The 100,000 Genomes Project

This is not a research project or a research trial but a combination of healthcare and research. The 100,000 Genomes Project aims to sequence 100,000 whole genomes from NHS patients (and in the case of rare diseases, their relatives) by 2017, to help patients, to develop new treatments and to establish a genomic medicine service in the NHS.

Your genome is the body's instruction manual and it contains the information to make it, repair and it keep you working. The Genome is made of DNA which can now be read letter by letter. This is known as sequencing.

By looking at the cells from a cancer patient's blood and comparing it to the cancer cells which have developed differently, we can find out more information about the cancer and look for clues about how to treat the cancer.

The West Midlands Genomic Medicine Centre is one of thirteen in England and covers 18 Trusts of which Royal Wolverhampton is one.

The Hospital has begun recruiting cancer patients: urology is one of the first specialties and patients with Bladder Tumours are now being approached about participating. We shall gradually open to Renal Cell Cancers and Testicular cancer.

What is involved?
If you consent to participate:

- You consent to giving blood samples and a small piece of your cancer when you have your operation.
- You consent to information about your health being seen to Genomics England to aid analysis of your condition.
- You consent to your genome sequence data and your health data to be linked to your medial record.
- You consent to being contacted by your clinical team regarding results and potentially future treatment.

Charlotte Hitchcock is the Genomic Ambassador for the Trust, she works closely with the medical and nursing team to help identify and inform patients about the project. Please contact Charlotte if you wish to know more about the project.

Charlotte is a qualified nurse with a background in theatre nursing and clinical informatics. "I believe the 100,000 Genomes project will pave the way to personalised medicine for our NHS patients". To find out more about the project visit the Genomics England website www.genomicsengland.co.uk

New Urology Consultants

Sadly, Mr Rukin left the urology department earlier this year to take up a new life in Australia. We wish him all the best for the future. We are pleased to welcome two new urology consultants, Mr Sur and Mr During.

Mr Hari Sur
Mr Sur trained at Imperial College London before embarking on his specialist training in Urology in the West Midlands.

In addition to his general Urological experience he has a subspecialist interest in laser surgery for stone disease and upper tract diagnostics for cancer. Following completion of his higher surgical training he completed a fellowship in Western Australia to further develop this subspecialist interest and has focused on the management of complex stone disease and percutaneous nephrolithotomy. Mr Sur has also completed a fellowship at the Birmingham Children's Hospital in paediatric Urology. He currently helps to provide the Paediatric Urology service for Wolverhampton.

Mr Vinnie During
Vinnie During is a West Midlands trained urologist through and through. Having first come to the region as an undergraduate medical student, he has received all his General Medical, Surgical and recently completed his Urology Specialist training here in the Midlands.

He has a Specialist Urological interest in advancing diagnostic services in urological malignancy, particularly Prostate and Bladder Cancer. Having developed this interest over the course of his training, he built upon this experience by recently dedicating 2 years, researching the diagnosis and treatment of bladder cancer. This time in the laboratory has given him a unique insight into the basic science of the disease and helped foster a passion for translating this science into improved patient experience and outcomes.

Mr During also has an interest in General Urological procedures and the management of Urological Stone disease having received specialist training in the surgical management of the condition.

Mr During's main interest outside of urology is sport. An ex-rugby player, but has an opinion on most sporting events!

"Wishing you all a very Happy New Year for 2017"

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The Royal Wolverhampton NHS
NHS Trust

Wolverhampton Prostate Cancer Support Group

Newsletter December 2016

Welcome to the latest newsletter from the Wolverhampton Prostate Cancer Support Group for the year 2017. Please note that meetings will continue at the new time of 1.45pm to 3.30pm at the Community Centre, Marsh Lane, Wolverhampton, WV10 6SE. Thank you to everyone who continues to support the group and attends the meetings. Please continue to contribute to the raffles; we rely on monies raised to fund the meetings.

