

# Establishing a baseline level of methotrexate (MTX) polyglutamates (PGs)

**Patient:** 62-year-old female

**Diagnosis:** Diagnosed with rheumatoid arthritis (RA) 4 years ago

**Comorbidities:** Mild depression; cardiovascular disease

**Current treatments for RA:** Oral MTX, 15 mg/week; etanercept, 25 mg twice weekly

**Other medications:** ACE inhibitor



Not an actual patient

## Clinical Scenario

Relapse of symptoms leads the rheumatologist to consider increasing the dose of MTX or biologic.

- Initiated oral MTX 4 years ago, settling at 15 mg/week, with a modest improvement
- Avise PG<sup>SM</sup> test was ordered to establish a baseline for the patient's MTX PG levels and to assess the benefit of increasing the MTX dose prior to adding etanercept; the result indicated therapeutic levels (61.5 nmol/L), thus MTX was left unchanged
- Following a period of remission, there was a gradual increase in disease activity, with the patient presenting with inflamed joints, pain, fatigue, lack of appetite, and morning stiffness
- Patient claims to be adherent to her current treatment regimen

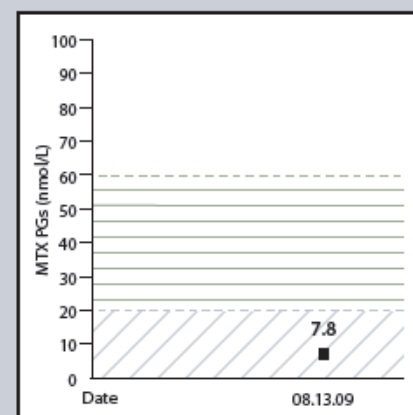
## Clinical Questions and Next Steps

Rheumatologist orders Avise PG to assess whether MTX PG exposure remains optimized and to aid with clinical decisions such as:

- Should the biologic be switched?
- Is the patient adherent to MTX therapy?
- Should the dose or dosage form of MTX be changed?

## Avise PG Results

Avise PG results are 7.8 nmol/L, indicating that circulatory levels of MTX PGs are in the subtherapeutic range.



## Treatment Plan

Rheumatologist suspects that the patient is not adherent, and continues the patient's therapy of oral MTX at 15 mg/week and etanercept at 25 mg twice weekly. A consultation is scheduled to review prescriptions with the patient.

## Patient Outcomes

After discussing the results with the patient, the rheumatologist queries her about her MTX adherence. During the discussion, the patient discloses that she "seldom takes her methotrexate anymore" because it makes her feel poorly the next day and she assumed that injecting etanercept twice a week was sufficient to treat her RA. Understanding the important role of MTX, the patient agrees to take her dosage as prescribed.