safety IN PRACTICE

High Risk Medicines GP Prescribing Indicator Module 2020-21

Every patient, every time

AUCKLAND DISTRICT HEALTH BOARD Te Toka Tumai

Waitematā District Health Board

Best Care for Everyone

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National Hauora Coalition

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Contents

1.1 Background

A key aim of the Safety in Practice programme is to reduce the harm experienced by patients from medicine use. Adverse events related to medicines are a significant cause of patient morbidity and mortality, and a source of substantial costs for both organisations and patients.

This prescribing indicator module focuses on a selection of medicines that are recognised as being of high risk if they are not prescribed and monitored appropriately.

Evidence shows that when practices review their prescribing of medicines that are recognised as high-risk, this risk and can be reduced by at least a third. This type of review was initially done looking at NSAID prescribing and showed improvement associated with reductions in related emergency hospital admissions due to adverse events such as gastrointestinal bleeding. [1] [2] Similar work in all practices in Scotland has shown reductions of up to 50% in high-risk prescribing of NSAIDs. We know that when GPs specifically review their prescribing, they judge a significant proportion of it to be potentially inappropriate and take steps to improve their prescribing safety.

Through easily accessible monthly reports, practices can quickly identify patients for whom higher risk prescribing or inadequate monitoring may have occurred. This gives general practitioners insights into their prescribing practices, and information to consider alternatives for these patients to reduce their risk of adverse events. It also allows practices to focus on their systems for ensuring that appropriate monitoring is occurring.

1.2 Aim

To reduce harm from high-risk medicines by reviewing prescribing and monitoring of these medicines in our practice by June 2021.

1.3 Equity

Reducing inequity in outcomes between Māori and other high needs groups compared to the general population is a priority at all levels of the health system, including Auckland and Waitematā DHB's[3]

It is well recognised that for those groups who are already experiencing poorer health outcomes, the very reasons that contribute to this also could make them more at risk of errors, oversights, miscommunications and receiving care that is less able to meet their needs. Working on safer prescribing to improve patient safety overall would be expected to have particular benefit for reducing risk for these groups, which would contribute to reducing inequity.

Practices can focus on specific groups using an equity lens.
Some examples might be:

- Focusing specifically on high-risk populations. SIP reports provided by Mohio present Māori patients first followed by Pacific then other. Dr Info allows either selection by Māori, or by high needs Specifically seeking input from patients from these groups on their experiences of high risk medicine prescribing and monitoring

1.4 Measures & rationale

<table>
<tr><th colspan="2">Measure 1 Prescription of Sodium Valproate to a woman of child bearing potential (10-49 years) (going to get added in if they have NOT had a hysterectomy)</th></tr>
<tr><th colspan="2">Rationale – Risk Identified</th></tr>
<tr><td colspan="2">• Increased risk of congenital malformation if a woman becomes pregnant while taking sodium valproate (10%; 24% with high doses>1500 mg/day)[4]</td></tr>
<tr><th>Recommended Actions</th><th>Comments</th></tr>
<tr><td>• Review the risk : benefit of using this medicine with the patient
• Consider alternatives to sodium valproate as this has the highest risk of harm
• If the informed decision is to continue with sodium valproate advise on the importance of 2 effective forms of contraception if they are potentially sexually active
• Ensure patient has read a copy of “Are you taking medicines for epilepsy, mood or pain? Information for females, their family and whanau” [5]
• Identify and annually review your female patients who have any possibility of getting pregnant who are taking sodium valproate.</td><td>• Ensure that prescribers are familiar with the resources of “Benefits and risks of taking antiepileptic medicines for females. Information for healthcare professionals” and “Are you taking medicines for epilepsy, mood or pain? Information for females, their family and whanau” [6]
• If patient is reviewed and this is considered still the best option for the patient then document this in the notes.
• If the patient would NEVER be able to become pregnant (e.g. had hysterectomy, is transgender) then you should let your audit tool provider know they can remove the patient from ever appearing in your list again.
• Females from the age of 10 should in consultation with their GP, specialist and family be working towards what other options might be as they move toward puberty and the possibility of becoming sexually active.</td></tr>
<tr><th colspan="2">Measure 2 Prescription of warfarin in the last month to a patient without a record of INR having been measured within the previous 9 weeks (excluding patients who self-monitor)</th></tr>
<tr><th colspan="2">Rationale – Risk Identified</th></tr>
<tr><td colspan="2">• Risk of bleeding if over anti-coagulated and of a thromboembolic event if they are under anti-coagulated</td></tr>
<tr><th>Recommended Actions</th><th>Comments</th></tr>
<tr><td>• Contact the patient to remind / arrange their INR test
• Organise with patient process for ensuring that INR monitoring occurs at appropriate safe interval
• If extremely poor patient engagement around then a re-evaluation of the</td><td>• For most people once the INR is stable, the rate of INR testing can be extended from weekly to two weekly then 4-6 weekly. In some very stable patients the frequency may be extended out to 8 weeks.[7]
• Auckland Regional Health Pathways</td></tr>
</table>

