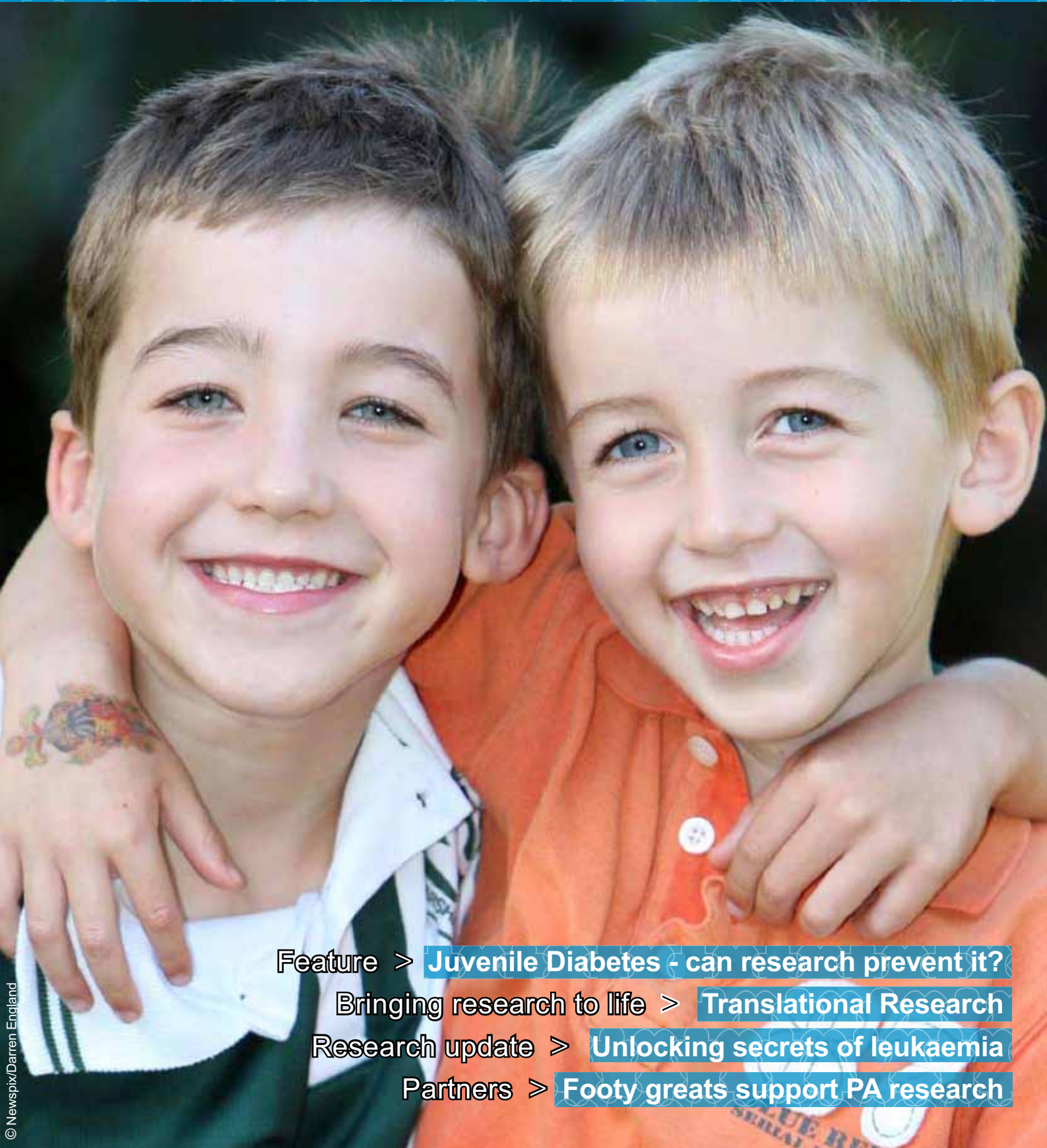


# Partners

Issue 1 - 2010



Feature > **Juvenile Diabetes - can research prevent it?**

Bringing research to life > **Translational Research**

Research update > **Unlocking secrets of leukaemia**

Partners > **Footy greats support PA research**

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## PA Juvenile diabetes - can research prevent it?

