



Issue 6, September 2008

Spring news from Nurture

Welcome to the spring edition of Nurture's newsletter, which brings you the latest updates on fundraising and research. Mother's Day was a red letter day for Nurture this year with our inaugural Run 4 Mums event in Auckland's Cornwall Park. We were thrilled to see around 500 people turn out for this event, and plans are already underway to make it bigger and better next year.

Don't forget there are many ways to continue to support Nurture throughout the year, including purchasing our exclusive design baby t-shirts, making an online donation or making us your chosen charity whenever you participate in a sponsored event and use Fundraise Online. Recent changes to our tax laws mean that any charitable donations you make are fully tax deductible (previously there was a limit of \$1890 per year).

International Baby Loss Awareness Week is coming up in October. Each year in New Zealand more than 600 babies are stillborn or die within 28 days of birth. In addition, one in four pregnancies will end in miscarriage, and one percent of women suffer the distress of recurrent miscarriage – sometimes losing ten or more babies in succession.

Nurture supports research that aims to better understand the causes of miscarriage and stillbirth, and find new ways to prevent these tragedies occurring. If you are thinking of raising funds for Nurture through Fundraise Online, then Baby Loss Awareness Week would be a compelling time to generate support.

Keep your feedback coming – we are always looking for great fundraising ideas and opportunities, so please let us know your thoughts. And if there are specific topics of interest or questions you would like covered in the Newsletter, please send us an email or give us a call. We look forward to hearing from you.

Cindy Farquhar
Nurture Foundation Trustee

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How you can support Nurture

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New Idea Run 4 Mums raises \$15,000



Nurture's inaugural Run 4 Mums event on Mother's Day was a great success, raising \$15,000 for reproductive research.

Around 500 people took part in a fun walk or run through Cornwall Park – including families, competitive runners and corporate teams.

Nurture Trustee Andrew Shelling and Tony Lough tied for first place in the 10km run with a time of 40:09, while Act MP Rodney Hide placed 46th in his division with a respectable finishing time of 1:00:09.

Egg Maternity fashion designer Charlotte Devereux, her mother, Colyn Devereux-Kay and daughter Jasmin were delighted to support Nurture at Run 4 Mums and took part in the 5 km walk.

Back at base participants relaxed with a free massage in the New Idea marquee or enjoyed complimentary orange juice and sausages from More FM. Smaller children were entertained by face painters and a bouncy castle, making it an enjoyable Mother's Day morning for everyone.



Logan Griffin receives a medal for the 5km Run



Colyn, Jasmin and Charlotte Devereux

Thanks again to our sponsors who helped to make this event possible: New Idea, Andrew Simms Mitsubishi, Carnation Milk, IVF Auckland and More FM. Plans are underway for next year's event in Cornwall Park, so keep your running shoes handy and mark Sunday May 10th in your diary.

Research: Placental cell death and pre-eclampsia

Pre-eclampsia is one of the major complications of pregnancy that can cause illness and death in mothers and babies. In New Zealand, more than 3,000 women are affected by this disease every year. Women with pre-eclampsia have raised blood pressure that can be life-threatening and cause serious harm to both mother and baby. Despite many medical advances, the only treatment for pre-eclampsia is delivery of the baby – often prematurely.

Larry Chamley and his research team are currently investigating the causes of pre-eclampsia, and believe the disease may be linked to the death of placental cells.

During pregnancy the placenta is bathed in maternal blood. As cells on the surface of the placenta grow old and die they are shed into the mother's bloodstream as very large structures called syncytial knots, which have multiple nuclei. Placental cell death is perfectly normal and occurs all the time in every pregnancy. The dead placental cells, or syncytial knots, are carried through the maternal bloodstream away from the uterus towards the mother's lungs. Because the syncytial knots are too large to

pass through, they lodge in the mother's lung capillaries, trapped by the endothelial cells lining the blood vessels. (This discovery was made in 1893, an era when women frequently died in childbirth and their lungs could be examined by scientists.)



Syncytial knots are cleared from the lungs naturally within a few days by other cells that 'eat' or phagocytose them – otherwise the mother's lung function would be badly impaired. It is widely assumed that cells of the maternal immune system are

responsible for clearing away the syncytial knots.

