NES - Near Patient Testing 2019-20

Contract Mechanism and Specification

1. Introduction

All practices are expected to provide essential and those additional services they are contracted to provide to all their patients. This enhanced service specification outlines the more specialised services to be provided. The specification of this service is designed to cover the enhanced aspects of clinical care of the patient all of which are beyond the scope of essential services. No part of the specification by commission, omission or implication defines or redefines essential or additional services.

2. Background

The treatment of several diseases within the fields of medicine, particularly in rheumatology, gastroenterology, dermatology and cardiology, is increasingly reliant on drugs that, while clinically effective, need regular blood monitoring. This is due to the potentially serious side-effects that these drugs can occasionally cause. It has been shown that the incidence of side-effects can be reduced significantly if this monitoring is carried out in a well-organised way

3. Aims

The near patient testing service is designed to be one in which:

(i) medication should only be started for appropriate indications and time periods
(ii) patients' maintenance doses, following a dosing schedule recommended by secondary care clinicians, should be adequately monitored (managed) in primary care
(iii) the service to the patient is convenient
(iv) the need for continuation of therapy is reviewed regularly
(v) the therapy is discontinued when appropriate
(vi) the use of resources by the National Health Service is efficient.
(vii) the agreed near patient testing protocols will be followed by both primary and secondary care

4. Service outline

This national enhanced service will fund:

(i) ***A shared care drug monitoring service*** in respect of the following specified drugs :

(a) Penicillamine
(b) Sulfasalazine
(c) Methotrexate (oral and parenteral)
(d) Sodium Aurothiomalate (IM)
(e) Leflunomide
(f) Azathioprine/6-Mercaptopurine
(g) 5-ASA drugs (Mesalazine and Olsalazine)
(h) Aldosterone Antagonists - Eplerenone & Spironolactone (for chronic heart failure), Eplerenone (post MI)
(i) Denosumab

There is a potential to include other drugs in year, following an agreed process that includes the LMC. The definition for any drug likely to be included in the NES - Near Patient Testing is *"A drug which a GP can prescribe but would not normally prescribe without assessment and recommendation from a specialist in secondary care, <u>and</u> which requires blood monitoring more frequently than once a year".*

(ii) ***A register*****.** Practices should be able to produce and maintain an up-to-date register of all shared care drug monitoring service patients, indicating patient name, date of birth, the indication and intended duration of treatment, date of last hospital appointment, as well as a schedule of monitoring results.

(iii) ***Call and recall*****.** To ensure that systematic call and recall of patients on this register is taking place either in a hospital or general practice setting.

(iv) *Education of newly diagnosed patients*. To ensure that all newly diagnosed / treated patients (and/or their carers when appropriate) receive appropriate education and advice on management of, and prevention of secondary complications of their condition and the drugs prescribed to manage it. This should include written information where appropriate

(v) *Continuing information for patients*. To ensure that all patients (and/or their carers and support staff when appropriate) are informed of how to access appropriate and relevant information

(vi) *Individual management plan*. To ensure that the patient has, and is given a copy of an individual management plan, which gives the reason for treatment, the planned duration, the monitoring timetable and, if appropriate, the therapeutic range to be obtained *(significant elements of iv to vi may be undertaken by specialist colleagues in secondary care settings).*

(vii) *Professional links*. To work together with other professionals when appropriate. Any health professionals involved in the care of patients should be appropriately trained.

(viii) *Referral policies*. Where appropriate to refer patients promptly to other necessary services and to the relevant support agencies using locally agreed guidelines where these exist

(ix) *Record keeping*. To maintain adequate records of the service provided, incorporating all known information relating to any significant events e.g. hospital admissions, death, of which the practice has been notified

(x) *Training*. Each practice must ensure that all staff involved in providing any aspect of care under this scheme have the necessary training and skills to do so

(xi) *Annual review*. All practices involved in the scheme should perform an annual review which could include:

(a) brief details as to arrangements for each of the aspects highlighted in the NES
(b) details as to any computer-assisted decision-making equipment used and arrangements for internal and external quality assurance
(c) details as to any near-patient testing equipment used and arrangements for internal and external quality assurance (details of training and education relevant to the drug monitoring service)
(e) details of the standards used for the control of the relevant condition
(f) assurance that any staff member responsible for prescribing must have developed the necessary skills to prescribe safely.
(g) review of compliance with the monitoring schedules

(xii) *Immunosuppresion*

Many of the drugs specified in section 4. (i) above have immunosuppressant effects and practices are expected to offer appropriate vaccinations to immunosupressed patients.

