

Methotrexate Therapeutic Cheat Sheet

COMPILED BY: JESSICA KALEN, MD • REVIEWED BY: ADAM FRIEDMAN, MD

TRADE NAME

- › Otrexup
- › Rheumatrex
- › Trexall
- › Rasuvo
- › Xatmep

MECHANISM OF ACTION

- › Competitively inhibits dihydrofolate reductase
- › Results in decreased folic acid synthesis

DERMATOLOGIC FDA APPROVAL

- › Psoriasis
- › Sézary syndrome

OFF-LABEL DERMATOLOGIC USES

- › Methotrexate has been used off-label for numerous dermatologic diseases including, but not limited to: atopic dermatitis, PRP, PLEVA, reactive arthritis, immunobullous diseases, connective tissue diseases, vasculitis, neutrophilic dermatoses, sarcoidosis, and mycosis fungoides.²

DERMATOLOGIC DOSING

- › 7.5 mg to 25 mg once weekly
- › Orally, subcutaneously, intramuscularly
- › Subcutaneous administration is helpful for reduction of GI side effects with higher doses²
- › Recommend concomitant folic acid supplementation to decrease risk of side effects from methotrexate^{1,2}

SIDE EFFECTS

- › Common: nausea, vomiting, loss of appetite, leukopenia, anemia, elevated LFTs, mucositis
- › Severe: pancytopenia/myelosuppression, hepatic fibrosis/cirrhosis, erosive stomatitis, renal dysfunction, reactivation of TB or hepatitis B, acute pneumonitis, radiation recall

TOXICITY

- › Suspect in setting of severe pancytopenia
- › Rescue therapy with folinic acid
- › Folinic acid bypasses dihydrofolate reductase allowing for continued DNA synthesis

CONTRAINDICATIONS

- › Pregnancy and breast feeding
- › Alcohol use disorder
- › Cirrhosis
- › Immunodeficiency
- › Bone marrow suppression
- › Blood dyscrasias

HIGH RISK DRUG INTERACTIONS

- › Folate antagonists (dapsone, sulfonamides, trimethoprim)
- › Alcohol
- › Retinoids
- › Loop diuretics
- › Tetracyclines

INITIAL LABS

- › CBC, liver function test (LFT)
- › Renal function tests (BUN, creatinine)
- › Screening for hepatitis B and C
- › Tuberculosis testing (PPD or Quantiferon Gold)

LAB MONITORING

- › CBC and LFTs 1 week after initial dose
- › CBC and LFTs 1-2 weeks after every dose increase²
- › CBC and LFTs every 3-6 months while on maintenance dosing¹
- › Renal function should be evaluated 1-2 times annually²

MONITORING FOR HEPATOTOXICITY

- › Screening recommended at cumulative dose of 3.5-4.0 grams¹
- › Gold standard: liver biopsy²
- › Recent guidelines suggest initial screening with non-invasive vibration controlled transient elastography such as Fibroscan^{1,2}
- › Recommend input from GI colleagues¹