Larry's team believe that the way in which the placental cells died may play a role in the development of pre-eclampsia. Most cell death is programmed or intentional and is part of the natural life-cycle of cells. This intentional cell death is called apoptosis. However, if cell death occurs by necrosis, this means the cells died through injury or disease rather than through intentional cell death. Placental cells that die by necrosis activate the endothelial cells lining the mother's blood vessels – and this is a characteristic feature of pre-eclampsia.

Larry's team of scientists is investigating whether syncytial knots that died by necrosis contribute to the development of pre-eclampsia. The research team is looking at ways to change the death process of placental cells so that this occurs by apoptosis, rather than necrosis. It may also be possible to change the response of the endothelial cells so they do not become activated by syncytial knots that have died by necrosis – and this could prevent pre-eclampsia in some women.

Researcher: Larry Chamley

Dr Larry Chamley is the scientific head of the Biology and Immunology of Reproduction Research Group at The University of Auckland, Associate Professor in Reproductive Biology in the Department of Obstetrics and Gynaecology and an Honorary Scientist at Fertility Plus.



He is also a member of the Australian and New Zealand

Placental Research Association and the Society for Reproductive Biology.

As a PhD student Larry was introduced to antiphospholipid antibodies – a part of the maternal immune system that can attack the placenta, causing pregnancy diseases, recurrent miscarriage and stillbirth. Since then Larry has been fascinated by one of nature's great mysteries: how the fetus survives for nine months in a normal pregnancy without being rejected by the mother's immune system. He hopes solving this will help more women enjoy a healthy pregnancy.

New Research: PROGRESS Study

PROGRESS stands for Progesterone after previous preterm birth for the prevention of neonatal respiratory distress syndrome.

Women with a history of spontaneous preterm labour are at an increased risk of preterm labour in subsequent pregnancies. Babies born preterm (at less than 37 weeks) are at risk of respiratory distress syndrome, which can cause illness and death. Babies that survive are at risk of chronic lung disease and long-term neurological disability.

The PROGRESS study aims to assess whether progesterone given to women at risk of giving birth preterm improves the health of mothers and their infants. Progesterone is a hormone produced during pregnancy, and is thought to be important in keeping the uterus relaxed and not contracting before labour starts at term. The onset of labour is thought to be related to a reduction in the amount or in the function of progesterone.

Previous research has suggested that progesterone given to women at risk of preterm birth may help to reduce the chance

of giving birth early. However, it is not clear whether progesterone also improves the health of the baby by reducing the risk and severity of respiratory distress syndrome.



Emma Parry and Lesley McCowan are leading the New Zealand component of the PROGRESS Study, which is also being undertaken in Australia. Women with a history of preterm birth are invited to take part, and recruitment should be complete by the end of 2008.

If you are interested in taking part in this study or would like more information please discuss this with your LMC or contact the research midwives, Maggie Cropper and Helga Hauch:

- Maggie Cropper Ph: 027 418 2779
Email: cropper@xtra.co.nz
- Helga Hauch Ph: 021 245 9079
Email: helgah@adhb.govt.nz

Baby Loss Awareness Week

A little life, not a little loss. October 9 – 15 is International Baby Loss Awareness Week, which is marked in New Zealand with the Global Wave of Light and other events and services organised by SANDS (Stillbirth and Newborn Death Support). It is an opportunity for families whose lives have been touched by the loss of a baby during pregnancy or just after birth to remember and commemorate their baby's brief life. It is also a timely reminder for those who have been blessed with the birth of a healthy baby to give thanks.



Nurture will be working hard to raise awareness of the fact that there are 600 stillbirths and newborn deaths in New Zealand every year – and thousands of miscarriages. There is clearly a real need for ongoing research that will help to avoid these tragedies. If you are thinking of supporting Nurture through Fundraise Online, holding an event that recognises Baby Loss Awareness Week would be a compelling way to generate sponsorship.

If you are fortunate to have given birth to a healthy baby, why not make a donation to Nurture and give others hope for a successful pregnancy.



Fundraise Online for Nurture

Nurture is working hard to raise funds for reproductive research, but holding large-scale events like Run 4 Mums is a huge undertaking!

You can help to raise funds for Nurture by using Fundraise Online, a website designed to make it easy for individuals to raise funds for their chosen charity.

Already several people taking part in the Auckland Marathon have chosen Nurture as the charity they are supporting – and getting sponsored by their friends and family through Fundraise Online.



