#### AGE SPECIFIC SCREENING and PREVENTATIVE MEDICINE NEW ZEALAND GENERAL PRACTICE 2025 © DT Kevin Gabriel 27th May 2025

FEMALE		NON-SPECIFIC		MALE
	<u>6/52</u>	Six week check Immunisation- <u>Infant</u>		
		Immunisation- <u>Infant</u> Immunisation-I <u>nfant</u> Immunisation- <u>Child</u> Immunisation- <u>Child</u>		
	<u>4</u>	Immunisation- <u>Child</u> B4 School Check		
	<5	Immunisation- <u>BCG</u> (R)		
	<u>11</u>	HEeADSSS mmunisation- <u>Boostrix</u> mmunisation- <u>Gardasil</u>	<u>15+</u>	Testicular Cancer
	<u>20+</u>	Melanoma <mark>(E)</mark>		
25-69 Cervical Screening	<u>25+</u>	CVD Risk As. <mark>(R)</mark>		
	<u>&lt;30</u> <u>30+</u>	Chlamydia <mark>(R)</mark> Hepatitis B <mark>(E)</mark>	<u>30-7</u>	' <u>4</u> CVD Risk Assess. <mark>(E)</mark>
<u>40-74</u> CVD Risk Assess. <mark>(E)</mark>	<u>40+</u>	COPD (R)		
45-69 Breast Screening	<u>45</u> <u>45+</u>	Immunisation- <u>Boostrix</u> <u>Eye Check</u> Glaucoma Macular Degen.		
	<u>50+</u>	Hearing test	<u>50+</u>	Prostate cancer
	<u>58-74</u>	Bowel Cancer		
<u>60+</u> Osteoporosis <mark>(R)</mark>	<u>65</u> <u>65+</u>	Immunisation- <u>Boostrix</u> Immunisation- <u>Shingles</u> Atrial Fibrillation Falls Immunisation- <u>Influen.</u>	<u>65</u>	AAA
			<u>70+</u>	Osteoporosis <mark>(R)</mark>

## **GLOSSARY**

#### <u>Age</u>

Regular Age for Screening and/or Preventative Management

- Therefore, may 'exclude' high-risk patients who may require 'Earlier' input E.g.
  - 'Positive family history'
  - 'Annual Influenza Immunisation' for <u>pregnant women</u> or those with a

<u>chronic medical condition</u> as defined by Pharmac criteria Diabetes etc.

Underline Immunisation – type of vaccine

# (E)

#### Ethnicity

• Screening may be 'Earlier' or 'Later' or 'Specific' to an Ethnic Group.

## (R)

#### **Risk Factor**

• Screening based on the presence of risk factors for a disease.

#### GREEN FONT AUTHOR RECOMMENDATION

- AFTER REVIEWING LITERATURE and/or DISCUSSION WITH SPECIALIST PEER REVIEW
- The Author has reviewed the disease literature, morbidity and mortality statistics and has made an assessment that an open discussion maybe warranted with some patients. E.g.
  - Education on Patient Regular Self Examination
  - Patient wanting a 'Full Check Up '
  - o 'Well Man Check' or 'Well Woman Check'

#### **Exclusions**

Family History
 As mentioned above, this article 'Excludes' high-risk patients
 who may require 'Earlier' screening
 E.g. Family history of bowel cancer or
 have symptoms of disease

• Screening in a hospital setting, birthing centre or at home E.g.

- Newborn Hearing Screening
- Newborn Metabolic Screening

# BRIEF EXPLANATORY NOTES

Abdominal Aortic Aneurysm (peer review Dr Carl Muthu 2024)

- Age: 65
   Reference: <u>www.bpac.org.nz</u> October 2016

   Targeted testing for abdominal aortic aneurysm
- Abdominal aortic aneurysms (AAA) are present in 5–10% of older men and 1–2% of older women, and cause the death of five men and two women per 100,000 annually.
- The rate of spontaneous AAA rupture increases with aneurysm size. One study found aneurysms 5.0–5.9 cm had an annual rupture risk of 9.4%; the risk increased to 32.5% for aneurysms of 7.0 cm or more.
- Spontaneous AAA rupture is associated with a high mortality rate (80%), and emergency surgery following AAA rupture has a significantly higher mortality rate (30–65%) than elective AAA repair (3–10%).
- General practitioners can identify patients at risk of AAA. Early diagnosis allows patients to be offered surgery when the risk of spontaneous rupture outweighs the risk of surgery, usually when the AAA diameter is greater than 5.5cm in men and 5.0 cm in women

