FAST FACTS AND CONCEPTS #103
ORAL TRANSMUCOSAL FENTANYL CITRATE
Debra Gordon RN, MS, FAAN and Mark Schroeder MD

Introduction
Oral transmucosal fentanyl citrate (OTFC, Actiq®) is a solid formulation of fentanyl that resembles a lozenge on a handle. It is intended for oral transmucosal administration. Fentanyl is also available as an oravescent buccal tablet (Fentora®), a sublingual tablet (Abstral™), a buccal film (Onsolis™), a nasal spray (Lazanda™), and a sublingual spray (Subsys™), – these products are all dosed differently. Do not interchange these products on a mcg-per-mcg basis – these products are all dosed differently. Do not interchange these products on a mcg-per-mcg basis. This Fast Fact only discusses OTFC (Actiq®).

Indications
OTFC is indicated for breakthrough cancer pain in patients 16 years or older already receiving and who are tolerant (receiving at least equivalent of 60 mg oral morphine per 24 hours) to opioid therapy for underlying persistent cancer pain. Off-label pediatric use has been described in the literature especially among cancer patients who are opioid tolerant.

Pharmacology
Compared to morphine and hydromorphone fentanyl is a lipid-soluble opioid and, when placed in saliva under normal conditions of the mouth, is 80% non-ionized making it the only opioid suitable for transmucosal absorption. Fentanyl is ~ 100 times more potent than morphine. However, bioavailability of OTFC depends on the fraction of the dose that is absorbed through the oral mucosa (~25%) and the fraction that is swallowed (~75%; but swallowed dose is only partially bioavailable). OTFC can produce a rapid onset of analgesia, even during unit consumption (fentanyl begins to cross the blood-brain barrier in as little as 3-5 minutes), with peak effect at 20-40 minutes after the start of administration. Total duration of activity is 2 to 3 hours. The amount of fentanyl absorbed from each single dose remains stable over multiple administrations. This fact, combined with fentanyl's short half-life, reduces the risk of a cumulative increase in serum level with repetitive doses.

Prescribing Information
- OTFC is available in 200, 400, 600, 800, 1200, & 1600 mcg dosage strengths.
- Do not substitute ACTIQ™ on a mcg per mcg basis for other oral fentanyl products including the oravescent buccal tablet (Fentora™).
- OTFC should always be started at 200 mcg dose and then individually titrated based on patient response; there is no conversion factor for OTFC and the patient's existing opioid requirement.
- If the first 200 mcg dose is inadequate, the patient should wait for 15 minutes (30 minutes after start of first unit) and take a second unit. If pain is relieved after the second dose of 200 mcg, the dose to use for the next episode of breakthrough pain would be 400 mcg. The patient should be instructed not to take more than two units per pain episode during the initial titration period.
- OTFC has typical opioid dose-related side effects: somnolence, nausea, and dizziness.
- OTFC (along with all other transmucosal immediate-release fentanyl products) are available in the outpatient setting only through a Risk Evaluation and Mitigation Strategy (REMS) program. Enrollment in the program is mandatory for outpatients, prescribers, pharmacies, and distributors.

Patient Information Consumption Technique and Storage
Place unit next to buccal mucosa, between cheek and gum, moving the unit gently side to side. 15 minutes is the ideal amount of time to consume a unit to achieve the desired onset and peak effect. OTFC units are designed for one time administration. Patients should be instructed to remove the unit from their mouth if excessive opioid-related side effects develop. The following factors will decrease transmucosal absorption:
- Reduced saliva.
- Use of liquids that reduce oral pH prior to OTFC administration (coffee, cola, fruit juices).
- Placement of OTFC on tongue or gums (lowered absorption at these sites).
- Chewing OTFC.

Instruct patients to utilize the manufacturer’s safety containers to store the dosage units, and discard any
unused portion of the OTFC by dissolving it under hot tap water. Partially used units should not be stored and re-used. The drug should be stored at room temperature, and not be frozen. The Average Wholesale Price is $564 for thirty 200 mcg lozenges.

This Fast Fact was adapted with permission from the University of Wisconsin Hospital & Clinics, Madison, WI Pain Patient Care Team ‘Pain Management Fast Facts – 5 Minute Inservice’ series.

References

Version History: This Fast Fact was originally edited by David E Weissman MD and published in December 2003. 2nd Edition was edited by Drew A Rosielle in April 2009; 3rd Edition by Sean Marks in June 2015.

Fast Facts and Concepts are edited by Sean Marks MD (Medical College of Wisconsin) and associate editor Drew A Rosielle MD (University of Minnesota Medical School), with the generous support of a volunteer peer-review editorial board, and are made available online by the Palliative Care Network of Wisconsin (PCNOW); the authors of each individual Fast Fact are solely responsible for that Fast Fact’s content. The full set of Fast Facts are available at Palliative Care Network of Wisconsin with contact information, and how to reference Fast Facts.

Copyright: All Fast Facts and Concepts are published under a Creative Commons Attribution-NonCommercial 4.0 International Copyright (http://creativecommons.org/licenses/by-nc/4.0/). Fast Facts can only be copied and distributed for non-commercial, educational purposes. If you adapt or distribute a Fast Fact, let us know!

Disclaimer: Fast Facts and Concepts provide educational information for health care professionals. This information is not medical advice. Fast Facts are not continually updated, and new safety information may emerge after a Fast Fact is published. Health care providers should always exercise their own independent clinical judgment and consult other relevant and up-to-date experts and resources. Some Fast Facts cite the use of a product in a dosage, for an indication, or in a manner other than that recommended in the product labeling. Accordingly, the official prescribing information should be consulted before any such product is used.