But you don't have to take part in an organised sporting event to use Fundraise Online. You could hold a small event of your

own to raise funds for Nurture and ask your friends and colleagues to support you through Fundraise Online.

So whether you are planning to climb Mt Fuji, walk from the Bay of Islands to Bluff or simply hold a birthday celebration, Fundraise Online enables you to seek sponsorship from your friends and colleagues through the online donation facility.

Please help us to raise funds for reproductive research by using Fundraise Online to support Nurture.

Visit www.fundraiseonline.co.nz for more information or to set up your own fundraising page.

New tax rules for charitable donations

On 1 April 2008 new tax rules came into effect for charitable donations. The new rules give greater tax incentives to individuals and companies who wish to support charities. Previously individuals could only claim a tax rebate on charitable cash donations up to a maximum of \$1890 per annum. This meant that any donations over and above \$1890 would not receive a tax rebate.

Under the new legislation, individuals can now claim a 33 1/3% tax rebate for charitable donations up to a maximum claim equal to their annual taxable income. We hope the new tax rules will encourage more individuals to make a donation to The Nurture Foundation.

Tax changes to encourage corporate philanthropy have also taken effect. Companies are now entitled to a deduction for donations made to charities up to the amount of their net income. Again, we hope the new legislation will encourage more companies to support Nurture.



International research round-up

IVF does not lead to early menopause

Researchers in New York have concluded that IVF treatment does not lead to early menopause or cause more severe symptoms. IVF has been used to treat infertility for 30 years, and many of the first women to undergo IVF are now reaching menopause. In the early days of IVF there was some concern that the hormones used to produce more than one egg per IVF cycle might trigger early menopause by 'using up' a woman's eggs more quickly than nature planned. The research team in New York examined 700 women who had IVF treatment between 1981 and 1994. The study has shown that the age of menopause is more linked to maternal history than IVF treatment, and there was no increase in menopausal symptoms amongst those women.

Meanwhile, researchers in the Netherlands believe they can more accurately predict the age a woman will go through menopause by analysing the level of anti-Mullerian hormone (AMH) in their blood. The level of AMH can reflect how many follicles are present in a woman's ovaries. If the stock of follicles is low this will lead to menopause. For many women, knowing when menopause may occur could help them to make decisions about when to have a family

Obesity and diabetes may be linked with male infertility

Two recent studies have provided new insights into male infertility by looking at the impact of obesity and diabetes on sperm quality. Researchers at the University of Aberdeen examined the medical records of 2,000 men who attended fertility clinics and grouped the men by their body mass index (BMI). After taking into account other factors that might affect their fertility (age, smoking, alcohol) the researchers looked at the relationship between BMI and sperm quality. They discovered that men with a high BMI tended to have a lower volume of sperm and more sperm abnormalities than men with the recommended BMI.

A second study in Belfast analysed sperm from eight men with Type 1 diabetes. They found genetic abnormalities in their sperm of high enough severity to limit the ability to fertilise an egg. The scientists have shown that diabetes affects sperm at the molecular level – and this finding also applies to Type 2 diabetes, which is associated with obesity. Both studies show that male fertility can be affected by health and fitness, and that being in peak physique and health will help to maximise a couples' chance of conceiving.

Assisted hatching may improve pregnancy rates in frozen embryo cycles

A study undertaken at the Reproductive Health Centre in Wenzhou investigated whether assisted hatching could improve the implantation and pregnancy rates for IVF cycles using fresh or frozen-thawed embryos. Assisted hatching involves thinning the coat (zona) surrounding a fertilised egg to make it easier for the embryo to attach to the womb so pregnancy can begin.

A total of 760 fresh embryo transfer cycles and 200 thawed embryo transfers were randomly assigned to the treatment group for assisted hatching or to the control group. Zona thinning by laser was performed just prior to embryo transfer. The results of the study showed that in fresh embryo transfer cycles laser assisted hatching by zona thinning has no impact on rates of positive hcG, clinical pregnancy rates or implantation rates. However, in thawed embryo cycles assisted hatching significantly increased all three rates: hcG (32% vs 17%), clinical pregnancy rate (25% vs 14%) and implantation rate (16.7% vs 7.3%).

