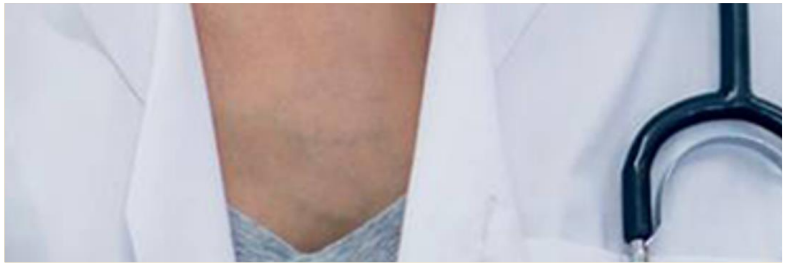
LOW DOSE METHOTREXATE FOR UNRUPTURED ECTOPIC PREGNANCY

OBJECTIVES

- Identify criteria and contraindications for giving methotrexate for unruptured ectopic pregnancy
- Describe key elements of the pretreatment dual verification including patient teaching
- Perform the same administration of intramuscular injection of methotrexate



TREATMENT OF UNRUPTURED ECTOPIC PREGNANCY

- Ectopic pregnancy is defined as a fertilized egg growing outside of the uterus, most often in the fallopian tube
- Treatment options include surgical management, medical management, or a combination of both surgical and medical management
  - Medical management is the administration of low-dose methotrexate (MTX) as an intramuscular (IM) injection
  - Patients may require one or two doses
- MTX is a chemotherapeutic agent (a folic acid antagonist)
  - It interferes with rapidly dividing cell, which ends the pregnancy
  - Peak action of MTX is within 48-72 hours of administration, and the average full resolution of the pregnancy around 35 days (4 - 6 weeks)

CRITERIA FOR ADMINISTRATION

- Ultrasound confirmed diagnosis of non-ruptured ectopic pregnancy, less than 3.5 cm diameter
- No fetal cardiac motion
- BhCG less than 7,500IU per L
- Hemodynamically stable patient without signs of active bleeding or hemoperitoneum
- Patient is reliable, willing, and able to return for follow-up care with an OB/GYN and lab work
- Patient has no contraindications to MTX
- Can be given along with surgical management:
  - Preoperative: MTX will decrease the intraoperative bleeding from the tubal implantation site. If given more than 4-6 hours prior to surgery, it will increase the chance of preserving the fallopian tube
  - Post-op: MTX can be used to decrease the likelihood of persistent positive HCG syndrome

CONTRAINDICATIONS

- Breast feeding
- Overt or laboratory evidence of immunodeficiency
- Alcoholism, alcoholic liver disease, chronic liver disease, hepatic dysfunction
- Moderate or severe anemia, leukopenia or thrombocytopenia
- Known hypersensitivity to MTX
- Active pulmonary disease
- Gestational sac greater than 3.5 cm
- Presence of embryonic cardiac motion
- Marked renal insufficiency
- Peptic ulcer disease
- Heterotopic pregnancy (coexistence of intrauterine and ectopic pregnancy)
- Evidence of tubal rupture

PRETREATMENT VERIFICATION

Two RNs (or an RN and a non-mixing pharmacist) who have completed this training will perform and document a pretreatment verification:

Labs

- BhCG titer ≤ 7,500IU per L
- Type and Rh*
- CBC and Chemistry panel: WBC, H/H, Plts, kidney, and liver function labs must be within normal range

Current and accurate height and weight

- MTX is dosed base on BSA
- Epic will calculate BSA when height and weight entered

Dose verification

- Standard dose is 50 mg/m^2 (Micromedex: Methotrexate)
- Compare calculated dose, to prepared syringe, and provider order
- Example:
  - Adult 5'5" (165 cm) and 121 pounds (55kg): BSA = 1.59
  - 50 mg x 1.59 m = 79.5 mg
  - Note ordered dose can be rounded within 5% of calculated dose. This patient would likely receive an 80 mg dose

* Remember, if the patient is RH negative, check with the provider to see if Rh immune globulin (Rhogam) will be given in the office or in the hospital. Documentation of Rh status, and administration of Rhogam when necessary, is critical in this patient population.

