

Clinical Resource Guide:

Transitioning from Fentanyl Patches to Methadone

INTRODUCTION

Fentanyl patches are used to manage pain requiring around-the-clock treatment in opioid-tolerant patients. Fentanyl is a highly lipophilic medication, allowing it to be administered as a transdermal patch, changed every 72-hours. Fentanyl passes through the skin and accumulates to form a depot in the subcutaneous tissue, gradually entering systemic circulation. This depot formation accounts for the time it takes for serum fentanyl concentrations to fall once a patch is removed. Even when the patch is removed, the subcutaneous fentanyl depot remains until reaching systemic circulation, which must be considered when switching from fentanyl patches to an alternative opioid. A review of available medical literature provides the following estimations regarding anticipated fentanyl levels following patch removal:

HOURS AFTER REMOVAL	ANTICIPATED % FENTANYL ELIMINATED FROM THE BODY
17	50%
34	75%
51	87.5%
68	93.5%

Switching to methadone also requires thoughtful initiation and titration to ensure safety and efficacy. The unique pharmacokinetics of methadone should be taken into account when considering the medication, but should not deter use due to the resulting sustained analgesic benefit. Following the recommended guidance significantly reduces risk of use. This Pharmacist Corner is designed to assist in the transition from transdermal fentanyl patches to methadone.

Pharmacist Corner Objectives

1. Understand the drug properties of fentanyl and methadone that can make transitioning between the agents challenging
2. List potential reasons for switching patients from fentanyl patches to methadone
3. Describe the process to safely and effectively switch patients from fentanyl patches to methadone

REASONS TO CONSIDER THE TRANSITION

The decision to switch a patient from one opioid to another can be due to many different circumstances, such as lack of therapeutic response, adverse events, change in clinical condition, different route of administration needed, renal or hepatic impairment, cost, or availability. Whatever the reason, it is important that patient safety is maintained throughout the transition.

MAKING THE SWITCH

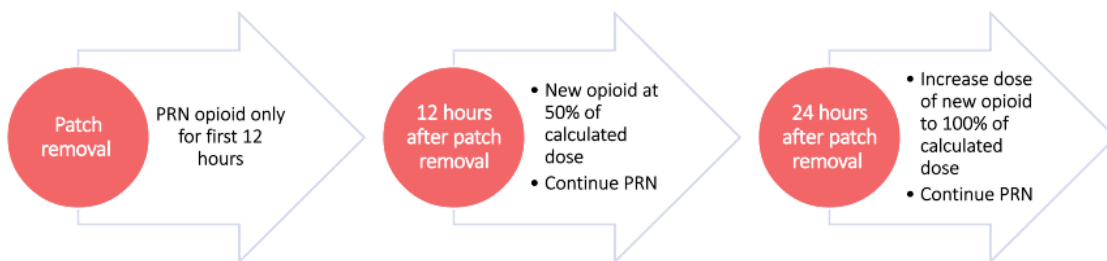
For the first 12 hours after patch is removed, patient should only take the previously prescribed short-acting opioid for any pain that occurs. Once the patch has been off for 12 hours, initiate the new scheduled, long-acting opioid at 50% of the calculated dose and continue the as needed short-acting opioid for breakthrough pain. 24 hours after patch removal, increase the new scheduled opioid to the full calculated daily dose and continue the as needed short-acting opioid. Use the following chart to determine approximate oral morphine equivalent dosing based on fentanyl patch strength:

Approximate Fentanyl Patch Equianalgesic Doses	
Fentanyl Patch (mcg/hour)	Oral Morphine Equivalents per 24 hours
12.5	30
25	60
50	120
75	180
100	240

When converting to methadone specifically, there are several different proposed ways to determine an appropriate starting dose. Because this handout is looking at switching from fentanyl patches to methadone specifically, we only need to look at dosing for opioid tolerant patients. Below is the most commonly used approach:

Methadone Conversion in an Opioid-Tolerant Patient	
Oral Morphine Equivalent per Day	Morphine : Methadone Ratio
< 60mg	Refer to opioid-naive dosing
60-199 OME <u>AND</u> pt ≤ 65 years of age	10:1
≥ 200mg OME and/or pt > 65 years of age	20:1

*Make sure the 24 hour total morphine equivalent includes the patch AND the short-acting opioid.



