Experimental treatment saves father of four

Gold Coast father of four, Brendan Parkes is excited about being able to see his children grow up, leave home, and lead their own lives.

Brendan thought he wouldn’t live to see the next month, let alone the future years of his kids.

He has been through a lot: first leukaemia, then graft-versus-host disease. Then, after years of treatment, a virus threatened to take Brendan’s life again.

“I was constantly sick. I had no quality of life,” said Brendan. “I don’t know how many times I’ve been on death’s door. It would have been eight, nine times.”

Brendan contracted human cytomegalovirus (HCMV), which usually does not affect healthy individuals, but can cause fever, pneumonia, aches, hepatitis, diarrhoea and anaemia in people with compromised immune systems.

He contracted HCMV when he was healthy. The virus lay dormant in Brendan’s body for years until he was diagnosed with leukaemia and required a bone marrow transplant.

The problem arose when Brendan’s new immune system had not seen the latent HCMV before, and could not fight it. The virus seized the chance to spread throughout Brendan’s body, making him extremely ill.

“The virus took over and I was getting sicker and sicker by the day,” said Brendan.

Professor Geoff Hill from QIMR treated Brendan with anti-viral medication, but the virus became resistant to every treatment they threw at it.

“Brendan was dying from the virus,” said Professor Hill. “The anti-viral drugs weren’t working and were only making him more sick. We had no treatments left.”

Professor Hill approached Associate Professor Rajiv Khanna, an immunologist colleague who is an expert in HCMV.

Continued on next page...
From the Director

I was very fortunate to be offered a position at QIMR as a young scientist and for the last 20 years, my focus has been in the field of vaccine development for malaria and rheumatic heart disease. It has always been my passion. In 2000, I accepted the position of Director of QIMR and it has been a pleasure and privilege to lead QIMR for the last ten years, as well as conducting my own research.

Just recently, I was presented with an opportunity to return to research full-time after being awarded an Australia Fellowship from the National Health and Medical Research Council.

In the next few months, I will hand over the reigns to a new Director, who will take QIMR into the new decade. One of the many highlights of my role as Director of QIMR has been to meet many of our loyal donors and supporters – many who are as committed to the advancement of medical research as I am. Some have become lifelong friends.

It has been an honour to work with the talented and dedicated staff and students at QIMR. I sincerely thank them for the support they have shown to me and I also thank our many loyal donors for their commitment to QIMR and for making my role so fulfilling. What we have achieved together has been extraordinary.

(continued from cover story)

Brendan agreed to use an experimental treatment. Researchers from Associate Professor Khanna’s team extracted Brendan’s immune cells (called T-cells), cultured them in the laboratory and taught them to fight the HCMV infection, and then reinjected them back into Brendan.

“The results were remarkable,” said Associate Professor Khanna. “We saw improvement after only a few months.”

Brendan has even been able to return to coaching his son’s baseball team – a role he dearly loves.

“I couldn’t be more thankful,” said Brendan. “I just hope that other people can be cured the way that I have.”

Clinical trials will begin soon to test the effectiveness of this treatment in other transplant patients.

New weapon against malaria

QIMR researchers have found an enzyme that may prove an effective target for future anti-malarial drugs.

“We have examined the structure of an enzyme that allows the parasite to obtain nutrients from the infected red cell,” said Associate Professor Gardiner from QIMR’s Malaria Biology Laboratory. “If we can make a drug that will stop this enzyme from working properly, we can essentially starve the parasites to death.”

Associate Professor Gardiner hopes this will lead to alternative therapies for malaria.

“The prevention and treatment of malaria is also becoming difficult due to the global spread of drug resistant parasites. Resistance has appeared to all the currently available antimalarial drugs and an effective vaccine is still many years away. If we do not maintain the edge against this parasite, with the introduction of new and effective drugs, the global death toll from this, man’s most lethal parasitic infection, will only continue to rise.”
Alcohol consumption during pregnancy

QIMR researchers have shown that consumption of moderate amounts of alcohol during pregnancy affects the activity of genes in the developing fetus and that these changes last into adulthood.

