These guidelines are intended to assist you in the monitoring of patients on 2nd line drug therapy, as the name suggests they are a guide. If you have any queries, or are unsure whether to continue therapy, please contact the Rheumatology Department.

USEFUL NUMBERS

RHEUMATOLOGY NURSES	01254 687286
PJS Sec	01254 687272
LST Sec	01254 263555 ext 5126

All patients commenced on 2nd line drug therapy should have been given information regarding possible side effects and contact telephone numbers

RHEUMATOLOGY GUIDELINES

for Patients Commenced on

D.M.A.R.D.S.

Updated July 2001 (PJ Smith)

ETANERCEPT (ENBREL)

(Treatment only initiated and supplied by Hospital)

DOSE 20-25mgs twice weekly given SC (self administered).

MONITOR

Routine monitoring is not essential as Etanercept is not known to cause blood dyscrasia, however as the criteria for commencing patients on this drug is active RA that has not responded to DMARD therapy monthly FBC/ESR will be required.

SIDE EFFECTS injection site reactions

RARE SIDE EFFECTS

Patients are more prone to infection; in cases of serious infection Etanercept should be stopped.

AZATHIOPRINE
(IMURAN)

DOSE 100mgs - 200mgs daily (best taken in the evening). If Allopurinol is prescribed the dose should be reduced by 75%

Pneumovax and annual flu vaccine should be given.
If exposed to chicken pox or shingles give Varicella zoster immunoglobulin (VZIG) to non immune patients.
Live vaccines should be avoided in patients taking Azathioprine.

MONITOR	FREQUENCY
FBC	Fortnightly for 2 months after stable dose, then monthly for 4 months, 2 monthly thereafter.
LIVER ENZYMES	2 monthly for 6 months 4 monthly thereafter Check also if patient becomes unwell.

Stop the drug until discussed with the Rheumatology team if:

The platelet count falls below 150,000. (A low platelet count is commonly due to platelet clumping, and if practical it should be rechecked on a fresh sample).

The WCC drops below 4,000, or the neutrophil count below 2

Exercise caution if there is a downward trend in the WCC or Platelets, even within normal limits; if possible discuss with the Rheumatologist

A macrocytosis is usual on Azathioprine. Occasionally an anaemia occurs.

If patient develops abnormal bruising or a sore throat, withhold until FBC available.

OTHER SIDE EFFECTS:

Loss of appetite, nausea, mouth ulcers, rash in sunlight

Occasionally Azathioprine may cause an allergic reaction with fever and a generalised arthralgia. Rarely, it may cause hepatitis.

D PENICILLAMINE
(DISTAMINE)

DOSE 125mgs daily for 1 month increasing by 125mgs on monthly basis to maximum dose of 625mgs or remission occurs. Should be taken 30 minutes before breakfast.

MONITOR	FREQUENCY
FBC	2 weekly until dose constant for 2 months, then monthly for 4 months then 2 monthly for 4 months then 3 monthly thereafter
URINE	with each FBC

Stop the Penicillamine if the platelets are below 150,000. (A low platelet count is commonly due to platelet clumping, and if practical it should be rechecked on a fresh sample before taking any action),

If the WCC drops below 4,000 or the Neutrophil count below 2, stop the drug until discussed with the Rheumatologist

Exercise caution if there is a downward trend in the WCC or Platelets, even within normal limits; if possible discuss with the Rheumatologist

If the patient develops abnormal bruising or sore throat, withhold until FBC available.

If proteinuria develops, initially check the MSSU.

If there is proteinuria of 1+ on labstix on more than one occasion, or if there is greater than 1+, send a 24-hour collection for protein. If this exceeds 1 gram, stop the Penicillamine. Ignore a trace of protein.

OTHER SIDE EFFECTS
Anorexia, nausea, loss of taste, rash, mouth ulcers

RARE SIDE EFFECTS
Alveolitis, myasthenia, pemphigus and Goodpastures Syndrome

SULPHASALAZINE
(SALAZOPYRIN)

DOSE
500mgs - per day - 1st week
500mgs - BD - 2nd week
500mgs - TDS - 3rd week
1grm - BD - after that

MONITOR	FREQUENCY
FBC	2 weekly for 2 months monthly for 6 months 2 monthly for 6 months 3 monthly thereafter
LIVER ENZYMES	3 monthly

If the platelet count falls below 150,000 the drug should be stopped. (A low platelet count is commonly due to platelet clumping and if practical it should be rechecked on a fresh sample).

