The Prostate. The prostate is a small walnut-sized gland located just below and helping to support the bladder. It wraps round the urethra and serves as a valve to allow urine or semen to pass to the penis. The gland also helps in the production of semen which acts as a carrier for sperm. The prostate may become diseased usually from middle age. Caught early, a man diagnosed with prostate cancer can be cured and if otherwise fit, should have a choice of therapy. Treatments may not always be available locally or even in Wales. Men with advanced or locally advanced prostate cancer will have fewer options.

Active Surveillance or Watchful Waiting: a ‘treatment’ well worth exploring by men untroubled by symptoms yet diagnosed with slow growing localised prostate cancer. This can be an option, possibly for older men wishing to avoid treatment, or younger men wishing to delay treatment. This strategy involves regular PSA tests to monitor changes. Further biopsies may be required every 2-3 years. Thus radical treatment and side effects can be avoided or postponed.

Brachytherapy: a treatment only used for localised prostate cancer. Up to 120 radioactive implants [seeds] are injected into the prostate via the perineum. The treatment takes up to 2 hours and may require 2 days in hospital.

Possible side effects: bleeding [in urine/semen], incontinence, more frequent urination, discomfort when passing urine, bruising, fatigue, pain or
discomfort in the penis, proctitis [inflammation of the bowel lining] or erectile dysfunction. These side effects may be short term or may appear later. Some may be permanent.

Chemotherapy: still very much the subject of research projects. It is generally considered for advanced disease when hormone therapy has lost its capacity to control the cancer. Newer drugs are more targeted, with fewer side effects.

Cryotherapy: a little used treatment for localised prostate cancer where frozen gasses [-40 c] are inserted into the prostate via the perineum to destroy the cancer. Hospital stay 24-48 hours.

Possible side effects: incontinence, impotence, bleeding [in urine], swelling of scrotum, fistula [tissue damage between rectum and scrotum].

External Beam Radiotherapy: radiation treatment generally used to destroy the cancer if it is contained within the prostate, or 'locally advanced'. The prostate and immediate area is treated over a period of between 4 and 7 weeks. Patients who choose surgery may have radiotherapy if the cancer returns but surgery is not available as a post radiotherapy treatment due to the presence of scar tissue. Hormone therapy often precedes radiotherapy to reduce the tumour and make it more susceptible to treatment. Hormone therapy may be continued after radiotherapy.

3D Conformal Radiotherapy is most commonly used. The beam is shaped to fit the size and form of the prostate.

Intensity Modulated Radiotherapy is newer with fewer hospitals offering treatment. The beam is adjusted to give different doses to different parts of the treatment area. As with other forms of radiotherapy, it is generally available to men with localised cancer who cannot or choose not to have surgery.

Possible side effects: cystitis [inflammation of the bladder lining], proctitis [inflammation of the bowel lining], fatigue, skin irritation/hair loss, erectile dysfunction, infertility, painful ejaculation.

These side effects may be short term though some start to appear 3 or more months after treatment. In some cases they may be permanent.
**High Intensity Focused Ultrasound [HIFU]**: a relatively new and not readily available treatment for localised prostate cancer. The cancer is destroyed using a high energy ultrasound beam from a probe inserted into the prostate via the rectum. Likely hospital stay 24-48 hours.

Possible side effects: urinary infection, incontinence, erectile dysfunction, damage to bowel wall.

**Hormone Therapy**: Prostate cancer needs testosterone to grow. Hormone therapy starves the cancer of testosterone. It can halt its growth and diminish the cancer. The effect of hormone treatment may be short lived if the cancer becomes resistant to this therapy. Hormone therapy can be used short term to improve the effectiveness of other treatments, intermittently to delay resistance to the treatment, or indefinitely, particularly for men with advanced [metastatic] or locally advanced prostate cancer. Some patients tolerate this treatment well, others do not. Treatment is taken orally and/or via a small implant usually injected beneath the skin of the abdomen or upper arm.

A less common treatment is the surgical removal of the testes [or orchidectomy], the source of testosterone.

Possible side effects: loss of sex drive, fatigue, cognitive problems, depression, anaemia, breast swelling, impotence, osteoporosis, weight gain, hot flushes, upset stomach.

**Laparoscopic Prostatectomy [and Robotic Laparoscopic Prostatectomy]**: removal of the prostate by keyhole surgery. Key benefits are a shorter hospital stay and recovery period and the possibility of fewer side effects compared with open surgery. Laparoscopic prostatectomy is now available at Morriston Hospital subject to strict criteria. Robotic laparoscopic prostatectomy is available in some parts of the UK but not in Wales.

Possible side effects: As radical prostatectomy.

**Photodynamic Therapy**: PDT also known as Vascular Targeted Therapy is a treatment for localised prostate cancer, but is still at the trial stage. It is less invasive than some other treatments. A photo-sensitising drug is
injected into the bloodstream under a general anaesthetic. Low powered laser fibres are inserted into the prostate via the perineum. The light then activates the drug which destroys the cancer. An overnight stay is required. The process aims to avoid erectile dysfunction and incontinence.

Possible side effects: Sensitivity to strong light for 48 hours following the procedure. This is new technology. Patients need to ask about longer term effects if any.

**Radical Prostatectomy:** removal of the prostate by open surgery. A treatment for localised prostate cancer. As this requires major surgery, age and fitness are important considerations for this treatment. A hospital stay of between 3 and 6 days is normal followed by a long period of recuperation of 3+ months.

Possible side effects: urinary incontinence, erectile dysfunction, stricture [growth of scar tissue at neck of bladder], fatigue, complications of surgery, diarrhoea/constipation.

Men diagnosed with prostate cancer who are fortunate to have a choice of treatment should take time to educate themselves about the nature of each therapy and potential side effects. Talking to men who have been through the process of diagnosis and treatment may help*. In the end, the choice of treatment can only be made by the patient. Treatment for localised prostate cancer can be curative, but patients will continue to be monitored using the PSA test for many years after treatment.

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