



PathWay

THE ROYAL COLLEGE OF PATHOLOGISTS OF AUSTRALASIA



Issue #002

APRIL 2011 | Published by RCPA

In This Issue

- Monitoring Diabetic Health
- HPV and Cervical Cancer
- Pathology Funding Agreement
- Earthquake leaves one pathology lab standing in Christchurch
- Pathologists Key Players In Refugee Health Screening

Interesting Facts

275

The estimated number of adults that develop diabetes every day in Australia.

285 million

The estimated number of people in the world with diabetes in 2010.

Welcome to the April edition of ePathWay

The easy way for you to stay in touch with pathology

This month's articles look at the impact of February's earthquake on pathology services in Christchurch, diabetic screening tests that look past the daily finger prick, the link between HPV and Cervical Cancer, and the role of pathologists in screening refugee health. We also investigate the importance of the new pathology funding agreement signed with the Gillard Government.

Two of this month's articles were inspired by talks given at the RCPA's Pathology Update conference in March, which was information sharing at its best. Pathology Update brought together 1184 delegates, including 1020 pathologists, who spent three days listening to 133 guest speakers.

The broad range of topics covered, such as refugee health, diabetic screening and interpreting cancer genomes, is testimony to the skills required by pathologists whose expertise informs and advises almost every medical specialty.

There will be more 'conference inspired' stories to come in future editions of ePathWay. We welcome your feedback about the stories covered in ePathWay, and hope you find it an invaluable way of being kept up to date about pathology in Australasia.

Monitoring diabetic health: it's more than a daily fingerprick

438 million

The estimated number of people in the world who will have diabetes by 2030.

Important Message



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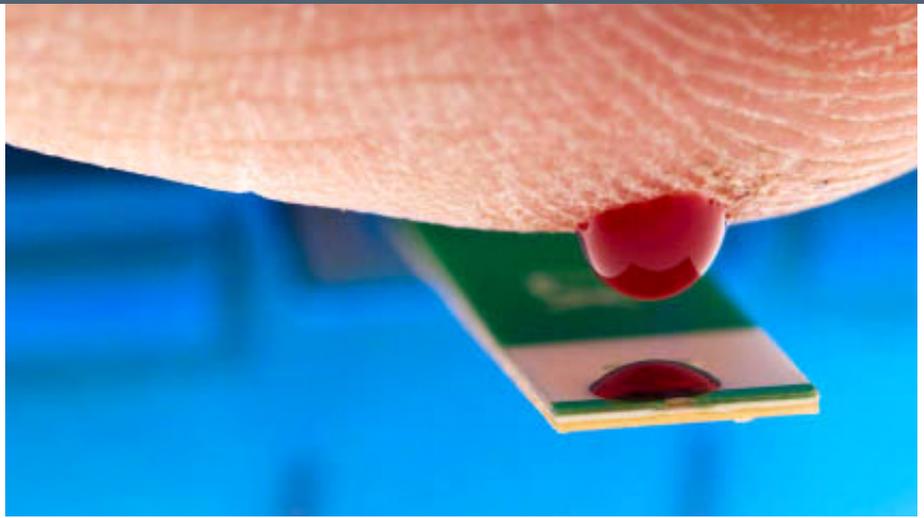
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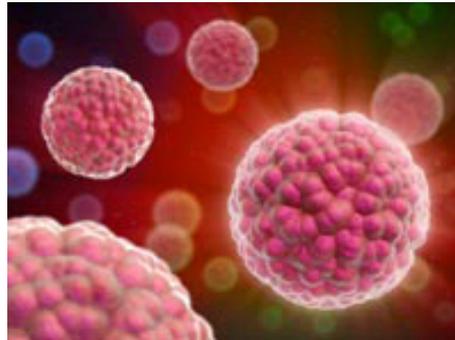
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Diabetes has a huge effect on Australians in terms of human and financial costs. About 100,000 Australian adults develop diabetes each year and, for every person diagnosed, it is estimated that as many again remain undiagnosed.

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HPV and cervical cancer: more than a catchy headline



It's relatively new and not yet on the 'standard vaccination' radar for most people. It also involves young teenage girls and a sexually transmitted disease. No wonder the Human Papillomavirus (HPV) vaccine has stirred some mild controversy and, in some cases, reactions based on fear. However, while the facts aren't as exciting as the headlines, they are worth finding out.

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The earthquake that struck Christchurch at 12.51pm on 22 February 2011 measured just 6.3 on the Richter scale, but its effects were far more devastating than the previous September's larger quake. This one was closer to the city, shallower, and struck with world record ground acceleration. It also destroyed two of the city's pathology laboratories, leaving just one lab to handle the emergency blood work that follows such a catastrophic event.



