PPC CARE BUNDLE

DMARDs

Aim

100% of patients on Disease Modifying Anti-Rheumatics Drugs (DMARDs), particularly Methotrexate and Azathioprine, have their drugs safely prescribed and reliably monitored

Background

DMARDs such as methotrexate are often used for a number of rheumatologic diseases as well as severe psoriasis. These medications are effective, have predictable adverse effect profiles and are low cost. However, they can also be highly toxic and even fatal, at any dosing regimen. While usually initiated by a specialist in secondary care, many patients will be monitored and receive repeat prescriptions in primary care. In 2013 23.3 prescriptions were dispensed per 1000 patients registered in General Practice in New Zealand. Therefore a practice with 4,000 enrolled patients may be issuing around 100 prescriptions per year. General practitioners need to be aware of safe prescribing strategies and monitoring requirements, along with symptoms and signs of methotrexate toxicity for this potentially toxic medication.

Azathioprine is usually reserved for patients who do not respond adequately to other DMARDs due to the increased risk of adverse effects including nephrotoxicity. It is also used in some other inflammatory GI conditions.

This module will help your practice focus on two DMARD drugs as a way of ensuring that systems in place to ensure safe monitoring and prescribing for these types of medications.

Instructions

1. Identify patients who are being prescribed either azathioprine or methotrexate. Searches have been developed to help identify these patients using your clinical systems. More information is available online. Remember to change audit dates as required.

2. From the identified list of patients prescribed azathioprine or methotrexate, randomly select a sample of at least 10 patients to assess against the following criteria:

   - Appropriate tests carried out in the correct time scale
   - Appropriate action taken for any abnormal results
   - Blood tests reviewed prior to prescription
   - Appropriate immunisation

- Review of adverse effects
- Patient information

3. Print and complete the DMARDs Audit Paper Form – included in the SiP DMARDs care bundle spreadsheet and online.

4. Transfer the data collected to the DMARDs audit spreadsheet. Please make sure the date is entered beside each individual record. The data will automatically be collated and displayed on the run charts, which can be printed as needed

5. Save the spreadsheet

6. Email the completed spreadsheet by or on the 10th of each month (i.e. June data is due on 10 July, July data is due on 10 August). The spreadsheet is to be emailed to your PHO facilitator.

Audit Questions

Measures	Rationale	Guidance
Has there been a full blood count in the past 3 months?	• Bone marrow suppression is an uncommon but important cause of mortality for patients on methotrexate that can lead to multiple organ failure and gastro-intestinal bleeding • General Practitioners provide a DMARD monitoring service for patients receiving these medicines. Current recommendations are weekly or fortnightly blood tests whilst dose escalation is in progress and for 6 weeks after the last dose alteration.	• Select YES if there has been a full blood count in the past 12 weeks (AZA) / 8 weeks (MTX). • Select NO if there has not been a full blood count in the past 12 weeks (AZA) / 8 weeks (MTX)