- AAA may be detected by palpation in patients with low or normal body mass, but it is usually detected by abdominal ultrasound.
- Testing for AAA in primary care Opportunistic investigation for AAA with abdominal ultrasound should be considered in people at increased risk. The patient risk profile can be based on the following factors:
  - The risk of AAA is highest in those aged over 50 years with either known cardiovascular disease or CVDRA >10%.
  - AAA prevalence is higher in males, current and past smokers, those with a family history of AAA, and increases with age.
  - Māori have increased risk of AAA at a younger age and equal numbers of males and females are affected.

#### Peer Review: Dr Carl Muthu Vascular Surgeon Auckland City Hospital

#### Reference: <u>www.nhs.uk</u>

- The United Kingdom has an AAA screening programme for men aged 65. The NHS AAA Screening Programme was set up in England in 2009 and has been offered throughout the UK since the end of 2013.
- Men aged over 65 are far more likely to have an AAA than women or younger men, so any man registered with a GP will receive a letter inviting him for screening in the year he turns 65.
- Dr Carl Muthu believes that 50 is too young, and would recommend imitating the UK programme. Ie. Having an ultrasound for males at age 65.
  - The reason being: if you did an ultrasound on a heavy smoking male at age 50, you may give both yourself and the patient false reassurance if the scan was negative. He could still subsequently go on and develop an aneurysm, and rupture it at an age when he could lose significant life years.

- If however he has a normal scan at age 65, he is extremely unlikely to develop an AAA until he is very much older.
- The only possible exception to this could be Maori (especially smokers) who are likely to develop AAA at a younger age (potentially less than 65) and those with a family history of AAA at a young age.

#### **Atrial Fibrillation**

#### ○ Age:

65+

- Reference: <u>www.bpac.org.nz</u> August 2017 An update on managing patients with atrial fibrillation
- Atrial fibrillation (AF) affects at least 5% of people in New Zealand aged over 65 years. Patients with AF have a higher risk of mortality, with a four to five-fold increased risk of stroke, a three-fold increased risk of heart failure and two-fold increased risks of myocardial infarction and dementia compared to people without AF.
- AF is often an incidental finding, detected by pulse palpation or routine blood pressure measurement and subsequent electrocardiogram (ECG) monitoring.
- As the incidence of AF increases with age, and the consequences of complications can be severe, clinicians should consider opportunistic assessment for AF in patients aged over 65 years.
- Patients with AF may also present with palpitations and associated symptoms such as feeling light-headed and dizzy, shortness of breath, chest discomfort, a reduced capacity for exertion or sleeping problems. The range and severity of symptoms and extent of changes in heart rate and rhythm at diagnosis can vary widely.

#### **B4 School Check**

 Age: 4 Reference: info.health.nz

The B4 School Check is a free health and development check for your 4 year old. It is the last Well Child Tamariki Ora check and

helps give your child the best start at school. Remember to take your child's My Health Book with you to the check.

## If you miss the B4 School Check

If you are concerned about the growth and development of your tamariki, and they have missed their 4 to 5 year old B4 School Check, you should:

- phone Healthline on 0800 611 116 to discuss any health or development concerns
- contact your family doctor or healthcare provider
- talk to a teacher at your child's kohanga reo, daycare or kindergarten.

## **Bowel Cancer**

Age: 58-74 (age 58 starting October 2025)
 Reference: info.health.nz

You do not need to do anything — an invite will come to you

- Lowering the bowel screening starting age to 58 will take place in 2 stages. The first stage will begin in October 2025 in 2 Health NZ regions, and the second stage will begin in March 2026 in the remaining 2 regions. Which regions will go first is being confirmed.
- If you are turning 58, or are already 58, you do not need to do anything. You will be mailed your bowel screening kit around your next birthday or be contacted by a local health provider, once age extension is introduced in your area.
- People turning 60 will receive a kit around their birthday as part of the existing programme, whether or not the lower age range is available in their area yet.

Now is a great time to make sure we have your correct address, so that we send your bowel screening kit to the right place. If your address has changed, update the details with your GP, or email your new address to us at <u>info@bowelscreening.health.nz</u>. Please include your date of birth or National Health Index (NHI) number in your email.

