

# UPDATE



Prostate  
Cancer  
Research

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## Stopping prostate cancer spread to bone

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# Stopping prostate cancer spread to bone

For prostate cancer, one of the most common locations for cancer spread is bone. This can be very painful and make treatment more difficult. Men who die of prostate cancer often also have secondary tumours in their bones. Doctors do not yet have effective treatments for this advanced stage. PCR scientists are addressing this challenge head on...



'We are delighted that PCR have funded this project that will allow us to determine if drugs targeting Wnt signalling, which is active in advanced/metastatic prostate cancer, can block the spread of prostate cancer cells around the body.'

**Dr Helen Pearson and Dr Toby Phesse**  
**Principal Investigators**

CARDIFF UNIVERSITY

**Start date:** September 2021

**Duration:** 36 months, reviewed quarterly

## The research at a glance



1 Why and how prostate cancer spreads to bone are big unanswered questions.



2 The Wnt pathway is a set of signals that play a key role in prostate cancer. These signals are released by one cell and taken up by surrounding cells.



3 This causes them to grow and move uncontrollably, resulting in cancer growth and spread.



4 Toby and Helen are researching how these signals control cancer spread and whether blocking the pathway can prevent spread.



5 There are trials underway of a drug that blocks the Wnt pathway in other cancers.



6 Toby and Helen will investigate whether this same drug could also be used to effectively treat advanced prostate cancer.

## Cancer spread to bone

Cancer can break away from its original site, such as the prostate, spreading round the body and settle elsewhere, forming 'metastases' (secondary tumours).

## The Wnt pathway

Toby and Helen are investigating a set of signals called the Wnt pathway. This plays a key role in prostate cancer. Wnt signals can cause cells to grow and move

uncontrollably, which can result in cancer growth and spread.

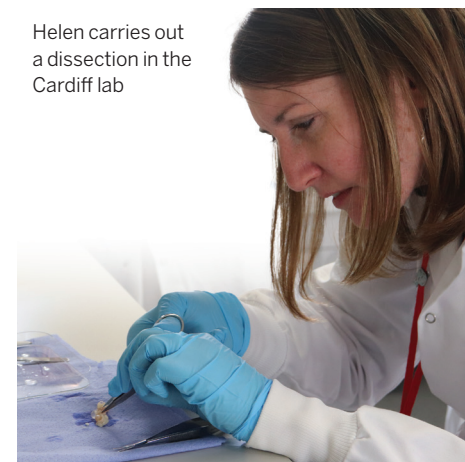
## A new treatment ready to go?

There is already a drug that blocks the Wnt pathway being tested in patients with other cancers. Toby and Helen will investigate whether this same drug can treat advanced prostate cancer. They will also look at how Wnt signals control the growth of prostate cancer in the bone and if the Wnt-blocking drug can stop this.

## What will this mean for patients?

Toby and Helen hope that the drug being tested could be applied to prostate cancer and offer new treatments to those with no other options. They will also investigate whether the drug can

Helen carries out a dissection in the Cardiff lab



be used to prevent prostate cancer from spreading, treat cancer that has already spread and even delay or prevent resistance to existing therapies.

## PATIENT FOCUS: JACK



Jack and his partner Laura

'My name is Jack. I'm 50 years old. I was diagnosed with prostate cancer in 2021 when I was only 48. I really thought it was an "old man's disease". I had a PSA of 77 and a Gleason score of 3+4. It had already spread to my pelvic lymph

nodes. I've had hormone treatment, chemotherapy, brachytherapy, radiotherapy. I'm still on hormone treatment.

'Prostate cancer research is important so help can be given to people like me with advanced prostate cancer. When I was diagnosed, the professionals didn't tell me anything about life expectancy or my quality of life in the future. I had to find most of my information from charity websites and Google.

'For me, research is important because, if you go back, say 20 years, treatments for advanced prostate cancer were not the same as they are now. So, I'm thinking that with more research funding, in 20 years' time, who knows what new treatments could be available? I really want to help Prostate Cancer Research in any way that I can.'

## **PATIENT FOCUS: SENNEN CHIU'S 18 YEARS OF EXPERIENCE**

Sennen Chiu understands what it means to experience recurring, metastatic prostate cancer, accompanied by a range of tests, treatments and side effects.

### **Symptoms and diagnosis**

'When I was first diagnosed with prostate cancer, I was 56 (relatively young). Three years prior to that, I was advised by the doctor performing my annual check-up that I should refer myself for a prostate investigation to my GP. The GP's response was that prostate cancer has no symptoms, and my symptoms were consistent with old age. He did not even carry out a PSA



Sennen Chiu enjoys a touch of seaside paddling

**'A cure – this is what I hope for prostate cancer. To do that, a lot of research needs to be done. We have to rely on researchers to find out the possibilities. This is why I'm supporting Prostate Cancer Research.'**

### **Sennen Chiu**

test. But for those three years, I did have symptoms – frequent urination and getting up at night very often.

'My wife encouraged me to see a urologist. After a digital rectal examination, blood test, volume measurement and biopsy, they came back with a Gleason score of 2+3. Anything below 3 was not considered serious, but my urologist said, "Wouldn't it be better if we do another test for peace of mind?" So basically he knew it was worse than that. So I said "Okay, I'll do it". It came back as 3+4, which is more serious than 2+3. From then on, I realised that I had prostate cancer.

'Now, years on after being treated with HIFU (high-intensity focused ultrasound), radiotherapy, surgery and hormone therapy, my PSA is undetectable. But I don't have any more options after this, 18 years on from being first diagnosed.

'I've got my quality of life back, although once the pelvic region has had trauma, one tends to have stress incontinence, which means when you have to go, you have to go, and sometimes I may leak. I've been wearing a pad, but that doesn't bother me that much. I'm grateful that I'm being well looked after by my oncologist.'