Urology department

Robotic-assisted (Da Vinci®) laparoscopic radical prostatectomy

What is the evidence base for this information?

This leaflet includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and evidence based sources; it is, therefore, a reflection of best practice in the UK. It is intended to supplement any advice you may already have been given by your urologist or nurse specialist as well as the surgical team at Addenbrookes. Alternative treatments are outlined below and can be discussed in more detail with your urologist or specialist nurse.

What does the procedure involve?

Keyhole surgery to remove the prostate gland using robotic assisted techniques.

What are the alternatives to this procedure?

This will depend on the exact type of cancer that you have. Sometimes active monitoring (Active Surveillance) may be appropriate. Open radical prostatectomy can be offered, although we do not routinely do this now in Cambridge. External beam radiotherapy, brachytherapy are other curative treatments. Other options may include hormonal therapy (not curative) or conventional laparoscopic (telescopic or minimally invasive) approach.

In 2005, Addenbrooke's hospital introduced a new operation to remove the prostate gland (robotic assisted laparoscopic prostatectomy). This leaflet is designed to give you information on what to expect from the procedure, its advantages and possible risks. It will, hopefully, answer the common questions usually raised. More detailed information is available from your consultant.

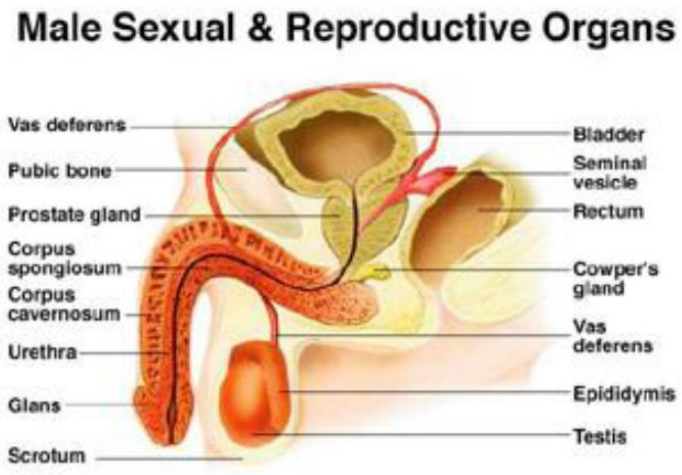
About regular radical prostatectomy

You will have had a discussion with your urologist and oncology nurse about prostate cancer. Please remember that early prostate cancer can be effectively treated. Most men with early prostate cancer will remain alive and healthy for many years to come. Radical prostatectomy is an operation which aims to remove the cancer and the prostate completely. The main advantage of surgery is that the cancer can be removed completely.

A radical prostatectomy is an operation carried out to remove the prostate for patients who have prostate cancer. The prostate, seminal vesicles and surrounding tissues are removed to provide the best possible chance of removing all the cancer.

What is and where is my prostate?

Your prostate is a small, walnut-sized gland that is situated at the base of your bladder. Its main function is to add liquid to your ejaculate (semen).



What is a radical prostatectomy?

This is an operation to remove the prostate but via an incision of approximately 10 to 15 cm in length.

During the operation, the surgeon will also sometimes remove some lymph glands from the side of the prostate. The surgeon then proceeds with removal of your prostate and the two sacs behind the prostate (seminal vesicles). The bladder is then joined to the water pipe (urethra) which runs along the penis so that you can pass urine normally. A tube (catheter) is left in place for seven to 10 days to allow the join to heal.

The operation is very safe and will be performed by a surgeon who is skilled and experienced. As with any operation, there are small risks of general complications such as bleeding or infection but death is extremely rare (less than two in 1000).

You may experience some loss of urinary control which tends to settle by three to six months after the surgery but may require you to wear pads. A few men have long-term problems with incontinence (less than five in 100) which may require other treatments.

The operation is designed to remove the prostate and all the cancer. Sometimes, after the procedure, it is found on examination of the prostate by the pathologist that the cancer has grown beyond the covering of the prostate gland. If this is the case, your urologist will discuss with you whether you need additional treatment such as radiotherapy. This will also depend on your PSA (prostate specific antigen) level which is monitored in all patients at frequent intervals. In the majority of men, your PSA will be close to zero at all times and you will not require further treatment.