If you would like to find out more about whether you are eligible for free bowel screening, or about joining the programme, email us on <u>info@bowelscreening.health.nz</u> or call us on <u>0800 924 432</u>

Pilots for Māori and Pacific Peoples

Tairāwhiti and MidCentral districts are offering bowel screening from the ago of 50 for Māori and Pacific Peoples as part of a two-year learning pilot. They complete their pilots later in 2025. Waikato district completed its two-year pilot in December 2024.

If you are part of these pilots, you will continue to be invited for bowel screening (provided you remain eligible and still live in that district) until you turn 58 and join the wider programme. This includes people who received a kit but did not return it — you will continue to be invited.

#### Breast Screening

• Age: 45-69 Reference: healthify.nz

#### Key points about breast screening

- Up to 1 in 9 New zealand woman are affected by breast cancer, it's the most common type of cancer woman.
- BreastScreen Aotearoa is a free national BreastScreen programme for eligible New Zealand woman age 45 to 69 years that checks for signs of early breast cancer.
- It's purposes to find cancer early so that it can be treated and have the best chance of a cure.

• Age: 25-74 Reference: aucklandregion.communityhealthpathways.org

#### CV screening age

Group	Men	Women
Asymptomatic people without known risk factors	45 to 74 years	55 to 74 years
Specific ethnicities (e.g., Māori, Pacific peoples or Indo- Asian peoples)	30 to 74 years	40 to 74 years
People with personal or family risk factors	35 to 74 years	45 to 74 years
People with severe mental illness	From age 25 years	From age 25 years

#### Online calculators (below) can be used for CVRA

myheartcheck.org.nz My Heart Check

decisionaid.ca/cvd/ Predict New Zealand

#### **Cervical Screening**

Age: 25-69
 Reference: healthify.nz

Key points about cervical screening

- In Aoteoroa New Zealand, cervical screening used to be done by taking a sample of cells from your cervix. This was known as a smear test.
- From 12th of September 2023 the survival screening test changed to a human papilloma virus (HPV) screening test.
- HPV primary screening is important for anyone with a cervix who is aged between 25 and 69 years who has ever had any sexual contact.
- Screening is free for some people.
- Treatment is available if your HPV test result suggests it's needed

## Chlamydia testing

Age: <30</li>
 Reference: sti.guidelines.org.nz

#### Indications for testing

- Patients with possible signs or symptoms of a chlamydia infection
- Sexual contacts of people with chlamydia or other STIs
- Pregnancy
- Before termination of pregnancy
- Before intrauterine device (IUD) insertion in people at risk of STIs
- Suspected epididymo-orchitis
- Suspected PID
- Sexually active patients aged under 30 years
   opportunistically when accessing health care
- Men who have sex with men (MSM)
- History of sexual assault or intimate partner violence
- If the patient requests a sexual health check

## COPD (Chronic Obstructive Pulmonary Disease)

- Age: 40+ Reference: aucklandregion.communityhealthpathways.org
- 1. Consider COPD in patients aged > 40 years with either:

- a history of smoking (usually > 10 pack years) or prolonged exposure to other noxious agents, (e.g. occupational exposure to gas or dust), or
- chronic or persistent cough, shortness of breath, wheeze, or sputum production.
- 2. Take a history, and check:
  - smoking history, including smoking pack years (online calculator).
  - symptoms and features.
  - $_{\circ}$  other relevant history.
- 3. Rate severity of dysphoea using the Modified Medical Research Council (MMRC) dysphoea scale or COPD severity classification.
- 4. Examine the patient note that physical examination is rarely diagnostic in the early stages of COPD.
  - Check vital signs, including pulse, blood pressure, and pulse oximetry.
  - Check height and weight, and calculate BMI.
  - Look for signs of COPD or alternative diagnoses.
- 5. Identify important co-morbidities and complications.
- 6. Perform or arrange spirometry with bronchodilator testing:
  - COPD is confirmed by the presence of post bronchodilator airflow limitation, i.e. FEV1/FVC < 0.7 and FEV1 < 80% predicted.</li>
  - Spirometry can be helpful in determining the severity of COPD, when considered in conjunction with history.
  - Distinguish between asthma and COPD. Consider asthma and COPD overlap (ACO).
  - See also Spirometry Interpretation
- 7. Other investigation:
  - Blood tests
  - Consider arranging imaging on a case-by-case basis, particularly if alternative diagnoses are being considered.
  - Consider performing a 12-Lead ECG to assess for coexisting cardiac disease.