“We have long known that alcohol consumption during pregnancy can harm the developing fetus and have life-long effects on the individual’s health and wellbeing. What our current research helps to explain is the underlying mechanism,” said researcher Dr Suyinn Chong from QIMR’s Epigenetics Laboratory.

“This is a new and exciting area where instead of studying the sequence of the genes, we are looking at the mechanisms that control our genes – known as epigenetics. This is an extra layer of information attached to your DNA which switches genes on and off.”

Dr Chong is hopeful her team’s research will further our understanding of fetal alcohol spectrum disorders and in the future these epigenetic changes may be used to aid diagnosis of this condition, allowing for early intervention.

“Using mice as a model, we have shown for the first time that alcohol consumed during the first trimester affects the developing fetus by altering the epigenetic information.”

In the study, half the mice mothers drank relatively moderate amounts of alcohol (equivalent to a peak blood alcohol reading of 0.12 in humans) during pregnancy, while the other half consumed water. The resulting litters were then analysed.

Some alcohol-exposed offspring showed subtle skull malformations, similar to features seen in human fetal alcohol syndrome (FAS) – a condition that causes growth reduction, intellectual disabilities and changes to the shape and size of the skull as a result of high levels of alcohol consumption during pregnancy.

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Tall and short of disease

Your height might say more about you than you think.

By analysing existing research, QIMR scientists have found that being tall can mean a higher risk of some cancers.

Dr Brian McEvoy from the Genetic Epidemiology Laboratory was intrigued by the findings.

“Taller people have a higher chance of developing thyroid, breast, pancreatic and bowel cancers. For example, for every 10cm you are taller than average height, you have a 6% increased risk of developing prostate cancer,” said Dr McEvoy.

This research has unearthed genes that are associated with a towering stature and cancer development.

But it’s not all bad for the taller-than-average: being tall means higher pay.

“One Australian study found that for each 10 cm increase in height, hourly wages increased by 3%. That’s equivalent to a half a year of extra education,” said Dr McEvoy.

The vertically-challenged among us are not off the hook. GDF5 is a gene associated with shorter bones, and less cartilage, leading to osteoarthritis.

“Shorter people are at higher risk of type 2 diabetes, heart disease and osteoarthritis,” said Dr McEvoy.
Mental Health Division launched

QIMR’s new Mental Health Research Division was officially launched on the 11 February by Mr Murray Watt MP, Parliamentary Secretary for Health.

The new Division seeks to understand the causes of a range of mental illnesses, including schizophrenia, bipolar and depression, to improve detection and treatment.

“Mental illness is a leading – and growing – cause of disability, morbidity and mortality in today’s society. And research is severely underfunded. For example, in the field of dementia, $1 is spent on research for each $342 of the total costs of the illness,” said Professor Breakspear, head of the new Division.

Researchers will examine specific mental disorders throughout a patient’s lifespan and investigate the impact of early detection and intervention. The ultimate aim is improved patient outcomes.

One of the principle objectives of the Mental Health Research Division is to combine the existing strengths of QIMR’s work in genetics and population health with new techniques in the neurosciences. This will ensure a broad and integrative approach to mental health research.

Recent advances in the neurosciences including brain imaging and computational modelling will be used to study many forms of mental illness.

Professor Michael Breakspear will head the new division which will be housed in the new Smart State Medical Research Centre. The SSMRC is being built between the two existing buildings, and is scheduled to be completed in 2012.

Mental health puzzle

Unscramble the names of the illnesses below:

APIRZISEHNOC  IMATUS
RAILBOP  CHIPSSOSY
MEDINEAT  HEELIMARSZ ADEEISS

Professor Michael Breakspear

Professor Michael Breakspear is the Chair of the new Mental Health Research Division.

Michael enjoys surfing at the coast, swimming laps in his pool and spending time with his three-year-old twins.

“Playing with my twins is probably the most relaxing thing in my life,” said Professor Breakspear.

In February last year, he moved from Sydney to set up his team at the Institute.

“My main passion is pure research, which I enjoy tremendously. The area of my own expertise - a cross between brain imaging, computational neurosciences and clinical neurosciences - is growing rapidly and is an exciting field to be in.”