What should I expect before the procedure?

You will usually be admitted on the day of your surgery. You will normally undergo pre assessment on the day of your clinic or an appointment for pre assessment will be made from clinic, to assess your general fitness, to screen for the carriage of MRSA and to perform some baseline investigations. We will dispense medication for you to take the night before and on the morning of the operation as follows:

- Ranitidine (helps reduce the production of acid by your stomach) 150mg to be taken at 22.00 then night before, and again at 06.00 the morning of your operation (with a small amount of water).

- Glycerine suppositories (two) to be taken the evening (20.00 to 21.00) before your operation and upon waking (05.00 to 06.00) on the day of your surgery to help evacuate your bowels.

After admission, you will be seen by members of the medical team which may include the consultant, junior urology doctors and your named nurse.

One important fact that you must do is to prepare yourself to mobilise immediately after the operation. You should try to walk at least 10 lengths of the ward before your operation.

You will be asked not to eat for six hours before surgery. You will be measured for elasticated stockings, which you will be asked to put on to prevent thrombosis (clots) in the veins of your legs.

Before your procedure, the anaesthetic team will visit you to ensure that they have no concerns about anaesthetizing you. You are encouraged to ask them questions at this stage about any concerns or issues you have concerning the anaesthetic.

You will need to have a small enema (Glycerine suppository) in the morning prior to surgery. Once your bowels have been opened, you can have a shower and prepare yourself in a clean gown.

Please be sure to inform your urologist in advance of your surgery if you have any of the following:

- an artificial heart valve
- a coronary artery stent
- a heart pacemaker or defibrillator
- an artificial joint
- an artificial blood vessel graft
- a neurosurgical shunt
- any other implanted foreign body
- a prescription for Warfarin, Aspirin or Clopidogrel (Plavix®)
- a previous or current MRSA infection
- high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human-derived growth hormone)

What happens during the procedure?

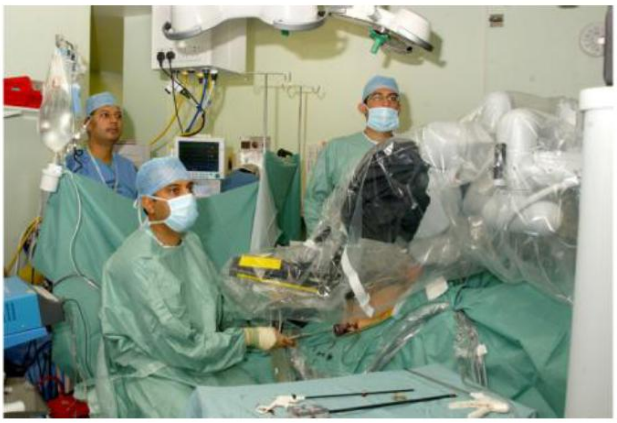
Normally, a full general anaesthetic will be used and you will be asleep throughout the procedure.

They may put a drip into your arm or neck to allow them access to your circulation during the operation. You will be anaesthetised and taken into the operating theatre. During the surgery you will be given antibiotics by injection; if you have any allergies, be sure to let the anaesthetist know.

The Da Vinci® prostatectomy is an operation to remove the prostate using laparoscopic techniques but with smaller incisions to remove the gland. A robotic console is placed beside you in the operating theatre. Attached to the console are three robotic arms; two for instruments and one for a high magnification 3D camera to allow the surgeon to see

inside your abdomen. The two robotic arms have the ability to hold various instruments attached to them and allow the surgeon to carry out your operation. The instruments are approximately seven mm in width. The instruments have a greater range of movement than the human hand and, because of their size; they allow the surgeon to carry out the operation using 3D imaging in a small space within the body.

With robotic surgery, the instruments are placed on to the robotic arms through small port holes into your abdomen. The operating surgeon sits in the same room but away from the patient and is able to carry out more controlled and precise movements using robotic assistance. The robot does not, of course, do the operation. The instruments are controlled by the surgeon (who does the operation) and the robot cannot work on its own.



What happens immediately after the procedure?

Once your surgery is complete, you will be taken to the recovery area. Although you have had minimally invasive surgery, you will have some pain and pain killers will be given accordingly. You will wake up with a catheter in your bladder, a wound drain from your abdomen (not in all cases) and six small incisions where the robotic port sites have been closed.