5. Untoward events

It is a condition of participation in this NES that practitioners will give notification, in addition to their statutory obligations, within 72 hours of the information becoming known to him/her, to the HSCP Clinical Director or nominee of all **emergency admissions or deaths** of any patient covered under this service, where such admission or death **is or may be due to usage of the drug(s)** being monitored under this specification. This would include the sharing of a subsequent SEA with the local Clinical Director within 4 weeks of the event.

6. Accreditation

Those doctors who have previously provided services similar to the proposed enhanced service and who satisfy at appraisal and revalidation that they have such continuing medical experience, training and

competence as is necessary to enable them to contract for the enhanced service shall be deemed professionally qualified to do so.

7. Costs

In the year 2019-20 each practice contracted to provide this service will receive £70.00 (level 2) or £91.00 (level 3) per patient monitored under the service.

Level 2: NHSGG&C funded phlebotomist, pharmacist or other employee, practice sample, laboratory test, practice dosing.

Note 1: Practices will know that, just like them, treatment rooms cannot absorb significant new work without prior notice, agreement and resource provision. Practices must therefore discuss any proposed significant change in treatment room use with HSCP management in order that appropriate provision can be made to allow delivery of the phlebotomy element of the service, without detriment to the other services provided by treatment room staff.

Note 2: District Nursing services provide domiciliary phlebotomy as one part of the non practice employed staff service provision and practices should ensure that District Nurse colleagues are aware of the need for, and can undertake the monitoring of, those new patients who require domiciliary phlebotomy for drug monitoring, before they prescribe the relevant drugs.

Level 3: Practice funded phlebotomist, pharmacist or other employee, practice sample, laboratory test, practice dosing

The payment system will be as follows:

For 2019-20 the total funding available for this NES will be distributed across Practices. The individual Practice funding is based on the cost of the average of the Practices 3 years historical activity (2016/17 to 2018/19).

This funding will be paid to Practices in 12 monthly installments. At year end Practices will return details of the number of patients monitored following the attached shared care protocols and a reconciliation carried out ie a recovery will be made or additional monies will be paid as appropriate.

Both parties will provide a minimum of 3 months notice if they wish to withdraw from the contract. This 3 month notice period applies unless there are fewer than 3 months remaining in the current contractual year. In this instance, less than 3 months notice may be given by either party.

The shared care protocols are outlined below: Please note that these were updated following the publication of revised guidelines by the British Society for Rheumatology in June 2017 https://academic.oup.com/rheumatology/article/56/6/865/3053478#supplementary-data

These guidelines will continue to be updated to reflect changing advice regarding drug safety and guidance from NHSGG&C Rheumatologists.

Patient Safety Warning: Please note that there is inherently greater risk in having any of these drugs on 'repeats'* and it may be particularly difficult to justify the risk in dealing with some in this way e.g. Methotrexate.

***Unless** the inclusion in repeats as done as part of an accepted Patient Safety process highlighting potential adverse drug interactions e.g. 'out of practice medicines'

(a) <u>Protocol number: 1</u>

Drug: *Penicillamine*

1. General guidance

This protocol sets out details for the shared care of patients taking PENICILLAMINE.

2. Background

Penicillamine is an effective second-line drug used in the treatment of rheumatoid arthritis.

3.Pre-treatment assessment

FBC, urinalysis, , LFTs

4.Dosing

Dose and uptitration at the recommendation of the specialist.

Dose record cards are no longer available from Secondary Care as this is addressed through Clinical Portal..

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are <u>available and support continuing use of the drug before</u> signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

FBC and Urinalysis fortnightly until dose and monitoring stable for 3 months, and thereafter monthly for as long as drug prescribed.
Ask about skin rash or oral ulceration at every visit

	Action to be Taken
❖ WBC <3.5 x 10 ^9/1	withhold *until discussed* with patient's consultant team
❖ Neutrophils <1.6 x 10 ^9/1	Contact rheumatology team and consider interruption in treatment
❖ Platelets <140 x 10^9/1	Contact rheumatology team and consider interruption in treatment
❖ ≥1+ proteinuria	withhold. Do MSSU. If positive – treat. If positive following treatment or if MSSU negative, continue to withhold *until discussed* with consultant team
❖ haematuria on >1 occasion	withhold *until discussed* with patient's consultant team
❖ MCV >105fl	Check haematinics. If normal and a change in MCV, Contact rheumatology and consider interruption of treatment.
❖ Rash or oral ulceration	Contact rheumatology team and consider interruption in treatment
❖ Abnormal *bruising or sor*e throat	Contact rheumatology team and consider interruption in treatment
❖ Alterati*on of taste*	*co*ntinue treatment – usually settles spon*taneously*
❖ *Dyspe*psia	most likely 2y to NSAID but effect diminishes with

	time. Reduce dose if severe. PPI not helpful – this is a systemic effect.

