



## Mini Review

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# Opioid Addiction Following Surgery



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## Mini Review

In recent decades but in especially in the last few years, the opioid epidemic sweeping across the nation has grown exponentially in scope and severity. It is estimated that over two million people are addicted to opioids in the United States. Between the years of 1999 and 2015, opioid addiction killed an estimated 183,000 people. In 2015, opioid overdose killed 15,000 and in 2016 it is estimated that more than 63,000 people died from overdose. As a comparison, deaths related to breast cancer are estimated to reach 45,000 per year. Unfortunately, the present estimate is that death from opioid overdose will continue to escalate to over 500,000 in the next few years. According to a report from the CDC, the population at risk is between 25-54 years and seems to affect more women than men. It increased by 5 fold in women compared to 3.6 in men between 1999-2010. The predominance of opioid addiction in teenagers and its relationship with suicide remain grossly unknown. A recent report indicated that death by opioid overdose has become one of the leading causes of the decrease in life expectancy in the United States, a phenomenon similar to what happened during the AIDs epidemic in the 1980s.

In the United States, over \$600 billion is spent every year on opioid addiction, including \$79 billion related to opioid addiction following surgery. Despite many initiatives to decrease the use of opiates in the preoperative setting, opioids continue to be regularly prescribed before, during and after surgery. Although the risk of opioid addiction following surgery is recognized, the percentage of patients becoming addicted to opioids following surgery is not well understood. Some of the reasons include the lack of consensus on the definition of opioid dependence following surgery. To date, there has been virtually no agreement regarding the duration and dosage that qualify for opioid dependence following surgery, nor that a clear estimation

of the factors such as biological, psychosocial and socioeconomic that increase the risk of using opioids for extended periods of time after surgery. A review of the existing literature shows that frequency of post-surgical opioid dependence varies significantly with type of surgery, duration, dose and type of opioid prescribed, and methodology of study design.

The CDC has attempted to resolve some of the confusion regarding the transition from acute to chronic opioid use in their March 2017 edition of Morbidity and Mortality Weekly Report. The report examined a 2015 study that investigated the of duration of opioid use in a database sample of 1.2 million opioid naïve, cancer-free adults. The results yielded that the transition from acute to chronic opioid use occurs quickly, and increases significantly after the third day of opiate use [1]. According to the report, the characteristics of the population that most frequently exhibited continued opioid therapy for more than one year were older, female, had a pre-existing pain condition before opioid initiation, and were initiated on higher doses of opioids [1]. While this report is rather pivotal in identifying predictors that might lead to chronic opioid use in a non-surgical population, the variability of the pain associated with countless surgical procedures presents significant limitations in applying these results to the treatment of post-surgical pain.

Studies specifically investigating post-surgical opioid dependence have attempted to define opioid addiction by the examining the duration, frequency and dose of opiates administered for treatment of acute pain. A review of this body of literature leads to increased convolution on the topic, rather than greater clarity. Some studies define longer periods with which to associate opioid dependence, while others focus on shorter time periods as an indication of addiction. Often there is no formal definition of opioid dependence reported in these investigations,

and the surgical procedures between studies vary greatly. The significant degree of variation of methodology between articles also makes it nearly impossible to draw a universal conclusion and so much ambiguity persists on which surgical populations pose the greatest risk for opioid dependence [2].

One area of post-surgical opioid dependence that warrants more attention overall is the psychosocial aspect of the manifestation of addiction. The factors that predispose individuals to substance abuse are well studied and should be more of a consideration when choosing a preoperative analgesic regimen. Further, increasing patient education regarding pain management and focusing on adjunct therapies as a method of pain control will help to move away from the use of peri-and-post operative opioid analgesics. Last but not least, an increasing number of practitioners believe that it is possible to perform surgery in an opioid-free environment. Such an initiative (that remains to be established) would certainly represent an opportunity to decrease the frequency of opioid addiction following surgery [3].

This is based on:

- A. The proper preoperative evaluations of the psychosocial risk factors that may result having patients experience an increase level of pain postoperatively such as depression, anxiety and catastrophizing.
- B. Preoperative identification of patients with addictive personality.

- C. The preoperative use of a multimodal approach including regional anesthesia to the preoperative pain management.
- D. The use of alternative non-pharmacological approach to the management of pain such as acupuncture, auriculotherapy including vagal stimulation, electro stimulation, biofeedback, etc.
- E. The use of minimally invasive surgery.
- F. The proper pain management of pain following surgery and discharge from the hospital.

### Conclusion

It is clear that urgent support is required to help alleviate the disastrous consequences associated with opioid addictions following surgery

### References

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