You will be given clear fluids to drink. It is very important that, whilst you are in the recovery area, you let the staff know if you feel any pain or become nauseous so that they can administer the appropriate medication. Once the anaesthetic staff, surgeons and nursing staff have agreed that your condition is stable, you will be transferred back to the ward.

On the day after surgery (and in some instances the evening of surgery), you must be prepared to mobilise actively. Ideally, we would like you to go home the day after your operation.

Your catheter will remain in for approximately seven to 10 days to allow the new join (anastomosis) between your bladder and urethra to heal. Your abdominal drain will generally be removed the morning after surgery (if one was put in). The average length of stay for this procedure is 48 hours, with the majority of patients being discharged within 24 hours of surgery.

You will be discharged once you are mobilising safely, are able to care for your catheter/leg bags and your pain is well controlled on appropriate tablets taken by mouth. You may take some time to commence passing wind and a few days before your bowels open.

Are there any side effects?

Most procedures have a potential for side effects. You should be reassured that, although all these complications are well recognised, the majority of patients do not suffer any problems after a urological procedure.

Please use the check boxes to tick off individual items when you are happy that they have been discussed to your satisfaction:

Common (greater than one in 10)

☐ Temporary difficulties with urinary control

☐ Impairment of erections even if the nerves can be preserved (20-50% of men with good pre-operative sexual function)

☐ All men have permanent inability to ejaculate or father children because the structures which produce seminal fluid have been removed.

☐ Discovery that cancer cells have already spread outside the prostate, including a positive surgical margin whereby cancer cells are present on the surface of the prostate. This may less commonly require further treatments such as radiotherapy or hormone treatment

Occasional (between one in 10 and one in 50)

☐ Temporary insertion of a bladder catheter

☐ Scarring at the new join between the bladder and the urethra, resulting in weakening of the urinary stream and requiring further surgery (2-5%)

☐ Scarring or narrowing of the urethra itself requiring further surgery (4-5%)

☐ Severe urinary incontinence requiring the use of many pads in a day and if permanent requiring further surgery (2-5%)

☐ Blood loss requiring transfusion (1%) or repeat surgery (<1%)

☐ Further treatment at a later date, including radiotherapy or horomone treatment because of recurrent or relapsed prostate cancer.

☐ Lymph collection in the pelvis if lymph node dissection is performed. There is also a risk of injury to the nerves and vessels of the pelvis during lymph node dissection. The nerve injury is usually temporary, and any inury to the veseels will be repaired at the time.

☐ Some degree of mild constipation can occur; we will give you medication for this but, if you a history of piles, you need to be especially careful to avoid constipation – please flag with the surgical team at your admission

☐ Apparent shortening of the penis; this is due to removal of the prostate gland causing upward displacement of the urethra to allow it to be rejoined to the bladder neck

☐ Development of a hernia related to the site of port insertion

☐ Development of a hernia to the groin area at least 6 months after the operation

☐ Scrotal swelling, inflammation or bruising

☐ Perineal (between the anus and scrotum) ache for a few weeks following surgery due to the operation

☐ Urinary leak at the anastomosis site, needing prolonged catheterisation until this has healed as demonstrated with an X ray dye test (<2%)

Rare (less than one in 50)

☐ Anaesthetic or cardiovascular problems possibly requiring intensive care admission (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)

☐ Pain, infection or hernia at incision sites

☐ Rectal or bowel injury requiring exploratory surgery and a temporary colostomy if needed

☐ Injury to other intra abdominal organs during insertion of instruments or during the procedure

☐ There is a very small risk of mechanical malfunction of the robot (in our series 4/1100 cases or 0.3%). If this malfunction is not recoverable or correctable during your operation, then depending on the stage of your operation we may cancel or abandon your operation to be rescheduled for surgery on another date or convert to open or proceed with pure laparoscopic surgery to enable your operation to be completed

Hospital-acquired infection (overall risk for Addenbrooke's)

☐ Colonisation with MRSA (0.02%, one in 5,000)

☐ Clostridium difficile bowel infection (0.04%; one in 2,500)

☐ MRSA bloodstream infection (0.01%; one in 10,000)

(These rates may be greater in high risk patients eg with long term drainage tubes, after removal of the bladder for cancer, after previous infections, after prolonged hospitalisation or after multiple admissions)

What should I expect when I get home?