PATIENT EDUCATION

Side effects

Side effects from low-dose MTX occur somewhat frequently (about 30%), are often mild, and may include:

- Mild belly pain or cramping
- Light vaginal spotting
- Fatigue
- Sore mouth – Possible stomatitis
- Nausea/vomiting/diarrhea/loss of appetite
- Sun exposure may cause a skin rash

Signs/symptoms of adverse events

Immediately report the following s/s to provider, or seek medical attention for:

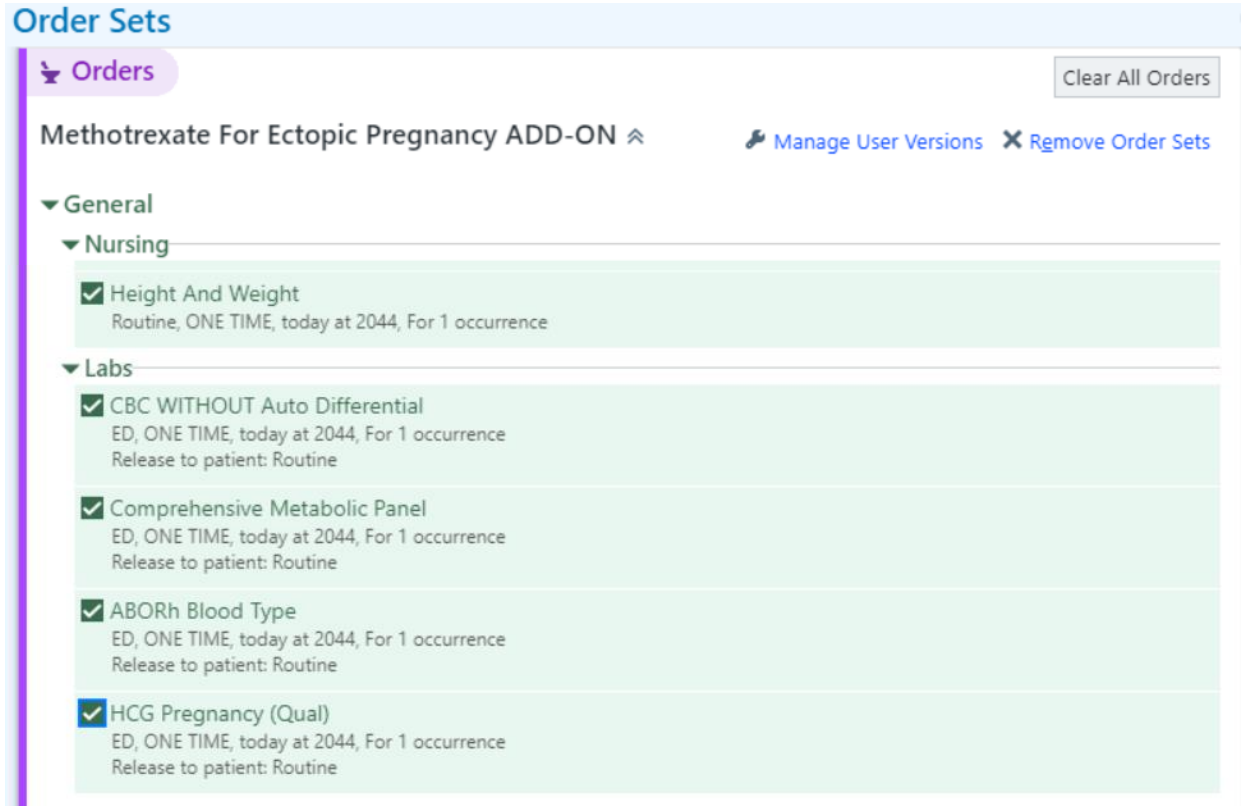
- Sudden or severe abdominal pain
- Shoulder pain
- Weakness
- Heavy vaginal bleeding
- Dizziness and/or syncope
- Tachycardia or palpitations

