



PathWay

THE ROYAL COLLEGE OF PATHOLOGISTS OF AUSTRALASIA



JULY 2015 | Published by RCPA

Issue #049

In This Issue

- Ethnic diversity is vital to finding the perfect stem cell match
- Molecular test could be a game changer for antibiotic overuse
- Non-invasive prenatal testing delivers complex issues
- Second opinion item number will improve access to experts

Welcome to the July edition of ePathWay



RCPA Fellow Dr Melissa Baker (pictured above) continues to battle Hodgkin's lymphoma and needs to find a bone marrow donor match. Our lead story highlights the importance of ethnic diversity on the Australian Bone Marrow Donor Registry (ABMDR), and how just one person who shares Dr Baker's ethnic background (a bit of Italian mixed with some English heritage) could help save her life by signing up to the registry.

Other stories highlight the complex issues associated with non-invasive prenatal testing (NIPT), long overdue reimbursement and recognition for pathologists providing second opinions, and a test that could help stem antibiotic overuse by quickly flagging whether an infection is viral or bacterial.

Make sure you keeping checking in to our [Facebook](#) page. You can follow our CEO Dr Debra Graves ([@DebraJGraves](#)) or the College ([@PathologyRCPA](#)) on Twitter to keep up to date with pathology news.

Interesting Facts

1 person
every 46
minutes

The rate at which Australians are diagnosed with blood cancer.

30%

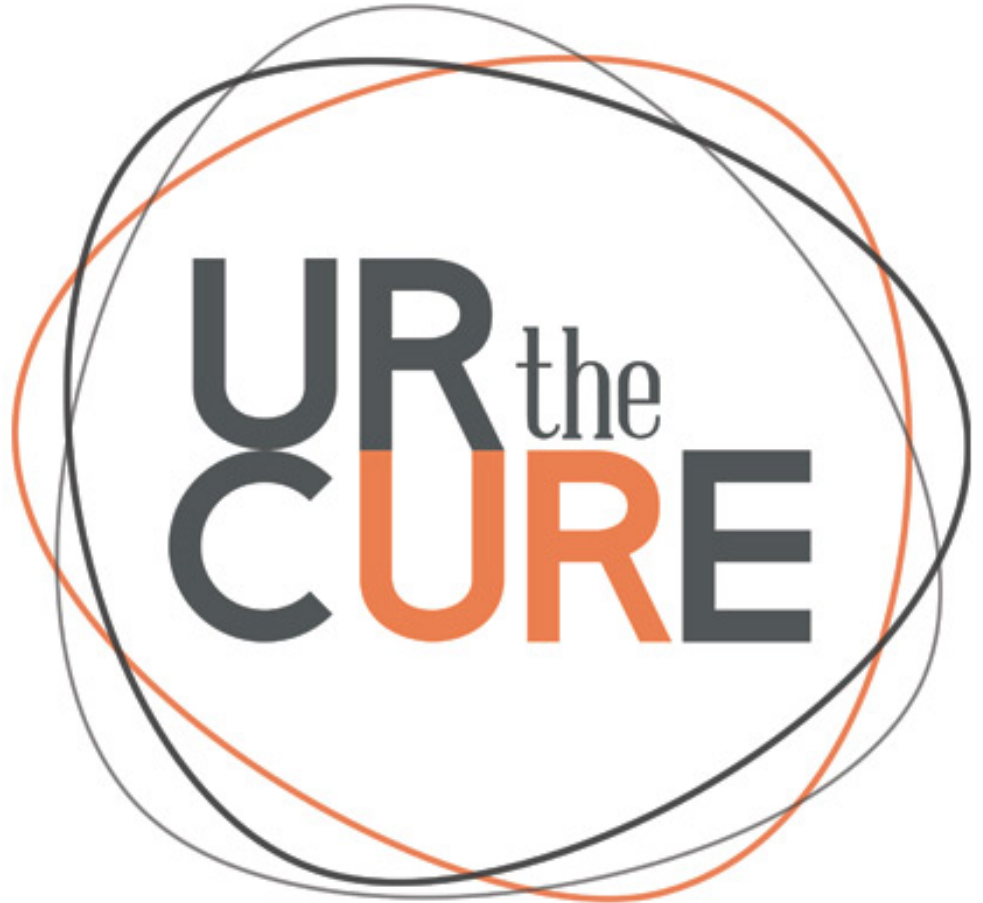
The percentage of patients searching for a life-saving match on the Australian Bone Marrow Donor Registry (ABMDR) who will find it within their family.