KAT Logan keeps a close eye on her youngest son, Toby, for signs of type I diabetes after his brother, Harry, was diagnosed with the condition.

When she fears four-year-old Toby may be showing signs of the auto-immune disease - which can run in families - Ms Logan tests his blood for abnormal sugar levels, just in case.

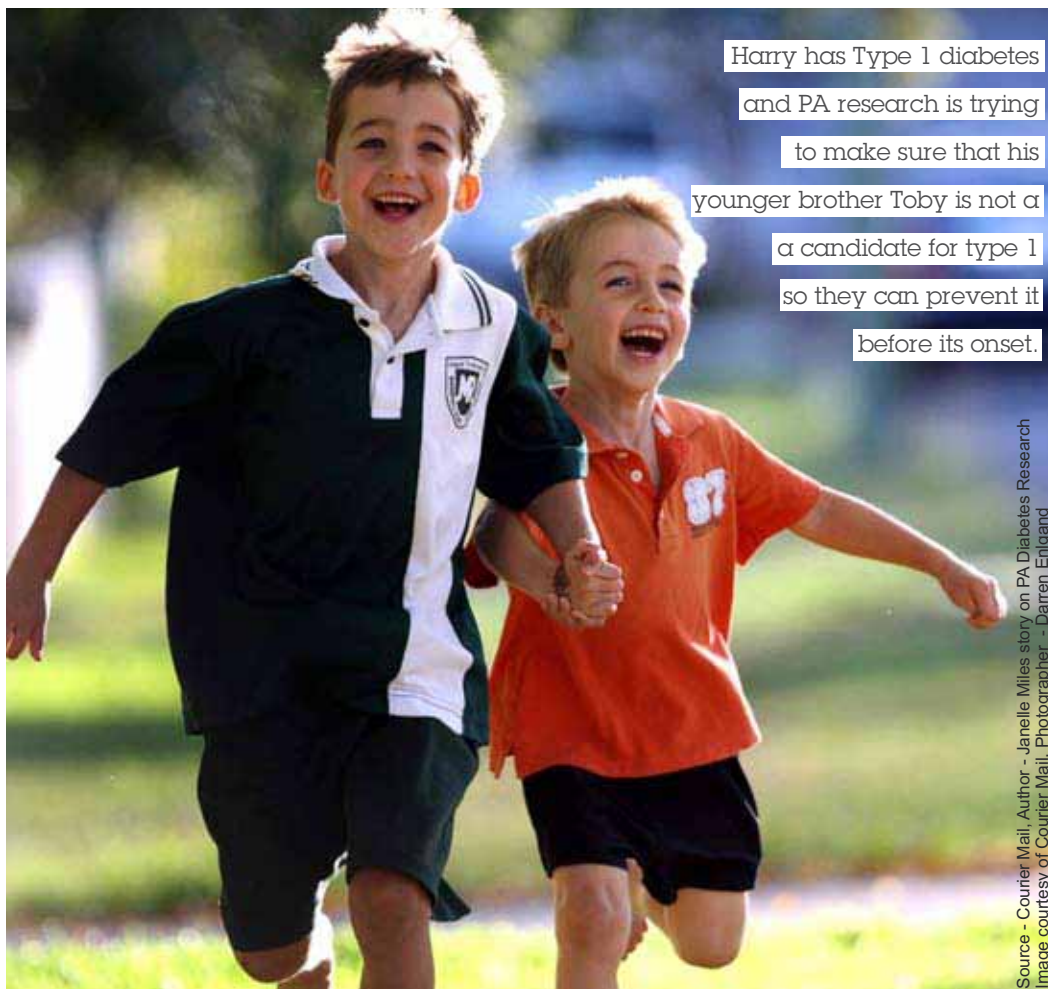
"On the odd occasion, we give Toby a pin-prick test," Ms Logan said.