Before you leave hospital, the team will ensure you are safe to be discharged home. In order to reduce your risk of developing deep vein thrombosis (clots), we will teach you to self inject Dalteparin under your tummy skin, once daily for two to four weeks after discharge. Dalteparin is a drug that helps keep your blood thin to avoid clot formation. We also recommend that you wear the elasticated (TED) stockings for four weeks post discharge. When you leave hospital, you will be given a discharge summary of your admission. This holds important information about your inpatient stay and your operation. If, in the first few weeks after your discharge, you need to call your GP for any reason or to attend another hospital, please take this summary with you to allow

the doctors to see details of your treatment. This is particularly important if you need to consult another doctor within a few days of your discharge.

When you are discharged from the ward, you will need some comfortable, loose clothing as you may find that your abdomen is uncomfortable and swollen.

You will need someone at home with you for the first few days after you are discharged. A two to four week convalescence period is usually necessary after laparoscopic surgery. During this time, it is not unusual to feel weak and tired.

How much pain will I experience?

Since the surgery is performed through a small incision, most patients experience much less pain than with open surgery. Patients tend to need less pain medication and, after one week, very few men feel any pain at all.

When can I exercise?

Light walking is encouraged straight after the procedure. After two weeks, jogging and aerobic exercise is permitted. After four weeks, you may resume light lifting.

Can I shower or bath?

Yes. The stitches in your abdomen are dissolvable and the glue or dressings are waterproof. We recommend that you rinse any soap thoroughly from your body as this may irritate the wounds. You should gently pat yourself dry to minimise the risk of infection.

When can I drive?

When you are comfortable to do so (usually about two weeks post surgery) and when you feel able to make an emergency stop. Please check with your insurance company before returning to drive.

When can I resume sexual activity?

This will depend on whether a nerve-sparing procedure was possible at the time of surgery. We ask that you take particular note of any erections or feelings you do have and report them on your follow up appointments to the consulting team. Nearly all men will lose all erectile function in the first few months after surgery while the nerves start to recover (if nerve sparing has been possible).

If a nerve-sparing procedure has been performed, we will normally start you on medication such as Viagra or Cialis when you return for your results six weeks after surgery. We would recommend that you take this as prescribed in order to help improve the blood flow into the penis for rehabilitation of your erections. We would not expect this to result in erections immediately and, in fact, some patients may take as long as two years to recover any natural erectile function. Additionally, vacuum devices may be used either alone or in conjunction with the above. If oral medication proves to be unsuccessful, we can then arrange for you to be seen by an erectile dysfunction specialist nurse to discuss other alternatives (such as injection treatment).

When can I return to work?

Please allow a couple of weeks' recuperation before returning to work. If you work entails heavy lifting, please speak to your consultant about this prior to leaving hospital.

What else should I look out for?

If you develop a temperature, increased redness, throbbing, drainage at the site of your operation, increasing abdominal pain or dizziness please contact your GP/ward M4 (01223 348537)/on-call Urology specialist registrar (via hospital switch board 01223245151) immediately. If you have problems with your catheter (especially if it falls out), ask your GP to contact the on-call urologist as soon as possible. If you become unable to pass urine after your catheter has been removed, you should return immediately to hospital for further treatment.

Are there any other important points?

Preparation for removal of the catheter

To be prepared for your catheter removal and any potential temporary urine leakage, you should ensure that you have your own personal supply of bladder weakness products (pads designed for male underwear) at home prior to attending for your trial without catheter. You will need to bring these pads with you to your appointment for catheter removal.

These pads can be obtained from various sources:

- Your local pharmacy or supermarket – they may need to be specially ordered.
- Order by phone - You can place an order by calling Tena Direct on 0800 393 431 (this is a Freephone number). You can pay by credit or debit card. Lines are open Monday to Friday 09.00hr to 17.00hr (enquiries may be diverted to an answer machine if all lines are busy).
- Order on-line at www.tenadirect.co .uk where you can select the products you need and complete your purchase using the secure on-line payment system.