# <u>Falls</u>

Age: 65+
 Reference: www.bpac.org.nz
 April 2015

 Falls are the most common and costliest cause of injury in older people, with around 30 – 60% of people aged 65 and over falling each year and 10 – 20% of those falls resulting in injury such as hip fracture, hospitalisation or death.

Reference: aucklandregion.communityhealthpathways.org

#### About falls prevention

- Falls are a major cause of injury, unintentional death, and hospital admission across all age groups in New Zealand but this is more marked in those aged ≥ 80 years.
- In the community, 1 in 3 people aged > 65 years fall annually. This increases to 1 in 2 when aged > 80 years.
- Falls cause significant disability, loss of independence, and social restrictions in older adults.

#### Practice point

Make it routine clinical practice to regularly screen all older people for falls risk.

#### <u>Glaucoma</u>

Age: 45+
 Reference: www.glaucoma.org.nz

There's no simple screening test for glaucoma. Glaucoma NZ recommends the "45 + 5 glaucoma eye examination". **People who have no symptoms of eye problems should have an examination for glaucoma by the time they are 45.** 

The emphasis is on detecting the risk factors for glaucoma and assessing the optic disc to decide the possibility of early glaucoma being present. If the examination is normal we recommend it be repeated every 5 years. Those with risk factors for glaucoma (such as a family history of glaucoma or steroid use) should be examined earlier, and more frequently.

So what should you expect at a routine glaucoma eye examination?

Three essential elements of a glaucoma eye examination are:

- Measuring eye pressure
- Examining the optic disc
- Visual fields testing

However, there are several other kinds of investigations that you may experience, including photography, gonioscopy (when the angle of your eye is measured), scanning of the optic disc and nerve fibre layer, and measuring of central corneal thickness.

#### HEaADSSS Assessment

 Age: 10-24
 Reference: <u>aucklandregion.communityhealthpathways.org</u> www.starship.org.nz

HEeADSSS is an acronym for a comprehensive psychosocial assessment tool identifying risk and protective factors, and assists health professionals formulate a plan in partnership with the young person.

Home - home situation, family life, relationships and stability:

**Education/ Employment** - sense of belonging at school/work and relationships with teachers/peers/workmates; changes in performance; identify possible bullying:

**Eating and Exercise** - how they look after themselves, eating and sleeping patterns:

**Activities and Peer Relationships** - social and interpersonal relationships, risk taking behaviour, attitudes about themselves:

**Drug use/Cigarettes and Alcohol** - context of substance abuse (if any) and risk taking behaviours:

**Sexuality** - Knowledge, understanding, experience, gender identity, sexual orientation and sexual practices:

Suicide/Self-harm/Depression/Mood - Risk of mental health problems, strategies for coping and available support:

**Safety** - Risk taking behaviours and environment:

## Hearing Test

• Age:

#### **50+ (selected by Author) Reference: Otolaryngology-Head and Neck Surgery** 1<sup>st</sup> published 30<sup>th</sup> April 2024

- Age-related hearing loss (ARHL) is a prevalent but often underdiagnosed and undertreated condition among individuals aged 50 and above.
- It is associated with various sociodemographic factors and health risks including dementia, depression, cardiovascular disease, and falls
- The guidelines development group made recommendations clinicians should screen patients aged 50 years and older for hearing loss at the time of a health care encounter.

#### **Reference: Lancet Commission** Risk factors for dementia – 2024 update

• Hearing loss 7% (highest risk factor along with LDL cholesterol 7%) reduction in cases of dementia if this risk factor is eliminated

## <u>Hepatitis B (Chronic infection)</u>

>30 • Age: Reference: www.hepatitisfoundation.org.nz

## Could you have hepatitis B?

Most people have no symptoms, so you may not know you have it. 100,000 New Zealanders live with chronic hepatitis B and 60% remain undiagnosed.

Left unmonitored hepatitis B can lead to liver damage and eventually can lead to liver cancer. Ongoing damage to your liver can be prevented and we can help with ongoing monitoring.