6. Other

Iron reduces penicillamine absorption. If there is a requirement to co-prescribe (and it is better avoided), ensure iron is taken at least 8 hours AFTER the penicillamine.

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(b) <u>Protocol number: 2</u>

Drug: *Sulfasalazine*

1 General guidance

This protocol sets out details for the shared care of patients taking SULPHASALAZINE.

2. Background

Sulfasalazine *(Salazopyrin / previously Sulphasalazine)* is widely use for the long term treatment of rheumatoid arthritis, and inflammatory bowel disease. The licensed indications for the different formulations indicate which is best for each condition e.g. EC for rheumatological conditions, non-EC for ulcerative colitis).

3. Pre-treatment assessment

FBC, U&Es, LFT

4. Dosing

Dose and uptitration at the recommendation of the specialist *should be recorded within the practice.*

The need for dose record cards provided by secondary care has been superseded by the Clinical Portal.

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are <u>available and support continuing use of the drug before</u> signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

FBC, U+E, LFT 2 weekly until dose is stable for 6 weeks ;then when on stable dose monthly FBC,U+E, LFT monthly for 3 months; thereafter FBC, U+E LFTat least every 12 weeks.

If **after first year** dose and blood results stable, frequency of blood tests can be stopped.

Dose increases should be monitored by FBC, U+E, LFT every 2 weeks until on stable dose for 6 weeks then revert to previous schedule.
Ask about skin rash or oral ulceration at every visit

	Action to be Taken
❖ WBC <3.5 x 10 ^9/1	Contact rheumatology team and consider interruption in treatment
❖ Neutrophils <1.6 x 10 ^9/1	Contact rheumatology team and consider interruption in treatment
❖ Platelets <140 x 10^9/1	Contact rheumatology team and consider interruption in treatment
❖ *AS*T and or ALT >	Contact rheumatology team and consider interruption in treatment
❖ *Cr*eatinine increase >30% in one year or decrease in eGFR less 60mls/min	Contact rheumatology team and consider interruption Contact rheumatology team and consider interruption in treatment
Only if a change from usual MCV	

- Rash or oral ulceration — Contact rheumatology team and consider interruption in treatment
- Abnormal bruising or sore throat — do FBC and contact rheumatology team. Consider interruption of treatment
- Nausea/dizziness/headache — if possible, continue. May have to reduce dose if symptoms severe.

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance. It is common to have a mildly raised MCV while taking sulfasalazine but a significant change especially if >110fl should prompt rheumatology advice.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(c) Protocol number: 3

Drug: *Oral or Parenteral Methotrexate*

1. General guidance

This protocol sets out details for the shared care of patients taking **ORAL or PARENTERAL METHOTREXATE**. The monitoring requirements for parenteral methotrexate are the same as for oral methotrexate. For information there is an NHS GG&C Shared Care Protocol which gives guidance for the subcutaneous administration of methotrexate in the community setting which can be accessed here.

2. Background

Methotrexate is an effective second-line drug used in the treatment of rheumatoid arthritis, psoriasis, some cancers and occasionally other autoimmune disorders. It has both immunosuppressant and anti-inflammatory effects.
Do not give live vaccines to patients taking methotrexate. Shingles vaccine can be given unless patient is receiving a biologic therapy (or has received a biologic therapy in the the last 12 months) or have received high dose steroids over the past 3 months (e.g 40mg/day for 1 week)
Annual flu vaccine should be given
Contraception should be used and conception delayed for 3 months after treatment has stopped.
Patients should be advised to stay well within national recommendations for alcohol e.g. dermatology guidelines recommend no more than 6 units/week.

Ensure folic acid supplement is prescribed as directed by the rheumatology specialist (current advice is to take 5mg four days after the methotrexate dose i.e. folic acid for one day).

Methotrexate should be withheld during the treatment of acute infections.
Trimethoprim and cotrimoxazole should be avoided as they greatly increase the risk of marrow aplasia.

3. Pre-treatment assessment

FBC, U+E, LFT : If drug is recommended in a patient with abnormal LFTs at pre-treatment assessment, then guidance will be given about how to deal with further deterioration in liver function.
The specialist initiating treatment will ensure that the patient gets a chest x ray if they have not had one within the preceding 6 months. (Pulmonary function tests may be requested in patients with underlying respiratory disease at baseline).

4. Dosing

Dose and up titration will be at the recommendation of the hospital consultant and should be recorded within the practice.

The need for dose record cards provided by secondary care has been superseded by the Clinical Portal.