appropriateness and safety of anticoagulation with warfarin should be discussed with the patient and documented	recommends usual maximum interval of one month[8] • The timeframe for this measure is designed to identify patients whose lack of compliance with INR testing is unsafe, but not pick up false positives for patients that are very stable. This will allow practices to develop systems to identify patients who are significantly overdue for their safe monitoring. • For patient resources see Warfarin Management module
Measure 3 Prescription of methotrexate in the last month without a record of a full blood count and liver function test within the previous 4 months	
Rationale – Risk Identified	
• **Bone marrow suppression is an uncommon but possible and important cause of mortality for patients taking methotrexate that can lead to multiple organ failure and gastro-intestinal bleeding**. • **Hepatotoxicity – especially at higher doses or prolonged therapy –can progress to cirrhosis[9]** • **Inadequate monitoring of patients on long-term methotrexate is a cause of serious risk of patient harm [10]** •	
Recommended Actions	**Comments**
• Do not issue a prescription for methotrexate if the patient has not had the required blood tests • Provide patients with information on methotrexate and its risks and required monitoring such as ***"SafeRX-methotrexate"*** see DMARDs Module for further patient information	• There is some variation in the guidelines for how frequently blood tests are required. Early in treatment monitoring should be more frequent, and be guided by specialist advice • BPAC guidelines are for every 4-8 weeks • Auckland Regional Health Pathways has reviewed and localised the shared care guidelines for methotrexate monitoring in July 2018 and the MAXIMUM interval outlined is every 3 months. • The timeframe of 4 months is to not pick up false positives *just* outside the guidelines • The focus is on ensuring that practices have systems to ensure that they **do not go as long as 4 months** between monitoring tests

Measure 4 Prescription of Methotrexate in the last month without prescription of Folic Acid in the last 4 months	
Rationale – Risk Identified	
• **Folic acid 5 mg should be prescribed to be taken 2-4 days after the weekly dose of methotrexate. This reduces the side effects of inhibition of folate metabolism such as nausea, stomatitis and bone marrow suppression.**	
Recommended Actions	**Comments**
• Prescribe folic acid 5 mg once a week 2-4 days after methotrexate • Provide patient information such as SafeRX Methotrexate or www.healthnavigator.org.nz (see also DMARD module)	• All patients should be prescribed Folic acid concurrently with methotrexate • Ensure on both the methotrexate and the folic acid prescriptions that it is clear that the doses are WEEKLY and specify the DAY of the week that they should take each medicine. • Some patients remember if they take 'Methotrexate on Monday; Folic Acid on Friday.'
Measure 5 Amiodarone prescribed in the last month without record of thyroid function (TSH) and liver function (LFT) done in the last 7 months	
Rationale – Risk Identified	
• **Amiodarone is a high risk medication associated with potentially serious adverse effects on the** ○ **lungs** (including pneumonitis and fibrosis), ○ **eyes** (corneal micro-deposits, optic neuritis and neuropathy) ○ **liver** (hepatotoxicity) ○ **heart** (bradycardia and conduction disturbances with risks compounded by other medicines which prolong QT interval**)** ○ **thyroid gland** (hyper and hypo-thyroid)	
Recommended Actions	**Comments**
• Contact the patient to arrange blood tests • Provide patient education to highlight the need for and time frames for monitoring [11] • Set up system within the practice to ensure that the blood tests are done prior to prescriptions being given	• Guidelines for monitoring include annual ECG and CXR along with 3-6 monthly blood tests for thyroid and liver function[12] [13] • Pulmonary function test and eye examination are indicated only if associated symptoms – some specialists would also view CXR in this category depending on the patient's risk. • The monitoring with blood tests also provides opportunity to check that the ECG has been done or recall in place. • See the Amiodarone bulletin on www.saferx.co.nz for more information.

