The relationship between menstrual status and post-operative pain

**Introduction.** In 2017, over 26,000 women will be diagnosed with breast cancer and 5,000 women will die from it (Canadian Cancer Society, 2017). Breast cancer surgery (BCS) is usually the first step in treatment and is often accompanied by post-operative pain (POP), which varies in intensity and recovery time (Bruce et al., 2014). According to the biopsychosocial model, there are biological, psychological, and social factors which contribute to the variability of POP. The relationship between menstrual status and pain has received little empirical attention. The prevalence of some types of chronic pain changes at menopause, however, the direction differs (Gagliese and Fillingim, 2003). For example, migraines and TMJ are more common before menopause, while the prevalence of fibromyalgia and rheumatoid arthritis increases after (Meriggiola et al., 2012). Interestingly, the induction of menopause through medical oophorectomy does not improve migraines in women (Martin, 2009). Moreover, ovariectomy in rats, an animal model of menopause, is associated with prolonged sensitization and pain-related behaviours (Joseph et al., 2003). This suggests an important relationship that may contribute to variability in women’s pain after BCS. **Objective.** To examine the relationship between menstrual status and POP after BCS using a biopsychosocial model. **Participants.** Female patients scheduled for lumpectomy or mastectomy will be recruited from two Toronto-based hospitals. **Procedure.** Prior to surgery, informed consent will be obtained and patients will complete measures of demographics, medical history, psychosocial factors, and pain. The patient will also be asked about her menstrual status and with permission, a blood sample will be drawn for confirmation. This procedure will be repeated one and six weeks after surgery. Pre-, peri-, early and late post-menopausal women will be compared on their pain intensity, taking into consideration demographic and psychosocial variables. A data analysis plan is currently being developed.