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are available and support continuing use of the drug before signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

FBC, U+E, LFT 2 weekly until dose is stable for 6 weeks; then when on stable dose monthly FBC, U+E. LFT monthly for 3 months; thereafter FBC, U+E, LFT at least every 12 weeks. If on concomitant leflunomide treatment then monthly monitoring required long term.

Dose increases should be monitored by FBC, U+E, LFT every 2 weeks until on stable dose for 6 weeks then revert to previous schedule.
Ask about skin rash or oral ulceration at every visit

New or increasing dyspnoea or dry cough – withhold and discuss urgently with the specialist team
Avoid prescribing trimethoprim or cotrimoxazole to patients receiving methotrexate – greatly increases risk of marrow aplasia

Action to be Taken

WBC <3.5 x 10 ^9/1	Contact rheumatology team and consider interruption in treatment
Neutrophils <1.6 x 10 ^9/1	Contact rheumatology team and consider interruption in treatment
Platelets <140 x 10^9/1	Contact rheumatology team and consider interruption in treatment
Unexplained eosinophilia >0.5x$10^{9/}$l	Contact rheumatology team and consider interruption in treatment
ALT and or AST/100 u/L	Contact rheumatology team and consider interruption in treatment
❖ *Crea*tinine increase >30% in one year or decrease in eGFR less 50mls/min	Contact rheumatology team and consider interruption in treatment
Unexplained drop in Albumin <30g/l	Contact rheumatology team and consider interruption in treatment
MCV >105fl	Contact rheumatology team and consider interruption in treatment (only if a change from usual MCV level)
Rash or oral ulceration	Contact rheumatology team and consider interruption in treatment
Abnormal bruising or sore throat	Contact rheumatology team and consider interruption in treatment
Symptoms of pneumonitis	Contact rheumatology team and consider interruption in treatment (dyspnoea, cough, fever)
Any intercurrent infection	withhold until resolved

❖

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(d) <u>Protocol number: 4</u>

Drug: *Sodium Aurothiomalate (Myocrisin)*

1. General guidance

This protocol sets out details for the shared care of patients taking SODIUM AUROTHIOMALATE.

2. Background

Sodium aurothiomalate is a slow-acting drug effective in controlling disease activity in 60-70% of patients with rheumatoid arthritis. Improvement can be expected after 2-3 months (400-600 mg total dose), and in the absence of toxicity gold injections may be continued indefinitely.

3. Pre-treatment assessment

FBC, urinalysis, U+E, LFT.

4. Dosing

A test dose of 10mgs will be given at the hospital. GP will initiate dosing at 50mgs one week later, followed by 50mgs weekly until review date (not longer than 20/52) i.e. no more than one gram in total (excluding 10mg test dose). Thereafter dose and dose interval will be at the recommendation of the rheumatologist. Do not continue to dose after 20 weeks unless hospital review has occurred and dose record card has been updated by hospital and written confirmation from secondary care has been received by the practice.

Urinalysis results are not available on the portal and therefore monitoring cards available from the hospital should be carefully maintained.

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are <u>available and support continuing use of the drug before</u> signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

FBC one week before next dose.

Urinalysis must be done before each injection**.** Provided blood results are stable, the results of the FBC need not be available before the injection is given but must be available before the next injection i.e. it is permissible to work one FBC in arrears. This must be annotated in the patient's contemporaneous medical record and will be checked at any subsequent payment verification visit and ensure GP has sanctioned the dose. Complete nurse documentation and only give dose if all monitoring is within the limits outlined below.

Action to be Taken

- WBC <3.5 x 10 ^9/1 Contact rheumatology team and consider interruption in treatmentNeutrophils <1.6 x 10 ^9/1 Contact rheumatology team and consider interruption of treatmentPlatelets <140 x 10^9/1 Contact rheumatology team and consider interruption of treatment
- ≥*1+ pro*teinuria on >1 occasion Withhold. Do MSSU. If positive – treat. Following treatment or if MSSU negative, continue to withhold *until discussed* with consultant team

- Rash or oral ulceration Contact rheumatology team and consider interruption in treatment
- Abnormal bruising or sore throat Do FBC and contact rheumatology team. Consider interruption in treatmentFlushing (possible nitritoid reaction) Contact rheumatology team and consider interruption in treatment

*Please not*e that in addition to absol*u*te values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(e) <u>Protocol number: 5</u>

Drug: *Leflunomide*

1. General guidance

This protocol sets out details for the shared care of patients taking LEFLUNOMIDE

2. Background

Leflunomide is an immunosuppressant similar in efficacy to sulfasalazine and methotrexate. Its effect starts after 4-6 weeks and improvement can continue for 4-6 months.
Do not use live vaccines in patients taking leflunomide. Shingles vaccine can be given unless patient is receiving a biologic therapy (or has received a biologic therapy in the the last 12 months) or has received high dose steroids over the past 3 months (e.g 40mg/day for 1 week)

Advise no procreation while patient is taking leflunomide nor within 2 years of stopping it (women) and 3 months (men)
Patients should be advised not to drink alcohol while taking leflunomide.
This drug should be withheld during the treatment of acute infections.