2.0 Instructions

2.1 Finding patients → 2.2 Complete spreadsheet → 2.3 Submit → 2.4 Taking action

2.1. Finding patients

Practices are to identify patients in high-risk groups using searches developed for Dr Info or Mohio on a monthly basis.

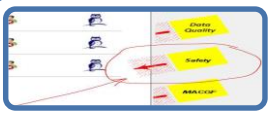
This will only take a few minutes to do using the audits provided by these programmes. Practices do not need to develop any Medtech or MyPractice queries.

Practices do not need to run the audit – they just need to look up the report in Dr Info or Mohio.

2.1.1 Finding patients using Dr Info

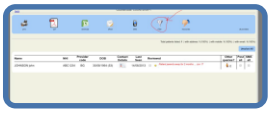
1. Login to DrInfo using your DrInfo key

2. Access the latest audit available, check the word “published” under each folder.



3. Click on the “Safety tab”. This is seen at the bottom of the tabs on the right hand side

4. Select any of the safety patient lists, you are able to access this list by clicking on the “Patients” icon.



5. Once you have the list, you can download to excel, send bulk mail or SMS to all patients or filter the list further using the filter button. If you wish to filter by provider, you can do so by finding any patient where the Provider-Code is your code and click on that Provider-Code.

6. To find the number of patients who are Maori click on the 'Filter' icon. Options including Maori patients will appear.

2.1.2 Finding patient using Mohio

Login
- Log in to Mohio
- Click reports > Clinical Reports > Safety in Practice.

View report
- On the right hand side click 'download' this which brings up 'Safety in Practice – Audit Report (Prescribing indicator module name)'.
- There are five tabs along the bottom with a separate spread sheet for each of the fivegroups of risk prescribing.
- Each sheet is ordered from the top to bottom for the date of the prescription but with Maori patients presented first.
- Practices are able to look at each tab and work out how many fall within the month that they are looking at.

View patient record
- Click on the NHI which takes you directly through to that patient's notes in Medtech.
- Information shown includes NHI, Surname, First name, Medication, Brand-name, Ethnicity, Provider and Date of script

Record in spreadsheet
- Total number of patients which are in each category
- The number of Maori patients in each category
- If there are not any then record '0'

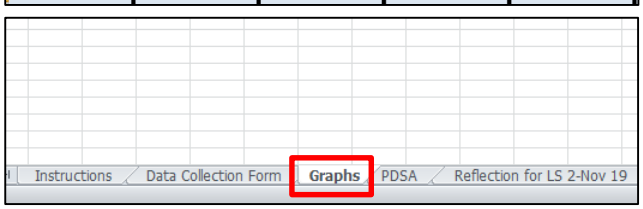
2.2 Completing the spreadsheet

Download the spreadsheet for your prescribing indicator module from the Resources section of www.safetyinpractice.co.nz.

There are two entries for each indicator.

- The total number of patients in each category for each month in the spreadsheet.
- The number of Māori patients in each category

	Prescription of Sodium Valproate to a woman of child bearing potential (women aged 10-49 years who have not had a hysterectomy)		Prescription of warfarin in the last month to a patient without a record of INR having been measured within the previous 9 weeks (excluding patients who self-monitor)	
Review Month	Total no of Patients	No of Maori Patients	Total no of Patients	No of Maori Patients
Aug-19				
Sep-19				
Oct-19				
Nov-19				



In this example, data for high risk prescribing in the month of August should go in the top row. This data should be collected in early September and submitted by September 10th.

There are formulas embedded within the spreadsheet so that the graphs in the third tab auto-populate. Use these to track your progress over the coming months.

2.3 Submit your data

Submit your data on the 10th of each month to audit@safetyinpractice.co.nz and your PHO facilitator.

