Day 1 A 69-year-old woman, Mrs TD, attended the rheumatology outpatient clinic complaining of increasing pain and stiffness in her hands and knees. The pain was bad all day, but worse in the morning. She had been diagnosed with seropositive rheumatoid arthritis (RA) 4 years earlier. Her other medical history was unremarkable. She had been treated with methotrexate from the date of diagnosis. The dose of methotrexate had been increased in the past, but was not tolerated at doses higher than 10 mg because of gastrointestinal side-effects. Sulfasalazine had been added to her methotrexate in the rheumatology outpatient clinic 6 months earlier, when her Disease Activity Score (DAS28) had been recorded as 5.1.

At this clinic appointment she was taking methotrexate 10 mg orally once a week and sulfasalazine EC 1 g twice a day. Mrs TD was taking both ibuprofen 200 mg and co-codamol 8/500 when required for pain relief. The only other medication she was taking was calcium and vitamin D as prophylaxis against osteoporosis.

On examination Mrs TD was found to have swelling in the joints of both hands, and both her knees were swollen and tender. The swollen joints were warmer than the surrounding areas. Rheumatoid nodules could be felt on her elbows, and she was suffering from dry eyes (Sjgren's syndrome). Her DAS28 score was recorded as 5.8. She had the following blood test results:

- Haemoglobin 10.6 g/dL (reference range 12–16)
- White blood cells (WBC) 12.1×10^9/L ($4–11 \times 10^9$)
- Neutrophils 5.2×10^9/L ($2–7.5 \times 10^9$)
- Platelets 456 $\times 10^9$/L ($150–400 \times 10^9$) \ L
- Erythrocyte sedimentation rate (ESR) 69mm/h (0–20)
- C-reactive protein (CRP) 92 mg (<10)
- Plasma viscosity (PV) 2.14 mPa/s (1.5–1.72)
- Urea and electrolyte (U&E) levels and liver function tests (LFTs) were unremarkable

A flare of her RA was diagnosed and Mrs TD was admitted. The initial plan was to treat her with drugs and physiotherapy.

Q1 Comment on the previous disease-modifying antirheumatic drug (DMARD) treatment that Mrs TD has received.

Q2 What are the usual signs and symptoms of a flare in RA?

Q3 What initial drug therapy would you advise to treat Mrs TD's symptoms (rather than her underlying disease)?

Day 2 Mrs TD was prescribed the following medication:

- Methotrexate 10 mg orally once a week
- Sulfasalazine EC 1 g orally twice a day
- Co-codamol 8/500 orally, two when required for pain
- Ibuprofen 200 mg orally one

three times a day when required

Folic acid 5 mg orally daily, for pain except on the day of methotrexate _

Tramadol 50–100 mg orally four times a day when required

_ Calcium 500 mg plus vitamin D 400 units one tablet orally pain twice a day

Since admission Mrs TD had taken eight tablets of co-codamol 8/500, three doses of ibuprofen 200 mg and no tramadol. She complained that although the affected joints felt better since she had received intraarticular corticosteroid injections she was still in considerable pain. The Senior House Officer asked for advice on her pain management. He was particularly interested to know whether the addition of a cyclo-oxygenase (COX)-2 inhibitor would be of benefit.

Q4 What advice would you give with respect to the use of non-steroidal antiinflammatory drugs (NSAIDs)?

Q5 What other advice would you give on her pain medication?

Q6 Is it appropriate for Mrs TD to be taking calcium and vitamin D?