New Programme for 2017

Here is the new programme for the next year's meetings. If there are any subjects of particular interest to you that do not appear on the programme, then please let Clare Waymont or the committee know.

Monday 23rd January 2017 – RAFFLE
Living with Prostate Cancer and the Effects of Treatment (Clare Waymont, Advanced Nurse Practitioner)

Monday 20th March 2017
Research and Clinical Trials
(Vanda Carter – Senior Oncology Research Sister)

Monday 15th May 2017 – RAFFLE
100,000 Genomes Project
(Charlotte Hitchcock)

Monday 10th July 2017
Advances in Prostate Cancer Diagnostics
(Mr V During – Consultant Urological Surgeon)

Monday 11th September 2017 – RAFFLE
Radiology and Prostate Cancer
(Dr M Collins – Consultant Radiologist)

Monday 30th October 2017
New Advances in Prostate Cancer Management
(Mr P Cooke - Consultant Urological Surgeon)

Monday 11th December 2017 – RAFFLE
AGM and general discussion

Thank you from Mr Cooke – Three Peaks Challenge

Consultant Urological Surgeon Peter Cooke would like to thank the prostate cancer support group and individual patients that sponsored him for the Peaks Challenge in June 2016. Mr Cooke and friends climbed the highest peaks in Scotland, England and Wales, namely Ben Nevis, Scafell Pike and Snowden, over 3 consecutive days. Mr Cooke and his team managed to raise £35,000 for The Urology Foundation charity who funded Da Vinci robotic surgery training for the surgical team at New Cross Hospital.

Why Nobel Prize for understanding cell survival is important to Prostate Cancer

(Article taken from Prostate Cancer Charity website)

The 2016 Nobel Prize for medicine has been awarded to Japanese scientist Yoshinori Ohsumi for research into how cells' survival mechanism can go wrong, an important area for understanding how cancer develops. Here's why it's important to prostate cancer research.

With trillions of cells in our bodies, there are a lot of defenses in place to stop any of them going rogue and becoming cancerous. To fight cancer at a cellular level, we need to make sure that any that do slip through the net are caught quickly and destroyed to stop them from spreading further.

If cells are damaged or are dying, they can be told to 'commit suicide' or start eating parts of themselves. This process is hugely important for keeping our bodies healthy. And if something goes wrong with this, it can lead to a whole range of diseases, including cancer.

That's why the 2016 Nobel Prize for medicine was awarded today to Japanese scientist Yoshinori Ohsumi for his work in the early '90s studying yeast to understand this process, known as autophagy. Autophagy can be useful for repair by removing damaged parts of the cell, or for survival by allowing the cell to 'eat' unnecessary parts if it is in danger of starving.

This has helped us to understand the changes in cancer cells that allow them to grow out of control and resist triggers that should kill them. It's thought that prostate cancer cells can disable autophagy at the early stages, allowing them to grow rapidly, but then switch it back on as they become more advanced to allow them to survive as they spread to other parts of the body.

It's clear then that autophagy might be important in prostate cancer, but the switching back and forth means that it isn't clear how we might take advantage of this to help men with prostate cancer. A lot of current research is focused on how we can make the cancer vulnerable to the body's defenses again.

Prostate Cancer UK will continue to fund exciting fundamental research that reveals the processes that trigger prostate cancer and allow it to spread.

When healthy cells are damaged, a protein called TRAIL is released to trigger it to die. However, cancer cells develop ways to resist TRAIL and survive even after damage from radiotherapy. We are currently funding research into different ways to get around this problem. Dr Richard Clarkson at Cardiff University is developing a new drug to block this resistance from happening, while Dr Ralf Zwacka at the University of Essex is working to turn TRAIL into a treatment that can help make chemotherapy more effective.

