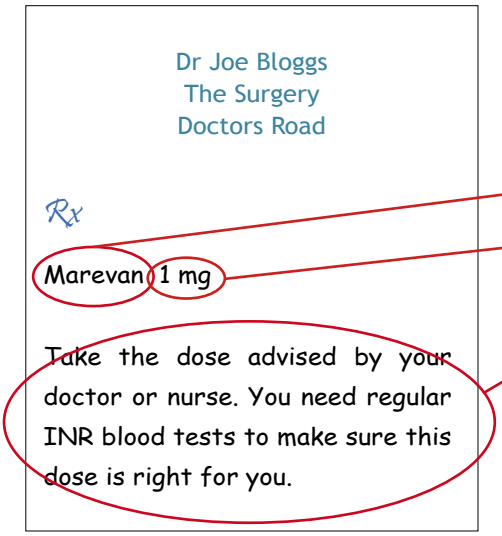
‘INR testing’ reminder……

Patient education

Patient education is an important component of achieving good INR levels. Patients who are well informed and understand what they are doing are more likely to benefit from treatment. Patient information for those starting warfarin and the “red book” are good resources for patients.



Prescribing

Warfarin should be prescribed by brand name.

Use only 1 mg tablets during initiation to minimise confusion.

Use labelling to highlight the importance of INR monitoring - labels such as ‘PRN’ or ‘as required’ may confuse.

Warfarin therapy must be detailed in the patient notes

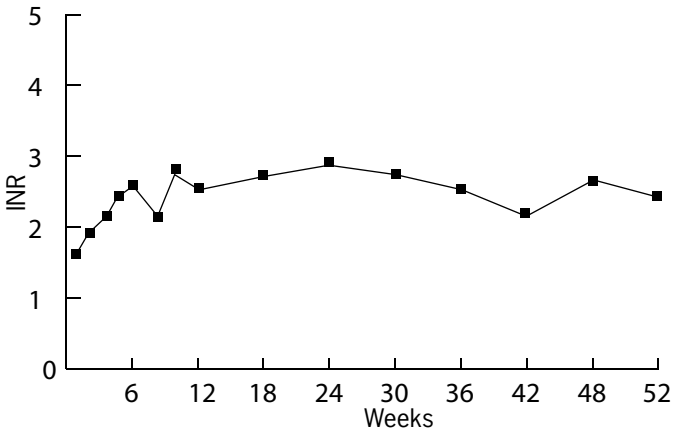
The patient notes should contain the following: the patient is on warfarin, condition for which prescribed, target INR range, planned duration of treatment, brand of warfarin. An alert which appears whenever the clinical records of a patient on warfarin are accessed may be a useful tool. For details on setting up an alert see appendix 4 in the bpac^{nz} INR testing guide.

Managing INR levels

A reasonable standard of warfarin therapy is an INR within the target range 60% of the time.

Once stable the rate of INR testing can be extended to 4 to 6 weekly in most people.

Changes in the INR level in a usually stable patient may be due to: non-adherence to dosage regimen, drug interactions (pharmaceutical or herbal), major changes in diet or alcohol intake, or concurrent disease. For minor fluctuations in (the) INR, changes in weekly doses are usually not required. For more significant fluctuations, use a standard guide to assist dose modification.



Kōwhai tackles overdue INRs

As part of Kōwhai Health Trust's quality initiative programme, a system was devised to provide a reliable, safe and effective warfarin management service to patients. This "best practice" management covered the initiation of treatment, education, monitoring, follow-up and discontinuation of warfarin treatment.

The main aims of the initiative were to:

1. Provide GPs with guidelines for managing anticoagulation with warfarin.
2. Provide a framework for transfer and continuation of treatment between secondary and primary care.
3. Maintain the INR of selected patients within the therapeutic range for the appropriate length of time.
4. Set up a safety net to detect patients on warfarin therapy who have not had an INR in the previous seven weeks.

Guidelines were developed in conjunction with Hutt Hospital physicians. Warfarin management services were provided to residents of the Hutt Valley.

To address the aims of the programme, the following changes took place:

- Patients commenced on warfarin therapy in secondary care were issued a voucher on discharge from hospital, which entitled them to a free GP follow-up visit to reinforce education on warfarin management.
- Alterations were made to the electronic discharge process, which required medical staff to ensure that warfarin dose, indication for treatment, target INR, recommended duration of treatment and latest INR were included in the information passed on to the GP.
- In conjunction with the local community laboratory, a computer based 'safety net' was developed to detect patients overdue for an INR test. A list of patients receiving regular INR tests is created every 3 weeks. This list is then screened to detect patients who have not had an INR test in the past 7 weeks, the information is then passed on to the patients' GPs.