If you can answer 'Yes' to any of the below:

- You are over 30 years of age
- You are of Māori, Pacific or South East Asian ethnicity
- Your mother or close family member has hepatitis B
- You live with someone who has hepatitis B

## You are more at risk of having contracted hepatitis B.

Let's get you tested today, you can call 0800 33 20 10 or ask your GP for a blood test to check. It could save your life

#### Reference: Gane E. Screening for chronic hepatitis B infection in New Zealand: unfinished business. NZMJ 2005;118:1211

- Almost 20% will develop active liver disease (chronic hepatitis B or CHB) and will progress to cirrhosis and liver failure, whilst another 5 to 40% will develop hepatocellular carcinoma.
- In 1998, the Government decided to fund a national HBV screening programme, targeting Asian, Pacific, and Maori New Zealanders older than 15 years (thus unlikely to be protected by universal neonatal vaccination). Screening commenced in 1999 and continued for 3 years.
- Observed rates in Maori (5.6%) were similar to those reported by previous studies, but significantly higher rates were found in Pacific Islanders (median 7.3%, Tongan 13%) and Asians (median 6.2%, 8.1% in South East Asian, 8.9% in Chinese), thus reflecting higher prevalence rates in those countries of birth.
- The vast majority (85%) of HBsAg-positive New Zealanders remain unaware of their status.
- Urgent consideration should be given to reopening the screening programme.

Immunisation • Age: various ages Reference: www.immune.org.nz New Zealand National Immunisation Schedule **Immunisation - BCG** • Age: <5 Reference: www.healthed.govt.nz Information for health professionals • You should screen all women during pregnancy to assess whether their baby is at increased risk of catching TB. BCG vaccine is free for all babies and children less than 5 years who are at increased risk of catching TB. **Reference:** aucklandregion.communityhealthpathways.org Assessment 1. Identify those who are at risk of tuberculosis (TB) by checking eligibility for the BCG vaccine at the 6-week baby check, in all pregnant women, and in children younger than 5 years. Eligible people are infants and children younger than 5 years who: • will be living in a house or family/whānau with a person with either current TB or a past history of TB. have 1 or both parents, or other household members or carers who, within the last 5 years, have lived for a period of 6 months or longer in a country with a high incidence of TB (a rate of 40 or more per 100,000).

<ul> <li>during their first five years, will be living for 3 months or longer in a country with a TB rate of 40 or more per 100,000 and are likely to be exposed to those with TB.</li> </ul>
2. Consider contraindications to BCG vaccination.
3. Direct families to arrange BCG vaccination as early as possible, and ideally before 6 months of age in those who are eligible. If older than 6 months, a Mantoux test is required before vaccination in case the child has been exposed to TB.
Macular Degeneration• Age: 45+Reference: www.bpac.org.nzFebruary 2016Age-related macular degeneration: what shoulda general practitioner know?
Detecting age-related macular degeneration in primary care can be difficult
Early changes in age-related macular degeneration can be detected in a regular eye examination by an optometrist. Adults are <b>recommended to undergo a general eye examination</b>

with an optometrist by the age of 45 years, followed by once every five years until age 60 years, and once every three years thereafter. Patients with visual problems may require more frequent examination, as appropriate for their condition.

General practitioners should enquire whether older patients have had an eye examination recently: for patients who have not, consider conducting visual acuity test and direct fundoscopy

# Risk factors for the development of age-related macular degeneration include:

- Age the condition is rare in people aged 50 years or less
- Family history increases odds approximately six-fold
- Smoking increases risk approximately 1.9-fold

- Diabetes increases risk 1.7-fold
- Sunlight risk increases with greater exposure
- Diets low in fish, fruit and vegetables
- Previous cataract surgery

Symptoms and their rate of progression differ between patients depending on the type of age-related macular degeneration they have, and include:

- Difficulty reading fine print, or worsening difficulty extending to larger print
- A dark area in the central visual field at night or in dark environments, which may resolve as vision adjusts to a lower level of light
- Blurred or wavy vision in the centre of the visual field
- Loss of vision

#### <u>Melanoma</u>

# Age: 20+ (selected by Author: skin self-awareness) Reference: <u>www.cancerresearchuk.org</u>

- Melanoma skin cancer incidence is related to age, with the highest incidence rates being in older people. In the UK in 2016-2018, on average each year more than a quarter of new cases (29%) were in people aged 75 and over.
- In contrast to most cancer types, melanoma skin cancer also occurs relatively frequently at younger ages.
- Age-specific incidence rates increase steadily from around age 20-24 and more steeply in males from around age 55-59.
- The highest rates are in in the 85 to 89 age group for females and males.
- Incidence rates are significantly higher in females than males in the younger age groups and significantly lower in females than males in the older age groups.
- The gap is widest at age 20 to 24, when the age-specific incidence rate is 2.7 times higher in females than males.