If the WCC drops below 4,000, or the Neutrophil count below 2, the drug should be stopped.

Exercise caution if there is a downward trend in the WCC or Platelets, even within normal limits; if possible discuss with the Rheumatologist

A macrocytosis is usual with Sulphasalazine. Rarely, it causes an acute haemolytic anaemia.

If the patient develops abnormal bruising or sore throat, withhold until FBC available.

OTHER SIDE EFFECTS Rash, mouth ulcers, headaches, dizziness, nausea

RARER SIDE EFFECTS Alveolitis

HYDROXYCHLOROQUINE

DOSE 200mgs BD

MONITOR

Regular bloods are not required as Hydroxychloroquine rarely causes blood dyscrasia.

Patients should be advised of the necessity of annual eye checks. Optician's test is satisfactory.

SIDE EFFECTS

Headaches
Diarrhoea
Loss of appetite
Nausea
Can cause rash particularly brought on by sunlight.

RARER SIDE EFFECTS

Can cause keratitis
Very rarely, retinopathy after long term use.

METHOTREXATE
(Given weekly)

DOSE: Usually 5 - 20mgs weekly,
taken with a full glass of water on an empty stomach

FOLIC ACID 5mgs weekly, the day after methotrexate.

MONITOR	FREQUENCY
FBC	Fortnightly for 2 months after dose stable GGT & ALT then monthly for 3 months then 2 monthly
CREATININE	4 monthly
Stop drug if :-	Platelets fall below 150,000 WCC falls below 4,000 - Neutrophil count below 2

Exercise caution if there is a downward trend in the WCC or Platelets, even if within normal limits; if possible discuss with the Rheumatologist.

ALT/Gamma GT rise more than 3 times the upper limit of normal.

If patient develops abnormal bruising or sore throat, withhold until FBC available.

ALCOHOL - NO MORE THAN 4 UNITS PER WEEK

NSAID Can be given with Methotrexate but use caution if there is evidence of Renal Impairment.

OTHER SIDE EFFECTS	RARE SIDE EFFECTS
nausea, rash, mouth ulcers	pyrexial illness, acute alveolitis

Use Methotrexate with caution in patients with Renal Impairment.

Sulphonamides (inc. Co-trimoxazole), tetracycline, thiazides. chloramphenicol, phenytoin and probenicid will also increase Methotrexate toxicity. These and drugs with potential nephro- or hepatotoxicity should be used with caution.

PLEASE NOTE Methotrexate is a proven teratogen. Conception should be avoided for at least 6 months after treatment has ceased.

Live vaccines should be avoided. Annual Flu vaccine should be given.

MYOCRISIN *(GOLD)*

DOSE Test dose of 10mg IM followed by 50mg weekly until remission is achieved, the frequency may then be reduced to fortnightly or less. It is unlikely to prove effective if the patient has had a total of at least 1gram.

MONITOR	FREQUENCY
FBC	Before each injection
URINE	Before each injection

Do not give the Gold if the platelets are below 150,000. (A low count is commonly due to platelet clumping and if practical it should be rechecked on a fresh sample).

Do not give the drug if the WCC falls below 4,000 or the Neutrophil count below 2.

Exercise caution if there is a downward trend in the WCC or Platelets, even within normal limits; if possible discuss with the Rheumatologist

If proteinuria develops, initially check the MSSU.

If there is 1+ of protein on more than one occasion, or if there is greater than 1+ , leave off the Gold and send a 24 hour collection for protein. If this exceeds 1 gram, stop the Gold.

Ignore a trace of protein.

OTHER SIDE EFFECTS: If the patient develops generalised itching, a rash, mouth or genital ulcers the Gold should be stopped. When these have completely settled and if they have not been severe, the Gold may be restarted in a dose of 2mgs the first week, 5mgs the second, 10mg, 20mgs and finally 50mgs weekly.

NOTE Observe for 30 min after injection. Some patients feel generally unwell with dizziness and headaches. These effects may subside as treatment persists.
Others may experience an increase in joint pains after each injection. If they can be persuaded to continue, these patients usually respond well.