Michael says that it is the people who inspire him most.

“I have met some incredible people struggling to deal with the everyday challenges in life because of their illnesses. Many of these people have had extraordinary but extremely distressing experiences. Some of their stories stay vivid for a long time.”
The Suncorp SunWise Shade Bar

Queenslanders have the highest rate of skin cancer in world, with 2,000 being diagnosed with melanoma every year.

Suncorp and QIMR have been long term partners in the fight against skin cancer. Their ongoing support has enabled QIMR researchers to improve our understanding of the risk factors in the hope of reducing the number of skin cancer related deaths.

Last November, Suncorp launched their SunWise Shade Bar to raise awareness amongst Queenslanders about the importance of sun protection. The SunWise Shade Bar travelled along our sunny beaches giving out sunscreen and sun smart messages as well as raising much needed funds for skin cancer research.

Although the summer is nearly over, you can still show your support for QIMR and Suncorp’s SunWise program by picking up a donation envelope from your local Suncorp branch.

For more information about the Suncorp SunWise program, visit www.suncorpsunwise.com.au.

Sunscreen a cost-effective option

Applying sunscreen on a regular basis not only prevents cancer, but will save the government money. QIMR researchers have found that providing sunscreen to people and encouraging daily usage not only prevents skin cancers but also saves considerable healthcare dollars.

“Our research shows for as little as $1 per person per year, sunscreen has the potential to save Medicare an average of $150 per person from the avoided costs of diagnosing and treating the skin cancers,” said lead researcher Dr Louisa Gordon, from QIMR’s Cancer and Population Studies Laboratory.

“Because of Australia’s large European-descent population and high UV climate, we have a substantial burden of skin cancer making it the most expensive cancer in Australia,” said Dr Gordon.

If you can see the sky, UV can reach you...

Skin cancers are most commonly found on the head. Three inch wide and down angled brims provide the best protection.

Umbrellas provide relatively low UV protection. 84% of the sun’s rays can reach you by reflecting off sand, sky and water.

Trees do not provide as much protection on a cloudy day, as the UV light is scattered. Trees with large dense foliage are best.

Shade structures offer different protection depending upon the angle of the sun and the degree of cloud cover – bigger is best.
Cindy Field Memorial Art Exhibition

Phoebe Dupont is a woman on a mission. She hopes to raise as much money as possible for medical research to help prevent others from losing loved ones before their time.

Phoebe’s only daughter, Cindy, was the light of her life. Sadly, Cindy’s life was tragically cut short due to glioblastoma – an aggressive form of brain cancer.

Gliomas are the most common primary brain tumour in both adults and children and is diagnosed in around 1500 Australians each year.

Since 2005, Phoebe has held a memorial art exhibition on Russell Island, in South Moreton Bay, to raise funds for QIMR.

“You always wish you could do more. This is one way that I can help research and honour my daughter’s memory,” said Phoebe.

QIMR would like to thank Phoebe, her family and the artists who support this important event which is held in December each year.

A painting of Cindy takes pride of place at the Cindy Field Memorial Art Exhibition.

Bequests: in loving memory

For many years, QIMR has been thankful for the kindness of people who have made provision for QIMR in their wills. Bequests provide a crucial source of funding and also help to secure the means for QIMR’s vital research to continue into the future.

One such planned giver was Kevin Makins. Kevin was born in Sydney in 1940 and followed in his Dad’s footsteps and became a sailor. He began his distinguished seagoing career in 1958 as an apprentice deck officer and he retired as a shipmaster 51 years later.

Kevin competed in many yacht races including the Sydney to Hobart Race, where he was a crew member on two winning yachts. He also sailed to Alaska, North America and the Arctic in a 50 ft cutter which he fitted out himself.

He and his wife Jillian were married for 43 years. They were soulmates and lived for each other. Sadly, Jillian died from cancer in October 2008. After Jillian’s death, Kevin’s own health deteriorated rapidly and he passed away less than a year later.