TRANSITION EXAMPLE

Patient: 62-year-old female with metastatic colon cancer.

Medications: Fentanyl patch 25mcg/hr q72h 72, oxycodone IR 10mg q4h prn pain

Issue: Developed skin reaction to fentanyl patch adhesive

Step 1: Remove the fentanyl patch

-Continue only the as needed oxycodone for the first 12 hours after patch removal

Step 2: Determine total daily oral morphine equivalent

-Patient using 25mcg/hour fentanyl patch. Per the chart above this is approximately equal to 60mg oral morphine per day

-For calculation purposes, will assume patient taking all 6 doses of oxycodone per day

20mg oxycodone = 30mg oral morphine

60mg oxycodone x mg oral morphine

-Patient getting 90mg oral morphine equivalents per day from the oxycodone

-Total morphine milligram equivalents per day: 60mg + 90mg = 150mg

Step 3: Convert to methadone equivalent

-Patient is getting a total of 150mg oral morphine equivalents per day and is less than 65 years of age. Per the chart above, use morphine : methadone ratio of 10:1

-Based on ratio, patient should receive 15mg of methadone daily

-Dose reduction for cross intolerance is not needed, as this chart already takes that into account

-Make sure to assess the patient's medication list to determine whether a dose adjustment is needed. If the patient is taking an enzyme inhibitor, decrease the total dose by 25%. If they are taking an enzyme inducer, increase the total dose by 25%.

Step 4: 12 hours after patch removal:

-Initiate methadone at 50% of calculated daily dose → 7.5mg for next 12 hours

-Could use 1.5 5mg tablets for this dose

-Continue the short-acting opioid for breakthrough pain

Step 5: 24 hours after patch removal:

-Increase methadone dose to 100% of the calculated dose → 15mg daily

-Could do 5mg every 8 hours

-Continue the short-acting opioid for breakthrough pain

Step 6: Methadone dose titration

-If the methadone dose needs to be increased, do not increase before 5 to 7 days. Doses should not be increased by more than 5mg per day, up to 30 to 40 mg per day, then can be increased by 10mg per day if needed.

SUMMARY

Switching patients from fentanyl patches to methadone can be challenging and confusing as there is a lot that goes into making the transition as safe and effective as possible. It is important to remember the drug properties that make these drugs difficult to manage. They both have long half-lives and are lipophilic, which allows them to stick around in the body for long periods of time. This is why careful titration is required when switching between the two agents. It is important to monitor patients carefully when making this transition to ensure they are not having any toxic or overdose symptoms. For questions regarding specific patient scenarios, please call BetterRX or a clinical pharmacy consultation.

References

- 1.) Dole, Ernest. "ASHP Opioid Conversion Tables ." *ASHP*, www.ashp.org/-/media/assets/pharmacy-practice/resource-centers/pain-management-toolkit/docs/opioid-conversion-table.ashx. Accessed 7 Nov. 2023.
- 2.) "Guidelines for Opioid Rotation." *UpToDate*, www.uptodate.com/contents/image?imageKey=ID%2F59062. Accessed 6 Nov. 2023.
- 3.) McPherson, ML. *Demystifying opioid conversion calculations: a guide for effective dosing*. American Society of Health-Systems Pharmacists, Inc., Bethesda, MD. 2018
- 4.) Mercadante, Sebastiano et al. "Opioid plasma concentrations during a switch from transdermal fentanyl to methadone." *Journal of palliative medicine* vol. 10,2 (2007): 338-44. doi:10.1089/jpm.2006.0140