

## **Predicting the Future of Cancer Surgery**

Memorial Sloan Kettering Cancer Center is one of the leading centres in the world for cancer treatment and research. Memorial Sloan Kettering publishes a regular blog “*On Cancer – News and Insights from Memorial Sloan Kettering*”: <http://www.mskcc.org/blog>

Medical writer Jim Stallard asked Dr Peter T Scardino, Chair of MSK’s Department of Surgery and a specialist in the treatment of prostate cancers, to forecast the future direction of cancer surgery. We are grateful to Jim Stallard and Memorial Sloan Kettering for giving us permission to publish this interview which was posted on the “*On Cancer*” blog on 24 February 2015.

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*Surgery has long been the cornerstone of cancer treatment, the most direct approach for wiping out a tumor. The field has made remarkable strides in the past 50 years and continues advancing at breakneck speed as new techniques enable surgeons to perform operations once considered impossible.*

*But what does the future hold? How will surgery evolve to become even more effective? What new technologies will emerge to bring more tumors within reach? And will new drugs make cancer surgery less essential?*

### **Will surgery remain the main treatment for most cancers in the near future, or will other therapies assume a primary role?**

I think cancer care is going to rely on surgery for a long time. Intuitively, it might seem that taking a drug instead of having an operation

would be more appealing. But systemic therapies that affect the entire body, such as chemotherapy or even newer drugs, still have toxicity and side effects that can be long lasting or even permanent.

While surgery is a form of injury, the body has evolved to heal remarkably well from this kind of temporary wound. By contrast, the body is not used to being exposed to chemotherapy, other drugs, or radiation. I believe the role of surgery will actually increase for certain cancers as we learn how to combine it with other therapies. A generation ago, we didn’t operate on a lot of people who were thought to have incurable disease because there was little or no chance of a cure from surgery alone. But this has been changed by the use of drugs as adjuvant therapy — given before or after the operation — that allows many of these cancers to be cured with surgery. contd p.2

### **Our Next Meeting**

Date: **Wednesday 13 May 2015.**

Time: **10:00 am to 12.30 pm**

Place: **Ivanhoe Uniting Church, Seddon Street, Ivanhoe** (Melways 31 F8)

- Meetings are open to anyone interested in getting support or information on a prostate cancer journey. Partners or carers are welcome to all meetings.
- **There is no charge for attending.**

So the emergence of better systemic treatments, although they are not curative in and of themselves, has actually made surgery a more viable option in many cases.

Overall, surgery has a very successful track record — especially for cancers that are found early, before the tumor has spread, which is often the case. And another major trend has been the optimization of outcomes by surgeons who do huge numbers of these procedures and produce outstanding results.

### **What will be the biggest change in cancer surgery over the next 20 years?**

The biggest change will be the use of intraoperative molecular imaging methods, which light up cancer cells so we can see them clearly and ensure we remove them all [during surgery]. We have already seen remarkable advances in imaging technology, which have enhanced our ability to visualize a tumor. For example, we can now link a radioactive tracer to antibodies that bind to cancer cells and see the cancer with a PET scan much better than with the standard imaging methods.

The next step will be to link the antibody to a light-emitting molecule called a fluorophore that can be activated to light up at the time of surgery. The patient would receive a dose of this tracer just before the operation so that when we begin the procedure, we can see the extent of the cancer — what we need to remove to make sure we've got it all — and which lymph nodes we may need to take out.

One problem with traditional cancer surgery has been that we usually know where a cancer is likely to spread, but we don't know if it's actually there, so we tend to remove as much tissue as we can without endangering the patient. I'd love to be able to say, "No, I don't have to remove all of these lymph nodes; I'll just remove this small cluster. And when I take

out this tumor, I don't need a wide margin, just enough to remove all the cancer cells." That will be a remarkable advantage.

### **Do you foresee an increase in the use of minimally invasive techniques, including robotic surgery?**

Minimally invasive techniques are being used increasingly in cancer surgery, and I think their value will continue to grow. The surgical robot is a sophisticated instrument, but for now it's really best for abdominal and chest procedures. It's going to take some refinement of the instruments for other uses — such as head and neck cancers or pediatric tumors.

In cancer surgery, what's important is that the right tissue is removed, regardless of the incision through the skin to get to the tissue. Because people think of minimally invasive surgery as a minor type of procedure, there is a tendency to overuse it. For example, it's easy to take out an entire kidney with laparoscopic surgery [using an instrument to remove the organ through a small opening in the skin]. However, a patient with a small kidney tumor might be better off having the tumor removed with open surgery — leaving the rest of the kidney intact, which will preserve kidney function.