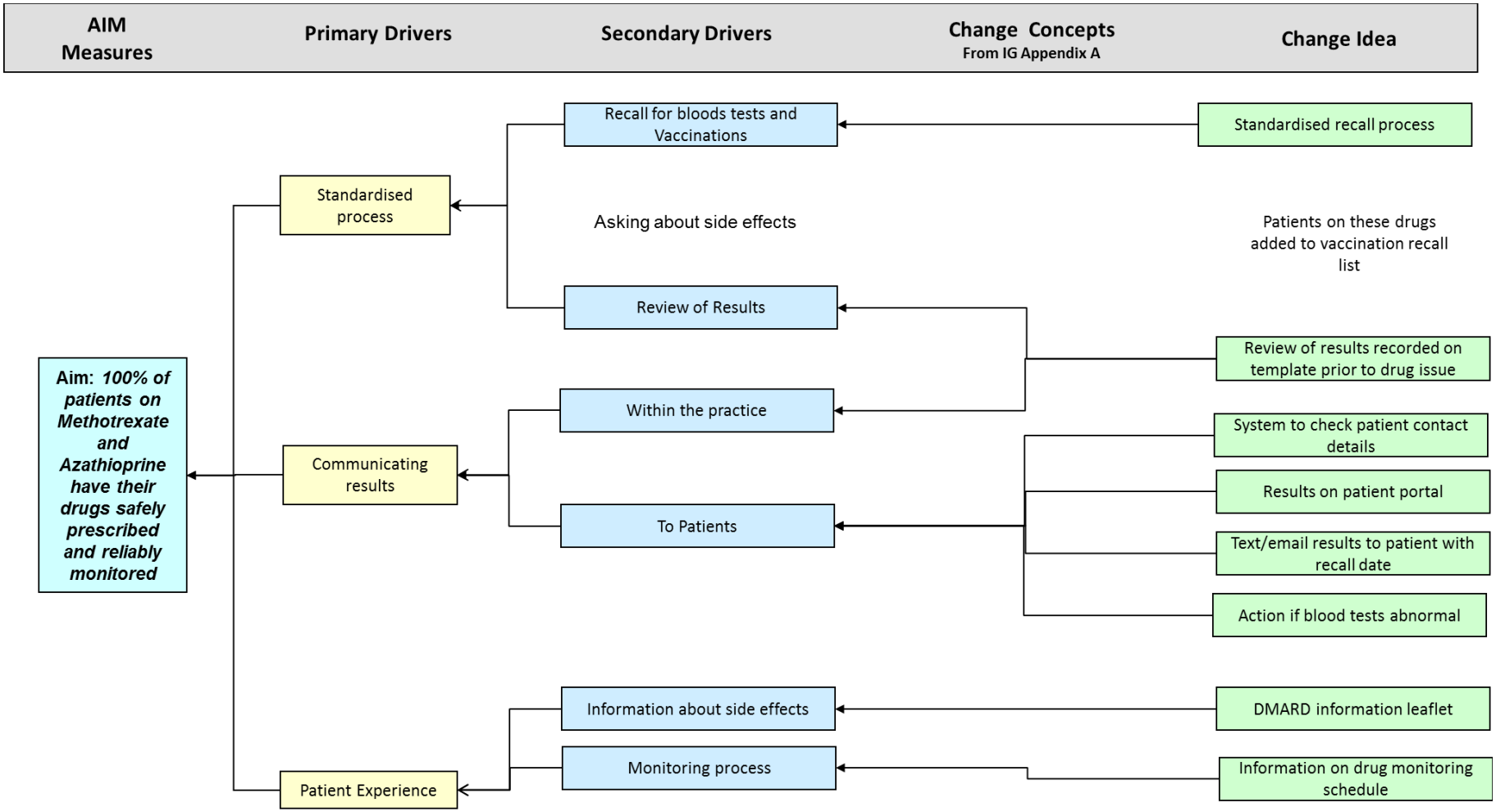
If any abnormal results in the previous 12 weeks (WBC <3.5 x 109/L, Neutrophils <2.0 x 109/L, Platelets <150 x 109/L, ALT >x2 upper limit (>60) has action been recorded in the consultation record?	• Effective monitoring entails significant results being appropriately actioned, including communication of said action with the patient.
	• Long-term liver injury, normally accompanied by elevations of ALT and AST, can result in hepatic fibrosis.
	• Bone marrow suppression is an uncommon but important cause of mortality for patients on methotrexate that can lead to multiple organ failure and gastro-intestinal bleeding.
	• Patient review and action will usually involve the patient's relevant specialist.
	• Take action per guidelines if:
	  ○ WBC <3.5x109/l
	  ○ Neutrophils <2.0x109/l (if <1.0 drug should be stopped immediately and discussion undertaken with specialist)
		• Select YES for all patients with abnormal results that have a related action documented in the patient's clinical record.
		• Select NO for all patients with abnormal results that do not have a related action documented in the patient's clinical record.
		• Select N/A for all patients with no abnormal results.

