

## How will my confidentiality be protected?

The ORIGINS team is committed to protecting the confidentiality and privacy of data and biological samples. All of your data and samples will be securely stored at access restricted buildings within the Telethon Kids Institute under a unique ID number. The ID number is known only to a small group of researchers in ORIGINS and only they can identify the person from whom the sample came. The samples will be stored indefinitely unless you request the samples be destroyed.

## Who is carrying out this study?

The study is being conducted by researchers from The ORIGINS Project (Telethon Kids Institute, Joondalup Health Campus) and Minderoo Foundation.

### Principal Investigators

Prof Desiree Silva : ORIGINS  
Dr Nina D'Vaz : ORIGINS  
Jackie Davis : ORIGINS  
Prof Sarah Dunlop : Minderoo  
Dr Christos Symeonides : Minderoo

### Research Team

Courtney Kidd : Project Coordinator  
Jodie Leslie : Clinical Coordinator  
Sona Nayyar : Research Assistant  
Ashleigh Heng-Chin : Honours Student



## Consent process

When you sign the consent form, your signature will be taken as your consent to participate in the project. To withdraw from the study, you must email the research team with your participant ID and let them know that you wish to withdraw, and the team will ask for your signature on a withdrawal form.

## Concerns?

The ethical aspects of this study have been approved by the Ramsay Health Care WA|SA Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in a research project, please contact the JHC Executive Office on (08) 9400 9404. Any complaint you make will be investigated by an independent party, treated in confidence, and you will be informed of the outcome.

## Further Information

If at any time you have any questions:

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# THE PLANET PROJECT

## PLASTICS IN PREGNANCY

### PHASE ONE



## Plastics in our environment

Global production of plastic is increasing dramatically and currently exceeds 320 million tonnes per year. As a result, plastic products and chemicals used in plastics are increasingly present in our environments, including water, food and air.

The effects of plastic exposure on adult, infant and child health require investigation.

## What is The PLANET Project?

The overall aim of The PLANET Project: Plastics in Pregnancy is to evaluate and optimise the ORIGINS sample collections for plastic-related research.

In order to do this, we must first look at our collection methods. This study is the FIRST PHASE of the project and will help us to understand the best way to collect and store our ORIGINS samples, ensuring they can be used effectively for high quality plastic research projects.

Plastic exposure during pregnancy can be measured in maternal urine and in meconium (newborn infants' first poo samples) but we have to be careful when collecting samples to avoid plastic contamination from jars and gloves, as contamination makes our results unreliable.

We also need to understand how plastic levels vary across a day and between days, so we can make sure we are using comparable samples for our research.

The PLANET Project has designed some very careful collection methods for urine and meconium samples, and we are looking for pregnant women interested in helping us test these methods.

## Who can participate?

- ▶ Active ORIGINS participants who are around 34-weeks pregnant (non-smoking)
- ▶ Participants must be willing to use the provided nappies, baby wipes and nappy bags for baby's first 6-10 nappy changes and not use any creams or powders on the baby while collecting.

## What does participation involve?

In addition to providing the usual samples to The ORIGINS Project, we will ask you to:

- ▶ **At 36-weeks pregnant** - provide five additional urine samples: six urine samples in total at the 36-week ORIGINS timepoint
- ▶ **At birth** - collect 6-10 of your baby's nappies with meconium for the study

The next phases of the project will be designed based on the results of this first phase. We may request your involvement in the next phases of the study upon completion of this one.

There is no cost to you for participation in this study.

## Why urine?

Urine contains a variety of compounds reflecting what our bodies are exposed to through diet and the environment. An example is a common plastic chemical Bisphenol A (BPA), which can be measured in urine and reflects the amount of plastics we are exposed to via food, water, the air and products that come into contact with our skin. In pregnant women, the plastic levels are particularly important because some plastic chemicals reach the placenta and amniotic fluid. We want to understand if and how this might affect the developing baby.

We know exposures to plastics vary from morning to night and from day to day depending on our daily habits, but we don't know how much variation to expect in the pregnant ORIGINS participants. We also don't know if the urine samples pick up extra plastic (are contaminated) by being handled using plastic jars and plastic gloves in the labs.

## What is required?

To assess variation and contamination, we will ask you to collect two urine samples per day (one in the morning and one in the evening) for three days in a row. Once all the samples are collected by you, we will send a nurse or courier to collect the samples from you and bring them to the laboratory.

We will also provide you with a small sample of synthetic urine and a sample of ultrapure water, which you will transfer to glass jars and store with your urine samples.

We will analyse your urine samples, synthetic urine and water for plastic chemicals to assess daily variation and plastic contamination. We know the synthetic urine and water have no plastic in them, so if any plastic appears when we finish handling it, we will know that our procedures introduced this plastic and how much was introduced.

We will provide you with written instructions on how to collect the urine samples and a study nurse will be available to call with any questions.



## Why meconium?

Meconium (your baby's first poo) contains a variety of compounds reflecting what the baby is exposed to throughout pregnancy, including maternal diet and the environment. For example, plastic exposure can be assessed by measuring plastic chemicals including BPA in meconium samples.

## What is required?

To determine environmental exposures in meconium samples, we will ask you to collect all the meconium/poo your baby produces in the first six nappies using plastic-free nappies to avoid any plastic from the nappy itself. These meconium samples represent the baby's 'exposure story' from 14 weeks pregnancy to birth. Normally, ORIGINS participants collect meconium from just one nappy, but this only allows us to get a small piece of the baby's 'exposure story'. The PLANET Project aims to get a sense of the full story and allows us to test a more comprehensive protocol.

We will provide you with written instructions on how to collect the meconium and a study nurse will be available to call to assist with collections and questions.

## What are the possible benefits or risks of taking part?

We do not expect there to be any health benefits or risks from taking part in this study.

Upon receipt of your urine and meconium samples, you will receive a \$50 e-voucher as a thank you for helping the PLANET Project improve sample collections.

## Participation is voluntary

Participation in this project is entirely voluntary. If you choose to participate, you are free to stop participating at any time. You can also request to withdraw any data collected as part of this study that is not part of ORIGINS data collection. Your care at Joondalup Health Campus will not be affected by your decision to participate in this study.

## Who will see results of this research?

The results of this study will be published in medical journals and presented at conferences. No individuals will be identifiable from the presentation of the results. You will not receive a summary of your individual results or those of other participants, but we will provide links to publications.