The ward will provide one small pack of pads prior to your discharge so we advise that you obtain an additional supply in adequate time so that you have them at home following surgery; you may find it difficult to obtain them in the short period between discharge and your appointment for catheter removal.

It is common to experience some temporary loss of control over the passage of urine. This tends to settle within three to six months but, during this period, you may need to continue to wear absorbent pads. As discussed before your operation, a small minority of patients will experience severe incontinence after the procedure; if this is the case, additional support and follow up can be arranged.

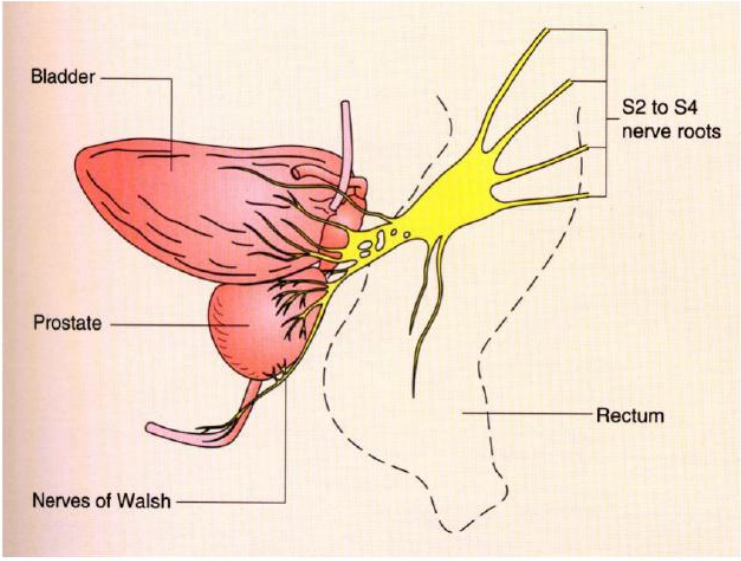
To improve urinary control, pelvic floor exercises are helpful. You will have been shown how to do these before your surgery and it is beneficial to have started these exercises in the period before your operation. They will need to be continued after the catheter has been removed, but not while your catheter is in.

It will be at least 14 to 21 days before the final pathology results on your prostate are available. It is normal practice for all biopsies to be discussed in detail at a multidisciplinary meeting before any further treatment decisions are made. You and your GP will be informed of the results after this discussion.

You will receive an appointment to attend the outpatient clinic approximately six weeks after surgery. This is to allow the consultant or specialist registrar to find out how you

are recovering and to discuss the findings of the pathology report on your prostate specimen.

You will be followed up closely after the operation, chiefly by means of the prostate blood tests (PSA). This level should remain near zero after surgery but, if the PSA rises, this indicates a return of the cancer which may require further treatment in the form of radiotherapy or drugs.



Erectile function

Depending on your erectile function before the operation, and whether it was possible to preserve these nerves, problems with erection can occur. The risk of this problem varies:

- Very high (more than 80%; eight out of 10 men), if the erections were not good beforehand and the characteristics of the tumour mean that it was not advisable to preserve the nerves.
- Moderately high (60%; six out of 10) if only one nerve could be saved
- Moderate (30-40%; three to four out of 10) if both nerve bundles were saved.

Erection problems can be helped by treatments ranging from tablets to injections. It is highly unlikely that you will lose your sex drive (libido) as a result of the operation.

What the National Institute of Health and Clinical Excellence (NICE) has said: This procedure can be offered routinely provided that doctors are sure the patient understands what is involved and that the results are monitored. The NICE guidance can be found in more detail at (http://guidance.nice.org.uk/IPG193).

Are we assessing how good this operation is?

Yes. We are making a careful assessment. The operation will be carried out by a specific team of highly skilled surgeons. You may be invited to be part of the Da Vinci® audit to assess the outcomes of robotic surgery.

What is the availability in the UK?

The Da Vinci® system has been used extensively throughout the USA and Europe in many different areas of surgery. It has been used for mitral valve repair (in cardiac

surgery), Nissen fundoplication for gastric reflux and gastric bypass surgery for obesity (in gastrointestinal surgery) Addenbrookes was amongst the first hospitals in the UK to introduce this operation on the NHS. We have performed over 1300 cases to date.