	○ Platelets <150x109/l (if <50 drug should be immediately stopped immediately and discussion undertaken with specialist) ○ ALT > x2 upper limit of normal ○ Unexplained fall in albumin ○ Rash or oral ulceration ○ New or increasing dyspnoea or cough ○ MCV>105fl check B12 & folate and treat appropriately ○ Significant deterioration in renal function reduce dose or discuss with rheumatologist ○ Abnormal bruising or sore throat withhold until FBC available	
Is there a documented review of blood tests prior to issue of the last prescription?	• No patient should have a repeat prescription if the monitoring has been inadequate	• Select YES for all patients that have a documented review of blood tests prior to issue of the last prescription. • Select NO for all patients that do not have a documented review of blood tests prior to issue of the last prescription.
Has the patient ever had or declined	• Methotrexate is an immunosuppressant and increases the risk of	• Select YES for all patients

an influenza vaccine in the last 12 months?	infections, even with a normal blood count. • It is recommended that patients should have annual influenza immunisation which is funded. • It is recommended patients should have pneumococcal vaccine every 5 years, although this is currently not funded. • Patients commencing parenteral methotrexate normally will have been taking oral methotrexate so vaccinations should be up to date, however vaccination status should always be confirmed prior to therapy commencing by the physician initiating this therapy. Due to the immunosuppressive action of methotrexate, "Live" vaccines should be avoided.	that have documented evidence of an influenza vaccine (or a decline of) in the last 12 months. • Select NO for all patients that do not have documented evidence of an influenza vaccine (or a decline of) in the last 12 months.
Has the patient been asked within the last 3 months about any side effects, e.g. nausea, mouth ulcers, fever, sore throat, shortness of breath, diarrhoea?	• Patients prescribed DMARDs require close monitoring for adverse effects. These may manifest as symptoms or biochemical abnormalities. • Any of the above symptoms may represent significant side effects. Patients should understand the need to report such symptoms.	• Select YES for all patients that have documented evidence of an influenza vaccine (or a decline of) in the last 12 months. • Select NO for all patients that do not have documented evidence of an influenza vaccine (or a decline of) in the last 12 months.
Has the patient been given written information about the DMARD that	• Written information, including the importance and frequency of monitoring, side effects and action if experiencing side effects, should be routinely given to the patient regularly.	• Select YES if it has been documented that the patient has been given

they are taking within the last 12 months?	• Suitable sources of patient information include via the Auckland Regional Health Pathways, SaferRx and Health Navigator.	written information about the DMARD that they are taking, within the last 12 months. • Select NO if it has not been documented that the patient has been given written information about the DMARD that they are taking, within the last 12 months.

Theory of Improvement



Change Ideas Tested by Previous Practices

General	• Have a doctor and nurse champion in the practice.
Ideas around practice processes	• Recall systems so patients return to have their blood test taken • Ensuring patients are invited for influenza and pneumococcal immunisations • Trying various ways for ensuring patients have the regular blood tests e.g. letters, texting, emailing • Develop a policy and process for monitoring DMARDs for the practice so that new staff and locums can use the same process
Ideas around recording process in patient management system	• Creation of screening template for recording of review prior to prescription
Ideas around practice team roles and responsibilities	• Training health care assistants to ask about side effects of the drugs • Discuss with specialists around the GP role in education and monitoring and how fits in with their responsibilities
Ideas around patient education	• Using patient information leaflets fro SafeRx • Recording the date that written education given in the screening template
Ideas around patient involvement	• Involving patients in the change process – provide good feedback on what they think works best from their perspective

Benefits

- Increased GP awareness around DMARD monitoring
- Improved communication with
- specialists
- Embedding system to improve safety
- Better systems for recalling patients.
- Improved recording of review of blood test results prior to issuing prescription.
- Patients better informed of risks and need for monitoring.
- Patients highlighting significant side effects earlier.
- More patients being immunized appropriately.
- Greater consistency for when patients are expected to have blood test taken.