> Tip: Please ensure all data sent to Safety in Practice in anonymised

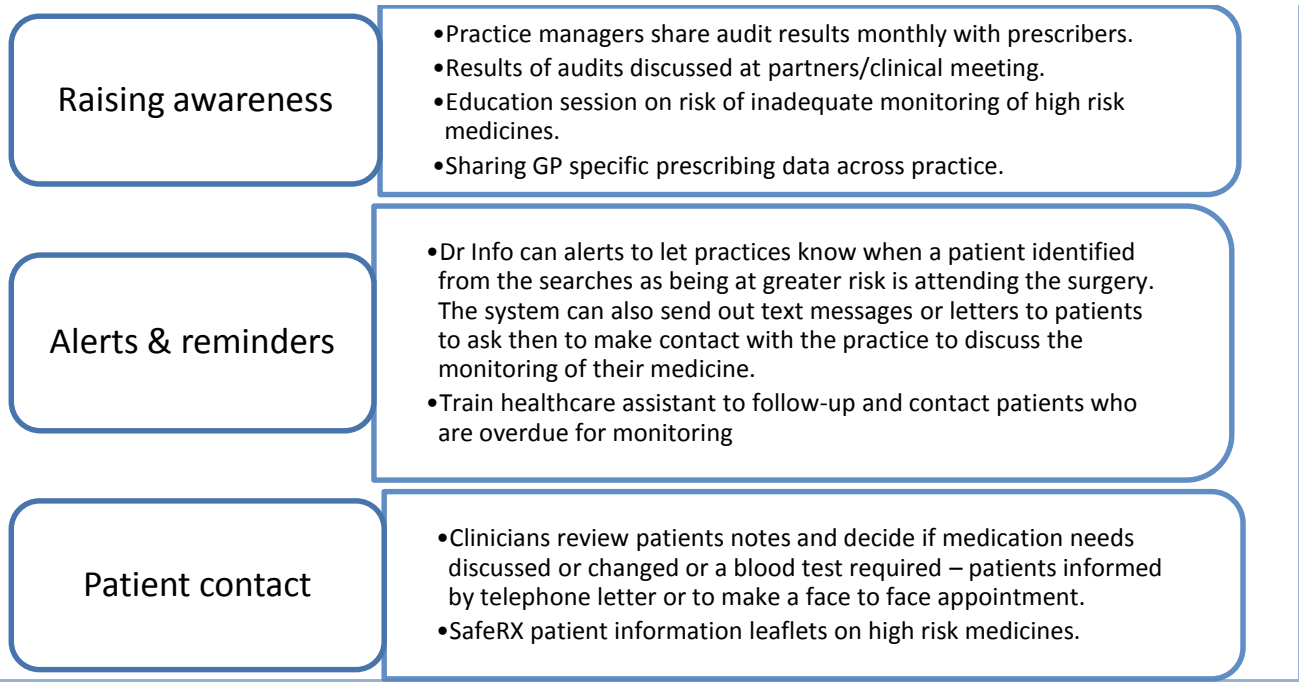
2.4 Taking appropriate action

Review the records of identified patients, and take appropriate action for each individual	• Discussion of risks and benefits of sodium valproate treatment will require a clinical review with opportunity to provide ACC information. • Contact patient to remind about blood tests. • Arrange prescription for folic acid. •Using patient information leaflets as appropriate (see Resources).
Collect and review your data again in a month to assess progress and decide on further changes as required **Discuss the results with your clinical team**	• What insights does the data provide? • What aspects of safe prescribing and monitoring of high risk medicines in your clinic does it highlight? • What aspect of prescribing and monitoring in your clinic could makes patients more at risk of harm? • How could your practice's systems be made safer?
Decide what actions need to be taken to in your practice	•Embed systems within practices to reduce high-risk prescribing and inadequate monitoring of high risk medicines on a long-term basis. The aim is to reduce the risk of harm from in the future i.e. develop your own PDSA •See *Change Ideas* for more information.

Collect and review your data again in a month to assess progress and decide on further changes as required

3.1 Change ideas

Below are some ideas practices in previous years have found useful. It's your decision as to which ideas you try and when. You're very welcome to develop your own ideas.