The outcome of Kōwhai Health Trust's warfarin management programme has so far been positive. At the start of the programme, 8% of the approximately 1200 patients receiving regular INR tests were overdue for testing. This figure has now reduced to less than 3%, a desirable outcome for both GPs and patients.

Although management programmes such as this are labour intensive in the initial development phase, the systematic approach to ensuring best quality management of patients has had significant positive benefit for patients and practitioners. It is an excellent example of improved outcomes through close co-operation and linkages between primary and secondary care.

Kōwhai Health Trust was established in 2004 to provide healthcare management services. It currently provides service for Hutt Valley DHB and Mid Valley and Valley PHOs, along with various other organisations in the Hutt Valley and Wellington region.

Thank you to Dr Gary Brown for this report.

Oral route first choice for vitamin K in excessive anticoagulation

Thank you to Dr Ian Morison, a haematologist from Dunedin, for drawing our attention to literature on the use of vitamin K that is summarised in a recent meta-analysis[1]. Oral vitamin K is first choice in treating excessive anticoagulation even when the INR is greater than 10. This is because oral vitamin K is as effective as vitamin K given intravenously and more effective than vitamin K given subcutaneously. Intravenous vitamin K has been associated with anaphylaxis.

The optimal dose of vitamin K has not been determined, but the authors of the meta-analysis recommended that clinicians "should consider administering 1 to 2.5 mg of oral vitamin K in patients receiving warfarin with an INR greater than 6.0 and no clinical considerations preventing its use".

To administer vitamin K, the intravenous solution should be given orally (the 10 mg tablet is not suitable). Parenteral vitamin K (konakion, 10 mg/mL) is available to general practitioners on a Practitioners' Supply Order form. It should be stored away from the light; below 25 degrees C.

Patients with major bleeding, of course, need immediate admission.

1. Dezee K, Shimeall T, Douglas K et al. Treatment of Excessive Anticoagulation with phytonadione (Vitamin K): a meta-analysis. Arch Int Med 2006 166 391-7

Re-emergence of iodine deficiency in NZ

Over recent years there has been increasing concern about the re-emergence of iodine deficiency in New Zealand. The iodine deficiency disorder (IDD) goiter was considered endemic in many parts of New Zealand prior to the 1940s. Following the introduction of iodised salt in the 1950s, the rate of IDD goiter was reported to have fallen to approximately 1%.

The re-emergence appears to be due to:

- Increased consumption of commercially-prepared foods – these are mostly manufactured with non-iodised salt.
- Declining use of iodophors as sanitisers by the dairy industry – it is thought 'contamination' of milking equipment provided a significant source of iodine.
- Less salt being used in home prepared foods as a response to the public health advice to reduce salt intake. Sea salt and rock salt are being used more frequently (encouraged by popular chefs) and these are not iodised.

Therefore, this begs the question: "Should iodine levels be considered in patients with hypothyroidism?"

Urinary iodine estimations are unreliable for assessing individual patients, as urinary levels can vary considerably from day to day and are therefore not useful. The main role of urinary iodine excretion levels is for epidemiological studies to provide a relatively accurate estimate of the dietary iodine status of a particular population.

Most cases of primary hypothyroidism in developed countries are caused by chronic autoimmune lymphocytic thyroiditis, ablative therapy for Graves' disease, or inadequate thyroid replacement therapy.

It is probably best that iodine nutrition is addressed as a public health issue.

References:

Jones NT. Diagnosis and management of hyperthyroidism and hypothyroidism. MJA 2004;180:541-542

Mann J, Aitken E. The re-emergence of iodine deficiency in New Zealand? NZ Med J 2003;116(1170):U351

FOB Screen for CRC fails to reduce overall mortality

Bandolier 149 assessed a Cochrane review of occult blood testing for colorectal cancer screening. The key messages within this assessment are outlined below

The death rate from colorectal cancer was about 1 in 100 people over the whole period, or 1 in 1250 per year. The trials showed colorectal cancer deaths were reduced with screening, though the absolute effect was small. Almost 10,000 people needed to be screened for one year to prevent a single colorectal cancer death. The death rate from all causes was one in four over the whole period, about one in forty per year. Neither analysis by patient nor by patient year showed any difference between the screened and the control population in terms of overall mortality.

Reference:

Bandolier 149

There are risks to testing. Over 80% of positive tests were false; the tests were positive but patients did not have cancer. These patients had the stress of receiving a positive test, and underwent further examination, which is not entirely benign. In 10,000 people an estimated 60-280 would have at least one colonoscopy, with 2-4 perforations or haemorrhages. Some of these will be fatal.

So for occult blood screening for one year, the chance of avoiding dying from colon cancer is 1 in 1200, while the risk of a perforation or haemorrhage is 1 in 3000. The author concludes that maybe it is better and more productive to get people to eat more fibre, especially when we can be pretty sure that screening in practice is unlikely to be as thorough as screening in trials.