Frequently asked questions about aspirin, cancer and the ACES (ASPREE Cancer Endpoints) sub-study

Q: What is cancer?

A: Cancer is a disease where cells, the building blocks of organs and tissues in our body, grow and multiply at an uncontrolled rate. These rogue cells develop their own blood supply, which in turn increases their capacity to multiply further, forming a tumour. Tumours that do not spread, such as moles, are generally benign.

Malignant cancers can spread throughout the body, invading healthy tissue and reducing normal, healthy function. There are more than 100 different types of cancer. The risk of developing cancer increases with age.

It is not understood how aspirin may affect cancer in the long-term. Some studies indicate it can take many years for the effects of aspirin to become evident on some cancers, such as colorectal cancer. However, these studies did not focus solely on older adults. Evidence suggests that cancers in older adults can behave differently to those in middle age and young people.

Possible mechanisms for aspirin's mode of action include:

- aspirin may reduce inflammation which may be a precursor to some cancer development
- aspirin may help the body expel the 'rogue' cancer cells which otherwise have the ability to multiply unchecked
- aspirin may limit the development of blood vessels which are needed to support tumour growth
- aspirin may impede the spread of cancer cells through an effect on platelets

Q: How do saliva and blood samples help to study cancer?

A: Saliva and blood samples (biospecimens) have important genetic information (DNA) that helps researchers to identify genetic patterns which may be associated with cancer. A person's blood may contain 'biomarkers', such as proteins, which can provide additional information about cancer.

Future research on the samples may reveal relationships between a particular type of cancer and the presence of a protein in the blood or with variations in patterns on our genes. For instance, a known genetic variant (mutation) is associated with Lynch Syndrome, which increases the risk of developing bowel cancer. There is a lot to learn about genetic variants and biomarkers and cancer in older adults.

Research on biospecimens may provide the bridge between physical health and what is happening at a genetic or cellular level to better predict who is at an increased risk of a type of cancer. It may also help identify the best therapy to prevent or treat the disease.

Q: How do you get the tumour tissue samples?

A: If you have consented to be in the ACES sub-study, and if at some point, you have a cancer biopsied or surgically removed, we will contact the pathology provider service to collect a sample of the tumour.

Generally, when your doctor has arranged for a biopsy or surgical removal of a tumour, the tissue is sent to a pathology service to diagnose the type of cancer cells and to stage its progression. Excess tissue from the biopsy is normally stored at the pathology service provider for many years. It is from this excess tissue that ASPREE-XT seeks a sample.

After you let us know that you have had a biopsy, you do not need to do anything more. Our staff will request a small sample of your tumour tissue directly from the pathology provider. This sample will be stored in our biorespository for further research, which may include looking at the differences in genetic information contained within tumours for those who were taking aspirin versus those who were on placebo. Tumour samples, along with blood or saliva samples, form an invaluable resource for future research into diseases that affect older adults.

Q: Are there any types of cancer tumours that aren't included in the study?

A: Although we collect information on the incidence of all types of cancer, samples from benign (non-malignant) tumours and basal cell and squamous cell carcinomas of the skin, are not required.