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Pathologists key players in refugee health screening



The refugee experience can have a major impact on health, and screening for infectious diseases or medical conditions is an important part of Australia's refugee program. Pathologists are at the front line of this program, and play an important role both overseas and in Australia.

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RCPA Message



Pathology gives life's most important answers.



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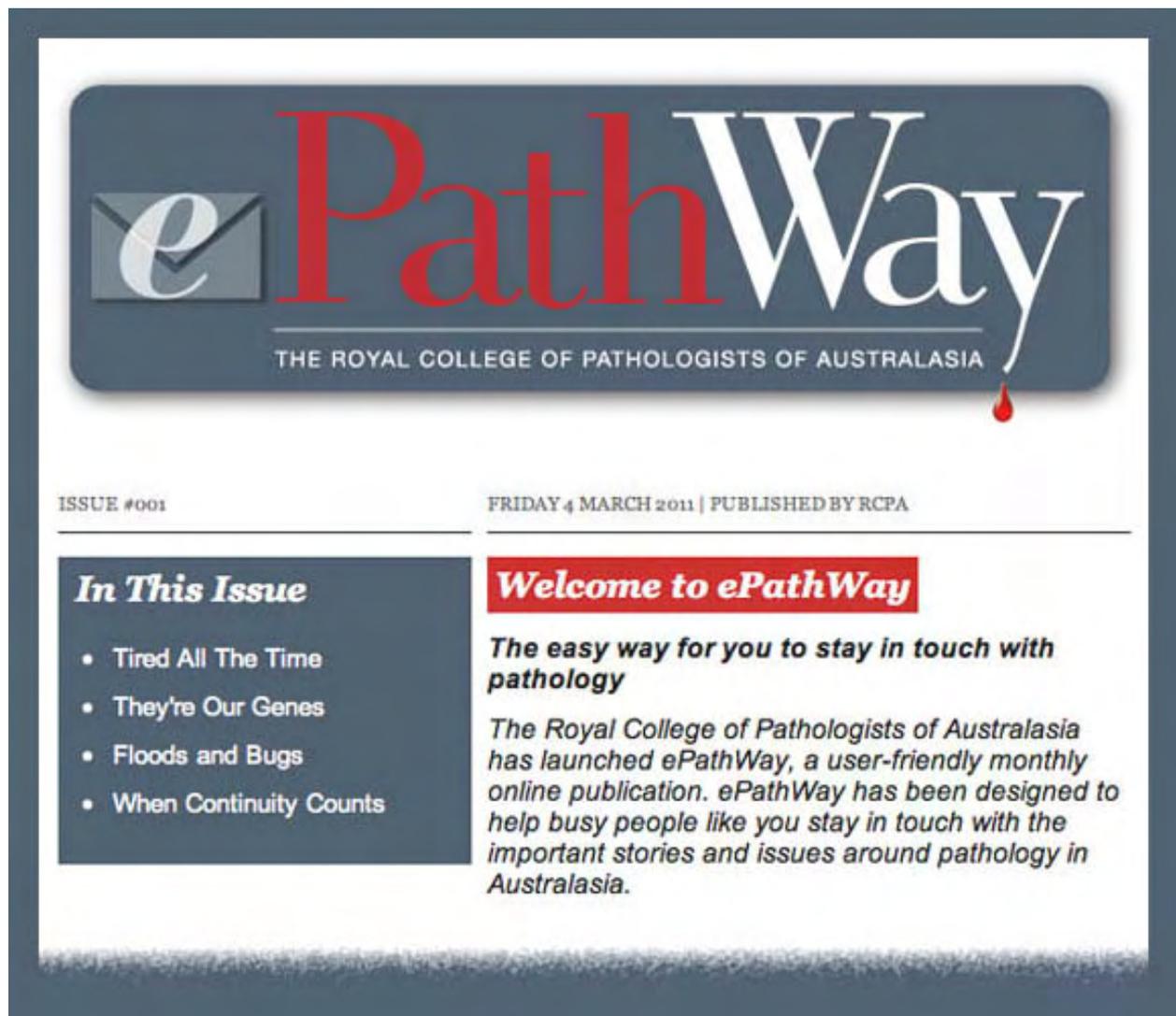


ePathWay

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Previous Editions



ISSUE #001

FRIDAY 4 MARCH 2011 | PUBLISHED BY RCPA

In This Issue

- Tired All The Time
- They're Our Genes
- Floods and Bugs
- When Continuity Counts

Welcome to ePathWay

The easy way for you to stay in touch with pathology

The Royal College of Pathologists of Australasia has launched ePathWay, a user-friendly monthly online publication. ePathWay has been designed to help busy people like you stay in touch with the important stories and issues around pathology in Australasia.