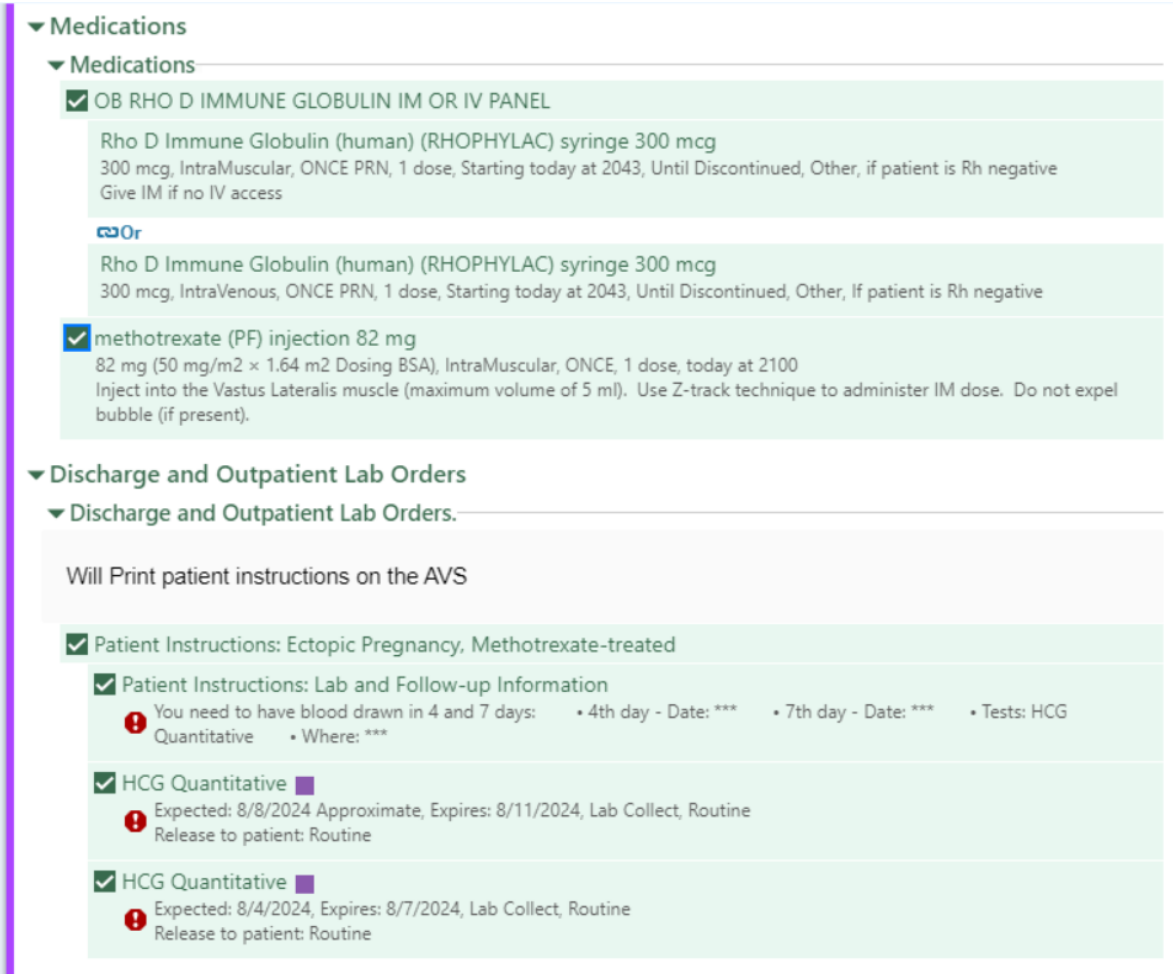
After MTX administration

Instruct the patient on the following:

- Follow-up labs are crucial to monitoring the resolution of the pregnancy.
  - BhCG lab tests must be scheduled on the 4th and 7th days after the first dose
- Do not take NSAIDs or medication containing aspirin: acetaminophen is okay
- Do not take any vitamins that contain folic acid
- Do not drink alcohol until the resolution of the pregnancy
- Refrain from intercourse until approved by the provider
- Use either oral contraceptives or barrier contraception for at least two months after completion of therapy
- Hazardous drug body fluid precautions
  - Hazardous drug is present in the patient's body fluids for 48 hours after receiving MTX
  - Staff should used PPE if handling patient's body fluid
  - When at home the patient should: always sit down to urinate, close the lid of the toilet and flush twice after use, wash hands with soap and water after using the bathroom
  - If possible, use a separate bathroom. If not possible, clean the toilet seat with bleach wipes after each use

