

## INTRODUCTION

Suboxone<sup>®</sup> is becoming a popular alternative to methadone maintenance in opioid abstinence. This population will likely expand in the future presenting a challenge for perioperative analgesia. Conventional pharmacology suggests that buprenorphine has a high binding affinity for the mu-opioid receptor (MOR), displacing any other opioid; and, only overcome by extremely high opioid doses. Hence recommendations are usually that buprenorphine should be discontinued before surgery so the MOR is available perioperatively. Buprenorphine is considered to have a “ceiling” analgesic effect rather than a classic opioid dose-response curve; it should not be effective for postoperative analgesia. This case supports an emerging concept that buprenorphine may provide acceptable analgesia and that discontinuation may not be the best practice. Further, dose adjustment of buprenorphine for postop analgesia may be possible.

## CASE REPORT

A 25 y/o G3P2 parturient with a history of opioid addiction in recovery, presented in labor at 39<sup>4</sup> weeks. Her abstinence was managed with buprenorphine 8mg/naloxone 2mg (Suboxone<sup>®</sup>) twice daily, which she took that morning. An urgent cesarean section was indicated for breech presentation. Spinal anesthesia was established (bupivacaine 15mg, hydromorphone 200mcg, fentanyl 10mcg) and surgery was performed with delivery of a male infant (APGARS 8 & 9). Suboxone<sup>®</sup> treatment was continued and a hydromorphone IV-PCA was provided for postoperative analgesia. Pain was well controlled, using a total of 5.4 mg of IV hydromorphone in the first 12 hours. No other analgesics were given.

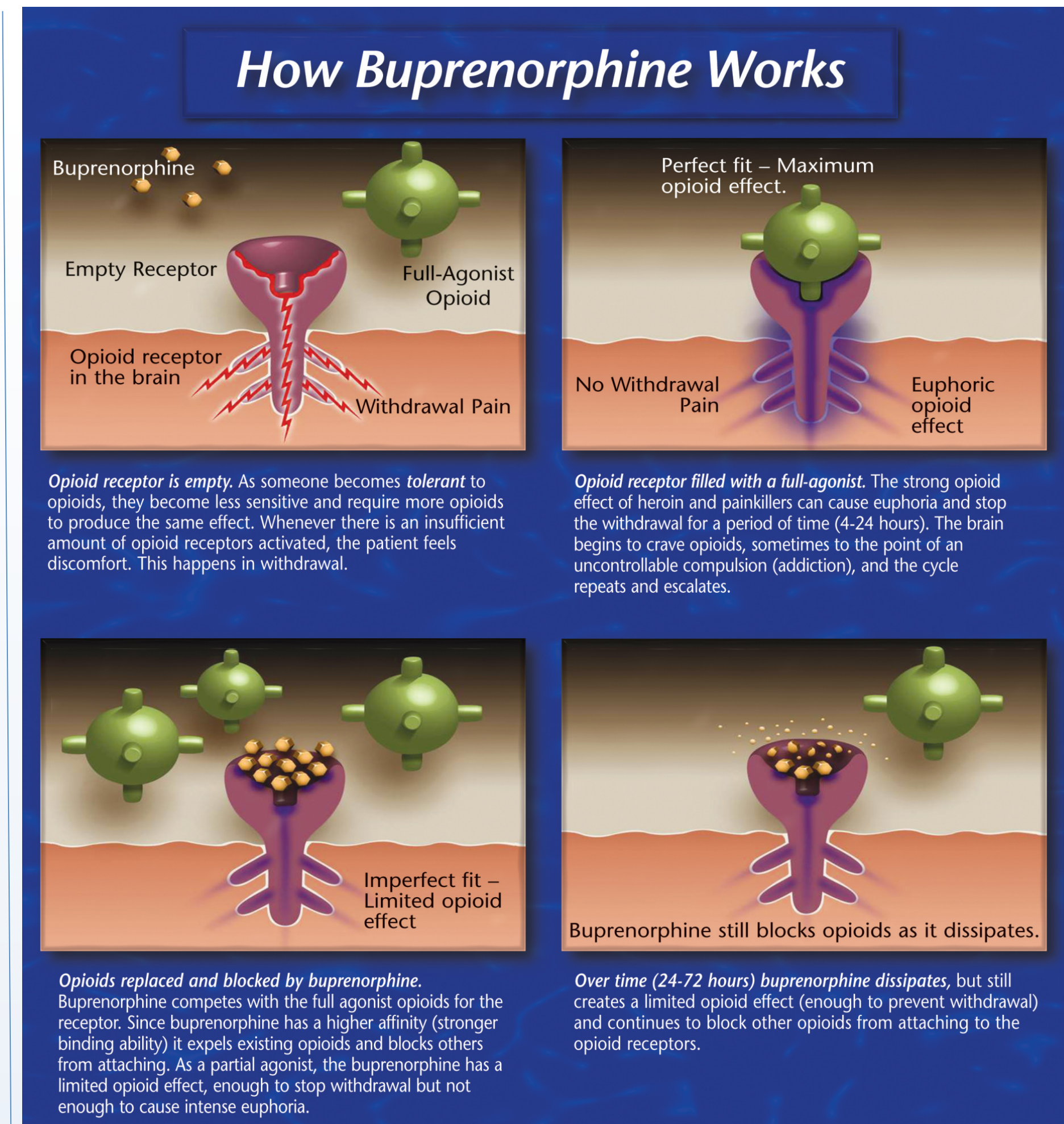


Image adapted from The National Alliance for Advocates for Buprenorphine Treatment (naabt.org) Website

### REFERENCES:

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## DISCUSSION

The recent increase in patients on Suboxone<sup>®</sup> has created a treatment dilemma for anesthesiologists. Do we (a) stop the medication pre-op; (b) continue it as prescribed; or, (c) increase the dose to use as an analgesic? Buprenorphine is a long acting mu-opioid partial agonist shown to be effective for treating opioid dependence (1). Our traditional understanding is that buprenorphine has an extremely high binding affinity for the opioid receptors thereby blocking the action of additional opioids hence requiring discontinuation prior to surgery. However, buprenorphine may provide adequate analgesia. In this case, the relatively small dose of IT and IV hydromorphone given would likely have been completely blocked by the high buprenorphine dose. Surprisingly, she had excellent pain control. Due to the urgent necessity of the surgery, we were unable to stop her Suboxone<sup>®</sup> preoperatively.

We continued it at her home dosage, added IT opioids to the spinal anesthetic and a hydromorphone IV-PCA postoperatively. It is possible that buprenorphine provided the majority of the analgesic effect in this patient. This is a novel concept in acute pain management and may be on the horizon of effectively treating our acute on chronic pain patients in the hospital.

## CONCLUSION

- **Buprenorphine is becoming a popular choice for opioid tolerant patients**
- **Buprenorphine is classically considered to have a “ceiling effect” and may not be considered effective for postoperative analgesia**
- **It may not be routinely necessary to discontinue buprenorphine preoperatively.**
- **Buprenorphine, perhaps with dose adjustment, may provide adequate postoperative analgesia.**