Issues

- Not many patients on Methotrexate but applying the systems to patients on other drugs needing monitoring.
- Getting buy-in from colleagues
- Inconsistencies between specialists
- Lack of documentation from specialists
- Adjustments required to the query-build

Additional Resources

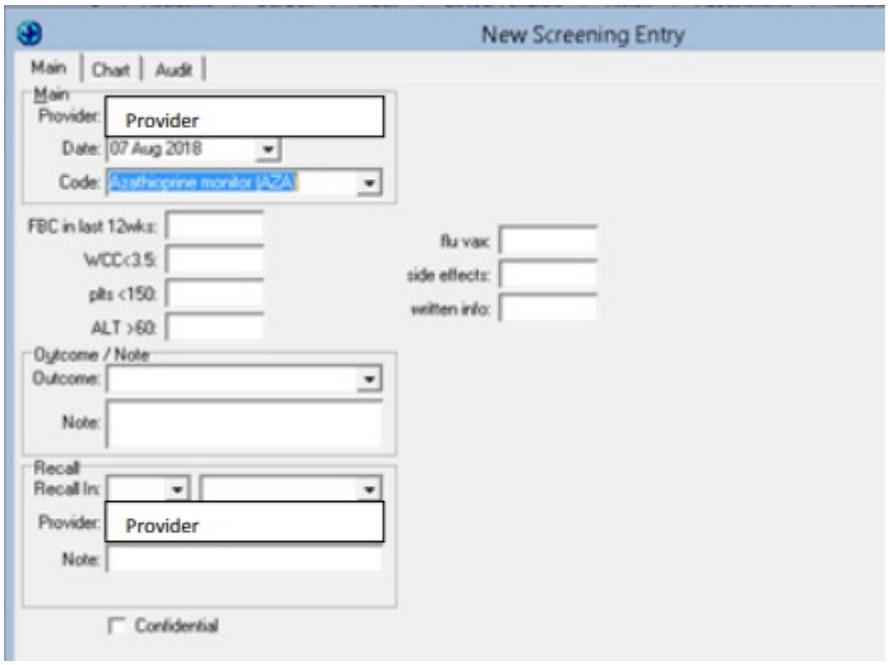
Template and Searches

A generic template to help with managing patients being prescribed Methotrexate and Azathioprine could be developed with you and the team.

Monitoring Search Dr Info has also developed searches to help practices identify patients who are prescribed Methotrexate or Azathioprine in the past 3 months and:

- No full blood count tests done in the last 3 months.
- No Liver function in the last 3 months.

These searches can be found under the Safety tab in Dr Info.



Resources

1. Kivity S, Zafrir Y, Loebstein R, et al. Clinical characteristics and risk factors for low dose methotrexate toxicity: A cohort of 28 patients. Autoimmun Rev 2014
2. BPAC. Annual Practice Report, 2013. Available from: www.bpac.org.nz/Report/2013/November/2013PracticeReportSample.pdf
3. BPAC, 2008. DMARDS Best Practice Journal Available at https://bpac.org.nz/BPJ/2008/October/dmards.aspx
4. BPAC, 2014. Safer prescribing of high-risk medicines Methotrexate Best Practice Journal 64 Available at: http://www.bpac.org.nz/BPJ/2014/October/safer-prescribing.aspx
5. Auckland Regional Health Pathways, 2018. Methotrexate Shared Care Guidance (localised) Available at: https://aucklandregion.healthpathways.org.nz/
6. Auckland Regional Health Pathways, 2018. Azathiaprine Shared Care Guidance (not yet localised) Available at: https://aucklandregion.healthpathways.org.nz/

7. New Zealand Formulary, Version 74. 2018. Azathioprine. Available at: http://nzf.org.nz/nzf_4729

8. BPAC, 2011. Methotrexate. Best Practice Journal Available at http://www.bpac.org.nz/BPJ/2011/february/docs/bpj_34_methotrexate_pages_16-17.pdf

9. https://www.ismp.org/newsletters/acutecare/showarticle.aspx?id=121

10. Auckland Regional Health Pathways, 2018. Methotrexate Shared Care Guidance (localised) Available at: https://aucklandregion.healthpathways.org.nz/

11. See table in SafeRx bulletin page 4 with actions to be taken www.saferx.co.nz/full/methotrexate.pdf