ORDER SET


Order Sets
Orders
Clear All Orders
Methotrexate For Ectopic Pregnancy ADD-ON
Manage User Versions
Remove Order Sets
General
Nursing
Height And Weight
Routine, ONE TIME, today at 2044, For 1 occurrence
Labs
CBC WITHOUT Auto Differential
ED, ONE TIME, today at 2044, For 1 occurrence
Release to patient: Routine
Comprehensive Metabolic Panel
ED, ONE TIME, today at 2044, For 1 occurrence
Release to patient: Routine
ABORh Blood Type
ED, ONE TIME, today at 2044, For 1 occurrence
Release to patient: Routine
HCG Pregnancy (Qual)
ED, ONE TIME, today at 2044, For 1 occurrence
Release to patient: Routine


Medications
Medications
OB RHO D IMMUNE GLOBULIN IM OR IV PANEL
Rho D Immune Globulin (human) (RHOPHYLAC) syringe 300 mcg
300 mcg, IntraMuscular, ONCE PRN, 1 dose, Starting today at 2043, Until Discontinued, Other, if patient is Rh negative
Give IM if no IV access
Or
Rho D Immune Globulin (human) (RHOPHYLAC) syringe 300 mcg
300 mcg, IntraVenous, ONCE PRN, 1 dose, Starting today at 2043, Until Discontinued, Other, If patient is Rh negative
methotrexate (PF) injection 82 mg
82 mg (50 mg/m2 × 1.64 m2 Dosing BSA), IntraMuscular, ONCE, 1 dose, today at 2100
Inject into the Vastus Lateralis muscle (maximum volume of 5 ml). Use Z-track technique to administer IM dose. Do not expel bubble (if present).
Discharge and Outpatient Lab Orders
Discharge and Outpatient Lab Orders.
Will Print patient instructions on the AVS
Patient Instructions: Ectopic Pregnancy, Methotrexate-treated
Patient Instructions: Lab and Follow-up Information
You need to have blood drawn in 4 and 7 days: • 4th day - Date: *** • 7th day - Date: *** • Tests: HCG Quantitative • Where: ***
HCG Quantitative
Expected: 8/8/2024 Approximate, Expires: 8/11/2024, Lab Collect, Routine
Release to patient: Routine
HCG Quantitative
Expected: 8/4/2024, Expires: 8/7/2024, Lab Collect, Routine
Release to patient: Routine

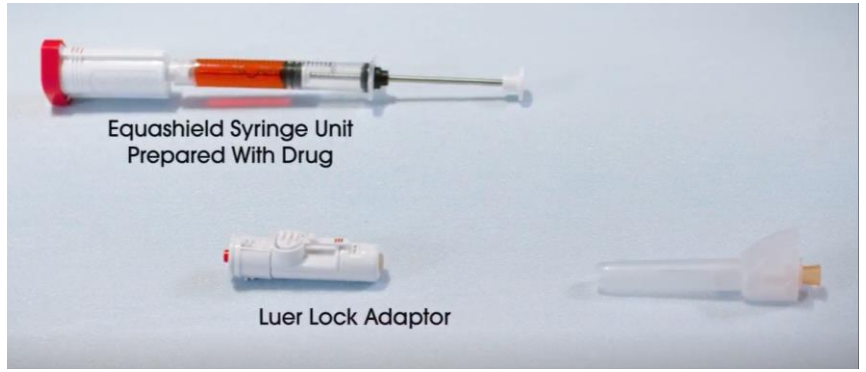
ADMINISTRATION

- Employees who are pregnant, trying to conceive, or breastfeeding should discuss their questions or concerns about handling cytotoxic or hazardous medications with the department manager, human resources, employee health, or their personal medical provider
- Ensure chemotherapy spill/deactivation kit is available on the unit
- PPE will include:
  - Two sets of gloves tested for chemotherapy drugs per ASTM D6978 (or its successor)
    - One set of gloves will lay under the cuff of the gown, the second set over the cuff of the gown
  - Chemotherapy gown: closed-back and impervious. Blue gown *not* yellow isolation gown
  - Protective eyewear is recommended when splash is a potential
- Work on a surface protected with an absorbent pad (chux)

ADMINISTRATION

Closed System Transfer Device (CSTD) are utilized when administering chemotherapy.