3.2 Patient and Practice Resources

Sodium valproate

- "Are you taking medicines for epilepsy, mood or pain? Information for females, their family and whanau"2017 Treatment Safety, ACC, ACC7810 www.acc.co.nz/assets/provider/antileptic-medicine-females-family.pdf
- Benefits and risks of taking antiepileptic medicines for females – Information for Health Professional.2017 Treatment Safety, ACC, ACC7809 www.acc.co.nz/assets/provider/antileptic-medicine-females-healthcare-providers.pdf
- Medsafe Safety Alert March 2019 www.medsafe.govt.nz/safety/Alerts/Epilim.asp
- Balancing the benefits and risks of prescribing antiepileptic medicines in women https://bpac.org.nz/2018/antiepileptic.aspx

Warfarin

- See warfarin management module

Methotrexate

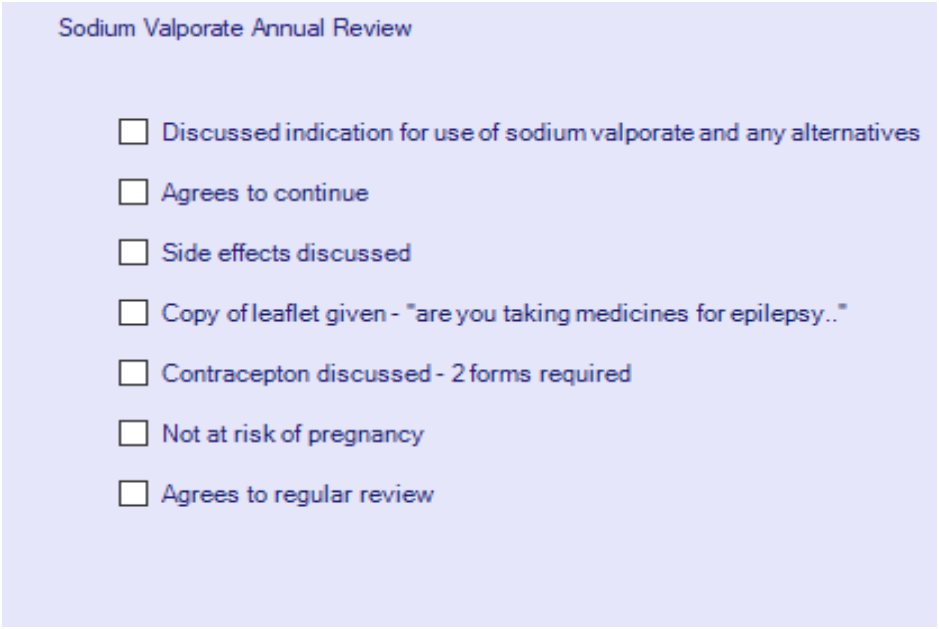
- SafeRx Methotrexate www.saferx.co.nz/full/Methotrexate.pdf

Amiodarone

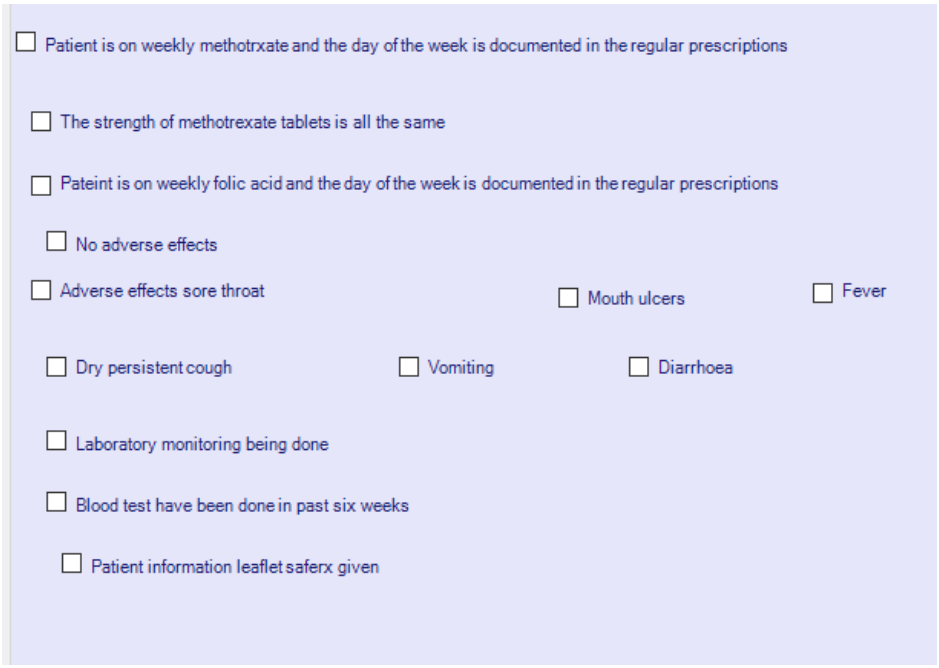
- SafeRx Amiodarone www.saferx.co.nz/amiodarone.pdf

