

# About a **TABLET**

SUMMER 2020-2021

## World-first health and ageing study in older adults

### ASPREE-XT SUMMARY

- ASPREE-XT is a world-first study following the health of more than 15,000 older adults who participated in the ASPREE trial in Australia and the USA
- The first large scale follow-up study to investigate the effects that demographic, genomic, environmental and a wide range of factors have on health and independence in older adults
- The first study to determine whether taking aspirin for a period of time (during the ASPREE trial) has long lasting effects on health, such as dementia or cancer, in older adults
- Where possible, involves in-person annual study visits (a summary is sent to GPs) and one phone call between visits
- Captures extensive high quality health data:
  - physical measures, e.g. BP
  - non-fasting blood tests
  - thinking and memory
  - physical ability
  - self-reported quality of life and well-being
  - major health events
  - current medications
- Co-ordinated through 16 sites in south eastern Australia and 22 sites in the USA
- Primarily undertaken through general practice and supported by thousands of Australian GPs
- Funded by the USA and Australian governments

### Resilience shines in 2020



*Thank you: your participation in ASPREE-XT matters to current and future generations.*

Without volunteers like you, medical research into health and ageing doesn't happen in Australia. Advances in knowledge and health care for older adults, that arise from ASPREE and the follow-up ASPREE-XT study, comes down to your generosity.

And we say *thank you*. Participants in ASPREE-XT cannot be replaced by other volunteers. We are profoundly grateful for your help to overcome challenges that COVID-19 posed to the study this year.

As COVID-19 restrictions varied across parts of south eastern Australia, so too did study activity:

- We thank participants who had study visits over the phone because we couldn't see you in person.
- We thank participants who completed some study activities in person, and the remainder of

the visit over the phone because we needed to limit time spent at medical clinics.

- We thank participants for completing study visits in person at medical clinics, community centres or at your home, as soon as it was safe to do so.

The **resilience** of the team and you, our participants, shone brightly during a global pandemic in 2020.

With some flexibility and your support, together we've been able to safely capture your experience of ageing, which is so important to 'real world' medical research.

The end result is that your contribution, in whatever capacity was available at the time, has maintained the study's momentum during 2020 and that will matter to future generations.

We look forward to seeing you face to face again, when we can, in 2021.

# About a **TABLET**

## RESEARCH TALK

### What is a sub-study?

A sub-study (also known as an ancillary study) is a type of 'add-on' study that answers a separate research question within a larger research project.

### What do they do?

Sub-studies research specific health issues that are not included in the main study. ASPREE and ASPREE-XT are in a unique position to conduct multiple sub-studies. The extra health information will help show the interrelationships between various factors that can affect how we age.

### Sub-study participation

Sub-studies provide new opportunities and experiences for participants - from donating blood samples, to having hearing tests, retinal photographs, sleep apnoea checks, CT and MRI scans, to completing questionnaires.

Not all ASPREE participants were able to participate in all sub-studies as the studies were subject to the availability of funding and facilities at the time. However, most participants did participate in at least one sub-study during the ASPREE trial.

Some sub-studies do not require any additional activities, instead they rely on medical health records. For instance, the ASPREE-ANTI-SEPSIS sub-study examined records of hospitalisations to determine whether daily low dose aspirin reduced severe infections (sepsis). The ACES (ASPREE Cancer Endpoint Study) collects and freezes tiny samples of tumours that have been biopsied or surgically removed in the past 1-2 years. With your consent, we contact the pathology centre which has stored a sample of the tumour tissue.

ACES enables closer investigation into the effect of aspirin on cancer tissue. It also investigates how cancer develops and spreads in older adults, with the aim to target treatments and increase cancer-free survival.

Sub-studies have provided and will continue to provide, invaluable information that we would not otherwise be able to collect. View sub-studies on our website [www.aspree.org/aus/sub-studies](http://www.aspree.org/aus/sub-studies)

## ASPREE research



**Your ASPREE trial contributes new information to prevent, detect or treat disease.**

**Prior to ASPREE, studies indicated that aspirin may help prevent or delay several health conditions affecting older adults, such as dementia and cardiovascular disease. However, aspirin had never been studied solely in healthy older people.**

**ASPREE's findings provide new knowledge about aspirin and factors affecting ageing health. Results are shared in medical journals to research scientists and physicians around the world.**

## Further analysis of aspirin and cancer

Way back in 2018, we sent you a letter that summarised the main findings of the ASPREE trial.

Recently, study investigators looked more closely at ASPREE cancer data to determine why aspirin showed no benefit on cancer, contrary to other studies. Findings from the analysis were published in the Journal of the National Cancer Institute.

Around 1900 participants were diagnosed with cancer during the ASPREE trial. The researchers reported **no significant difference** in the number of **new cancers** between the aspirin and placebo groups. However they did find that aspirin was associated with cancer being at a more advanced stage or having metastasised (spread) when it was **first** diagnosed.