RARE SIDE EFFECTS Diarrhoea, alveolitis, hepatitis

CYCLOSPORIN *(NEORAL)*

DOSE Start at 2.5mg/kg/day increased gradually up to a maximum of 4 - 5mg per kg daily - give in 2 divided doses.

MONITOR	FREQUENCY
FBC	2 weekly until dose stable for 3 months, then monthly
CREATININE	
ELECTROLYTES	*as above*
BP	*as above*
URINE	*as above*
LFT	*as above*
LIPIDS	6 monthly

SIDE EFFECTS: May cause GI disturbance, hypertrichosis, gum hyperplasia and occasionally facial oedema. A burning sensation of hands and feet may occur during the first week of treatment.

NOTE: If BP rises during treatment, this is not necessarily an indication to stop but the hypertension must be treated with a calcium channel blocker and monitored closely.

Cyclosporin should not usually be prescribed for patients with renal impairment or uncontrolled hypertension.

If the Creatinine rises above normal, or if it rises by more than 30% of the baseline value, the drug should be stopped. Stop if the potassium rises above normal. If the hepatic enzymes rise 2x normal, withhold until FBC available.
If platelets fall below 150,000, stop.

INTERACTIONS: Cyclosporin interacts with many other drugs; check datasheet before any co-prescribing. In particular halve the dose of Diclofenac; avoid Colchicine and Nifedipine; use potassium sparing diuretics with caution.

Grapefruit juice should be avoided.

Live vaccines should be avoided. Annual flu vaccine should be given.

CYCLOPHOSPHAMIDE

Treatment is given at the hospital; it is usually given IV every 2 to 4 weeks.

USUAL DOSE	250mgs IV test dose 500mgs IV fortnightly

MESNA should be given with each infusion

MONITOR	FREQUENCY
FBC	Prior to each infusion and 10 days after.
URINE	Prior to each infusion
for hæmaturia	If hæmaturia, **DO NOT GIVE** unless the haematuria is due to glomerulonephritis, *(see Care plan)*

If the platelet count falls below 150,000 the drug should be stopped. A low platelet count is commonly due to platelet clumping, and if practical it should be rechecked on a fresh sample.

If the WCC drops below 4,000 or the Neutrophil count below 2, stop the drug until discussed with the Rheumatologist

Exercise caution if there is a downward trend in the WCC or Platelets, even within normal limits; if possible discuss with the Rheumatologist

OTHER SIDE EFFECTS
Severe nausea; an anti-emetic is needed for most patients
Cyclophosphamide does make the patient more prone to infection, especially Pneumocystis. Xray chest if cough develops.

RARER SIDE EFFECTS
Acute alveolitis
Haemorrhagic cystitis

NOTE: Before starting cyclophosphamide, the patient should be aware that it may cause permanent sterility.

LEFLUMONIDE (ARAVA)

DOSE: A loading dose of 100mg for 3 days. Maintenance dose 10-20mg daily.

MONITOR	FREQUENCY
FBC	Fortnightly for 6 months and 2 monthly thereafter.
LFT	2 monthly
CREATININE	2 monthly
BP	Monthly for 6 months, then 2 monthly.

IT IS RECOMMENDED THAT ALCOHOL BE RESTRICTED

STOP DRUG IF:
Platelets fall by 150,000
WCC falls below 4,000, or Neutrophils below 2.
ALT rises 3 times above the upper limit of normal
Creatinine rises above normal or by more than 30% of baseline value.
Patient develops mouth ulcers or rash.

PREGNANCY: Patients, including men, must be advised to **avoid conception** for the duration of therapy and for 2 years after treatment is discontinued. (A washout procedure can be performed if necessary for pregnancy or serious adverse events.)

Patients can feel generally unwell following the loading dose, this should settle in 3-4 weeks.

OTHER SIDE EFFECTS:

Diarrhoea, Nausea/Vomiting, Loss of appetite
Headache, dizziness, tenosynovitis, hair loss.
Transient hypertension.

NOTE: Patients taking Leflunomide are at increased risk of developing serious infections. Infections should be treated promptly.

Live vaccines should not be given.

INTERACTIONS: May inhibit metabolism of Warfarin, Phenytoin and Tolbutamide. This effect may continue long after Leflunomide is stopped.