BREAKTHROUGH CANCER PAIN (BtCP) IS A TRANSIENT EXACERBATION OF PAIN that occurs within the context of stable and adequately controlled background pain. BtCP is a challenging problem in patients with cancer, with prevalence estimates ranging from 40%–80% (Deandrea et al., 2014). This broad range is attributable to many factors, including the ability to distinguish BtCP from end-of-dose failure, different conceptual and operational definitions of BtCP across studies, and variation in study designs and settings (Sperlinga et al., 2015). A systematic review of 19 studies reported a pooled BtCP prevalence of 59%, with a significant amount of variability; prevalence was lower in outpatient clinic settings (40%) and much higher in hospice settings (81%) (Deandrea et al., 2014). These findings suggest that BtCP remains a major problem. In addition, BtCP significantly limits the activity level of patients and contributes to poor quality of life. Identification of evidence-based practices to control BtCP is imperative to address this significant problem. The purpose of this systematic review is to identify evidence-based pharmacologic modalities to adequately manage BtCP.

Methods
A thorough search of PubMed and CINAHL® databases was conducted using the Putting Evidence Into Practice (PEP) search procedure (Brant, Eaton, & Irwin, 2017). Studies published from January 2006 to June 2016 were included in the review. Those meeting inclusion criteria were critically appraised by a PEP pain team made up of RNs, advanced practice nurses, and nurse scientists. Each study was then synthesized by the Oncology Nursing Society Putting Evidence Into Practice pain team.

Findings
Forty-four studies provide evidence for the use of opioids for the management of BtCP. Transmucosal immediate-release fentanyl (TIRF) was found to have the most evidence for BtCP. Five studies and guidelines also suggest that oral opioids (not including TIRF products) be dosed proportionally to baseline opioids at 10%–20% of the 24-hour, around-the-clock dose.

Keywords
breakthrough pain; cancer; opioids; transmucosal; fentanyl

Digital Object Identifier
10.1188/17.CJON.S3.71-80