While both of these exciting projects are in the early stages, it is fantastic to see a researcher who helped us to understand the basics behind the biology of cells being recognized for his contribution. Prostate Cancer UK will continue to fund exciting fundamental research like this that reveals the processes in the body that trigger prostate cancer, and those that allow it to spread. It's this kind of research that will one day allow us to effectively treat, and maybe even prevent, prostate cancer and save thousands of men's lives.

Results from 10 year ProtecT Trial for Prostate Cancer

The ProtecT trial, published in September 2016 in the New England Journal of Medicine, has reported that men with localised prostate cancer who participated in 'active monitoring' had the same 10 year survival as men who had either radical prostatectomy or external-beam radiotherapy. 1643 men were randomised to the three treatment arms and followed for a median of 10 years; by the end of the study approximately 50% of men assigned to active monitoring had undergone either surgery or radiotherapy as their disease progressed. There was no difference in prostate cancer specific survival between any of the arms.

However, as survival was very high (over 98.8%) in all three groups it will be important to see the results of the planned follow up in 5 years, to see if any of the treatments affect mortality at later time periods. Most of the men who took part in the trial had low risk disease (median PSA 4.6 ng/mL, 77% had Gleason 6) and if currently diagnosed would already be encouraged to undergo active surveillance. This trial did not include enough men with higher-risk localised disease (i.e. Gleason 7) to draw a conclusion about the effectiveness of active monitoring for men in this risk category.

Despite having similar survival, men who were on the active monitoring arm had higher rates of disease progression (112 men in the active monitoring, 46 men in the surgery and 46 men in the radiotherapy group, $p<0.001$) and metastatic disease (33 men in the active monitoring, 13 men in the surgery and 16 men in the radiotherapy group, $p<0.004$). During the trial, men in active monitoring were followed by PSA kinetics. This is quite different than current active surveillance protocols, which recommend including multi parametric MRI staging and scheduled repeat biopsies, and it is likely that this more active method may result in decreased rates of disease progression for men currently under active surveillance protocols.

When taken together with the patient-reported outcomes (published concurrently and described below) this study supports the use of active monitoring for men with localised prostate cancer and will help men make a more informed treatment choice that is right for them.

Patient-reported outcomes following active monitoring, surgery or radiotherapy

As described above, the ProtecT trial showed no difference in 10 year survival for men with localised prostate cancer who were assigned to either active monitoring, surgery or radiotherapy. Men also completed questionnaires (at 6 and 12 months after randomisation and annually thereafter) that aimed to measure urinary, bowel and sexual function and quality of life. These results, published concurrently in the New England Journal of Medicine, describe different levels of severity and recovery of urinary, bowel and sexual function among the treatment arms. Interestingly, there was no significant difference with respect to men's anxiety, depression or over-all health-related quality of life between the treatment groups.

Of the three treatments, prostatectomy had the largest negative effect on sexual and urinary function. This was greatest at 6 months and, while there was recovery over time, this group maintained worse function throughout the trial compared to radiotherapy or active monitoring ($p<0.001$ for either sexual or urinary function). There was also a gradual decline in sexual and urinary function in men in the active monitoring group as increasing numbers received surgery/radiotherapy or underwent age-related changes.

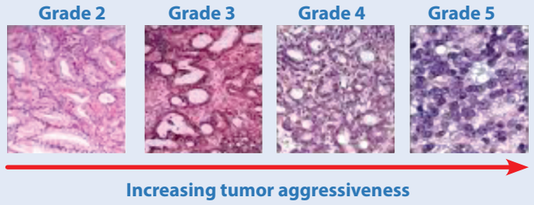
At 6 months, men in the radiotherapy group experienced almost as much sexual dysfunction as the surgery group, and had worse bowel function than either of the other arms. However, there was considerable improvement over time for all measures except frequent bloody stools ($p<0.001$). Finally, overall health-related quality of life (including measures for anxiety and depression) was the same amongst all groups.