80.8%

The percentage of people on the ABMDR who are of North Caucasian background. The other 19.2% is split up into tiny percentages of different ethnicities, many of which have less than 1% representation on the registry.

Sources: UR The Cure

Ethnic diversity is vital to finding the perfect stem cell match



Donating your stem cells isn't so scary as facing the prospect of dying because you can't find a perfect stem cell match. Ms Pamela Bousejean, founder of [UR the CURE](#), has tasted this fear. She was diagnosed with Hodgkin's lymphoma and couldn't find her perfect match because of her Lebanese background.

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Molecular test could be a game changer for antibiotic overuse

The cough and cold season is in full swing, but is that sore throat or cough caused by a viral or bacterial infection? To err on the side of caution, antibiotics may be started before the culture result comes back from



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the pathology lab a few days later. Another approach - a molecular test for respiratory diseases - could be a game changer in terms of faster diagnosis and better use of antibiotics.



Dr Mary Jo Waters

Links

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Non-invasive prenatal testing delivers complex issues

Pregnancy is an emotional time, and screening tests for potential birth defects easily turn the emotional dial up a few notches. A sophisticated new test called non-invasive prenatal testing (NIPT) is gaining traction as a more reliable way to identify foetuses with certain genetic defects. It also comes with complex issues that must be considered when requesting the test and interpreting the result.



Dr Melody Caramins

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Identifying poisons needs real-life super sleuthing skills

Have you ever heard some news and thought 'you mean that doesn't happen already?' Here's one more instance. Australian pathologists asked to provide a second opinion, generally for difficult cases, are usually not paid for their time or expertise because there hasn't been an item number for this task. That will change from November this year, but it's been a long time coming.





A/Prof Adrienne Morey

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The thumbnail image shows the cover of the June 2015 issue of ePathWay. It features the same logo as above. Below the logo, the text 'JUNE 2015 | PUBLISHED BY RCPA' is on the left and 'ISSUE #048' is on the right. The main content area is divided into two columns. The left column is titled 'IN THIS ISSUE' and contains a list of four bullet points. The right column is titled 'Welcome to the June edition of ePathWay' and contains three paragraphs of text.

JUNE 2015 | PUBLISHED BY RCPA **ISSUE #048**

IN THIS ISSUE

- Colonoscopy could be yesterday's hero
- Unrequested gonorrhoea tests a case of 'all for one and one for all'
- Before you sign, investigate! Is that online test valid?
- Identifying poisons needs

Welcome to the June edition of ePathWay

The way Inflammatory Bowel Disease is diagnosed and monitored could be in line for a rethink thanks to a simple pathology test. Dr Emily Wright gives us her perspective as a gastroenterologist about how and why this test is used.

Test results for chlamydia and gonorrhoea are causing some confusion. We asked one of our experts to explain why they are often reported together, even if only one is requested.

We also reveal how the super sleuthing skills of toxicologists and forensic pathologists can (usually) identify a lethal substance, and provide some tips to help you look past the marketing hype if you are

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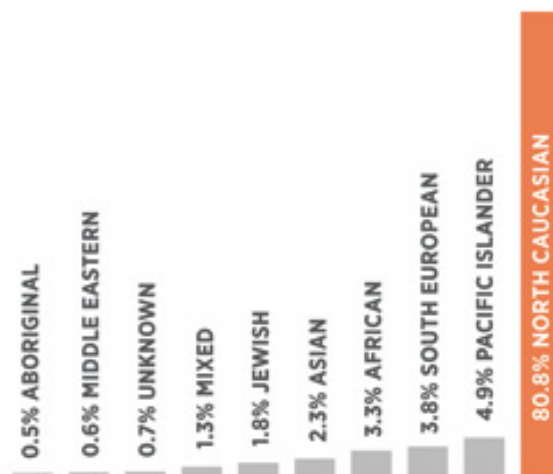
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Ethnic diversity is vital to finding the perfect stem cell match



Percentage of ethnic backgrounds represented on the Australian Bone Marrow Donor Registry

Donating your stem cells isn't so scary as facing the prospect of dying because you can't find a perfect stem cell match. Ms Pamela Bousejean, founder of [UR the CURE](#), has tasted this fear. She was diagnosed with Hodgkin's lymphoma and couldn't find her perfect match because of her Lebanese background.

