



PathWay

THE ROYAL COLLEGE OF PATHOLOGISTS OF AUSTRALASIA



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Issue #028

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- Pathology is the gold standard for cancer diagnosis and the foundation for personalised therapy
- Vaccine is in progress for group A streptococcus infections
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Introduction

There's change in the air and it's not just seasonal. The Royal College of Pathologists of Australasia (RCPA) have a growing presence in cyber-space thanks to their new Facebook and Twitter social media platforms. An article this month explains how this vision happened and why.

Changes are also happening with cancer diagnosis and reporting which is particularly notable since today is Daffodil Day. Pathologists from the RCPA helped initiate changes to the way cancer is reported and their project is now global. Our article outlines how this happened, and looks at other transformations in the cancer-pathology journey including a name change!

Two more articles look at the debate about Lyme disease, and why group A streptococcus infections inflict a huge toll on human health.

You can also join the 'online' pathology community by 'liking' and regularly visiting our Facebook page www.facebook.com/TheRoyalCollegeOfPathologistsOfAustralasia, and by following our CEO Dr Debra Graves (@DebraJGraves) or the College (@PathologyRCPA) on Twitter.

Interesting Facts

137

The number of 'likes' on the RCPA's Facebook page as at 20 August 2013

RCPA embraces social media to spread the pathology message

500 million

The estimated number of active users on Facebook

2004 and 2006

The years Facebook and Twitter were founded

Sources: RCPA Facebook page, twitter.com, facebook.com

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Social media platforms such as Facebook and Twitter have changed the way information is shared around the world. Once seen as the domain of Gen Y's, social media platforms are now entrenched into mainstream society. Their users are counted in millions and are hugely influential which is why organisations such as the Royal College of Pathologists of Australasia (RCPA) are building an online presence.

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Pathology is the gold standard for cancer diagnosis and the foundation for personalised therapy

Pathologists are so integral to cancer diagnoses they could almost be referred to as diagnostic oncologists. They determine the tumour type, provide prognostic information such as the stage of the cancer and are central to cancer patient management by providing information that guides treatment options and monitors progress.



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Vaccine is in progress for group A streptococcus infections

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Lyme disease can cause red spots and make people see red

Lyme disease is an infectious disease caused by the bacterium *Borrelia burgdorferi* and related species. It is transmitted to people when a tick infected with this bacterium bites them. The symptoms of Lyme disease are also quite broad such as fever, headaches, rash, tiredness and joint pains, which means a diagnosis based on clinical features alone is not conclusive.



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ePathWay

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Previous Editions



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- The 'hygiene hypothesis' is more than a 'dirty' story
- Diagnosing vasculitis can be a tricky business
- Mass or molar? It's time to end the impasse to increase patient safety
- Star factor puts HPV induced head and neck cancer on the spotlight

Introduction

Winter is well and truly here although spring is just weeks away. Before you make plans for spring-cleaning you might like to read the article on the hygiene hypothesis and how we've cleaned ourselves into a corner (hypothetically speaking).

We've also looked at vasculitis* and why it's such a tricky disease to diagnose, as well as the link between the human papilloma virus and head and neck cancer.

Our final article this month looks at why reporting concentrations of therapeutic drugs will become a safer proposition when the recommendations of an expert working party are adopted across

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RCPA embraces social media to spread the pathology message



Social media platforms such as Facebook and Twitter have changed the way information is shared around the world. Once seen as the domain of Gen Y's, social media platforms are now entrenched into mainstream society. Their users are counted in millions and are hugely influential which is why organisations such as the Royal College of Pathologists of Australasia (RCPA) are building an online presence.

Linsey Brown, Account Director at S2i Communications, says almost every business and organisation now has a minimum of a Facebook and Twitter account.

"Social media platforms are simply another means of communicating to your audience alongside traditional media. They provide effective, direct access to online communities who have an existing interest or involvement in your organisation. In the long-term this can be extremely beneficial," she says.

"Most people are now aware of the relevance of social media, however there are still many who wrongly dismiss its importance or assume that social media doesn't affect their specific type of

business or organisation. That's simply not the case anymore. Organisations must offer an online presence and people expect it. They want to engage which is a great thing."

Georgy Searles, Account Manager at S2i Communications, says a lot of people access information via smartphones.

"Just over 65 percent of Australians and New Zealanders have smartphones^[*] which is one of the highest concentrations in the world," she says. "The best way to reach this huge audience is through social media."

The RCPA's Facebook page was launched earlier this year and now has about 140 people active online.

"There are always people on the RCPA page, 'liking' our content and images and even asking questions about pathology. We've found it a great way to promote pathology events and initiatives such as Pathology Day, and it should prove useful in the run up to the RCPA's annual Pathology Update conference," explains Ms Brown.

The RCPA also set up a Twitter account in the lead up to Pathology Day (May 28). There are now about 70 followers of that account which has built up in a relatively short space of time.

Ms Searles says the RCPA's Twitter followers are a mix of pathologists, consumer groups, health journalists and the general public.