- The syringe of MTX will come in an CSTD Syringe Unit and be delivered with a Lure Lock Adapter.
  - Fluid can not move through the CSTD until the system is engaged. This reduces the risk of accidental exposure.
- Attach Lure Lock Adaptor to appropriately sized needle for IM injection.
- Remove the red cap from the Syringe Unit.
- Disinfect Lure Lock Adaptor membrane.
- Align red to red and engage Syringe Unit to Lure Lock Adaptor.
  - This opens the fluid pathway.
- Once engaged, with the needing pointing up, pull back 0.1-0.2 mL of air into the Syringe Unit.
  - The air will be utilized to address the dead space in the CSTD and needle, ensuring the patient gets the full dose of medication.



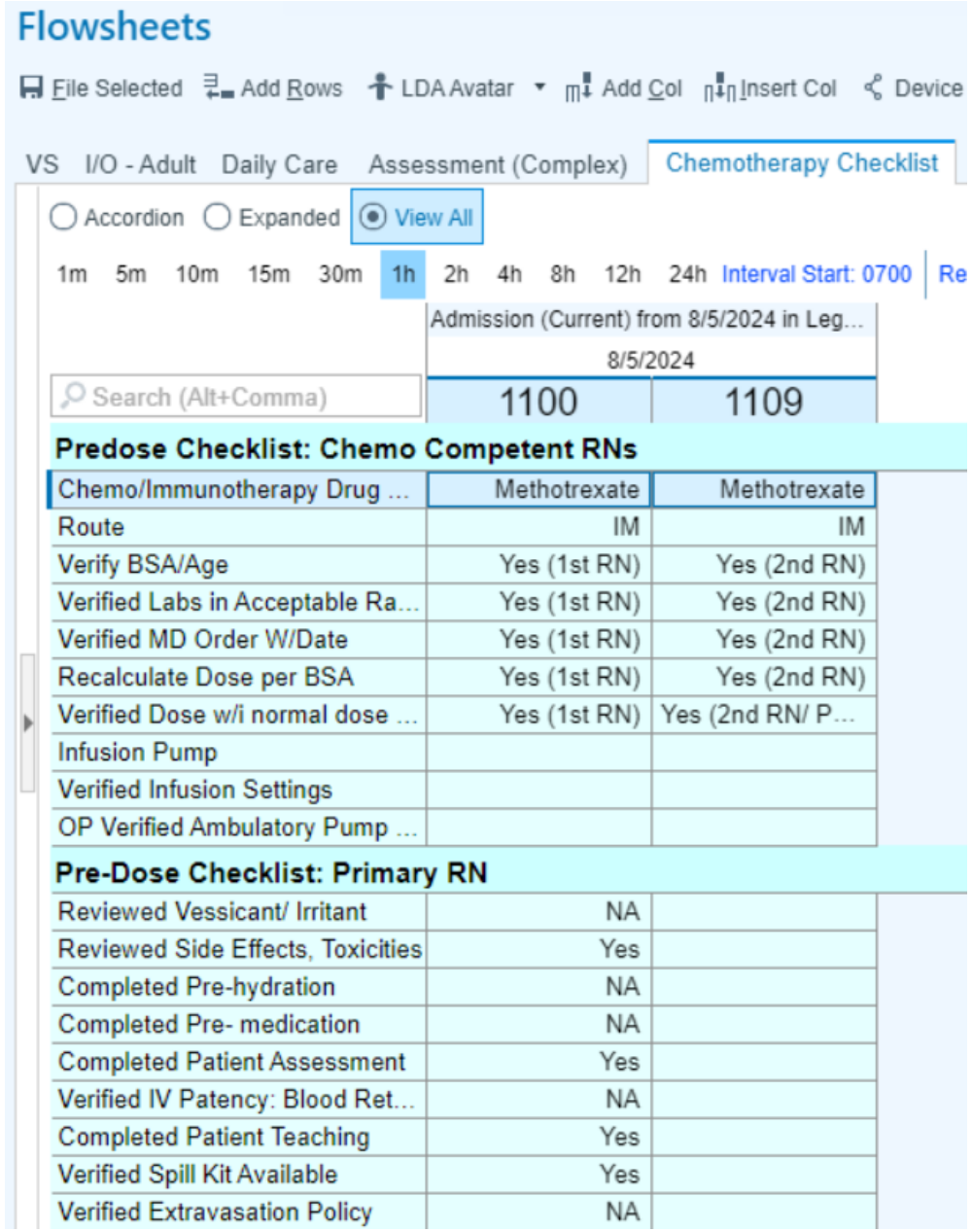
- This video goes over the use of the CSTD: Equashield Subcutaneous and Intramuscular Administration Video.mp4
- Use the z-track method for IM injection.
- Vastus Lateralis muscle is the preferred site for injection.

