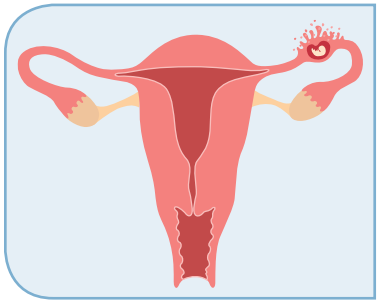

Nonsurgical Management of

Ectopic Pregnancy

2023 Update

This care process model (CPM) was developed by clinical experts from Intermountain Healthcare's Women's Health, Emergency Department (ED), Surgical Services, and Pharmacy service lines. The CPM recommends treatment and follow-up processes to improve care for patients with ectopic pregnancies in the ED and clinic setting.

Key Points

Nonsurgical management is appropriate in many cases of ectopic pregnancy.

Approximately 35% of women with ectopic pregnancy are eligible for medical management; a small number are eligible for expectant management.[1] For patients meeting recommended criteria, nonsurgical approaches are generally preferred for preserving fertility, decreasing recovery time, and lowering cost. The overall success rate for medical treatment is nearly 90%.[2-4]

Special handling measures must be used for methotrexate.

Because methotrexate is a potent antimetabolite medication, take measures to minimize staff exposure during drug handling and administration.

Safe nonsurgical management requires continuity of care.

Most patients with ectopic pregnancy are first evaluated in the hospital emergency department (ED). This CPM outlines a process to ensure that patients are also evaluated by an obstetric provider while in the ED and that this provider counsels the patient and carefully monitors them throughout the course of their treatment outside the ED.

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2. Barnhart KT, Gosman G, Asnby R. eta l. *Obstet Gynecol.* 2003; 101(4):778-784
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4. Morlock Rj, Lafaa JE, Eisenstein D. *Obstet Gynelcol.* 2000; 95(3); 407-412

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This CPM presents a model of best care based on the best available scientific evidence at the time of publication. It is not a prescription for every physician or every patient, nor does it replace clinical judgment. All statements, protocols, and recommendations herein are viewed as transitory and iterative. Although physicians are encouraged to follow the CPM to help focus on and measure quality, deviations are a means for discovering improvements in patient care and expanding the knowledge base. Send feedback to Annette Crowley; Clinical Program Manager, Women's Health, Intermountain Health; annette.crowley@imail.org

What's Inside?

Intermountain Measures

To improve patient outcomes, Intermountain will track the following:

- Number of ectopic pregnancies treated with methotrexate or expectant management.
- Number of ectopic pregnancies treated with methotrexate or expectant management who then required surgery.

Supporting Evidence

American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Gynecology. ACOG Practice Bulletin No. 193: Tubal Ectopic Pregnancy. Obstet Gynecol. 2018 Mar;131(3):e91-e103. Erratum in: Obstet Gynecol. 2019 May;133(5):1059.

Intermountain Health

MEDICAL MANAGEMENT OF ECTOPIC PREGNANCY

Emergency Department Provider

Patient presents to ED with signs/ symptoms of ectopic pregnancy (a)

(a) SIGNS/SYMPTOMS

Any female of reproductive age (regardless of contraceptive method) presenting with

Common symptoms:
Abdominal/pelvic pain, vaginal bleeding

Less common:
Pain radiating to shoulder, syncope

Assess for ectopic pregnancy (b)
If diagnosis is unclear, see *Pregnancy of Unknown Location (PUL) algorithm*

Ectopic pregnancy diagnosed or strongly suspected?

no → **Explore other diagnoses**
Early ectopic pregnancy should still be considered; 48 – hr follow-up with OB provider recommended

yes → **Obtain consultation from physician/ APP/CNM with appropriate training and surgical back-up**
Obstetrician, gynecologist, family practice physician, advanced practice provider or certified nurse midwife

(b) ASSESSMENT

Medical History of Risk Factors
- Pelvic inflammatory disease
- Previous ectopic pregnancy
- Endometriosis
- Previous tubal or pelvic surgery
- Infertility or infertility treatments
- Uterotubal anomalies
- Cigarette smoking

Physical Exam
Findings often unremarkable, especially for small, unruptured EP. The following are suggestive:
- Normal or slightly enlarged uterus
- Pelvic pain with movement of cervix
- Palpable adnexal mass
- Signs of leaking or ruptured ectopic pregnancy: hypotension, marked abdominal tenderness with guarding and rebound tenderness

