

New guidelines on the use of iron studies

Today, the [Royal College of Pathologists of Australasia](http://www.rcpa.edu.au) (RCPA) has released a new position statement on best-practice guidelines on the use of iron studies, Ferritin and other tests of iron status. The new statement aims to assist clinicians, pathologists and pathology laboratories on the appropriate requesting of tests and testing strategies. It is designed to improve usability of pathology reporting, improve decision support, and provide standardised reports on iron studies.

The guidelines outline the incidence of: iron deficiency (ID); non-anaemic ID (NAID); iron deficiency anaemia (IDA); and iron overload. Dr Michael Harrison, President of the RCPA, said,

“Iron deficiency is the most common nutritional deficiency state in Australia and, unfortunately, it is significantly under-diagnosed. As a result, there are major opportunities for individual and population health improvements through increased awareness, testing and targeted iron supplementation. Iron performs many functions in the body – importantly, it carries oxygen from the lungs to the tissues and plays a significant role in mitochondrial energy production and other cellular functions. Conversely, iron overload can go unnoticed as the clinical presentation is subtle and gradual, however it can damage vital organs.”

Iron Studies (iron, transferrin, transferrin saturation and Ferritin) to identify iron deficiency or overload are appropriately requested in these patients:

- Suspected ID – those at increased risk of iron deficiency (poor diet, vegans, certain population groups, blood loss, coeliac disease), those with the characteristic symptoms of fatigue, poor concentration, decreased exercise tolerance, pica (especially ice) or in the presence of anaemia or other nutritional deficiencies;
- To avoid transfusion by detecting and correcting iron deficiency prior to surgery;
- As part of a routine antenatal testing strategy at the first antenatal visit and then as determined by the result obtained; and
- Suspected iron overload: family history of genetic or phenotypic iron overload, liver disease, ‘bronze diabetes’ and pseudogout.

ID is the most common childhood cause of anaemia worldwide with the prevalence highest among preschool-aged children. As iron is widely administered to children with, or at risk of ID, reliable data on the prevalence of true iron deficiency in the Australian paediatric population is not available.

Also, 34% percent of Australian women of child bearing age have ID. In Australia, 35.2% of new female blood donors or those who have not donated in two years, have ID. It is easy to attribute all cases in women to menstrual loss causing negative iron balance, however causes of ID fall into five groups:

1. Chronic blood loss - either overt (menorrhagia, gastrointestinal haemorrhage, haemodialysis, blood donation) or occult (especially gut neoplasia);

2. Nutritional deficiency;
3. Malabsorption – especially atrophic gastritis, Helicobacter infection, coeliac disease;
4. Red cell damage due to extreme training in elite athletes and dancers; and
5. Genetic causes of iron deficiency and dysregulation of levels which have recently been discovered.

In relation to the incidence of iron overload in Australia, elevated ferritin levels are common and are seen in more than 20% of adult men over 30 years old, and in 2.6% of all adult women, to more than 10% in women over the age of 55.

“Genetic hemochromatosis is one of the most common genetic diseases in those of European descent (1 in 400). Iron overload, due to haemochromatosis, can damage vital organs and is a cause of primary liver cell cancer. Effective treatment negates these risks if the iron overload is detected early and treated by therapeutic venesection,” said Harrison.

For further information on the RCPA, visit www.rcpa.edu.au or see our updates on [Facebook](#) or [Twitter](#) - [@PathologyRCPA](#) #RCPA #pathology #MedicinesPathology.

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About the Royal College of Pathologists of Australasia:

The RCPA is the leading organisation representing pathologists in Australasia. Its mission is to train and support pathologists and to improve the use of pathology testing to achieve better healthcare.

Media enquiries:

Dr Debra Graves
Chief Executive Officer
The Royal College of Pathologists of Australasia
+61 2 8356 5858
Debrag@rcpa.edu.au

Linsey Brown
Senior Account Director & GM
S2i Communications
0425 514 005
Linsey@s2i.com.au