3. Pre-treatment assessment

FBC, U&Es, LFT, weight and blood pressure.

4. Dosing

Dose and up titration will be at the recommendation of the hospital consultant and should be recorded within the practice.

The need for dose record cards provided by secondary care has been superseded by the Clinical Portal.

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are <u>available and support continuing use of the drug before</u> signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

FBC, U+E, LFT 2 weekly until dose is stable for 6 weeks; then when on stable dose monthly FBC, U+E, LFT monthly for 3 months; thereafter FBC, U+E, LFT at least every 8 weeks.

Dose increases should be monitored by FBC, U+E, LFT every 2 weeks until on stable dose for 6 weeks then revert to previous schedule. Blood pressure checked each visit. Weigh at each visit. If >10% weight loss with no other cause identified, reduce dose or stop and consider washout. (contact consultant team if washout is thought necessary).

If co-prescribed with another immunosuppressant (especially methotrexate)or potential hepatotoxic agent then blood checks should be continued long term, at least monthly.

Action to be Taken

❖ WBC <3.5 x 10 ^9/1	Contact rheumatology team and consider interruption of treatment
❖ Neutrophils <1.6 x 10 ^9/1	Contact rheumatology team and consider interruption of treatment
❖ Platelets <140 x 10^9/1	Contact rheumatology team and consider interruption in treatment
❖ Unexplained eosinophilia >0.5x$10^{9/l}$	Contact rheumatology team and consider interruption in treatment
❖ ALT and or AST>100 u/L	Contact rheumatology team and consider interruption in treatment
❖ Creatinine increase >30% over 12 months and/or *decrease in eGF*R to <60ml/min	Contact rheumatology team and consider interruption in treatment
❖ Unexplained fall in albumin <30g/l	*Contact rheumatology team and consider interruption in treatment*
❖ *Rash, itch or oral ulcerati*on	Contact rheumatology team and consider interruption in treatment
❖ Abnormal bruising or sore throat	Do FBC and discuss with rheumatology team, consider interruption in treatment
❖ Blood pressure >140 syst or >90 diast	continue treatment for 3 months. Re-measure blood pressure. If still elevated, discuss with consultant team.
❖ Any intercurrent infection	Withhold until resolved

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance. A rising MCV especially of greater >110fl should prompt rheumatology advice.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(f) Protocol number: 6

Drug: *Azathioprine/ 6-Mercaptopurine (6-mcp)*

1. General guidance

This protocol sets out details for the shared care of patients taking azathioprine

2. Background

Azathioprine is an immunosuppressant and a disease modifying antirheumatic drug and 6-Mercaptopurine is an active metabolite, used for patients who are azathioprine intolerant. Both require blood monitoring because of the incidence of side effects such as neutropaenia and thrombocytopaenia. They are also used in gastrointestinal disease and dermatology as well as rheumatoid disease.
Avoid live vaccine in patients taking either of these drugs. Shingles vaccine can be given unless patient is receiving a biologic therapy (or has received a biologic therapy in the the last 12 months) or has received high dose steroids over the past 3 months (e.g 40mg/day for 1 week)

Allopurinol and ACEIs increase blood levels of azathioprine/6-mcp and should not be started without discussing with the patient's consultant.

Patients should be advised to use sun protection.

This drug should be withheld during treatment of acute infections.

3. Pre-treatment assessment

FBC, U&Es, LFT.

4. Dosing

Dose and up titration will be at the recommendation of the rheumatologist and should be recorded within the practice.

The need for dose record cards provided by secondary care has been superseded by the Clinical Portal.

5. Monitoring

The same monitoring requiremnents apply to Azothioprine and 6-Mercaptopurine.
Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are available and support continuing use of the drug before signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

Exclusion: This protocol does not cover the use of immunosuppression for renal transplant recipients or patients attending renal services for the management of vasculitis. Such patients are monitored by the renal unit and no changes should be made to their immunosuppression without discussion with the Renal Team.

FBC, U+E, LFT every 2 weeks until on stable dose for 6 weeks; then once on stable dose, monthly FBC, U+E, LFT for 3 months; thereafter FBC, U+E, LFT at least 12 weekly.