Patient Management Forms for prompting and recording annual review

Sodium Valproate



Methotrexate



3.3 Glossary

ADE	Adverse Drug Event
ADHB	Auckland District Health Board
ALT	Alanine aminotransferase, a marker of liver function.
AST	Aspartate aminotransferase, a marker of liver function.
Bundle	Each of the areas identified as presenting the highest risk to patients within the community have been developed into modules. Each module is structured to include a change package and a bundle.
CARM	Centre for Adverse Reaction Monitoring New Zealand
Change package	A collection of change ideas known to produce a desired outcome in a process or system.
Cytotoxic	A drug that is toxic to living cells.
Dr Info	A clinical information platform used by general practices. Data is extracted and analysed from practices PMS'.
DMARDs	Disease modifying anti-rheumatic drugs. These medications are used in auto-immune diseases such as rheumatoid arthritis.
eGFR	Estimated glomerular filtration rate, renal function test
FBC	Full blood count
GI	Gastro-intestinal
IHI	Institute of Healthcare Improvement
INR	International Normalised Ratio. This is a marker of coagulability in the blood used to guide warfarin dosage.
HQSC	Health Quality & Safety Commission of New Zealand
LFTs	Liver function tests
Module	A structured way of improving the processes around patient care: a small, straightforward set of evidence-based practices, generally three to five, that, when performed collectively and reliably, have been proven to improve outcomes.
Mohio	A clinical information platform used by general practices. Data is extracted and analysed from practices PMS'.
OTC	Over the counter
PMS	Patient management system e.g. MedTech, MyPractice, ToniQ
PHO	Primary health Organisation e.g. Auckland, Alliance Health Plus, Comprehensive Care, East Health Trust, Total Healthcare, National Hauora Coalition, Procare
TFTs	Thyroid function tests
RNZCGP	Royal New Zealand College of General Practitioners
WBC	White blood cells. Used as a marker of infection and immune system functioning.
WDHB	Waitemata District Health Board
SIP	Safety in Practice

3.4 References

[1] A. Avery, "A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis.," *The Lancet,* vol. 379, no. 9823, pp. 1310-9, 2012.

[2] T. Dreischulte, "Safer Prescribing - A Trial of Education, Informatics, and Financial Incentives," *New England Journal of Medicine,* vol. 374, no. 11, pp. 1053-64, 2016

[3] Waitemata and Auckland DHB 2017/18 Annual Plan

[4] Benefits and risks of taking antiepileptic medicines for females – Information for Health Professional.2017 Treatment Safety, ACC, ACC7809 https://www.acc.co.nz/assets/provider/antileptic-medicine-females-healthcare-providers.pdf

[5] "Are you taking medicines for epilepsy, mood or pain? Information for females, their family and whanau"2017 Treatment Safety, ACC, ACC7810 https://www.acc.co.nz/assets/provider/antileptic-medicine-females-family.pdf

[6] "Are you taking medicines for epilepsy, mood or pain? Information for females, their family and whanau"2017 Treatment Safety, ACC, ACC7810 https://www.acc.co.nz/assets/provider/antileptic-medicine-females-family.pdf

[7] BPAC Use of INR for monitoring warfarin treatment Best Tests https://bpac.org.nz/BT/2010/November/inr.aspx

[8] Auckland Region Health Pathways Wafarin – Starting and Monitoring

[9] SafeRX Methotrexate www.saferx.co.nz/full/Methotrexate.pdf

[10] Improving compliance with oral methotrexate guidelines; Patient safety alert, 13. National Patient Safety Agency (NPSA) 2006. www.npsa.nhs.uk/nrls/alerts-and-directives/alerts/oral-methotrexate (Accessed 04-05-12)

[11] Health Navigator patient information on Amiodarone

[12] Auckland Region Health Pathways – Cardiac Drugs and Monitoring

[13] SafeRX Amiodarone http://saferx.co.nz/assets/Documents/full/636d2c4501/amiodarone.pdf