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Issue #002

Monitoring diabetic health: it's more than a daily fingerprick



Diabetes has a huge effect on Australians in terms of human and financial costs. About 100,000 Australian adults develop diabetes each year and, for every person diagnosed, it is estimated that as many again remain undiagnosed.

Monitoring diabetes is also a complex process and involves more than checking blood glucose levels are under control. There are a number of complications that can develop, and early detection is important in terms of the person's health, and the cost to the health system.

Dr Lee Price, Chemical Pathologist and Endocrinologist at Sullivan Nicolaides Pathology in Brisbane, has this advice for diabetics.

"Diabetics should have a HbA1c blood test every three months to get an idea of blood glucose control over that time," advises Dr Price. "Many endocrinologists would also like to see the traditional fasting glucose test and glucose tolerance test replaced with the HbA1c test for diagnosis as well. This would simplify and improve the pickup of diabetes."

Dr Price says diabetics should also have their kidney function checked every year through simple blood and urine tests to monitor for signs of early kidney damage.

"Screening for kidney damage is important because diabetes is a leading cause of kidney failure," advises Dr Price.

People with diabetes are also up to four times more likely to develop some form of cardiovascular (heart) disease, which means all diabetics should have their blood cholesterol levels checked once a year.

"If diabetics are already being treated for high cholesterol then they need to have this level checked a few times a year," says Dr Price. "This is because diabetes is principally a disease of blood vessels."

Blood vessel damage and neuropathy (or peripheral nerve disease) can lead to leg ulcers, serious foot problems and, in severe cases, limb amputation. In fact, amputation is 15 times more common in people who have diabetes.

Dr Price also advises checking Vitamin D levels yearly because there is a correlation between low Vitamin D levels and impaired glucose tolerance. He says low levels of Vitamin D are also a factor in Gestational diabetes (diabetes that develops in pregnant women).

"Type I diabetics should also be screened for other autoimmune diseases such as coeliac and thyroid disease," says Dr Price. "This is because diabetes is an autoimmune disease and these conditions often occur together."

Dr Price says pathology tests can also help to determine if a person has type I or II diabetes by testing for specific antibodies that destroy pancreatic producing cells. This screening test is also useful for siblings of a child who has been diagnosed with diabetes.

"This antibody test can determine if the siblings are at risk of becoming a diabetic, or are in a pre-diabetic phase," says Dr Price.

The annual cost of diabetes and its complications to the health system is measured in the billions. Type II diabetes alone is conservatively estimated at \$3.1 billion per year. There is also a huge human cost in terms of decreased quality of life and lower life expectancy. When you add the rising incidence of diabetes, especially in the over 25 years age bracket, to this picture, then the early detection of complications through regular pathology screening tests becomes an essential part of its management.

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sexually transmitted disease. No wonder the Human Papillomavirus (HPV) vaccine has stirred some mild controversy and, in some cases, reactions based on fear. However, while the facts aren't as exciting as the headlines, they are worth finding out.

HPV is the name given to a group of viruses that can cause skin warts, genital warts and some cancers including cervical cancer. The viruses that cause genital warts or cervical cancer are spread by direct skin-to-skin contact during all types of sexual activity with a person who has the virus.

"There are over 100 subtypes of HPV, and about fourteen are linked to cervical cancer," explains Dr Annabelle Farnsworth, Director of Cytology at Douglass Hanly Moir Pathology in Sydney. "However, the HPV vaccine targets the two types most likely to lead to cancer."

The HPV vaccine was developed by RCPA Fellow Professor Ian Frazer, who personally administered the first publicly available injection of the vaccine in Australia in August 2006. The vaccine has now been approved for use in 80 countries. The Australian Government started funding a school-based HPV vaccination program from 2007 for 12-13 year old girls.

"The vaccine is worth having in young girls at about age 13 who are not yet sexually active before they can be exposed to HPV, because it is less effective in reducing cervical cancer when they are older," explains Dr Farnsworth "The younger they have the vaccine, the better it is as their immune system is stronger and they have a better immune response."

Dr Farnsworth says HPV is very common with around 80 percent of people infected with it at some point in their lifetime. Infections caused by HPV don't display any symptoms most of the time, so people often don't know they have the virus. Most of the infections are dealt with by the body's immune system in about 12 months, but in a small percentage of women the virus persists and is not cleared away by the body. These are the group with a higher risk of HPV turning into cervical cancer.

"The HPV virus can sit in the system for more than ten years before it finally integrates into the cell mechanism which can lead to cancer," says Dr Farnsworth. "However, the virus doesn't go straight to cancer because there is a pre-cancer stage which can be detected during routine screening."