Dose increased should be monitored by FBC, U+E, LFT every 2 weeks until on stable dose for 6 weeks then revert to previous schedule,

Action to be Taken

- WBC <3.5 x 10 ^9/1 — Contact rheumatology team and consider interruption in treatment
- Neutrophils <1.6 x 10 ^9/1 — Contact rheumatology team and consider interruption in treatment
- Platelets <140 x 10^9/1 — Contact rheumatology team and consider interruption in treatment
- Unexplained eosinophilia >0.5x10^{9}/l — Contact rheumatology team and consider interruption in treatment
- AST or ALT >100 U/L — Contact rheumatology team and consider interruption in treatment
- Creatinine clearance >30% in one year and/or decrease in eGFR to less 60mls/min — Contact rheumatology team and consider interruption of treatment
- Unexplained fall in Albumin <30g/l — Contact rheumatology team and consider interruption in treatment (if unexplained)
- MCV >105fl — Contact rheumatology team and consider interruption in treatment
- Only if a change from previous MCV results
- Rash or oral ulceration — Contact rheumatology team and consider interruption in treatment
- Abnormal bruising or sore throat — do FBC and
- contact rheumatology team. Consider interruption in treatment
- Any intercurrent infection — withhold until resolved

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance. A mildly elevated MCV is common on azathioprine treatment but a rapid rise especially if greater than 110fl should prompt rheumatology advice.

Please note that there is inherently greater risk in having these drugs on ‘repeats’

(g) Protocol number: 7

Drug: *5-ASA drugs (Mesalazine and Olsalazine)*

1. General guidance

This protocol sets out details for the shared care of patients taking 5-ASA drugs.

2. Background

5-ASA drugs are widely used for the treatment of inflammatory bowel disease, as well as for rheumatological conditions.

3. Pre-treatment assessment

FBC, LFT, U+E

4. Dosing

Dose and up titration will be at the recommendation of the hospital consultant.
Dose record cards are available from the hospital and must be carefully maintained.

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are available and support continuing use of the drug before signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

U&Es 3 monthly for first year and then 6 monthly for 2 years
FBC 6 monthly for 2 years
LFTs 6 monthly for 2 years
After 2 years of therapy blood monitoring can be discontinued if results are normal and doses stable.

Increases in dose means a return to monitoring regime as for initiation
Ask about skin rash or oral ulceration

	Action to be Taken
❖ WBC <3.5 x 10 ^9/1	withhold *until discussed* with patient's consultant team
❖ Neutrophils <1.6 x 10 ^9/1	withhold *until discussed* with patient's consultant team
❖ Platelets <140 x 10^9/1	withhold *until discussed* with patient's consultant team
❖ Unexplained eosinophilia >0.5x$10^{9/l}$	withhold until discussed with patients consultant team
❖ ALT and or AST >100U/L	withhold *until discussed* with patient's consultant team
❖ MCV >105fl	withhold *until discussed* with patient's consultant team
❖ Creatinine increase by >30% in one year or fall of eGFR <60ml/min	Withhold until discussed with patients' consultant team
❖ Unexplained fall in albumin <30g/l	Withhold until discussed with patient's consultant team
❖ Rash or oral ulceration	Do FBC and withhold *until discussed* with patient's consultant team
❖ Abnormal bruising or sore throat	Do FBC and withhold *until discussed* with patient's consultant team

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.
Please note that there is inherently greater risk in having these drugs on 'repeats'

(h) Protocol number: 8

Drug: *Aldosterone antagonists; spironolactone or eplerenone for heart failure, eplerenone for post MI care*

1. General guidance

This protocol sets out details for the monitoring of patients taking spironolactone or eplerenone for heart failure or eplerenone for heart failure post MI.

This group of patients has two disctinct sub groups; Symptomatic LVSD patients (monitored by HFLN team until stable) and stable post MI patients with LVSD, who may or may not require to be seen by the HFLN team before starting Eplerenone.

Initiation in post MI LVSD patients will be at the recommendation of the hospital consultant. Some of these patients for whom spironolactone/eplerenone is being initiated will require to be referred to the HFLNS (for initiation, up-titration if required and blood monitoring) until stable, however the majority of patients, who will be more stable, will not require referral to the HFLN team for stabilization and can be safely initiated and monitored by the primary care team as described below.

Post MI patients should be initiated at 25mg once daily, increased within 4 weeks to 50mg once daily, taking into account the serum potassium level – please see section 4 below.

2. Background

Spironolactone is an effective drug for patients with CHF who remain symptomatic despite optimal doses of ACE inhibitors (or Angiotensin II receptor blockers) and b-blockers. **It should only be commenced on the recommendation of a specialist and in line with the GG&C Heart Failure guideline (attached).** When spironolactone is not tolerated e.g. gynaecomastia, then eplerenone is substituted.