Of those who died from advanced stage cancer during the trial (over an average of 4.7 years) slightly more occurred in the aspirin group than in the placebo group. This effect was small, and was not seen in blood and lymphatic cancers.

The study authors suggest that some cancers in older adults may act differently to cancers in middle aged adults, although the reason is unknown. The sub-study ACES (see left) will help to provide critical information to answer this question in the future.

The researchers say ASPREE findings do not apply to older adults who take aspirin for medical reasons, such as after a heart attack or stroke because the benefits of daily low dose aspirin are known to outweigh risks.

Other studies suggest that beneficial effects of aspirin on cancer may not show until several years after use.

The ASPREE-XT study is vital to learn more about cancer in older adults.

### Blood test for dementia

Scientists are working towards identifying a 'biomarker' - a pattern of chemicals attached to DNA in the blood - to help predict dementia several years before the onset of memory decline.

The research, which involves ASPREE participants in the Healthy Ageing Biobank, is still in the very early stages of development.

Cognitive (thinking and memory) data collected during ASPREE-XT study visits and via medical records, are key to advancing this research.

**Always speak to your GP before starting or stopping daily low dose aspirin.**

**Links to ASPREE publications are on [www.aspree.org](http://www.aspree.org) (Publications)**



## Gut health sub-study to drive new discoveries

An exciting new sub-study investigating the effect of the gut microbiome on health is set to commence in early 2021, called the ASPREE-XT Microbiome study.

The gut microbiome is a collective term for trillions of bacteria, viruses, fungi and other microbes in the gut that can be measured in a stool or 'poo' sample.

Everyone has their own unique microbiome. However, studies into the gut microbiome in older adults have either been too small or lacked sufficient detail to understand their impact on health.

The ASPREE-XT Microbiome sub-

study will investigate how microbes in the gut may affect health and the development of disease in older adults.

Participation involves putting very small scrapings from one stool into three tubes, followed by a swab of your tongue the next morning.

There is also a questionnaire asking about your stool sample, diet and medication use, and the other factors which may affect the microbiome.

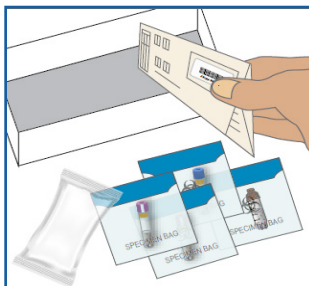
DNA will be extracted from your samples and used to identify the types and numbers of microbes to determine if there is a link between microbe content and good health

or adverse health outcomes, such as cardiovascular disease, frailty or dementia over the long term.

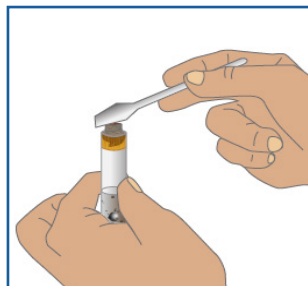
You will be provided with more information about the sub-study at your next ASPREE-XT annual study visit. If you wish to participate in the sub-study, you will be given a stool sample collection kit to take home.

You collect the samples in the privacy of your own home, and return them by mail in the specially designed (postage paid) box. (The collection process is summarised below.)

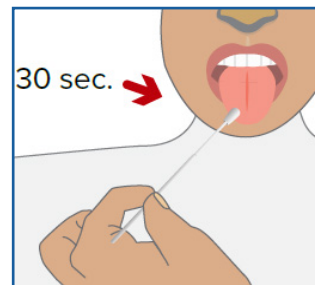
The ASPREE-XT Microbiome sub-study is open to all ASPREE-XT participants and is completely voluntary.



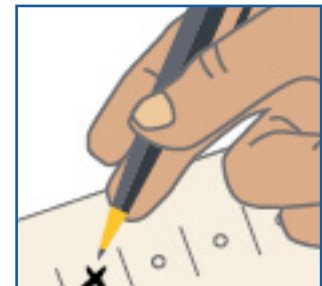
*The sample kit provides all items and instructions to take the samples at home*



*Place a small scraping from one stool into three different tubes*



*Take a mouth swab first thing the next morning*



*Complete questionnaire, check labeling on samples and post in provided box*

## Can lifestyle influence how your genes function?

We are all born with our own individual DNA or genetic code. Think of genetic code as the body's blueprint, containing all the necessary information for us to grow and function.

Generally, our genetic code remains relatively fixed from conception until death. However additional information in our cells helps control how our genetic code is used over a lifetime, such as when the function of a gene is switched 'off' or 'on'.

Associate Professor Joanne Ryan leads ASPREE's Epigenetic Research Program to determine how lifestyle choices and the environment affects ageing health at the genetic level.