"Ethnicity is a very important factor when it comes to life-saving stem cell transplants," explains Ms Bousejean. "This is because a person is much more likely to find their stem cell match with someone who shares a similar ethnic background."

Around 80% of donors on the Australian Bone Marrow Donor Registry (ABMDR) are from North Caucasian backgrounds, and the remainder are split across tiny percentages of various ethnic backgrounds. Add to this mix that 70% of patients searching for a match won't find one from within their family, and you can see the dilemma.

When Ms Bousejean couldn't find a match, her brother launched a campaign for people of similar ethnicity to hers to join the ABMDR. This led to a lifesaving cord blood transplant, and she is now

cancer free. But many others, including pathologist Dr Melissa Baker, are still waiting for their perfect match.

“I am having an ongoing battle with Hodgkin's lymphoma, and after lots of different treatments over the past two years, I still have the cancer,” explains Dr Baker.

“I am going onto a new drug trial soon, and if that works I will need to think about consolidating the response with a donor stem cell transplant which would be my last chance at a cure. There is one small problem with this plan, and that is I don't have a match on the worldwide donor registry.”

Dr Baker describes her ethnicity as a bit of Italian mixed with some English heritage. She needs people of similar ethnicity to sign up to the registry ASAP.

Ms Bousejean says doctors can search worldwide donor registries for their patient's match, but people need to request to voluntarily join donor registries in the first place.

“Only one in 1500 Australians on the ABMDR are a match in any given year. If you happen to be a match, donating stems cells is very easy these days,” says Ms Bousejean. “It's similar to a blood donation, and you can read a book or watch TV during the procedure and then return to normal activities afterwards.”

How can you help Dr Baker and many others find their perfect stem cell match?

The idea of a bone marrow/stem cell transplant is to give the patient a new immune system to help kill their blood cancer. To give everyone a chance to cure their cancer, UR the CURE's mission is to increase awareness, education and diversity of ethnicities on the ABMDR.

You can show your support by joining the [ABMDR](#) through the following steps:

1. Call the Australian Red Cross blood service on 13 14 95 to book your appointment. You must be aged between 18-45 and you need to specifically request to join the ABMDR.
2. Go to your nearest Australian Red Cross blood service centre where they will collect a small sample of blood.

Other ways to help include:

- Expectant mothers donating the stem cells from their baby's umbilical cord blood if this option is offered by their chosen hospital.
- Liking UR the CURE's [Facebook](#) page and visiting their [website](#) to learn more about this cause.
- Sharing their Facebook page, especially when stories of patients searching for their match are posted.

We featured Dr Melissa Baker's battle with Hodgkin's lymphoma in the [April 2014 edition](#) of ePathWay.

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Molecular test could be a game changer for antibiotic overuse



The cough and cold season is in full swing, but is that sore throat or cough caused by a viral or bacterial infection? To err on the side of caution, antibiotics may be started before the culture result comes back from the pathology lab a few days later. Another approach - a molecular test for respiratory diseases - could be a game changer in terms of faster diagnosis and better use of antibiotics.

Dr Mary Jo Waters, Director of Microbiology at St Vincent's Pathology in Melbourne, says a Respiratory Pathogen Polymerase Chain Reaction (PCR) test takes just 24 hours or less (depending on the laboratory) to determine whether a respiratory infection is viral or bacterial. Apart from the rapid turn around time, she says this test potentially saves unnecessary antibiotic prescriptions.

"If the patient's doctor says 'I'll take a swab and send it to the laboratory but I suspect it's a viral infection', then this test promptly reinforces the doctor's clinical acumen. Many patients want a script or a test when they have respiratory symptoms, and this may be a way to hold off on antibiotics until a diagnosis is confirmed," explains Dr Waters.