Spironolactone is drug of first choice in this drug group for chronic heart failure.

Eplerenone is the drug of choice for patients who develop symptomatic heart failure in the immediate post MI period and remain symptomatic at 3-14 days. It should only be commenced on the recommendation of a hospital consultant, for this indication

3.Pre-treatment assessment

None by Practice

4.Dosing

Dose and uptitration will be at the recommendation of the hospital consultant. All patients for whom spironolactone/eplerenone is being initiated will be considered for referral to the HFLNS (for initiation, up-titration if required and blood monitoring) until stable, if required. Patients thus referred will not necessarily be offered the full HFLNS service, since this is reserved for those patients with a recent admission for decompensated LVSD. The remainder, of more stable patients, not requiring referral to the HFLNS, will be recommended for initiation and monitoring by primary care teams.

Post MI patients, recommended by specialists to take Eplerenone, should be initiated at 25mg once daily, increased within 4 weeks to 50mg once daily, taking into account the serum potassium level as follows;

Serum potassium (mmol/L)	Action	Dose adjustment
< 5.0	Increase	25 mg EOD* to 25 mg OD 25 mg OD to 50 mg OD

5.0 – 5.4	Maintain	No dose adjustment
5.5 – 5.9	Decrease	50 mg OD to 25 mg OD 25 mg OD to 25 mg EOD* 25 mg EOD* to withhold
≥ 6.0	Withhold and seek |HFLNS advice	N/A

* EOD: Every Other Day
OD: Once daily

5. Monitoring

Prescribers must ensure that they have a failsafe system for checking that it is safe to continue prescribing this drug, which can be verified at any subsequent payment verification visit, and we therefore strongly recommend that the results from the relevant blood monitoring tests i.e. from within the required time period, are <u>available and support continuing use of the drug before</u> signing prescriptions and that this check has been recorded in patient's contemporaneous medical record.

Measure blood chemistry measured at 2 weeks post initiation/post dosage increase, 3 monthly thereafter for 1 year and then 6 monthly.

Practices will be issued with a letter indicating first date for monitoring for those patients discharged form the HFLNS.

Ex-HFLNS patients will be issued with a card indicating dates for monitoring for first year and advice that 6 monthly monitoring is required thereafter. Biochemistry results should be recorded on that patient held card as well as in any patient record in the practice

Stop Spironolactone/Eplerenone immediately and seek advice from the Heart Failure Liaison Service who can rapidly access a specialist cardiologist for advice if:

- **creatinine** (on routine monitoring – see above) increases to 250 µmol/L or by ≥ 25% from baseline (e.g. from 80 to 100 µmol/L
- **urea** (on routine monitoring – see above) with previous reading <12, increases to ≥ 18 mmol/L; or if previous reading ≥12, increases by ≥ 50% e.g. 12 to 18
- **potassium** increases (on routine monitoring – see above) to ≥ 5.5mmol/L
- **sodium and water depletion**
  - patient develops intercurrent illness causing sodium and water depletion e.g. diarrhoea and vomiting
  - not drinking fluids
  - has been in a hot climate, perspiring excessively.
  - any other cause of sodium and water loss

Symptoms/signs of sodium and water depletion are;

- postural dizziness / light-headedness
- excessive and sustained fall in blood pressure
- significant and sustained weight loss (e.g. > 1 Kg, sustained over >1 week)

If patient has any such symptoms, measure U&Es immediately and seek advice from Heart Failure Liaison Service who can rapidly access a specialist/cardiologist for advice

Ensure patient has written information about reporting symptoms and issues around sodium and water depletion. The drug monitoring cards attached will be provided to each EX-HFLNS patient, as appropriate, according to the drug prescribed and the indication, by the Heart Failure Liaison Nurse Service – it should be re-issued by the practice if the patient mislays that copy.
Further copies can be obtained from the Heart Failure Liaison Nurse Service on 0141-211-6302

Please note that in addition to absolute values of haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.
Please note that there is inherently greater risk in having these drugs on ‘repeats’

(i) Protocol number: 9

Drug: *Denosumab*

1. General guidance

This protocol sets out details for the shared care of patients receiving DENOSUMAB in 1ml of solution (60mg.ml).

2. Background

Denosumab in 1ml of solution (60mg/ml) is a second line drug used in the treatment of osteoporosis to reduce the risk of hip, vertebral and non-vertebral fractures.

