# NT DIABETES IN PREGNANCY PARTNERSHIP

**NEWSLETTER – DECEMBER 2015**

## NT DIP PARTNERSHIP – WHATS NEW!

We are pleased to announce that we have been funded to extend the partnership. Expansion of the NT DIP Clinical Register and models of care to include Far North Queensland and continuation of our work with the PANDORA cohort has been supported - at least until 2020! We have already been following up women with diabetes in pregnancy and their babies but additional funding gives us the capacity to provide enhanced post-partum support to Aboriginal mothers who have consented to the PANDORA study (Pregnancy And Neonatal Diabetes Outcomes in Remote Australia) and to carry out a detailed study of their children which will be referred to as Wave 1.

## CLINICAL UPDATE

We enjoyed collaborating again with the BakerIDI educational symposium in Alice Springs in October. Prof. David McIntyre from Mater Health Services in Brisbane and NT DIP Chief Investigator presented a topic much loved by NT DIP newsletter readers – "the dreaded OGTT" and discussed when we can use an HbA1c instead? Queensland Health has also recently released updated guidelines for gestational diabetes which is available via the web for those who are interested.

I have summarized a little of the Queenslander wisdom as follows…..


***When can I use an HbA1c to test for diabetes during pregnancy?***

Anytime during the first 12 weeks of pregnancy.

***How do I interpret the results?***

If the HbA1c result is ≥ 6.5 % then it indicates that the woman probably has pre-existing diabetes (type 2).

If the HbA1c result is ≥ 5.9% then she probably has a form of glucose in tolerance. It is not possible to definitely say whether this is impaired fasting glucose/impaired glucose tolerance or GDM. However, as the test has been taken at < 12 weeks, before the major changes of pregnancy have developed, it is likely that this is a pre-existing problem. In any case, this degree of glucose abnormality is severe enough to require treatment (as for standard GDM) from early pregnancy.

***What if the HbA1c is less than 5.9% ?***

Good news that she doesn't have pre-existing diabetes or at this stage gestational diabetes but the not so good news is that she will need an OGTT (75 gram Oral Glucose Tolerance Test) at around 24 weeks and before 28 weeks.


***What other time in pregnancy should an HbA1c be done?***

For diagnosis purposes – at NO OTHER STAGE during pregnancy except the first 12 weeks is HbA1c useful to assess if the woman has pre-existing or gestational diabetes. However, for women who have been diagnosed either pre-pregnancy or in first 12 weeks of pregnancy with diabetes, the HbA1c test might be useful as a tool to assess how well the prescribed therapy is working with regards to managing hyperglycemia. If the HbA1c has increased during gestation or remains elevated we need to be more pro-active with our management.

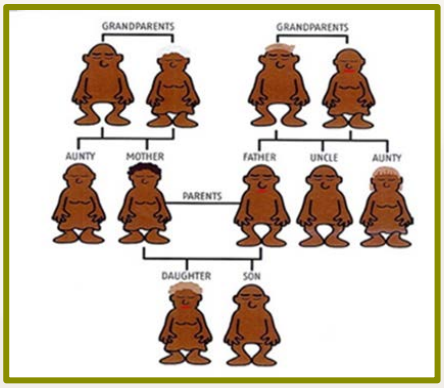
***What about for post-partum testing?***

At this stage we are still unsure, but certainly not within the first 2 – 3 months after the birth of the baby, but around 6 months post-partum, HbA1c should be a reasonably accurate test with regards to diagnosis of type 2 diabetes (≥ 6.5 %). Recent discussions have suggested that it may be valid at 4 months post-partum.

## Everyone's talking about…. *"epigenetics"*

Epigenetics has received lots of attention recently and those of us working with PANDORA are planning to share some of the epigenetics story with women and their families. With ethics approval we will include epigenetic studies in the PANDORA protocol and Marie Kirkwood (NT PANDORA Coordinator) has been working closely with others to come up with a reasonable explanation as follows.

***Does a person's genetic information (DNA) explain why some people get diabetes?***




Firstly, what is genetic information? When a person is born, she/he carries information inside them called DNA, half from their mother and half from their father. It tells their body how to grow, what they will look like and how their body will work as they grow and get older.

DNA provides the master plan for the body, with many thousands of DNA strands telling our body how to work and grow. This is a bit like a story- that teaches us how to live and our body how to work. This genetic story is shared in families. Each person's story comes from their mother and father; theirs have come from their mothers and fathers. This is why we may look like other people in our family. This may also explain why some family members can have similar disease (like diabetes)

***What can control the way your DNA works- Epigenetics?***

The genetic story we get from our parents stays with us for our whole life and doesn't change. Like a book, our story is written down in our genes and stays the same. But there are many things that may change the way that our genes work- which parts of the story are told, in what order the chapters are told or sometimes we might lose or can't see some pages.

For example, smoking, alcohol or a poor diet during pregnancy may influence the baby's growth. Part of this may be due to the way these factors change how our genes work and how this can change the way the baby's body works. This is often called Epigenetics- where parts of our genes are turned on and off- like parts of our story told or not told. We think that there are certain things that can happen in pregnancy that might change the way a baby's genes might work by being turned off (less active) or turned on (more active). The PANDORA study wants to look at whether any of these changes do occur and if they can increase the chances of some people developing diabetes. Method of specimen collection will be via buccal swabs from the mother and baby's mouth and cord blood to undergo epigenetic testing.


## NT DIP CLINICAL REGISTER - over 1300 women now referred!

The first regional meeting for Central Australia was held in July 2015 in Alice Springs. The room was bursting with clinicians, midwives, nutritionists, preventable chronic disease nurses, diabetes educators and doctors. NT DIP Partnership staff Stacey Svenson and Paula VanDokkum co-facilitated the meeting with Dr Christine Connors and there was lots of discussion around the management of diabetes in pregnancy including the barriers and solutions. Difficulties with distance, food security, care coordination and navigating electronic information systems were discussed, as was the strength of DANCE the diabetes antenatal clinic run at Alice Springs Hospital that everyone knows runs on a Wednesday – every Wednesday!

The purpose and functions of the clinical register will be evaluated in the coming months as there are very few health professionals accessing it via the web. Anytime and place as long as the internet is up and running you can look up a woman's details – please email DIPClinicalRegister.THS@nt.gov.au if you wish to apply for access.

Keep an eye out for….

2016 NT DIP Clinical Register Regional Meetings – Top End (tentatively proposed for 18th March 2016) & Central.

Surveys and Focus Groups also coming your way – we need to know what's happening in your workplace and what you think needs doing to improve the management of women with diabetes in pregnancy.

***As always, thanks from us to our stakeholders for your ongoing support, it is very much appreciated.***

For further information please email Cherie.Whitbread@nt.gov.au