PA Research Foundation funded scientists are trialing a new blood test — designed to be taken soon after birth — to determine if they can predict whether children such as Toby — who have relatives already diagnosed with type I diabetes — will also develop the disease.

The team headed up by Professor Ranjeny Thomas Deputy Director of the Diamantina Institute for Cancer, Immunology and Metabolic Medicine have identified a protein known as NF-Kappa B which is activated in the blood cells of type I diabetes sufferers.

Professor Thomas said the ultimate aim was to predict the children likely to get type I diabetes, and to develop a vaccine to protect those at risk as early as possible.

"Because RelB is a measure of inflammation, we're also working on a way to block the inflammation so that we could reduce



Harry has Type 1 diabetes  
and PA research is trying  
to make sure that his  
younger brother Toby is not a  
candidate for type 1  
so they can prevent it  
before its onset.

Source - Courier Mail, Author - Janelle Miles story on PA Diabetes Research  
Image courtesy of Courier Mail, Photographer - Darren England

that person's risk" Prof Thomas said.

Type 1 diabetes which affects more than 140,000 Australians occurs when insulin-producing beta cells in the pancreas are destroyed by the body's immune system. Sugar builds up in the blood and over time, can damage internal organs and blood vessels. Patients with type 1 diabetes must take insulin daily to survive.

Ms Logan said Harry, 6, was diagnosed with the condition four years ago after

becoming excessively thirsty, bed-wetting and acting aggressively at times, while lethargic at others.

"He was behaving strangely," she said. 'At the time, Toby was six months old and we were told that it could have been a reaction to Toby coming home.'

But, when doctors checked his blood-sugar levels, they were so "off the scale" he was put straight into intensive care. These days, Harry, who is in year 1, uses an insulin pump to control his diabetes. 🌈

## "PA bench to PA bedside" - translating the research journey

An easy way to describe the process of how research works is to use the phrase: "from bench to bedside", "from bedside to community".

In other words it is how basic scientific discoveries in a laboratory setting at the "bench" - are taken all the way to a patient's "bedside" then delivered to the "community" for better health outcomes. 🌈

from PA bench

Basic research discoveries happen when scientists study a disease at a molecule or cellular level - at the "bench".

This basic research usually begins with a novel idea which is explored in a laboratory setting long before it is tested on humans.

Just like Prof. Nigel McMillan and his team who are researching cancer gene silencing drugs in the laboratories on the PA Campus.



# PA & Research a collaborative approach





The PA Hospital, the PA Research Foundation and the research we support touch the lives of thousands of Australians each year

Our patients and their loved ones, our staff and volunteers, our researchers and the bright young minds studying here, the generous donors and supporters who help fund world-class research and innovation in patient care.

And the many people — here and around the world — who benefit from our research.



The PA Hospital and the PA Research Foundation work hand in hand to bring research to life—365 days a year.

As QLD's leading research hospital and the largest clinical research centre the PA Hospitals 600 researchers are working at the forefront of the major health challenges we face as a nation:

-  Heart disease
-  Prostate cancer
-  Diabetes
-  Skin cancer


The hospital also operates a state of the art emergency response service and is particularly recognised for its expertise in spinal injury management and as a major liver, kidney, bone cartilage and cornea transplantation centre.

## We're about health

-  Australians enjoy one of the world's longest life expectancies, averaging 81.4 years.
-  Death rates are falling for many of our



leading health conditions including heart disease, stroke and asthma.

-  But, cardiovascular disease, cancer and respiratory diseases still remain the leading causes of death.


## We're about people

At the PA, our focus is on patient care and comfort, and alleviating the distress of loved ones. With a reputation as a genuinely caring hospital, we have pioneered many initiatives in this area.



