONE:** As we have previously stated America has a love affair with hydrocodone, consuming 99% of the world's hydrocodone supply. Of course hydrocodone can lead to physical and psychological dependence. Hearing loss associated with hydrocodone use is one of its unique but rarer side effects. Individuals who have specific genetic enzyme deficiencies such as CYP2D6 or CYP3D4 deficiencies are particularly prone to this side effect.

**FENTANYL:** Many patients who we consult for chronic pain have been given a “fentanyl patch” or better known as Duragesic®. While I was at the University of Washington in Seattle I had an opportunity to work with some of the leading experts in the world on opioid medications such as Mark Sullivan, PhD, M.D. as well as Jane Ballentine, M.D. as well as a number of remarkable research teams working on opioid research. It was there that I learned first-hand about a number of problems surrounding the use of this drug. Fentanyl, I was to find out, is probably one of the more “evil” opioid medications utilized for long-term use. First, fentanyl in my opinion is the single drug that is notorious for developing rapid opioid tolerance requiring dosing schedules to escalate over time. In research done at the University in laboratory animals it was noted that a single dose of fentanyl continued to cause hypersensitivity to pain and neurophysiologic changes in the spinal cord that lasted for 3-6 months. Fentanyl is one of the opioid medications that is also notorious for causing opioid hyperalgesia. That's right. Fentanyl a powerful opioid medication is notorious for causing a patient to become more pain sensitive and developed generalized pain hypersensitivity problems! When I was working in University clinical settings where opioid medications were utilized in the treatment of chronic pain, I helped more people getting off of fentanyl than I did putting them on fentanyl.

Therefore any time I run into a patient on this medication my first objective is to find a way to get them off.

**OXYCONTIN:** If there is one drug currently still manufactured in the United States that has been at the heart of the opioid controversy and its associated problems which includes accidental deaths it would be OxyContin. OxyContin is basically a long-acting oxycodone.

Having an opportunity to have “team meetings” to discuss multidisciplinary and comprehensive medical care for chronic pain, while at the University of Washington, provided me the ability to work with some of the leading authorities on this topic. One of the important lessons that I learned was the huge mistake that we made in promoting and utilizing long-acting opioid medications for the treatment of non-cancer pain. I was to learn that the answer to using opioids at all was really the intermittent use of short acting medications is probably better in the long run. When you have sustained levels of opioid medications obtained when you take a long-acting

opioid medication you actually building more tolerance and increasing pain sensitivity which can even lead to opioid hyperalgesia. Providing short acting opioid medications allows vacillating opioid blood levels which turns out to be the most desired effect which is just the opposite of what we have been teaching physicians for over 20 years. We thought that prescribing a long-acting opioid medication will also eliminate some of the euphoria and reduce habitual medication ingestion that must occur multiple times during the day. We were taught that if the patient requires opioid medications for any significant length of time that we should convert him to long-acting opioid medications and eliminate the use of short acting opioids. Of course most of this came from the drug representatives that represented OxyContin. It took us almost 20 years to figure out that this was a dismal failure. Long-acting opioid medications specifically OxyContin and maintaining steady state levels of opioid medications does not work, in fact it makes the problem worse.

In order to reduce this problem we begin recommending “drug holidays” where patients would take several days off of opioid medications. This reduced opioid tolerance and improved analgesic effects of the medication. The price the patient’s would have to pay is remaining off the medication for several days per month. If you take OxyContin it will work in a marvelous way initially but over time you will become opioid dependent and find that it provides only minimal symptomatic relief. Because individuals taking OxyContin do not know there are any other alternatives for treatment of the chronic pain even the most miniscule relief of pain that they may experience from the use of OxyContin seems to be worse than patients knowing full well they are growing opioid tolerance will continue to take the medication.

CODEINE: Codeine is a medication that I invariably never prescribed because of its more common GI nausea and vomiting side effects.

#### GENETIC DIFFERENCES & METABOLISM OF OPIOIDS:

There are differences genetically in individuals and how they metabolize drugs. The same is true for opioids. An experienced pain physician should be acutely aware that there are certain differences in metabolism and should be able to recognize when a certain medication is not providing adequate analgesia and should suspect these genetic differences. This would occur periodically when I was doing rounds in the hospital on the acute pain service where we were providing medications that simply would provide “no symptomatic relief” and also certain unwanted side effects. I suspected the patient may have an enzyme deficiency in the metabolism of a certain type of opioid. I would simply change categories understanding which opioids are metabolized by specific enzymes and the patient would miraculously feel better and side effects would disappear. The efficacy and tolerability of specific opioids vary dramatically among patients and experienced physicians know that occasionally one has to try different opioid medications understanding this metabolism to gain acceptable balance of analgesia and tolerability for an individual patient.<sup>20-23</sup> We are not going to go into all of the opioid metabolism biochemistry however in brevity, there are enzymes in your liver that metabolize opioid medications. In fact, the same enzymes metabolize many of the drugs that you take that convert the medications into the “active gradient drug”. Most opioid medications must be metabolized into their various component and active drug before they become a real “pain killer”. There are 2 important enzyme systems in your liver involved in the metabolism of opioid medications. One of these enzymes is the CYP2D6 enzyme which is an important enzyme for the metabolism of many opioid medications such as codeine, hydrocodone, oxycodone, etc. Another important enzyme is CYP3A4 which is an enzyme involved in the metabolism of many drugs. There are certain substances that you can ingest that can inhibit these enzymes from working properly.<sup>24</sup> For example grapefruit juice is a strong inhibitor of CYP3A4 and could potentially affect the metabolism of many medications that you take including some opioids.<sup>25</sup> Whereas cafestol found in unfiltered coffee, induces the same enzyme and therefore you metabolize the drug faster!<sup>26</sup> Individuals for example that have a 2D6 deficiency which may be more common than you think are individuals who cannot metabolize certain opioid medications. A doctor may be prescribing these medications to you and the medication simply does not work. You may also be getting side effects from the medication because you cannot metabolize them. Occasionally, a

patient may be prescribed an opioid medication that is simply not working and the patient continues to return back to a doctor requesting higher doses when in fact they cannot metabolize the drug to begin with. There is genetic testing that can be done to determine whether or not you have an opioid metabolism problem. If this is suspected this is occasionally important to document for physicians that may see you in the future.

