What is the aim of this leaflet?
Prostate cancer is a serious condition. The PSA test, which can
give an early indication of prostate cancer, is available to you if
you want to be tested. However, experts disagree on how
useful the PSA test is. This is why there is a lot of research and
why there is no national screening programme for prostate
cancer in the United Kingdom (UK). The aim of this information
sheet is to give you balanced information about the PSA test
and things you may want to think about. We hope it will help
you decide whether or not you should have the test, but there
is no simple right or wrong answer. You may want to talk about
this information with your doctor or a trained practice nurse
and speak to your partner.

What is the prostate?
The prostate is a sex gland which lies just below the
bladder in men. It provides bathing fluid to help produce
healthy sperm. The prostate surrounds the tube (called the
urethra) that carries urine from the bladder out through the
penis. Because of this, problems affecting the prostate gland can
sometimes affect how you urinate as well as possibly changing
your sexual function.

What do we know about prostate cancer? Prostate
cancer is the most common cancer and the second most
common cause of cancer deaths in men in the UK. Each year in
the UK about 35,000 men are diagnosed with prostate cancer
and 10,000 die from the disease. Prostate cancer is less
common in men below the age of 50 years, and the average age
diagnosis is 70 to 74 years. The risk is greater for men who
have a family history of prostate cancer and black-African and
black-Caribbean men. Prostate cancer is also more common in
western countries, suggesting that there may be a link with
lifestyle factors, such as diet.

Prostate cancer can grow slowly or very quickly. Slow-growing
cancers are common and may not cause any symptoms or
shorten life.

What is a PSA test?
The PSA test is a blood test that measures the level of PSA
(prostate specific antigen) in your blood. PSA is made by the
prostate gland, and some of it will leak into your bloodstream
depending on your age and the health of your prostate.

A raised PSA level may mean you have prostate
cancer. However, other conditions which are not cancer (for
example, enlargement of the prostate, prostatitis, urinary
infection) can also cause higher PSA levels in the blood. About
2 out of 3 men with a raised PSA level will not have prostate
cancer. The higher the level of PSA, the more likely it is to be
a sign of cancer. The PSA test can also miss cancer.

- A PSA test involves giving a blood sample.
- If the level of PSA in your blood is raised, this
  may mean you have prostate cancer.
- About 2 out of 3 men with a raised PSA level will
  not have prostate cancer.
- The PSA test can miss cancer.
- A one-off test is not reliable and extra tests may
  provide important information.

When you have a PSA test you should not have:
- an active urinary infection;
- ejaculated in the last 48 hours;
- exercised heavily in the last 48 hours;
- had a prostate biopsy in the last 6 weeks; or
- had a DRE (digital rectal examination) in the last week.
Each of these may produce an unusually high PSA result.

What happens after a PSA test?
There are usually three main options after a PSA test:

- If your PSA level is not raised, you are unlikely
to have cancer and no immediate further action is
needed, although you may have further tests to
confirm the result.
- If your PSA level is slightly raised, you probably
do not have cancer, but you might need further tests,
including more PSA tests.
- If your PSA level is definitely raised, your GP will
arrange for you to see a specialist for further tests to
find out if you have prostate cancer.

Your doctor will give you a digital rectal examination
(examination of the back passage [bottom] with a gloved finger)
to feel the prostate gland. He or she will also take into account
any family history of prostate cancer, your ethnic background
and any previous PSA test results and discuss these with you. In
some cases, extra PSA tests may help to make the situation
clearer or check for any changes.

If the PSA level is raised, what further tests would
be carried out?
If your PSA level is raised, a prostate biopsy may be needed to
check if you have cancer. This means taking samples from the
prostate through the back passage. Many men find this an
embarrassing and uncomfortable experience and some describe
it as painful, although local anaesthetics should help. Sometimes
the biopsy may lead to complications (such as blood in the
semen or urine) or infection. About 2 out of 3 men who have a
prostate biopsy will not have prostate cancer. However,
biopsies can miss some cancers and you may not know for sure
that you do not have cancer after a clear result.
If early prostate cancer is found, what are my options?

Your main options for dealing with early prostate cancer are shown below. You should talk to your consultant about the benefits and risks of any option before you begin. You should know that side effects of radical treatment include a change in sexual experience and infertility.

- **Surgery** involves an operation to remove the prostate gland. The aim is to cure the cancer, but there are possible side effects. Up to 3 in every 20 men may experience some bladder problems and up to 8 out of every 10 men may have problems getting or maintaining an erection after surgery. Some men may be able to orgasm but will not be able to ejaculate, which means fertility is affected.

- **Radiotherapy** involves a course of radiotherapy treatment on the prostate gland at an outpatient clinic (external beam) or with radioactive implants (brachytherapy). The aim is to cure the cancer, but there are possible side effects. After external beam radiotherapy, half of those treated may have problems getting or maintaining an erection, and may not be able to ejaculate. Up to 3 in 10 men may have diarrhoea or bowel problems, and up to 1 in every 25 men may have bladder problems. After brachytherapy you may have problems getting or maintaining an erection, or may not be able to ejaculate. Up to 1 in every 15 men may have bladder problems.

- **Active surveillance, active monitoring or watchful waiting** involve regular check-ups to check the cancer is not growing. With active surveillance and active monitoring, you would be offered treatment, with the aim of curing the disease, if the cancer grows. With watchful waiting, treatment will be offered to slow the cancer growth. An advantage of these methods is that they avoid the side effects of radiotherapy and surgery. A disadvantage is that the cancer may grow to a more advanced stage and PSA tests and biopsies may need to be repeated. You may find the uncertainty difficult to cope with.

- **Other effective treatments** include hormone therapy, chemotherapy, high intensity focussed ultrasound and cryotherapy which all have side effects. These treatments may only be available as part of a clinical trial.

### The benefits of PSA testing
- It may reassure you if the test result is normal.
- It may give you an indication of cancer before symptoms develop.
- It may find cancer at an early stage when treatments could be of benefit.
- If treatment is successful, the worst possible outcomes of more advanced cancer, including death, are avoided.
- Even if the cancer is more advanced and treatment is less successful, it will usually extend life.

### The limitations of PSA testing
- It can miss cancer and provide false reassurance.
- It may lead to unnecessary worry and medical tests when there is no cancer.
- It cannot tell the difference between slow-growing and fast-growing cancer.
- It may make you worry by finding slow-growing cancers that may never cause any symptoms or shorten your life.
- 48 men will undergo treatment in order to save one life.

The following website may help you decide whether the PSA test is right for you:

PROSDEX at [http://www.prosdex.com](http://www.prosdex.com)

### Further information

If you have any questions or want to receive more information about PSA testing and prostate cancer you can discuss it with your doctor or practice nurse, or look at one of the following sources of information.

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This patient information sheet was updated by Dr Deborah Burford and Dr Joan Austoker from the Cancer Research UK Primary Care Education Research Group, University of Oxford, and Professor Michael Kirby, Visiting Professor to the Faculty of Health and Human Sciences, University of Hertfordshire. The information on this sheet is based on material from the booklet Prostate Cancer Risk Management Programme information for primary care; PSA testing in asymptomatic men (NHS Cancer Screening Programmes, 2009).