Micronized Progesterone for Prevention of Miscarriage and Preterm Birth: A Review

**Context**

Preterm birth, defined as delivery before 37 weeks of gestation, may account for 5% to 10% of all births in Canada. It is a major cause of infant morbidity and mortality, as well as long-term medical issues and disability.

Very few interventions have been proven effective in delaying the premature onset of labour and preventing preterm birth.

**Technology**

Progesterone is a hormone that is important throughout pregnancy. Synthetic forms (progestins) are available in many formulations and dosage forms.

Micronized progesterone (Prometrium) capsules are widely available as they are taken orally by some postmenopausal women as part of hormone replacement therapy. However, the drug has not been approved by Health Canada for use during pregnancy.

Micronized progesterone has been used off-label for the prevention of preterm birth. The capsules are inserted into the vagina.

**Issue**

The prevention of miscarriage and preterm birth is an off-label indication for micronized progesterone. A review of clinical efficacy and safety will help inform decisions on the use of this drug.

**Methods**

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

**Key Messages**

- Vaginally administered micronized progesterone may decrease the likelihood of preterm birth, but this is based on limited and inconsistent evidence.
- Vaginally administered micronized progesterone may not be effective for preventing miscarriage, but this is based on one study of women who were pregnant with twins.
- Information was lacking or inconsistent about micronized progesterone and its possible effects on birth weight, complications such as infection or admission to a special-care nursery, and long-term safety.

**Results**

The literature search identified 425 citations, with no additional articles identified from other sources. After screening the abstracts, 36 were deemed potentially relevant and 3 met the criteria for inclusion in this review — 1 systematic review and 2 randomized controlled trials.