# Video Transcript

## 2023-24 Premier Awards for Health and Medical Research Dr Sarah Garnish

### Dr Sarah Garnish

My name is Dr Sarah Garnish and I completed my PhD at the Walter and Eliza Hall Institute of Medical Research.

Text: 2023-24 Premier’s Awards for Health and Medical Research. Dr Sarah Garnish, Basic Science Researcher Award.

Text: Why did you become a health or medical researcher?

### Dr Sarah Garnish

Well I’ve always had a big passion for science and I like asking the questions that we don’t have the current answers to, but I think I decided I wanted to be a medical researcher when I started my Honours.

Vision: View of Sarah working in the research department.

### Dr Sarah Garnish

And I saw, talking to my family and friends about what I was doing, what everyone at the Institute was doing, how big of a difference that could make in some of their lives, especially those who were suffering with, non life-threatening, but diseases that were having an impact on their quality of life.

And I just wanted to make a difference and hopefully my research will do that one day.

Text: What problem is your project addressing?

### Dr Sarah Garnish

So my PhD research looked at how cell death can cause inflammatory disease.

So every minute millions of cells in our body die and that is deliberate, so cell death usually helps us fight against disease, so it gets rid of unwanted or damaged or dangerous cells and stops the spread of thing such as bacteria, viruses and even cancer.

Vision: View of Sarah working in the research department.

### Dr Sarah Garnish

And there’s lots of different types of cell deaths but my research looks at an explosive form called necroptosis, and normally necroptosis helps us fight pathogens, so bacteria and viruses, but when it occurs excessively or ongoing it can cause inflammatory disease.

### Dr Sarah Garnish

So my research focused on looking at how necroptosis is turned on and off, and how when that goes awry that can lead to inflammatory disease.

Text: What have the project results been?

### Dr Sarah Garnish

We’re pretty excited by the project results.

Vision: View of Sarah working in the research department.

### Dr Sarah Garnish

I was able to get a really in depth look at how necroptosis is turned on and off and how our body signals to stop necroptosis.

Vision: View of Sarah working in the research department.

But a bit more broadly, what I found was that many of us are walking around with faulty brakes, and what I mean by that is that a lot of us carry a genetic variant that actually impedes the way that our cells stop necroptosis.

Vision: View of Sarah working in the research department.

### Dr Sarah Garnish

So about two or three people in every 100 have this variant, and basically it means that when the cell tells them to stop necroptosis it doesn’t actually always happen.

And we think that it’s possible that this genetic variant, in combination with somebody’s lifestyle, their infection history and other genetic background, could actually be leading them to developing inflammatory disease.

Text: How could this project make a difference to people’s lives?

### Dr Sarah Garnish

Definitely we hope that whilst right now we haven’t actually tagged this variant to a specific disease, with more research looking at other genetic variants and environmental cues that we may be able to see how this variant is actually promoting somebody to develop inflammatory disease, and I guess hoping promote future research to look at other necroptotic gene variants and how they also may be causing inflammatory disease.

Vision: View of Sarah working in the research department.

### Dr Sarah Garnish

But if I think a little bit also holistically, hopefully just the research in general will be really important when we’re looking at trying to design safer and drugs with less side effects to treat necroptotic driven inflammatory disease.

Text: 2023-24 Premier’s Awards for Health and Medical Research. Celebrating the achievements of Victoria’s early career health and medical researchers.

Text: Victoria State Government. Authorised by the Victorian Government, Melbourne.