"Twitter captures a slightly different audience type to Facebook which is why having both social media platforms is important."

Both Ms Searles and Ms Brown say the RCPA is committed to growing their online presence to ensure information about pathology can reach the largest audience possible. Information posted on the official RCPA Facebook and Twitter accounts includes media articles about pathology or pathologists, RCPA events and any relevant news related to pathology and medicine.

"Facebook and Twitter are not just for Gen Y's. All generations are joining the online conversation and it's an effective and timely way to keep up with the latest pathology news," explains Ms Brown. "Social media sites are free to join. All you need is internet access from your smartphone or computer to get started."

To become part of the RCPA's online community, simply 'Like' the RCPA Facebook page and 'follow' the RCPA's Twitter feed (@PathologyRCPA).

Set up at a Twitter account at <https://twitter.com/>.

[*] [Still think you can ignore mobile? Think again](#)

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Pathology is the gold standard for cancer diagnosis and the foundation for personalised therapy



Pathologists are so integral to cancer diagnoses they could almost be referred to as diagnostic oncologists. They determine the tumour type, provide prognostic information such as the stage of the cancer and are central to cancer patient management by providing information that guides treatment options and monitors progress.

“Pathology is viewed as the gold standard for cancer diagnosis,” explains Professor Jane Dahlstrom, anatomical pathologist and chair of the Royal College of Pathologists of Australasia’s (RCPA) Cancer Services Advisory Committee (CanSAC), which is the College’s peak group related to cancer diagnosis and treatment.

“Pathologists make the initial tissue diagnosis of cancer and this is the start of a patient’s cancer journey. This diagnosis is often discussed at a Multidisciplinary Case Conference (MDCC)^[1] where a group of health professionals such as pathologists, surgeons, radiologists and oncologists discuss the treatment options based on the pathologist’s initial diagnosis and other clinical information.”

Cancer diagnosis and monitoring itself also has a multidisciplinary approach within the pathology profession. For example, Associate Professor David Ellis, anatomical pathologist and chair of the International Collaboration on Cancer Reporting (ICCR)^[2], says lymphoma diagnosis has evolved through new technologies and techniques and now involves most pathology disciplines including histopathology, haematology, cytogenetics, molecular pathology, biochemistry and immunology. He says cancer pathology reports are very detailed with some tumour types requiring dozens of items to be reported for each patient.

“When cancer was reported as a traditional narrative, up to a third of the relevant information might not have been contained in each report,” explains A/Prof Ellis.

He says the RCPA is involved in a worldwide project that is changing the way cancer is reported.

“To ensure reports are uniform in the way cancer is reported, and all relevant information is contained in every report, the RCPA and Cancer Australia initiated a checklist approach to make sure all of the information needed for every report is there in an organised and uniform way,” explains A/Prof Ellis.

This became known as the National Structured Pathology Reporting for Cancer (NSPRC)^[3] project. It commenced in 2008 with six reporting protocols (lung, melanoma, breast, colorectal, lymphoma and prostate) and a framework to guide development of the protocols in partnership with national clinician and pathologist organisations. Twenty cancer protocols are now published on the RCPA website and a further six are nearly complete.

The ICCR began as a collaboration between the NSPRC project in Australia and pathology organisations in the USA, UK and Canada. European pathology organisations are now also engaged making the project a truly international initiative representing a population of over one billion.

“We work as a team and use the best approaches from each country and the most expert doctors from around the world to write the protocols,” says A/Prof Ellis who is also chair of the NSPRC project. “This approach enables international comparison of a uniform set of cancer data to accurately gauge how each country is progressing in cancer diagnosis and treatment.”

Prof Dahlstrom says pathology is constantly evolving as a discipline with initiatives such as international structured reporting of cancer and the more personalised approach to cancer management representing two changes that highlight this evolution.

The International Liaison of Pathology Presidents (ILPP) this year released a joint statement on International Best Practice in Diagnosis and Management of Cancer^[4] on Pathology Day (May 28) in response to the increasing number of cancers now linked to defined genetic mutations which respond to targeted therapy^[5].

Pathology as a profession is so closely linked to cancer diagnosis that Sydney’s Royal Prince Alfred Hospital’s Department of Anatomical Pathology has been renamed the Department of Tissue Pathology and Diagnostic Oncology. This new name may represent yet another turn in the cancer-pathology journey.

[1] Multidisciplinary Case Conferences (MDCCs) is covered in [ePathWay issue #015](#)

[2] <http://www.rcpa.edu.au/Publications/StructuredReporting/ICCR.htm>

[3] <http://www.rcpa.edu.au/Publications/StructuredReporting.htm>

[4] [ILPP Best Practice in Diagnosis and Management of Cancer](#)

[5] [Targeted therapy is covered in ePathWay issue #013](#)

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Vaccine is in progress for group A streptococcus infections



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"Group A streptococcus is a major human pathogen responsible for considerable global morbidity (illness) and mortality (deaths)," explains Dr Deborah Williamson, clinical microbiologist at Auckland District Health Board and clinical researcher at the University of Auckland. "Work is in progress via a trans Tasman collaboration to develop a vaccine, and has become even more intensive over the past six to twelve months."

