

## Drug Drug Interactions and opioids:

It is well-known that all medications have side-effects. It is also known that many medications interact with each other when taken by the same person for different reasons. However, this has not stopped the rampant use of opioids and opiates in addition to other medications that react with them. Thus far, the treatment of the self-reports of pain have trumped all other health and wellness considerations.

Polypharmacy not only impacts one's health and condition, but it incurs unnecessary costs as well. One study of 57, 752 chronic, noncancer pain patients found a nearly 6% incidence of major drug-drug interaction exposure. The overall costs in a 3-month period were significantly greater (about \$609 per individual; \$2,110,258 overall per month). This is an easily manageable expense in a single system. (*Pergolizzi 2014*)

As with most problems with chronic pain patients, physician awareness and education is paramount. The prescribing physician must at least be aware of potential P450 problems. P450 is a common pathway for many medications as they are processed in the liver. Many drugs use this system and concomitant use of two or more will alter the overall effectiveness of each drug. At times, dangerous levels of one or the other will happen with polypharmacy. Up to 67% of patients with chronic pain take at least one other drug beyond the pain medication.

Some opioids and fentanyl products on the market actually contain black-box warnings regarding the simultaneous use of a CYP450 3A4 inhibitors (examples: lovastatin, propranolol, clarithromycin, grapefruit juice, verapamil....). Physicians are patient advocates and the primary concern is the patient, not the financial health of the system. However, drug interactions are a major safety issue and one of the items closely watched by the CDC, FDA and CMS now.

It is important that physicians become more aware or have the ability to achieve awareness on demand of significant interactions. For example, fluconazole may lead to a major adverse drug

reaction when prescribed and taken with oxycodone. This could easily happen if a patient sees two different doctors for two different reasons. The patient may fail to discuss medications with each and also may use different pharmacies with different modes of payment. In this situation, the oxycodone may be paid for within the worker's compensation system while the fluconazole may be with group health. There is no real way to capture or prevent such an interaction. It would be difficult to expect the patient to manage this internally as well.

It is thought that about 27% of chronic opioid users are exposed to potential interactions. Compliance with medications drops significantly with more than one medication however. Therefore, many exposures do not necessarily result in bad interactions. If urine testing could occur for all drugs at any point, many drug-drug interactions would be exposed early and medications could be altered as needed. Sadly, many drug-drug interactions remain undetected and unreported. Adverse events occur all the time but are seen and treated under different ICD-10 codes.

If there is an aging workforce and we assume that the current rates of injury, treatment and disability continue then there will be many drug interactions in the future. Nearly 70% of patients on opioids receive another medication. More than half of those older than 65 take 5 or more medications weekly. Up to 20% take 10 or more! Worse, many foods, herbal supplements and OTC medications can cause changes in the metabolism of opioids.

Drug interactions are dangerous, costly and avoidable. The easiest way to manage a drug-drug interaction with an opioid is to replace the opioid with something else to manage the pain. That being said, the insurance coverage of that replacement must be in place.