It is administered as a subcutaneous injection once every 6 months into the thigh, abdomen or upper arm. Although the treatment works by reducing bone resorption; the specific mode of action in achieving this is different from bisphosphonate mode of action.

This drug is of particular value in the context of patients who are intolerant of bisphosphonate therapy (or where a bisphosphonate might be contraindicated), patients who have significant renal impairment and patients who require parenteral therapy.

3.Pre-treatment assessment

Bone density

Patients will have bone density measured and be seen through a GGC Mineral Metabolism Clinic or have the treatment recommended following assessment via the Direct Access DXA Service or the Fracture Liaison Service. All necessary baseline investigations will be arranged by secondary care teams.

Calcium

Denosumab in 1 ml of solution (60 mg/ml) is contraindicated in patients with uncorrected hypocalcaemia. Blood calcium concentration will be assessed (and addressed if out with range) by the secondary care team prior to commencement of therapy. See below for calcium monitoring

Vitamin D

Vitamin D status will be assessed (and addressed if out with range) by the secondary care team prior to commencement of therapy. Measurement of vitamin D is not routinely required once treatment has been started assuming the patient is also being treated with a calcium & vitamin D supplement (or vitamin D alone).

Renal Function

The specialist team will ensure renal function tests are arranged, carried out and results reviewed prior to any recommendation around initiation of therapy. See below for guidance on ongoing renal function monitoring.

4.Dosing

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Denosumab in 1 ml of solution (60 mg/ml) is administered as a single subcutaneous injection once every 6 months into the thigh, abdomen or upper arm.

N.B. Timing of the treatment is important. Treatment administered beyond 7 months after the last injection may be less effective. A process around patient recall for treatment is therefore necessary.

Primary care will re-refer patient for further assessment via the Direct Access DXA Service after 3 years of treatment. Referral for follow-up through DADS should clearly state the start date of treatment. To ensure this review takes place within the required timeframe, taking into account waiting times for DXA; this referral can be made after treatment 4 or 5 (i.e after around 2 years of therapy).

5. Monitoring

Bone density - Repeat DXA measure will be considered by secondary care after 3 years denosumab therapy (patients should be referred for this via DADS as above)

Calcium -Denosumab in 1 ml of solution (60 mg/ml) is contraindicated in patients with uncorrected hypocalcaemia. It is important to identify patients at risk of hypocalcaemia. Ensuring adequate intake of calcium and vitamin D is important in all patients. Vitamin D only supplementation (800 IU once daily) may be appropriate for patients who do not tolerate the calcium component of calcium and vitamin D supplements. Clinical monitoring of calcium levels is recommended:

- before each dose **and**
- in patients predisposed to hypocalcaemia (i.e those with eGFR <30ml/min) within two weeks after the initial dose.

Blood calcium should also be checked if any patient presents with suspected symptoms of hypocalcaemia during treatment. Results of calcium tests should be seen and confirmed as being normal. Hypocalcaemia/borderline hypocalcaemia would indicate a requirement to refer back to secondary care.

Patients should be informed about symptoms of hypocalcaemia and encouraged to report any relevant symptoms which may be indicative of hypocalcaemia. Written advice on this will be provided by the secondary care team (Patient Information Leaflet).

Renal Failure - Patients with renal failure (eGFR <30ml/min) are at greater risk of hypocalcaemia – patients should be made aware of this risk and be made aware of the symptoms of hypocalcaemia. Where these symptoms are mild these should be discussed initially with GP. Patients with symptoms of severe hypocalcaemia out of hours should contact NHS 24. Patients with progressive deterioration in renal function should be more closely monitored by primary care (GP) by way of monitoring blood calcium 2 weeks after denosumab is administered. Subsequent progressive deterioration in renal function should be discussed with bone or renal team as in some circumstances treatment may be discontinued.

N.B Denosumab has no adverse effect on renal function; however patients may experience a decline in renal function as part of the normal aging process or for other patient specific reasons.

6. Additional information/cautions
Osteonecrosis of the jaw (ONJ)

Please refer to SPC and BNF/MHRA for advice and risk factors for the development of ONJ.

Atypical fractures

Please refer to BNF advice and for risk factors for the development of atypical femoral fractures.

Skin Infections
Although uncommon, patients receiving denosumab may develop skin infections (predominantly cellulitis) leading to hospitalisation. Patients should be advised to seek prompt medical attention if they develop signs or symptoms of cellulitis.

Latex Allergy

The needle cover of the pre-filled syringe contains dry natural rubber (a derivative of latex). Denosumab should be used with caution in patients with a known latex allergy. Clinicians who have latex allergy should refer to NHSGGC Safe Use of Latex Policy

Potential side effects are detailed in the Shared Care Protocol and SPC.