Having said that, we perform many minimally invasive and robotic procedures, and our surgeons are highly skilled at it. The key question is: What's the best approach to curing your cancer and giving you a normal life afterward?

### **Beyond specific technologies, what long-term trends do you see for cancer surgery?**

I see the focus of surgery shifting from the very early-stage, low-risk cancers to later-stage, high-risk cancers. In the past, our policy was to

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find the cancer very early and do a radical operation to remove it. Today we know that some cancers can be found so early that immediate treatment is not necessary, and these tumors can be monitored closely with active surveillance — a method we've pioneered very successfully here with prostate cancer that is being increasingly considered now for thyroid, kidney, and other cancers.

Initially some patients were not comfortable with this idea — when someone learns they have cancer, they want it out immediately. But many studies now support the safety and quality-of-life benefits of active surveillance, and more patients have come around. Of

course, there are other cancer types — colon and lung cancer, for example, or those that are large or fast growing or cause symptoms — that should be treated immediately.

So surgery may be used less often in the future for very small, early cancers but more often for advanced cancers, meaning that cancer surgery will become more complex and will require highly experienced surgeons to get the best result.

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### **Pathfinder – Help prostate cancer research**

Previously researchers wanting participants for prostate cancer research projects would contact the Prostate Cancer Foundation of Australia (PCFA). PCFA would tell its support groups about the project and each support group would ask its members whether they were interested in participating in the research project.

PCFA, in a joint initiative with Griffith University, has established a research register, Pathfinder, which will make it easier for researchers to recruit participants for their projects. People who are interested in participating in research to improve the lives of people affected by prostate cancer can register online. If you register with Pathfinder, you are

simply agreeing to receive information about research projects that are seeking to recruit participants. It is completely up to you what you choose to participate in.

The research projects which recruit through the Pathfinder register will cover the physical, psychosocial, and financial issues of cancer, beyond the diagnosis and treatment phases and include issues related to the ability to get health care and follow-up treatment, late effects of treatment, second cancers, and quality of life. Family members, friends, and caregivers are also included in research projects and are invited to register.

To find out more information and to register, go to [www.pathfinderregister.com.au](http://www.pathfinderregister.com.au)

### **Come and see what happens in a Pathology Laboratory**

The Melbourne Prostate Support Group is arranging a visit to the Melbourne Pathology Laboratory in late May. They have asked if any of our members want to go on the visit. As yet the date of the visit hasn't been finalised.

If you are interested in coming on the visit, please send an email expressing your interest to [prostateheidelberg@gmail.com](mailto:prostateheidelberg@gmail.com) Places are limited.

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*Prostate Heidelberg provides information, education and support for those affected by prostate cancer. At the meetings, we*

- 1. Show respect to members and speakers;*
- 2. Allow people to speak and we listen;*
- 3. Respect confidentiality;*
- 4. Allow new ideas to be shared.*

We meet on the 2nd Wednesday of each month (February to December) from 10:00am - 12:30pm.

We meet at the Uniting Church Meeting Room, Seddon St, Ivanhoe (behind the Commonwealth Bank in Upper Heidelberg Rd).

Free parking is available in a large public parking area at rear of the church. Ivanhoe railway station is nearby.

Meetings are open to anyone interested in getting support or information on a prostate cancer journey. Partners or carers are welcome to all meetings

**There is no charge for attending.**

After the meeting you are welcome to join us for lunch in a local Thai restaurant.

If you can't attend daytime meetings, the Diamond Valley Prostate Cancer Support Group has evening meetings: <http://www.dvpcsg.org.au/>

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**COMMITTEE:**

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**Annual subscription - \$5** from 1<sup>st</sup> January  
per individual, couple, or family.

**CORRESPONDENCE**

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**CALENDAR** Meetings: **10:00am -12:30pm**

Wed 13 May '15  
Wed 10 June '15  
Wed 8 July '15  
Wed 12 August '15  
Wed 9 September '15  
Wed 14 October '15  
Wed 11 November '15  
Wed 9 December '15 (Christmas lunch)

**WEBSITE**

[www.ProstateHeidelberg.info](http://www.ProstateHeidelberg.info)

Please contact Paul Hobson to redirect or cancel receipt of this Newsletter.

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