#### OPIOID UTILIZATION IN THE ORTHOPEDIC REGENERATIVE MEDICINE PRACTICE: OUR POLICY ON OPIOIDS

Our focus in a regenerative orthopedic medicine practice is to identify pathology and to utilize advanced interventional orthopedic procedures to restore function and improve pain. Patients that are seeking chronic opioid therapy are typically disappointed since our focus is advanced intervention and not opioid therapy. If the patient is on chronic opioid therapy who seeks a consultation our focus is to determine whether or not there is an underlying pathology that can be identified and resolved so that they can be weaned off opioid medications as quickly as possible. Interventional orthopedic practitioners focus on identifying patients that have chronic pain who have the potential for recovery. The unique experience the patient will have with us is the amount of time and detective work that we are willing to do in order to determine if an individual has a treatable pathology. It is not our policy to take over chronic opioid therapy for several reasons. First we are highly specialized in this practice and provide a highly specialized care. Filling our schedule up with patients who require regular visits to monitor compliance for opioid medication prescriptions can be performed by physicians or physician extenders that are not so sub-specialized in their training and background. We receive many referrals from physicians who have prescribed opioid pain medications for the patient. During our initial consultation and throughout the course of care our goal will be to eliminate the need for opioid medications. Typically if patients desire to remain on long-term opioid medications they are better served continuing the relationship with that physician. We will work diligently to assist the patient and that referring physician on methods to reduce, wean or if possible eliminate the need for opioid medications.

We do believe that opioid medications are best served by using them for short-term treatment of post-procedural pain. Occasionally procedures that we perform can involve 1 to 3 days of post-injection flare that can on occasion be treated with opioid medication. As soon as the flare has resolved the patient will be expected to discontinue the opioid medication. On the rare occasion that we do for some reason take over or begin to provide opioid medications in excess of 90 days we will require an opioid contract as described below which can also include a compliance monitoring program which could involve urinary drug toxicology screening.

#### OUR PRACTICE POLICY ON OPIOID CONTRACTS:

It is our policy to draw up a contract between our practice and the patient who is going to be receiving opioid medication on a continuous basis. We typically do not draw up opioid contract with patients who need medications for a short period of times for post-procedure pain. However, if there is going to be a time where opioid management is going to be necessary a contract will be signed by both parties. This contract is an agreement that you will not receive opioid medications or prescriptions for opioid medications from any other physicians. It also requires that if you have a procedure such as surgery, dental work, etc. and are given medications for the procedure that Dr. Brown is to be notified of this.

On occasion a patient may receive medications given to them by a surgeon or physician following a hospitalization or surgery and this physician may not be aware (because you did not tell them) that you are under an opioid contract. We hold the patient accountable for this and if medications are dispensed and received and we are not notified that this has taken place this will be considered a violation of the opioid contract and Dr. Brown will discontinue prescribing opioids thereafter. We support postoperative, perioperative and post-procedural pain management and we have no problem coordinating care with other physicians and surgeons we simply must know that this is taken place and that you have required additional medications because of the procedure. On occasion the surgeon or physician who has done the procedure prefers Dr. Brown

provide post-procedural management, on other occasions the physician himself may want to do that for a period of time. As long as there is an agreement this is completely acceptable, if there is no agreement or if we find out that medication was dispensed and this being know by Dr. Brown this will be considered a breach of the contract. Please understand we take these contracts seriously. For the your information many individuals do not know there is a prescription monitoring service that provides a physician the ability with a click of a mouse to determine whether medications were dispensed by other physicians or other pharmacists.

#### OUR PRACTICE & OPOID PRESCRIPTION POLICY:

1. No early refills. In the past we have been a significant number of individuals who are on opioid medications who continue to call stating they are leaving town and need their opioid prescriptions early. We have decided to establish an inflexible policy of no early refills. This is especially true with last minute refills that always seem to occur at the end of the month when we know the patient is requesting an early refill and using this as an excuse. Please understand there will be no early refills.
2. Opioid contract: You will be requested to sign an opioid contract/agreement between you and Dr. Brown. This contract will be strictly enforced. The contract states that he will take the medications as prescribed and only as prescribed. The contract also states that you will receive no medications from other physicians. If you require medications for a postoperative pain management or other procedural pain management Dr. Brown is to be notified. Obtaining opioid medications from another physician will be considered a breach of the contract and Dr. Brown will discontinue opioid prescriptions immediately.
3. Urinary toxicology: Unfortunately we are living in times where compliance programs are required. You will be requested for random urinary drug toxicology screens. There is unfortunately a cost for these tests which she will be expected to absorb or your insurance company to pay as part of your opioid pain management program. Abnormalities on the urinary drug toxicology that are not consistent with what Dr. Brown is prescribing will be submitted for confirmatory tests. You will be notified if abnormalities are identified.
4. We do not prescribe opioid medications on the first visit and we do not take over another physician's prescription of opioid medications unless an agreement has been made between Dr. Brown and the other physician.

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