International Research Round-up

Progestogen for preventing miscarriage

Progestogen is a female sex hormone that brings about changes in the lining of the uterus that are essential for successful implantation of a fertilised egg. Inadequate amounts of progestogen may be linked to miscarriage, and for this reason progestogens have been used in the first trimester to prevent spontaneous miscarriage.

A systematic review of clinical trials was undertaken recently to determine whether progestogen was an effective and safe treatment for preventing miscarriage. The review examined 15 clinical trials involving 2118 women and found that there is no evidence to support the routine use of progestogen to prevent miscarriage in early to mid-pregnancy.

However, there did seem to be some benefit for women with a history of recurrent miscarriage. Progestogen may benefit these women as the review showed a significant decrease in miscarriage rate compared to women given placebo or no treatment.

The study found no significant difference between the women treated with progestogen and those given placebo or no treatment in terms of adverse effects on mother or baby. Larger trials are currently underway.

Fibroids: surgery vs embolisation

121 women with fibroid/s larger than 4cm and who were planning to become pregnant took part in a study in the Czech Republic to determine whether uterine artery embolisation (UAE) or myomectomy was the better treatment option.

UAE requires a radiologist to use a catheter to deliver small particles that block the blood supply to the fibroid, while myomectomy is the surgical removal of fibroids. The study compared the efficacy and safety of the two procedures, and their impact on patient fertility.

Patients were followed up for at least 12 months after treatment. There were no significant differences between the UAE and myomectomy group in terms of the rate of technical success, hormone levels, regrowth or complication rates. Forty women after myomectomy and 26 after UAE tried to conceive, resulting in 50 pregnancies in 45 women. There were more pregnancies and fewer miscarriages after myomectomy than after UAE.

The researchers concluded that UAE is less invasive and just as effective and safe as myomectomy, but myomectomy appears to have better reproductive outcomes in the first two years after treatment.

Maximum number of IUI cycles

In the past 20 years there has been no real consensus on the maximum number of Intra Uterine Insemination (IUI) cycles that a couple should have. The Centre for Reproductive Medicine in the Netherlands conducted a study among couples treated with IUI up to nine cycles to determine ongoing pregnancy rates (OPR) per cycle, and cumulative pregnancy rates after three, six and nine cycles.

In the study, 3714 couples with male, cervical or unexplained infertility underwent 15,303 cycles of IUI. In 70% of cycles, controlled ovarian stimulation was used. The mean OPR per cycle was 5.6%. After the third cycle the cumulative OPR was 18%, after the seventh cycle 30% and after the ninth cycle 41%. There was no significant impact of age, type of subfertility, diagnosis, use of hyperstimulation or cycle number on OPR after the sixth treatment cycle. The study concluded that using a very mild controlled ovarian stimulation, it may be reasonable to conduct up to nine IUI cycles.

Ultimate Rally Experience won by Nicola Wright



Nicola Wright co-drives with Chris West

Nicola Wright was the lucky winner of the Ultimate Rally Experience - a special prize drawn at Run 4 Mums on Mother's Day. Nicola spent a day in the Maramarua Forest with the Andrew Simms Mitsubishi rally team, and had the opportunity to co-drive with national rally champion Chris West.

"The ride was more exciting than any of the theme parks in Australia" according to Nicola. She was on Cloud Nine after the experience, and was delighted when her husband also got a ride in the rally car as a birthday present. Thanks to Andrew Simms Mitsubishi for donating this fantastic prize – we're thrilled Nicola enjoyed the experience!

How you can support Nurture

If your life has been touched by the loss of a baby, difficulties conceiving or a pregnancy complicated by pre-eclampsia or preterm birth, you will understand the importance of the research Nurture is helping to fund. You can make a difference by supporting Nurture in a number of ways:

- Make a donation: www.nurture.org.nz/how-to-help/make-a-donation
- Consider making a regular donation - please contact us to request an automatic payment form
- Purchase a Nurture baby tee shirt for a new baby: www.nurture.org.nz/promos/nurture-t-shirts
- Fundraise Online when you take part in an event: www.fundraiseonline.co.nz
- Organise a fundraising event or nominate Nurture as the beneficiary of fundraising events you may be involved with

Our aim is to help more New Zealand couples become pregnant, stay pregnant and deliver a healthy, full-term baby that will have the best start in life. With your help, we hope to give more couples the chance to nurture a child of their own.

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