They both had tremendous community spirit and supported many charities. Kevin left a portion of his estate to his favourite charities, including QIMR. Their legacy will live on and the fruits of their generosity will continue to grow in the achievements of QIMR and the important medical research they have funded.

For further information on bequests, call 1800 993 000.
Everyone at QIMR would like to send a very heartfelt thank you to the anonymous donor who gave us a $50,000 donation on Christmas Eve. What a very special Christmas present!

Visit by Federal Health Minister

The Honorable Nicola Roxon (centre), Federal Minister for Health and Ageing visited QIMR’s Protein Discovery Centre with QIMR Director Professor Michael Good, QIMR Chair, Professor John Hay, and researchers Professor Jeff Gorman (right) and Johana Chicher (left).

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A special thank you to Itching to Stitch Craft Group. They raised over $2,000 for QIMR through monthly raffles of donated items.

Watpac Managing Director Greg Kempton (left) and Business Development Manager Mark Spry (right) presented a donation to Jane Seawright, Acting Chair of QIMR Trust from the proceeds of vending machines on Watpac construction sites throughout Brisbane. QIMR and Watpac are also partnering in an education program for staff on skin cancer prevention. Construction workers have the highest incidence of skin cancer in Australia.

The VMO (Visiting Medical Officer) Committee have been supporting research at QIMR for many years. Chairman of the Committee Dr Ross Cartmill (centre) and Mr Murray Watt, Parliamentary Secretary to the Minister for Health (right) present the latest donation to Deputy Director of QIMR, Professor Martin Lavin (left).
Donate today

☐ Yes, I will help the scientists at Queensland Institute of Medical Research with their world-class research.

☐ Mr ☐ Mrs ☐ Miss ☐ Ms ☐ Other ..........................

Name .................................................................

Address ...................................................................... Postcode ................................................

Phone number ................................................................

Email ...........................................................................

Donation Amount:

☐ $10 ☐ $20 ☐ $50 ☐ $100 ☐ Other $ ..........................

☐ I have enclosed a cheque payable to QIMR

or

☐ Please charge  ☐ Visa  ☐ Mastercard  ☐ AMEX

CARD NUMBER ........................................................................

CARD HOLDER’S NAME ........................................................

EXPIRY DATE  CARD HOLDER’S SIGNATURE

☐ I would like to donate regularly

Please deduct a monthly donation of $ .................. from my credit card until I advise otherwise.

Signature ..............................................................................

FURTHER INFORMATION

Please ensure that you have also filled in your contact details above.

☐ I am considering providing for QIMR in my will – please send me information.

☐ I have already made provision for QIMR in my will.

☐ I would like to take a free tour of QIMR.

Please post this form to:

Queensland Institute of Medical Research
Reply Paid 70885
ROYAL BRISBANE HOSPITAL QLD 4029
No stamp required.

THANK YOU.
YOUR GENEROSITY IS APPRECIATED.

Golf day, cake stall, Rock ‘n’ Roll party anyone?

Get involved – you can make a difference your way, today!

Did you know, holding your own event is one of the most rewarding ways of raising funds for QIMR?

Any of our current community fundraisers will tell you how much satisfaction they get from raising money to help QIMR make a real difference and achieve better health for you and your loved ones.

The rewards of your fundraising are as great as the activity or event you complete and there are so many ways to raise money in your community today. You can turn almost anything you enjoy doing into a fundraiser for QIMR, we even have a suggestion list for you!

Simply contact QIMR by calling 1800 993 000 and ask for your Community Fundraising Kit or email support.us@qimr.edu.au. We will provide you with all the details you need to get your very own fundraising event running today.

At the end of this year, QIMR will hold a special awards ceremony to thank all of our Community Fundraisers and your name will be added to QIMR’s special Wall of Appreciation. We look forward to hearing your ideas!

Pink birthday thanks

Delwyn (left) and her daughter Shandel at Delwyn’s 70th birthday party.

Our heartfelt thanks go out to Delwyn Smith who very kindly requested her guests donate to QIMR in lieu of gifts at her recent 70th birthday party.

Delwyn said “I hit the jackpot when I survived breast cancer and I think everyone should support medical research and not take for granted that it will be there when you need it.”