## We're about FUNdraising

Our researchers have come so far but they still need our support. We're about helping them find the preventions and cures that we so desperately need by raising funds to foster their research. A donation to the Foundation is about supporting an institution that is shaping the health of our community. It is an investment in a cause that will effectively use your funds to improve your future health and those you care for.

So, be a part of something special that is making such an amazing difference to peoples lives and medical history. 



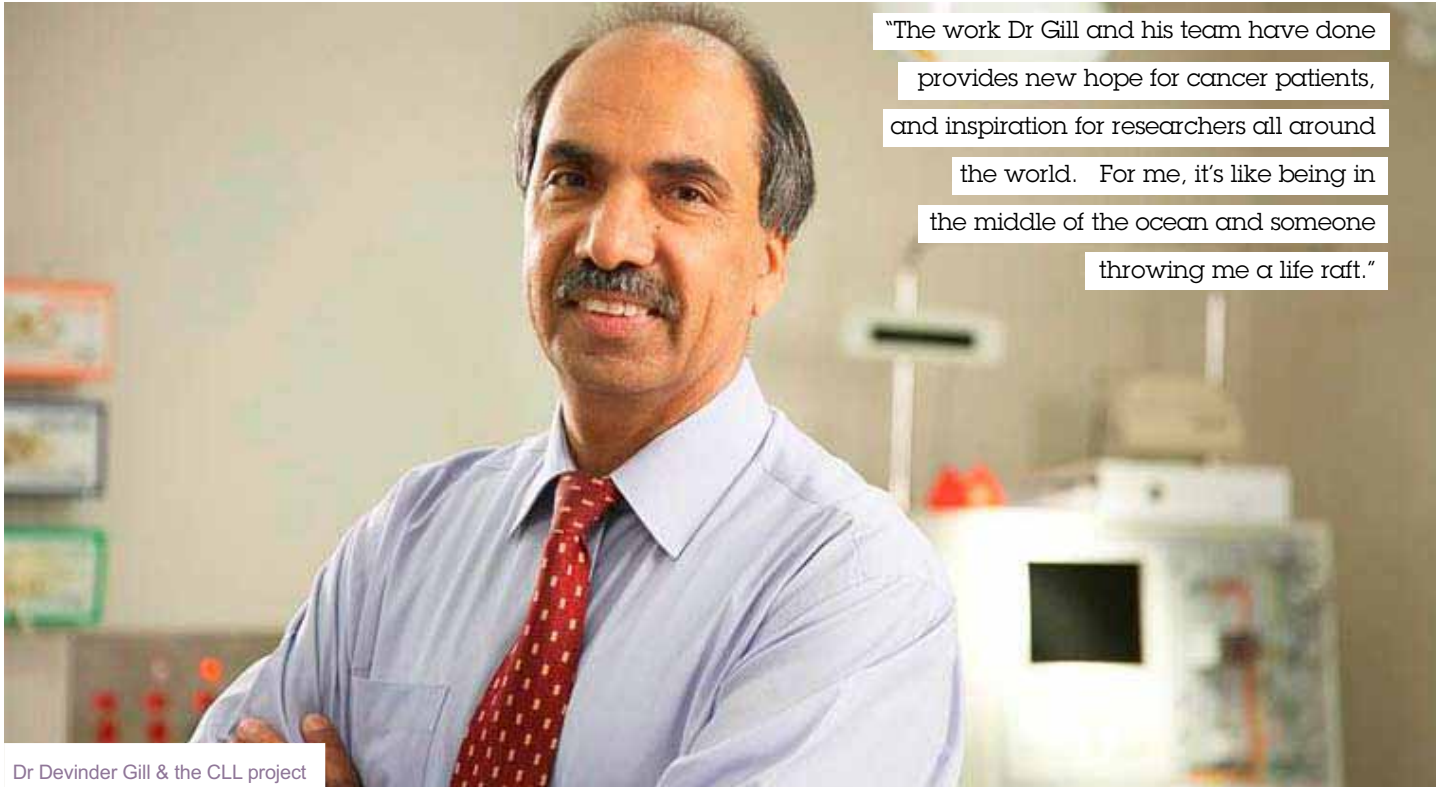
## to PA bedside

The next process is referred to as Translational research - taking the discoveries made in the laboratory setting at the "bench" and translating the results into real life human situations to develop effective therapies at the "bedside".