Dr Farnsworth says it is important for women to maintain normal cervical cancer screening tests, such as regular pap smears, even if they have been vaccinated, because the vaccine does not prevent all cervical cancers. Additionally, most pap test abnormalities are caused by chronic infection with HPV.

"The HPV vaccination program is a long-term strategy, and in this group of young girls the rates of cervical cancer will fall," says Dr Farnsworth. "But it might take 20 years to see this effect."

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Pathology funding agreement promotes sustainable future workforce



The Federal Government has announced a new agreement with the pathology sector that will hopefully bring some stability back to the profession. Pathology services have been under severe pressure in recent years as funding cuts and changes to government regulations began impacting on the services that could be provided.

The College is extremely pleased that the Government accepted the College's advice for the need to develop a National Pathology Framework that will enable the profession and Government to better plan the provision of pathology services to Australians. The Framework will take a broader view of pathology services including safety, quality control and the workforce in the pathology sector, as well as informing future policy development in this essential area of medicine.

Workforce is an extremely important issue for pathology, with one in four members of the profession aged 60 or over. As pathology expertise encompasses most medical specialties, the urgency of sustaining the pathology workforce is even more apparent.

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"Our building was jolted very violently but we only suffered minimal structural damage. Inside the building, ceiling tiles and light fittings came down, instruments and fume cabinets fell over, and reagent bottles jumped off the shelves and smashed creating a noxious and hazardous environment in some areas," said Professor Peter George, Clinical Director of Canterbury Health Laboratories. "The two local community laboratories, Medlab South and Southern Community Laboratories, were less fortunate. Although the staff escaped unharmed, their buildings were condemned."

Despite the devastation, pathology staff at Canterbury Health Laboratories were back in the lab and working in the core areas of haematology, biochemistry and registration within five minutes of the earthquake, even as significant aftershocks continued.

"It was very fortunate that we had staff willing to re-enter the building as it was very apparent very quickly that lab services were going to be required urgently," explained Professor George. "The first sample arrived from the hospital's emergency department (ED) 39 minutes after the quake hit. It was registered, analysed and reports sent to the ED 12 minutes later."

Professor George said a major clean-up effort happened the following day with staff wearing respirators to clean up chemical spills. Broken glass was removed, instruments were put back and, in most cases, continued to function as if nothing had happened.

"It is fair to say we were up and running close to 100 percent in most areas after 24 hours, and all testing services at Canterbury Health Laboratories were fully operational within one week of the earthquake including our local, regional and national services," explained Professor George. "Our services resumed in cramped conditions whilst areas were closed off for repairs, and we also took in an influx of employees from Medlab South as we worked together on provision of community testing."

Professor George said that maintaining an essentially uninterrupted essential service, cleaning up so quickly and thoroughly and taking on extra work was testimony to the extraordinary resilience and fortitude of the pathology staff. "They have done a brilliant job and continue to do so," he said.

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Pathologists key players in refugee health screening



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"Screening for refugees starts overseas in the laboratories of other countries with a test for HIV for those people over 15 years of age," explains Dr Mitchell Smith, Director of NSW Refugee Health Service. "This test will be also done in people under 15 years if there is an indication for it."

Dr Smith presented a lecture on infectious diseases in refugees at the RCPA's recent Pathology Update conference, where he highlighted many of the diagnostic challenges in assessing refugees.

"There are many factors to consider when assessing refugee health issues, such as their country of origin, experiences of human rights abuses, duration of exile, imprisonment, war or civil unrest and poor health care," he explained. "Once they reach Australia their health checks are tailored to the individual and their circumstances."

Dr Smith said refugee clinics and GP's normally request a range of tests if people are coming from countries that have a high incidence of infectious diseases such as sub-Saharan Africa or South East Asia. These tests might include gut parasites, malaria, TB and hepatitis B. Checks for non-infectious diseases may include vitamin D, iron deficiency and anaemia, as well as for undetected chronic conditions such as diabetes.

"Pathology tests for refugee health screening are an important part of checking the baseline health status of an individual and allowing them to be properly treated," explains Dr Smith. "These tests are mostly for personal care reasons, as the risk of spreading any of the diseases to the Australian community is very low."

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Jones says other issues include:

1. Receiving consecutive results that are printed in the same order and format can minimise medical errors
2. Established professional relationships between doctors and pathologists leads to better collaborative patient care.
3. There are many different types of medical practice software, and doctors spend time aligning their system to certain pathology providers to ensure results are easily received and available for interpretation.
4. Laboratories may use different methods and reference ranges for the same tests.

The bottom line, according to Jones, is that ordering and interpreting pathology results is more complicated than 'which laboratory will I go to today?' It should be an informed medical decision as it has consequences for patient care.

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