Driving after surgery

It is your responsibility to ensure that you are fit to drive following your surgery. You do not normally need to notify the DVLA unless you have a medical condition that will last for longer than three months after your surgery and may affect your ability to drive. You should, however, check with your insurance company before returning to driving. Your doctors will be happy to provide you with advice on request.

Privacy & Dignity

Same sex bays and bathrooms are offered in all wards except critical care and theatre recovery areas where the use of high tech equipment and/or specialist one to one care is required.

Hair removal before an operation

For most operations, you do not need to have the hair around the site of the operation removed. However, sometimes the healthcare team may need to remove hair to allow them to see or reach your skin. If the healthcare team consider it is important to remove the hair, they will do this by using an electric hair clipper, with a single-use disposable head, on the day of the surgery. Please do not shave the hair yourself, or use a razor for hair removal, as this can increase the risk of infection to the site of the operation. If you have any questions, please ask the healthcare team who will be happy to discuss this with you.

References

NICE clinical guideline No 74: Surgical site infection (October 2008); Department of Health: High Impact Intervention No 4: Care bundle to preventing surgical site infection (August 2007)

Is there any research being carried out in this field at Addenbrooke's Hospital?

Yes. As part of your operation, various specimens of tissue will be sent to the pathology department so that we can find out details of the disease and whether it has affected other areas. This information sheet has already described to you what tissue will be removed.

We would also like your agreement to carry out research on that tissue which will be left over when the pathologist has finished making a full diagnosis. Normally, this tissue is disposed of or simply stored. What we would like to do is to store samples of the tissue, both frozen and after it has been processed. Please note that we are not asking you to provide any tissue apart from that which would normally be removed during the operation.

We are carrying out a series of research projects which involve studying the genes and proteins produced by normal and diseased tissues. The reason for doing this is to try to discover differences between diseased and normal tissue to help develop new tests or treatments that might benefit future generations. This research is being carried out here

in Cambridge but we sometimes work with other universities or with industry to move our research forwards more quickly than it would if we did everything here.

The consent form you will sign from the hospital allows you to indicate whether you are prepared to provide this tissue. If you would like any further information, please ask the ward to contact your consultant.

Who can I contact for more help or information?

Oncology nurses

Uro-oncology nurse specialist

01223 586748

Bladder cancer nurse practitioner (haematuria, chemotherapy and BCG)

01223 274608

Prostate cancer nurse practitioner

01223 274608 or 216897 or bleep 154-548

Surgical care practitioner

01223 348590 or 256157 or bleep 154-351

Non-oncology nurses

Urology nurse practitioner (incontinence, urodynamics, catheter patients)

01223 274608 or 586748 or bleep 157-237

Urology nurse practitioner (stoma care)

01223 349800

Urology nurse practitioner (stone disease)

01223 349800 or bleep 152-879

Patient Advice and Liaison Centre (PALS)

Telephone:

+44 (0)1223 216756 or 257257

+44 (0)1223 274432 or 274431

PatientLine: *801 (from patient bedside telephones only)

E mail: pals@addenbrookes.nhs.uk

Mail: PALS, Box No 53
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

Chaplaincy and multi faith community

Telephone: +44 (0)1223 217769

E mail: chaplaincy@addenbrookes.nhs.uk

Mail: The Chaplaincy, Box No 105
Addenbrooke's Hospital
Hills Road, Cambridge, CB2 2QQ

MINICOM System ("type" system for the hard of hearing)

Telephone: +44 (0)1223 217589

Access office (travel, parking and security information)

Telephone: +44 (0)1223 596060

What should I do with this leaflet?

Thank you for taking the trouble to read this patient information leaflet. If you wish to sign it and retain a copy for your own records, please do so below.

If you would like a copy of this leaflet to be filed in your hospital records for future reference, please let your urologist or specialist nurse know. If you do, however, decide to proceed with the scheduled procedure, you will be asked to sign a separate consent form which will be filed in your hospital notes and you will, in addition, be provided with a copy of the form if you wish.

I have read this patient information leaflet and I accept the information it provides.

Signature……Date…….

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site.
For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Help with this leaflet:

If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or patient.information@addenbrookes.nhs.uk

Document history

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