*Just like Prof David Johnson's research into kidney disease - conducted in a clinical setting at the PA hospital where his discoveries are translated into practical application with real patients at the "bedside".*



# PA unlocking the secrets of leukaemia



"The work Dr Gill and his team have done provides new hope for cancer patients, and inspiration for researchers all around the world. For me, it's like being in the middle of the ocean and someone throwing me a life raft."

Dr Devinder Gill & the CLL project

One of the many significant research initiatives to receive funding from the PA Research Foundation is an investigation into chronic lymphocytic leukaemia (CLL).

CLL is a cancer that attacks the blood and bone marrow, causing bleeding, bruising and anaemia, and reducing the body's ability to fight infection. It is the most common form of leukaemia.

Under the leadership of Associate Professor Devinder Gill and Associate Prof. Nigel McMillan, and after more than 10 years

of work, the CLL Project has made two significant breakthroughs. Preparations are now underway to commence clinical trials on new therapies.

For PA patient Laurie Rowe, who was diagnosed with CLL in 2000, the breakthrough is a lifesaver.

"The work Dr Gill and his team have done provides new hope for cancer patients, and inspiration for researchers all around the world. For me, it's like being in the middle of the ocean and someone throwing me a life raft."

The greatest challenge to medical research, according to Dr Gill, is funding. "It's the number one barrier to research," he says.

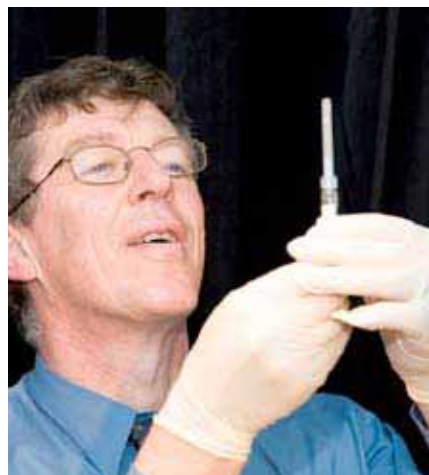


"The PA Research Foundation has been responsible for funding many fledgling research projects and these have led to many treatment breakthroughs. For projects like this, and patients like Laurie, that means a lot." 🌈

## to PA community

Once a clinical trial has been completed and its results are published the outcome of that translated research can be used by medical professionals all over the world to benefit mankind.

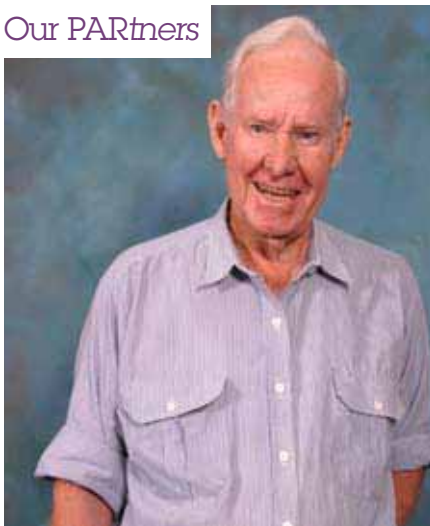
Just like Prof. Ian Frazer and his team who discovered the world's first cancer vaccine - at the PA, which took 15 years to develop from "bench to bedside to community" and is now available to the world to prevent cervical cancer.



One of the wonderful things happening at the PA with the introduction of the Translational Research Institute is our research base is growing to become the largest translational research precinct in Australia and will be one of just a few in the world.