"Lifestyle and environmental factors may not change the structure of the genetic code itself, but they do trigger one of several epigenetic processes which can activate or deactivate gene function," says Joanne.

"We know epigenetic processes are influenced by things like nutrition, physical activity, pollution and stress."

For instance, good nutrition may influence the production of chemicals (methyl groups) which attach to the genetic code and 'turn-off' genes associated with heart problems. This explains how a good diet may affect heart health at a genetic level.

"Epigenetics is still a relatively new field and much more research is needed," adds Joanne. "We are still learning how lifestyle behaviours such as increasing exercise may alter or reverse epigenetic patterns over the short and long term."

Epigenetic changes are also thought to underlie certain diseases. "This is most widely recognised for cancer, but is increasingly important for other conditions, including depression and dementia," says Joanne.



*Above: An illustration of an epigenetic process. Chemicals called methyl groups attach to ladder-like genetic code (DNA), affecting how a gene functions.*

Joanne's research looks for patterns of methyl groups on DNA in blood samples donated to the ASPREE Healthy Ageing Biobank. These epigenetic markers can be matched with the donor's health and lifestyle factors at the time, and in the future. The overall aim is to help identify older adults at risk of developing health conditions and factors which promote or prevent good health.

**Participant life**

# Noela's haven found in famous Tasmanian town

Walking on the set of the hit ABC comedy/drama series 'Rosehaven' for the first time opened a whole new world for study participant, Noela Foxcroft. She describes the experience, "like going to a foreign country and not knowing the language or the customs."

Noela was in her 80s when she auditioned for the role of 'Mrs Marsh'. At the time, she hadn't imagined that her long interest in drama and theatre would lead to a role in an acclaimed Australian TV production.

Rosehaven is the story of two best friends Emma and Daniel (comedians Celia Pacquola and Luke McGregor), centered around a real estate agency in the small fictional town of Rosehaven in regional Tasmania.

Noela plays Mrs Marsh, Daniel's former babysitter and the laconic receptionist manning the desk at the agency. Hers is one of several quirky characters in the show.

Fast forward a few weeks after the audition and Noela was on location at 6 am for her first shoot. Dressed, made-up and ready to start filming, she was taken aback when a young man approached and told her that it was time for a wine.

"So I told him that it's 7 am and I don't think it's a good time to drink wine as I've still got my lines to read," confesses Noela. "Turns out he had actually said it was time for a *wire* - meaning he needed to put a microphone on me."

Noela might have caught up on the jargon while filming four series of show, but the crew hasn't let her forget her first day, "They still tell me it's time for a wine," she laughs.

"It has been the most wonderful journey; I feel privileged to be involved in Rosehaven," she says. "The whole cast and crew are fantastic."

Between filming, the former science and maths educator helps her granddaughter prepare for the Special Olympics and runs 10 week courses through the University of 3rd Age in and around Hobart.

She researches and presents on a range of topics as they take her fancy, from retracing the Mayan civilisation, to modern high school math that enables attendees to help their grandkids with homework.

LEFT: Mrs Marsh, receptionist at McCallam Real Estate in 'Rosehaven'. (Image courtesy of the ABC)



ABOVE LEFT: Mrs Marsh (Noela) with co-star 'Barbara' played by Kris McQuade, on the set of 'Rosehaven'. (Image courtesy of the ABC)

Noela is also passionate about medical research and wellbeing, appearing in Dementia Australia training videos for health care workers. She successfully advocated renaming a 'healthy ageing' expo in Hobart to a 'positive ageing' expo because "there are more than health problems that can affect us."

She enrolled in the ASPREE trial in 2012 to contribute to society. "I felt that in any way that I am able to help, I will do so," says Noela. "I've never regretted being in ASPREE."

Raised in Perth, Noela and her husband, also a teacher, moved to Tasmania to fill teaching positions. Fifty years later and she's still here. "We fell in love with Tasmania," she says. Fittingly, Noela is in a TV series that showcases Tasmania and its favourite town to the world.



Staying in touch with you is very important

- **Have you moved?**
- **Have a new GP?**
- **A change in circumstance?**
- **Please let us know!**



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**1800 728 745**

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Email: [aspree@monash.edu](mailto:aspree@monash.edu)  
Website: [www.aspree.org](http://www.aspree.org)

@aspree\_org

Please note that the ASPREE office will be closed on Wednesday 23rd December 2020 and will reopen on Monday 4th January 2021.

### ASPREE-XT Funding Organisations

- National Institute on Aging (NIA/NIH in the US)
- National Cancer Institute (NCI/NIH in the US)
- National Health and Medical Research Council of Australia (NHMRC)

### ASPREE-XT Collaborating Organisations

- Monash University
- Menzies Institute for Medical Research, University of Tasmania
- Australian National University
- The University of Adelaide
- Berman Center for Outcomes & Clinical Research (Minnesota, US)