

CANNABINOIDS**Cesamet (nabilone), Marinol (dronabinol) capsules, Syndros (dronabinol) oral solution****RATIONALE FOR INCLUSION IN PA PROGRAM****Background**

Cesamet (nabilone), Marinol (dronabinol capsules) and Syndros (dronabinol oral solution) are orally active synthetic cannabinoids which have complicated effects on the central nervous system (CNS) and interact with various receptors in different regions of the brain. There are two cannabinoid receptors that have been found in the brain, CB1 and CB2. Cannabinoids bind to these receptors and act as agonists. However, the mechanism of action is still somewhat unknown, when CB1 receptors are blocked (antagonized, opposite action of cannabinoids), nausea and vomiting are induced. Therefore, since these agents are agonists to that receptor, cannabinoids are thought to improve nausea and vomiting in this way (1).

Dronabinol containing products can also exhibit appetite stimulating effects which can be used to treat anorexia associated with weight loss in patients with acquired immunodeficiency syndrome (AIDS). These effects are mediated CB receptors in the lateral hypothalamus. Tachyphylaxis and tolerance develop to some of the cardiovascular and CNS effects, however, this tolerance does not appear to develop to the appetite stimulant effect of dronabinol (3-4).

Regulatory Status

FDA approved indications (2-4):

1. Cesamet (nabilone) is indicated in adults for the treatment of nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments
2. Marinol (dronabinol) capsules are indicated in adults for the following:
 - a. The treatment of anorexia associated with weight loss in patients with AIDS
 - b. The treatment of nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments
3. Syndros (dronabinol) is indicated in adults for the following:
 - a. The treatment of anorexia associated with weight loss in patients with AIDS

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- b. The treatment of nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments

Before use of these agents, prescribers should assess risk for abuse or misuse in patients with a history of substance abuse or dependence, and monitor for the development of associated behaviors or conditions throughout therapy. These agents may cause psychiatric and cognitive effects and impair mental and/or physical abilities. Avoid use in patients with a psychiatric history. Monitor for symptoms and avoid concomitant use of drugs with similar effects (2-4).

The safety and effectiveness of Cesamet, Marinol, and Syndros in pediatric patients have not been established (2-4).

Summary

Cesamet, Marinol, and Syndros are orally active synthetic cannabinoid which are thought to have their therapeutic effect through CB1 receptors. These agents are agonists to that receptor and are thought to improve nausea and vomiting in this way. Dronabinol containing products can also stimulate appetite which can be used to treat anorexia associated with weight loss in patients with AIDS (1-4).

Prior approval is required to ensure the safe, clinically appropriate and cost effective use of Cesamet, Marinol, and Syndros while maintaining optimal therapeutic outcomes.

References

1. Smith LA, Azariah F, Lavender VT, Stoner NS, Bettiol S. Cannabinoids for nausea and vomiting in adults with cancer receiving chemotherapy. *Cochrane Database Syst Rev.* 2015;(11):CD009464.
2. Cesamet [package insert]. Somerset, New Jersey: Meda Pharmaceuticals, Inc. September 2013.
3. Marinol [package insert]. North Chicago, IL: AbbVie, Inc; August 2017.
4. Syndros [package insert]. Chandler, AZ. Insys Therapeutics, Inc. September 2018.