It is estimated to grow to over 800 world class researchers which means our research is very rapidly approaching a point where we can reasonably expect to be delivering some effective treatments soon. 🌈

## Our PARTners



### Ray - PA Volunteer

Better known as the "wingless wonder" - Ray has handled some of the most difficult jobs minus one hand that many people would struggle to do with two.

AND after 50 years of working as a purchasing officer with one of QLD's largest engineering firms, Ray has given his time to help support others as a volunteer for the PA Research Foundation.

"I could not think of a more worthwhile cause to support - we live in the hope that one day

there will be a cure for all those nasties we have to face and endure and research gives us this hope for the future, for better health for my community, my three children and my 5 grandkids" says Ray.

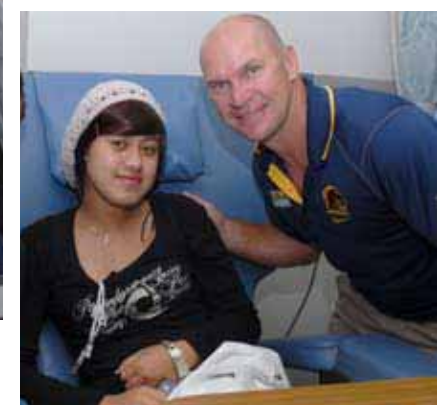
"The hospital has looked after me healthwise over the past decade and supporting the Foundation is my way of giving back for the outstanding care and treatment I have received. It also breaks up those boring days and allows me to meet people from near and afar."

Ray mans the Foundation booth in the foyer of the PA and is always bringing a smile to hospital staff, patients and researchers. 🌈

## PA science and sport - the new team tackling cancer



L-R Prof. Soyer, Gene Miles, Michael Hancock, Steve Walters, Allan Langer and Wally Lewis - and right with patients at PA.



Once they were happy just to beat New South Wales, but Former Origin Greats (FOGs), Gene Miles, Allan Langer, Wally Lewis and Michael Hancock now have another enemy in their sights – melanoma.

The FOGS, in conjunction with the Mardi Jackson Foundation, have teamed up with the good sports at the PA Research Foundation to throw a hefty \$70,000 at the cancer killing more Queenslanders than anywhere else in the country. The disease kills 1270 Australians a year.

The funds will go towards the purchase of a Vivascope - a non-invasive imaging tool allowing doctors to see microscopic changes in skin tissue so they can detect early onset of melanomas as well as know the size, location and shape of the cancer cells. It will lead to improved patient outcomes via early, accurate detection and will also be able

to detect microscopic changes in the skin tissue prior to clinical onset of melanoma symptoms.

"With so many projects needing our funding, combined with the tough economic climate of 2009, this donation can only be described as amazing. Everyone who has contributed in some way should know - they will have helped save lives" says Nicholas Allen, CEO PA Research Foundation.

"Melanoma like any other cancer is a tragic waste of life and we must all be vigilant because it is despicably fast how a melanoma can go from something that can be removed to a life threatening situation." FOGS Executive Chairman Gene Miles said.

"If a mole or a spot looks suspicious see your family doctor – they won't think it's over reaction- they will respect you for being cautious. The earlier a melanoma is diagnosed the better the outcome and if we can help raise the awareness along with assisting

medical research - then that's a good day in the paddock" says Gene.

The Vivascope imager will be used for research at the Dermatology Research Centre at the PAH, headed up by Prof. Peter Soyer.

