Cervical ripening is a physiologic process which arises through biochemical and functional changes resulting in softening, effacement and dilation of the cervix. Misoprostol (Cytotec) is a synthetic PGE₁, analogue that has been used to affect cervical ripening. Oral, intravaginal and sublingual administration of misoprostol has been described for cervical ripening.

Prostaglandin administration solely for the purpose of induction of labor has been described though the safety, optimal route, frequency and dose have not been established. However, the distinction between formal induction and cervical ripening has not always been clearly defined in trials.

There is no evidence of any teratogenic, carcinogenic or long-term adverse health consequences to the fetus exposed to intrapartum prostaglandins.

**Indications:**
- Cervical ripening

**Contraindications:**
- Prior major uterine surgery
- Indeterminate or category III fetal heart rate tracing
- Hypersensitivity to medication class
- Uterine tachysystole
- Any contra-indication to a vaginal delivery or spontaneous labor
- Previous cesarean delivery

**Caution Advised:**
- Maternal cardiovascular disease
- Maternal renal impairment
- Fetal growth restriction
- Oligohydramnios
- Multiple gestations
- Grand multiparity

**Side Effects:**
- Diarrhea/Abdominal pain (~10%)
- Headache (1-10%)
- Fever (<1%)
- Chills (<1%)
- Vomiting (<1%)
**Adverse Reaction:**
- Uterine tachysystole with or without fetal heart rate changes (unknown)
- Uterine rupture (unknown)

**Administration:**
1. Obtain reassuring non-stress test prior to administration.
2. Misoprostol (100 µg size) to be cut in quarters and 25 µg to be inserted in the posterior vaginal fornix, as initial dose. Higher doses (e.g. 50 µg) may be appropriate given certain clinical situations. However, there may be an increased risk of tachsystole with fetal heart rate changes and uterine rupture.
3. Subsequent doses to be placed at 3-6-hour intervals.
4. Oxytocin should not be administered less then 4 hours from last dose.
5. Patient to be continuously monitored both for uterine contractions and fetal heart rate for 4 to 6 hours.

**References:**