A Respiratory Pathogen PCR test can simultaneously and accurately detect 15 or more respiratory

agents such as:

- Influenza A & B
- Respiratory syncytial virus (RSV)
- Parainfluenza 1,2,3
- Human Metapneumovirus
- Human Adenovirus
- Human Rhinovirus
- *Bordetella pertussis* (whooping cough)
- *Bordetella parapertussis*
- *Legionella pneumophila*
- *Chlamydia psittaci/ pneumoniae*
- *Mycoplasma pneumoniae*.

The test is performed from a nose or throat swab, or from a sputum specimen. A follow-up culture may still be needed in some cases to test for antibiotic sensitivity if it's a bacterial infection.

“The beauty of this test for GP practice is that it helps determine in a timely way if a respiratory infection is viral or bacterial. This factor alone will help curb unnecessary antibiotic use,” says Dr Waters.

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Non-invasive prenatal testing delivers complex issues



Pregnancy is an emotional time, and screening tests for potential birth defects easily turn the emotional dial up a few notches. A sophisticated new test called non-invasive prenatal testing (NIPT) is gaining traction as a more reliable way to identify foetuses with certain genetic defects. It also comes with complex issues that must be considered when requesting the test and interpreting the result.

“NIPT is still a relatively new investigation and its scope is still developing in terms of the range of genetic abnormalities it detects and the populations it is used in such as average risk and high risk women,” explains Dr Melody Caramins, Chair of the Genetics Advisory Committee at the RCPA.

NIPT is a genetic test that examines the unborn baby’s DNA circulating in the mother’s bloodstream. It can be performed from 10 weeks’ gestation. NIPT screens for conditions that produce an abnormal number of chromosomes in a cell (called aneuploidy) such as trisomy 21 (Down syndrome), trisomy 18 (Edward syndrome), trisomy 13 (Patau syndrome) and monosomy X (Turner syndrome).

Dr Caramins says while NIPT is a sophisticated test, it’s not 100% accurate.

“It is substantially better than conventional first trimester screening tests, but it is very important that

NIPT is used as an advanced screening investigation and not as a diagnostic test,” she says.

“NIPT results shouldn't falsely reassure or falsely alarm people. A positive result may still require a follow up invasive test such as an amniocentesis to formally diagnose a genetic condition, while a negative test doesn't absolutely rule out that the baby doesn't have a genetic abnormality.”

Dr Caramins is also concerned that the routine use of NIPT as a screening test could lead allied health professionals to place less importance on informing women about choices they may be faced with if they have the test, risking patient autonomy and informed choice.

“The RCPA welcomes the increasing awareness about how NIPT can be widely used in the management of pregnancies. However, it must be balanced with careful consideration about who is requesting the test in terms of their qualifications due to the significant clinical decision-making which may follow the test result. The results should also be interpreted alongside other clinical and laboratory data related to each woman's pregnancy,” explains Dr Caramins.

Proceeding carefully, thoughtfully and cautiously is recommended for any genetic test, especially during emotionally charged times such as a pregnancy. When emotions are running high, it's important to remember that while NIPT can deliver the most accurate result possible from a non-invasive screening test, it's not 100% accurate all of the time.

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Second opinion item number will improve access to experts



Have you ever heard some news and thought ‘you mean that doesn’t happen already?’ Here’s one more instance. Australian pathologists asked to provide a second opinion, generally for difficult cases, are usually not paid for their time or expertise because there hasn’t been an item number for this task. That will change from November this year, but it’s been a long time coming.

Dr Adrienne Morey, Director of Anatomical Pathology at St Vincent’s Hospital Sydney, and Chair of the Anatomical Pathology Advisory Committee at the RCPA, says the process started about 10 years ago.

“The RCPA applied to Medical Services Advisory Committee (MSAC) for an item number for second opinions for two main reasons. Firstly because of the inequity of access to second opinions based on geographical location and the patient’s ability to pay for them, and because the pressure of unfunded second opinions places an unfair burden on pathologists, especially those with highly specialised skill sets,” explains Dr Morey.

There are limits to this new regime. Dr Morey says only a clinician who isn’t a pathologist can request the second opinion, and the original pathologist must agree to it as well.

It won't be open season on every test either. Second opinions can only be requested for cases where a tissue or fluid is examined, meaning histology specimens, non-gynaecological cytology and bone marrow examinations.

"The net result of this change will be greater equity of access to second opinions for everyone, and pathologists will be recognised and reimbursed for their efforts and expertise," says Dr Morey.

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