It has long been thought that an active monitoring/surveillance approach leads to increased levels of anxiety in men, compared to radical treatment. This study suggests that this is not in fact the case and that men who undergo active monitoring may overall experience less negative side effects.

Donation from Wolverhampton Boat Club

Hello everyone.
My name is John Derrick and I was the Commodore at Wolverhampton Boat Club last year. As Commodore you are expected to organise a variety of club events throughout the year. Cruises are part of this, as you would expect from a boat club. Holiday celebrations are also a big part of the calendar. Traditionally, at the start of your year, the Commodore chooses a charity to support and will introduce things like raffles, auctions, competitions and other activities to raise money at these events. I have been a member of the boat club for twelve, or so, years. During those years, I have sadly seen, a number of club members affected by Prostate and Breast Cancer and so I chose both of these as my charities. We raised £840 and divided this amount equally between the two charities. On Monday 16th May, my partner, Gill and I were pleased to present a cheque for £420 to your support group. We hope this will help, in some small way, to ensure your support in this area continues. Best wishes to you all from all of us here at W.B.C.

New Grading System for Prostate Cancer



When cancer is found in biopsy samples from the prostate, question arises whether the pathologist can give some help or guidance regarding the behaviour of this cancer so that treatment can be planned accordingly. When cancer is seen under the microscope, it shows arrangement of cancer cells in different patterns. These patterns are used to tell how aggressive the cancer can behave. In total 5 patterns are identified which are called the Gleason grades 1 to 5. Grades 1 and 2 are very rare and cannot be reliably identified in a biopsy. The pathologist therefore identifies grade 3, 4 and 5 cancers at the time of biopsy diagnosis.

Gleason Score

There may be more than one grade or pattern of cancer in the biopsy samples. Therefore, an overall Gleason score is worked out by adding together two Gleason grades.

The first is the most common grade in all the biopsies which is called the primary grade. The second grade or pattern is called the secondary grade which is the second most common grade or the highest grade present in the sample. When these two grades are added together, the total is called the Gleason score.

Gleason score = the most common/primary grade + the second most common or highest grade in the samples

For example, if the biopsy samples show that:

- Most of the cancer seen is grade 3, and the second grade of cancer seen is 4, then the Gleason score will be 7 (3+4).
- Most of the cancer is grade 3, and the rest of the cancer shows grades 4 and 5 patterns, then the Gleason score is 3+5 (highest grade)=8.
- If only one grade is seen, then the Gleason score is given by doubling the grade present. For example: 3+3=6 or 4+4 =8 or 5+5 =10.

If you have prostate cancer, your Gleason scores will be between 6 (3+3) and 10 (5+5).

Grade Group

The lowest Gleason score on biopsy is 6 which is the least aggressive cancer and Gleason score 10 cancer is the most aggressive cancer. In order to clear the confusion created by the scoring system which runs from 6 to 10, a new Grade Group system has been introduced for accurate and easy stratification of cancers. In this way, patients can be placed in different groups for treatment, monitoring and prognostic purposes. Cancers with same biological behaviour or prognosis are placed in the same grade group. This system helps patients understand the behaviour of their cancers better.

There are 5 grade groups depending on the Gleason scores:

- Grade group 1: Gleason score 6(3+3)
- Grade group 2: Gleason score 7(3+4)
- Grade group 3: Gleason score 7(4+3)
- Grade group 4: Gleason score 8(3+5 or 4+4 or 5+3)
- Grade group 5: Gleason score 9 and 10 (4+5 or 5+4 or 5+5)

This new grade group system has been accepted by the World Health Organization (WHO) 2016 and is now in use.

Nigel's flying high for Prostate Cancer

Nigel Green, a health care assistant on ward A9, surgical emergency unit at New Cross Hospital, took to the skies in September this year to raise awareness and money for Prostate Cancer. He completed a tandem parachute jump which he described as a "great experience" and raised over £350 for the Prostate Cancer UK charity.