

## **Buprenorphine Cross-Tapering using a Microdosing Strategy**

**Background:** Buprenorphine is a mu opioid receptor partial agonist that is indicated for pain management and the treatment of opioid use disorder (OUD). Traditional induction for patients with OUD requires a patient to experience opioid withdrawal (measured via COWS scores) prior to buprenorphine initiation. This is necessary in order to prevent the experience of precipitated withdrawal due to the partial agonist effects in the setting of a full opioid agonist when using high doses of buprenorphine (mg doses). Microdosing of buprenorphine uses the buprenorphine buccal films (Belbuca®), which are dosed in micrograms, allowing for the induction of buprenorphine without the need to first experience withdrawal or the risk of precipitated withdrawal given the very small doses. Doses are increased over 3-4 days to achieve full maintenance dosing. Case reports and case series support this approach in hospital settings, and we have successfully completed buprenorphine induction using this approach in two patients at HUP.

**Intent:** For use as an alternative to standard or higher-dose buprenorphine induction strategies

### **Intended Patient Population**

1. Patients requesting buprenorphine treatment for OUD who have had a history of illicit opioid use (e.g. fentanyl)- - UDS confirmation not necessary  
AND  
Who wish to avoid the need for moderate withdrawal symptoms prior to induction with higher doses of buprenorphine.
  - For example:
    - Patients wishing to transition from methadone to buprenorphine
    - Patients who have experienced prior precipitated withdrawal
    - Patients presenting without significant withdrawal and who will not require full agonist for pain control - use methadone 30 mg PO daily for 3 days during micro-dosing initiation
- OR**
2. Patients with OUD on full opioid agonist for treatment of pain  
AND  
Who wish to initiate buprenorphine for treatment of OUD while cross tapering full agonist therapy for pain control.
  - For example:
    - Patients admitted with acute pain and concomitant OUD, requiring full agonist therapy for analgesia but wishing to initiate buprenorphine
    - Patients on chronic opioid for analgesia and diagnosed with OUD who would like to be transitioned to buprenorphine for MOUD
3. This approach may also be used in pregnant patients (SAMHSA 2018).

### **Procedure:**

#### **Clinical Opioid Withdrawal Scale (COWS) Monitoring**

COWS should be documented throughout the induction process to monitor for withdrawal. Nursing should document a COWS score at least every 12 hours (e.g. with every other buprenorphine administration) and as needed based on developing/worsening withdrawal symptoms (i.e.

nausea/diarrhea, irritability). If COWS scores begin to elevate, go back to previous dosing scheme and consider a psychiatry consult.

**Microdosing regimen using Belbuca® and Suboxone® (Buprenorphine/naloxone) for patients who will not require opioid agonist analgesia**

- For patients with recent, chronic use of IV or intranasal fentanyl, provide single daily methadone dose for 3 days during micro-dosing initiation (See Chart Below).
- Consolidate total daily dose into once daily dosing as Suboxone® (Buprenorphine/naloxone) once on a stable dose post-titration and prior to discharge.
- If needing assistance at any point during this titration, please contact the Opioid Stewardship Pharmacist and if unavailable reach out to Psychiatry.

Buprenorphine Microdosing Regimen for Patients Who Will Not Require Full Agonist for Analgesia		
MOUD	Buprenorphine	Methadone
Day 1	Buprenorphine (Belbuca®) 450 mcg buccal q6h	Methadone 30 mg PO x 1 PRN COWS >8
Day 2	Buprenorphine /naloxone 2 mg SL q6h	Methadone 30 mg x 1 PO PRN COWS >8 can give extra 10 mg methadone PRN (up to 40 mg total) if needed
Day 3	Buprenorphine /naloxone 4 mg SL q6h (alternatively may give 16 mg once daily if preferred)	Discontinue methadone

**Buprenorphine and full agonist opioid cross-taper for patients with OUD and established on full opioid agonist for OUD and/or analgesia:**

**Buprenorphine Microdosing Regimen:**

Day 1 - Buprenorphine (Belbuca®) 450 mcg buccal film q6h

Day 2 – Buprenorphine/naloxone 2 mg SL q6h

Day 3 – Buprenorphine/naloxone 4 mg SL q6-8h

- If patient is also experiencing acute pain requiring full opioid agonists– consider maintaining q8h dosing for the anticipated duration of acute pain (12 mg total daily dose).
- Consolidate total daily dose into once daily dosing as Suboxone® (Buprenorphine/naloxone) once on a stable dose post-titration and prior to discharge.

Patients on chronic opioids: On day 1 of buprenorphine microdosing, decrease full agonist dose by 30-50% and then 25% every 2-3 days thereafter or as indicated based on expected acute or chronic pain trajectory.

For example:

Baseline regimen Oxycodone ER 40 mg PO q12h and oxycodone 10 mg PO q6h (total daily oxycodone = 120 mg = oral morphine equivalent (OME) 180 mg) →

(Day 1) Decrease 50% to Oxycodone 20 mg PO q12h x 2 days and oxycodone 5 mg PO q6h x 2 days; then Oxycodone 10 mg PO q12h and oxycodone 10 mg PO q8h x 2 days; then discontinue Oxycodone ER and decrease to oxycodone 10 mg PO q12 h x 2 days, the stop all oxycodone.

For transition from methadone: Stop methadone on Day 1 of buprenorphine microdosing regimen and follow buprenorphine titration protocol above

Patients on opioids for acute pain: Continue to provide PRN full agonist opioid analgesic. Can provide more rapid full agonist taper (over 3-5 days) as acute pain resolves.

- For example: Baseline regimen: Oxycodone 10 mg PO q4h → Decrease 30% (Day 1) oxycodone 10 mg PO q6 x 2 days; then oxycodone 10 mg PO q12h x 2 days; then oxycodone 5 mg PO q12h x 2 days, then stop if full agonist is no longer needed.

**ALTERNATIVE using IV Buprenorphine (for patients who cannot tolerate or take anything in the oral cavity):**

Day 1 – Buprenorphine 300 mcg IV q6h

- For patients with recent, chronic, heavy use of IV or intranasal fentanyl who will not require full opioid agonists for analgesia, provide methadone 30-40 mg PO daily for 3 days during micro-dosing initiation (see chart above)

Day 2 – Buprenorphine/naloxone 2 mg SL q6h

Day 3 – Buprenorphine/naloxone 4 mg SL q6-8h

- If patient is also experiencing acute pain requiring full opioid agonists– consider maintaining q8h dosing for the anticipated duration of acute pain (12 mg total daily dose).
- If patient is not also experiencing acute pain requiring full opioid agonists, go straight to 4 mg q6h on Day 4 (16 mg total daily dose).
- Consolidate total daily dose into once daily dosing as Suboxone® (Buprenorphine/naloxone) once on a stable dose post-titration and prior to discharge.

**Discharge Considerations:**

- Ensure early discharge planning to ensure follow-up for OUD care and buprenorphine prescribing
- Provide Narcan – utilize MyPennPharmacy for discharge prescription if available

**Approximate Buprenorphine Equivalencies:**

Buprenorphine 1 mg IV ≈ Suboxone® (Buprenorphine/naloxone sublingual film/tablet) 4 mg ≈ 1800 mcg Belbuca® (Buprenorphine buccal film)

**References**

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