The research conducted by Prof. Soyer is part of a three year project that will need ongoing funding in order to complete. With your help the Foundation will be working towards supporting this. 🌈

## Issue 1 Quiz!

- The translation of research can be referred to as?
  - Bench to bedside
  - Bedside to bench
  - Bench to bedside to community
  - Community to bench to bed
- What is CLL?
  - Centre for Leadership in Learning
  - common type of leukaemia
  - Chronic Limb Lesion
  - type of skin cancer
- What is a vivascope imager?
  - non-invasive imaging tool
  - tool to detect onset of melanomas
  - diagnostic tool for cancer
  - all of the above
- What is the average life expectancy in Australia?
  - 79.5 years
  - 82 years
  - 83.4 years
  - 81.4 years

## Intro: the people behind the research



**Name:** Prof. Devinder Gill

**Research Group:** Chronic Lymphocytic Leukaemia

**What made you decide to work in this field?** CLL used to be the “Cinderella” of blood cancers. It affects the middle age or the elderly people. It is commonest form of leukaemia in the developed world. It was largely ignored until a decade or so. Very little research was being done or funding difficult to obtain because CLL wasn’t considered “sexy”. CLL is still incurable and progress has been slow. It’s not an easy disease to do research on as the cells could not be grown outside the body in the laboratory.

**Tell us about your research.** We are working on blood cancer called Chronic Lymphocytic Leukaemia (CLL) and trying to understand why the leukaemic cells are “immortalised” and have long life in the human body yet die rapidly when removed from the host. Our inability to keep

these cells alive in the lab has been a major barrier to research in this leukaemia.

We had a breakthrough which means we can keep the CLL cells alive outside the body. So, for the first time it has been possible to study these cells in a lab. We have identified two so-called “growth factors” that help keep these leukaemic cells alive. The team is now looking for ways to block those growth factors to kill the CLL cells and develop innovative strategy to treat these patients.

**What is the goal and significance of your research?** To grow CLL cells outside the body in the laboratory - achieving these objectives would allow us to study the biology of CLL.

**How does funding from the PA Research Foundation help?** The Foundation provided us with the initial seed funding for the project which was very important because it kick started our research. The continuing support from the Foundation over the years has played a vital part in reaching our goals.

**What do you like to do when you’re not at work?** Spending time with the family is most important for me. 🌈

THIS ISSUE'S QUIZ ANSWERS: 1 - C, 2 - B, 3 - D, 4 - D



## Please support us

The high standard of health care we enjoy today was unimaginable a generation ago. And our future generations will benefit from new breakthroughs thanks to ongoing research today.

We ask that you please join us in supporting research at the PA. Our next breakthrough will be just around the corner—and it could be your family who benefits.

There are many ways you can help us bring research to life:

- 🌈 Make a direct donation
- 🌈 Make a monthly donation
- 🌈 Leave a Bequest in your will
- 🌈 Make a gift in memory of a loved one
- 🌈 Host a fundraising event
- 🌈 Build an everyday hero page when you take part in an event

To find out more call us on 07 3176 2359

## Donation Form – Yes, I would like to support health research!

If you wish to make a donation, please fill out and detach the below form and return it postage free to: PA Research Foundation Reply Paid 77401, Woolloongabba QLD 4102, or fax it to (07) 3176 7303. For enquiries, to donate by phone or to organise scheduled donations, please call (07) 3176 2359. For further information on the PA Research Foundation or to make an online donation, go to [pafoundation.org.au](http://pafoundation.org.au).

FIRST NAME	SURNAME	CONTACT NUMBER	EMAIL ADDRESS
STREET	SUBURB	STATE	POST CODE
<input type="checkbox"/> CHEQUE OR MONEY ORDER PAYABLE TO THE PA RESEARCH FOUNDATION		<input type="checkbox"/> VISA	<input type="checkbox"/> MASTERCARD
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<input type="checkbox"/> \$20	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100
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CARDHOLDER'S NAME		CARDHOLDER'S SIGNATURE	
I AM INTERESTED IN RESEARCH INTO		PLEASE SEND ME INFORMATION ON	
<input type="checkbox"/> HEART DISEASE	<input type="checkbox"/> DIABETES	<input type="checkbox"/> PROSTATE CANCER	<input type="checkbox"/> MELANOMA
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