It is estimated that GAS causes more than 700 million infections world wide each year, including more than 650,000 severe, invasive infections. Dr Williamson says GAS is responsible for a number of

clinical manifestations including pharyngitis (strep throat), skin and soft tissue infections (such as impetigo and cellulitis), puerperal sepsis^[*], scarlet fever and streptococcal toxic shock syndrome (STSS).

STSS is due to toxins produced by the GAS bacterium that can cause a drop in blood pressure and multi-organ failure.

While most GAS infections cause relatively mild illnesses and are not particularly notable, the flesh-eating disease necrotising fasciitis makes headlines. In this condition, the GAS bacteria can destroy skin, fat and the tissue covering the muscles within a very short time. Although this disorder has a high mortality rate, it is quite rare.

“Infections with GAS can also have important immunological consequences such as post streptococcal glomerulonephritis (kidney disease) and acute rheumatic fever,” says Dr Williamson. “It’s important for people to know that some parts of Australia and New Zealand have the highest rates of rheumatic fever in the world.”

Infections with GAS happen by direct contact with mucus from the nose or throat of people who are infected, or through contact with infected wounds or sores. The main method of diagnosis is by culturing the organism from a clinical site. A rapid antigen test is also available to diagnose a ‘strep throat’.

The spread of all types of GAS infections can be reduced by good hand washing, especially after coughing and sneezing, before and after preparing foods and before eating. Treatment usually involves antibiotics, although a vaccine will be a welcome breakthrough in preventing infections from this major human pathogen.

[*] Puerperal sepsis is a bacterial infection contracted by women during childbirth or miscarriage.

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Lyme disease can cause red spots and make people see red



Lyme disease is an infectious disease caused by the bacterium *Borrelia burgdorferi* and related species. It is transmitted to people when a tick infected with this bacterium bites them. The symptoms of Lyme disease are also quite broad such as fever, headaches, rash, tiredness and joint pains, which means a diagnosis based on clinical features alone is not conclusive.

Only some species of ticks are capable of infecting people with the *Borrelia* bacterium, and these ticks have only been found in North America, Asia and Europe. None has been found in Australia, and that's the sticking point that makes some people see red.

"There are three schools of thought about whether Lyme disease exists in Australia," explains Dr Stephen Graves^[1], microbiologist and spokesman for Lyme disease for the Royal College of Pathologists of Australasia (RCPA). "There are those who say it absolutely exists here, and those who say it absolutely doesn't, and both sides are very passionate about their stance."

Dr Graves says there are also the fence sitters who say there is no firm evidence that proves it's here, but they also can't prove conclusively that it's not here. He says he is a part of this group.

"It's certainly a contentious issue," he says. "People who believe it is in Australia argue it's not being

diagnosed properly by Australian laboratories, so they send their pathology samples to overseas laboratories. They then receive the result they wanted which is a positive result for Lyme disease. But the laboratories they are sending their samples to are not regulated or accountable to the same standards as National Association of Testing Authorities (NATA)/RCPA accredited laboratories^[2] in Australia.”

NATA/RCPA accredited laboratories are peer-monitored to enhance accuracy of results, and it's not a case of these laboratories not being able to diagnose Lyme disease. NATA/RCPA accredited laboratories in Australia have diagnosed Lyme disease in people bitten by infected ticks while they were overseas. It's just that there hasn't yet been a case of a person who hasn't left Australia being diagnosed with this disease by an accredited Australian laboratory. This suggests that Lyme disease is rare in Australia even if it does occur here.

Dr Graves says a laboratory diagnosis of Lyme disease can be by:

1. culturing the *Borrelia* bacterium from a biopsy of the rash that often accompanies the infection
2. testing for the DNA of the *Borrelia* bacterium through a specific molecular test
3. testing for antibodies to the *Borrelia* bacterium.

To make this issue even more contentious, Dr Graves says a positive antibody reaction doesn't prove conclusively that it's from Lyme disease because serological cross reactions can give false positive results.

So many people are interested in this debate that the Chief Medical Officer for the Australian Government, Professor Chris Baggoley, convened a clinical advisory committee in March this year to examine the evidence of Lyme disease in Australia. Dr Graves is on this committee and says it is widely representative of the full range of views on this disease.

“What would also be useful for this debate is another study to examine ticks using the latest techniques to see if any ticks endemic to Australia are infected with the *Borrelia* bacterium. The last study was done about 20 years ago,” Dr Graves said.

Dr Graves says he wonders how many negative results are needed before one can rule out endemic Lyme disease completely, but as a fence sitter he would also be delighted to find a new disease in Australia to study. The report from the clinical advisory committee will hopefully end the impasse and find a unified evidence-based way forward.

[1] Dr Graves is also the Director of Microbiology at Pathology North in Newcastle, and Medical Director of Rickettsial Reference Laboratory in Geelong

[2] Quality assurance and Australian laboratories is covered in [ePathWay issue #015](#)

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