DISPOSAL

- Once injection complete, do not remove needle or disconnect the CSTD
- Engage needle safety and dispose of in yellow bin (not blue bin)
- Doff PPE and place all items used during administration that may have been exposed to the chemotherapy in a yellow bin
- Wash hands with soap and water (not hand sanitizer)

DOCUMENTATION

- Patient's contact information: phone number and address
- Rhogam administration if Rh negative
- Chemotherapy Flowsheet:
  - Both RNs required to document dual verification including drug name, route, BSA verification, lab value verification, review of MD order and date, dose calculation per BSA, dose verification (50 mg/m^2)
  - Administering RN will need to:
    - Review side effects of low-dose methotrexate
    - Complete and document a patient assessment
    - Complete and document a patient teaching
      - RN to add Krames education to AVS [Methotrexate to Treat an Ectopic Pregnancy (kramesondemand.com)]
    - Verify spill/deactivation kit
- Dual signature on the MAR



Flowsheets

File Selected | Add Rows | LDA Avatar | Add Col | Insert Col | Device

VS | I/O - Adult | Daily Care | Assessment (Complex) | Chemotherapy Checklist

Accordion | Expanded | View All

1m 5m 10m 15m 30m 1h 2h 4h 8h 12h 24h Interval Start: 0700 Re

Search (Alt+Comma)

	Admission (Current) from 8/5/2024 in Leg...	
	8/5/2024	
	1100	1109
Predose Checklist: Chemo Competent RNs		
Chemo/Immunotherapy Drug ...	Methotrexate	Methotrexate
Route	IM	IM
Verify BSA/Age	Yes (1st RN)	Yes (2nd RN)
Verified Labs in Acceptable Ra...	Yes (1st RN)	Yes (2nd RN)
Verified MD Order W/Date	Yes (1st RN)	Yes (2nd RN)
Recalculate Dose per BSA	Yes (1st RN)	Yes (2nd RN)
Verified Dose w/i normal dose ...	Yes (1st RN)	Yes (2nd RN/ P...
Infusion Pump		
Verified Infusion Settings		
OP Verified Ambulatory Pump ...		
Pre-Dose Checklist: Primary RN		
Reviewed Vessicant/ Irritant	NA	
Reviewed Side Effects, Toxicities	Yes	
Completed Pre-hydration	NA	
Completed Pre- medication	NA	
Completed Patient Assessment	Yes	
Verified IV Patency: Blood Ret...	NA	
Completed Patient Teaching	Yes	
Verified Spill Kit Available	Yes	
Verified Extravasation Policy	NA	

ACCIDENTAL EXPOSURE

- First Aid
  - Skin exposure
    - Remove affected clothing
    - Use soap and flush area with large amounts of water
  - Eye contact
    - Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids
    - Use eye was stations if available
  - Ingestion
    - Wash out mouth with water
    - Do not induce vomiting unless directed by medical personnel
- Seek medical attention as needed and if desired
- Report and spills or exposures in accordance with "CODE ORANGE" policy 200.10, and Elsevier clinical skills and antineoplastic drug administration
- File an ICARE under "Employee Workplace Event."
- Notify your direct supervisor and notify Employee Health at 503-415-5820, option 1.

CONCLUSION

- Methotrexate, a chemotherapeutic agent, is a treatment option for unruptured ectopic pregnancy for patients who qualify.
- Patients must be reliable, willing, and able to return for follow-up care with an OB/GYN and lab work.
- Before administering MTX, two qualified persons must complete and document a pretreatment verification.
- Patient teaching, including Krames content, will be provided to ensure the patient understands side effects, signs/symptoms to report to provider, self-care, and follow-up after receiving MTX.
- Hazardous drug handling precautions, including PPE and CSTD use, are required during the administration of MTX, and if handling the patient's body fluids for 48 hours after administration.

Questions?

Reach out to your Clinical Practice Support Team