Labs: Quantitative serum hCG, CMP, CBC, type and screen

Imaging: Transvaginal US

Obstetric Provider Only

Obstetric provider evaluates in-person to confirm diagnosis

Does patient have ANY of following?
- ☐ Hemodynamic instability
- ☐ Suspicion of impending/ongoing tubal rupture
- ☐ Transvaginal US shows fetal cardiac activity
- ☐ Unwillingness to comply with close follow-up

yes → **Surgical Treatment**

no → **Does patient have contraindication to methotrexate (c) ?**

yes → **Surgical Treatment**

no → **Methotrexate management**
See *Methotrexate treatment for ectopic pregnancy (pg 3)*

(c) Methotrexate Contraindications

Absolute contraindications (Any of the following)
- Intrauterine pregnancy
- Immunodeficiency
- Pre-existing blood dyscrasias
- Known sensitivity to MTX
- Active pulmonary disease
- Peptic ulcer disease
- Alcoholism or liver disease
- Abnormal creatinine (>1.3 mg/dL) or elevated AST (SGOT)
- Breastfeeding
- Ruptured ectopic pregnancy
- Hemodynamically unstable with active bleeding or signs of hemoperitoneum
- Patient unwilling to return for follow-up care

Relative contraindications (Any of the following)
- Fetal cardiac activity
- Beta-hCG >5,000 mIU/ml
- Unruptured mass > 4.0 cm
- Patient unwilling to accept blood transfusion

Expectant Management may be offered if ALL are present:
- hCG levels are already falling after two measurements. Levels should measured twice weekly until resolution
- Hemodynamic stability
- Experiencing minimal pain and no masses
- Serum hCG < 1,500 mIU/mL
- Reliable patient willing to complete follow-up instructions

METHOTREXATE (MXT) TREATMENT FOR ECTOPIC PREGNANCY

Obstetric Provider

Patient with confirmed ectopic pregnancy meeting criteria for methotrexate treatment (see pg 2)

Qualified provider* manages methotrexate administration

*Obstetrician, gynecologist, family practice physician with obstetric training and surgical privileges, or APP/CNM with surgical back-up who agrees to follow the treatment course with the patient in their office or another setting

ED should not be used for follow-up unless complications mandate an emergency evaluation

Educate patient/family

- Use Intermountain Fact Sheet: *Methotrexate to Treat Ectopic Pregnancy / (Spanish)* to facilitate conversation.
- Document patient received fact sheet and has given verbal consent to treatment (No signature needed).
- Discuss possible side effects of methotrexate including:
  - More common: Nausea, vomiting/stomatitis, gastric distress, dizziness, and fatigue.
  - Less common: Skin photosensitivity, inflammation of the membrane covering the eye, sore mouth and throat, pneumonitis, reversible alopecia (rare), and severe neutropenia (rare).
- Instruct patient to avoid the following during the 24 hours after methotrexate administration:
  - Vitamins containing folic acid (found in prenatal vitamins and most multivitamin supplements)
  - Alcohol
  - NSAID medication
  - Penicillin
- Emphasize importance of follow-up visits and determine schedule.

Order methotrexate

- *Ectopic Pregnancy Methotrexate Chemotherapy Order .*
- iCentra PowerPlan= GYN MTX; iCentra auotext/hotlink= ;gynMTXadmin.
- *Pharmacy compounding Manual: Hazardous Drug Methotrexate Exception Procedure (Section 26).*

Administration of methotrexate

- For handling instructions see: *Hazardous Drug Manual: Table1 PPE for Antineoplastic Hazardous Drugs pg 9 .*
- Methotrexate must be administered by a nurse qualified to give chemotherapeutic agents. No specific location requirements. For rural area exceptions see *Hazardous Drug Manual pg 21-22.*
- Dose: 50 mg/m^2 given IM (pharmacy will dose).
- Drug interactions that may:
  - Increase MTX concentrations: Ciprofloxacin, penicillin, omeprazole, cyclosporine, probenecid, and NSAIDS.
  - Cause MTX toxicity: Doxycycline, sulfa antibiotics, amiodarone, and phenytoin.

Follow-up surveillance after methotrexate therapy

Check hCG levels as follows:

- **On day 4**: 4 days after MTX is given, hCG levels usually decline but may plateau or even rise.
- **On day 7**: Expect a decrease in hCG levels. If day 7 levels do not show a decrease of at least 15%, a second dose of MTX may be given if criteria are still met. A second dose is necessary for 15% to 20% of patients.
- **Weekly thereafter** until resolution (hCG <15 mIU/ml). The average time to resolution is 34 days.

NOTE: Surgical intervention may still be required as rupture can occur even when hCG is falling. If necessary, repeat transvaginal ultrasound. Abdominal pain is experienced in 60% of patients and may be due to tubal placental separation and a resultant small tubal hematoma. As a result, subsequent ultrasound may show increasing tubal diameter.