Reference: <u>www.cancer.org.nz</u>

Based on current evidence, the Cancer Society does not recommend:

- Population screening for skin cancers (melanoma or keratinocytic cancer). At the present time, there is no evidence that shows population level screening is effective, therefore we do not currently recommend population level screening.
- Screening skin checks occurring outside clinical settings (such as at community events), as these can involve examination of single lesions without a full body examination and inadequate follow-up and referral. CSNZ strongly recommends that any opportunistic screening intervention programmes have rigorous evaluation frameworks to assess the extent of potential benefits of these interventions.
- Smartphone applications by individuals to self-diagnose melanoma because they are generally inaccurate at diagnosing melanoma and should not be used to replace a skin examination by a qualified medical practitioner.

Reference: melanoma.org.nz

# New Zealand's melanoma instance rate is the worlds highest.

## Melanoma Facts

- More than 6000 melanomas are diagnosed in New Zealand every year
- Melanoma Accounts for nearly 80% of all skin cancer deaths
- Almost 300 Kiwis die of melanoma every year.
- Around 70% of melanoma cases occur in people age 50 years and older
- Dark skin people may have a lower chance of getting melanoma, but they often have thicker, more serious melanomas
- Melanomas rarely occurs in children
- Men are twice as likely than woman to die from melanoma

# <u>Osteoporosis</u>

- Age:
- 60+ dependant on gender and risk factors

# Reference: Health New Zealand (below is Waitemata DHB guidance)

## Key point – there is a wide regional variance in guidelines

Examples of indications for measuring bone mineral density in those who have never had a bone mineral density (DEXA) scan

- Men and woman of any age with one or more fragility fractures (fracture from a fall or impact from a standing height or less, with fracture involving femur, pelvis, wrist, humerus, vertebra)
- Men and woman of any age being on prolonged (>3 months) of supra physiological dose of steroid (>5mg prednisone)
- Men >70 years and woman >60 years with coexisting significant factors for osteoporosis and fractures such as:
  - Rheumatoid arthritis or other inflammatory arthropathies
  - Inflammatory bowel disease
  - Coeliac disease, other malabsorption conditions or bariatric surgery
  - Endocrine conditions eg. Hypogonadism Cushing's syndrome, hyperparathyroidism
  - Strong family history of osteoporosis and/or fragility fractures
  - Prolonged smoking history or severe COPD
  - Low BMI <20
  - Type 1 diabetes
  - High Falls risk or frailty
- Treated with bisphosphonates for for 4-5 years therefore contemplating a 'drug holiday'

#### **Prostate Cancer**

#### ○ Age:

#### 50+ IF ASYMPTOMATIC and NO RISK FACTORS

Reference: <u>www.prostate.org.nz</u>

The 'New Zealand Prostate Management and Referral Guidelines' recommend that men age 50 over discuss prostate testing with their doctor (usually GP) For men with a known family history of prostate cancer this discussion should begin at 40 years of age, as they may be at higher risk.

Men over 50 (and those over 40 with known family history) should be tested at least every once two years using both the PSA and DRE tests, under a programme of testing appropriate to them. The initial test will find a baseline level and subsequent test can be recorded to note any significant change that may warrant further investigation.

Regular testing should continue until mid-70s or later, depending on the risk profile that has been recorded.

Reference: aucklandregion.communityhealthpathways.org

#### About prostate cancer testing

- There are controversies over the accuracy of screening tools, overdiagnosis, and potential harm from treatment for some patients. A full discussion of PSA testing issues is beyond the scope of this pathway, but a 2013 Cochrane meta-analysis found no reduction in prostate cancer-related mortality as a result of prostate cancerscreening. <sup>1</sup>
- It is best practice for the general practitioner and patient to decide together whether to go ahead with a prostate specific antigen (PSA) test, after discussing the risks and benefits in the context of the clinical presentation.
- PSA:
  - Since PSA testing was introduced in the 1990s there has been a 50% reduction in presentations of prostate cancer with metastases and a 38% reduction in mortality.
  - After 10 years of screening, for every 1000 men screened, one death is prevented.
  - PSA is a protein made mainly in the prostate gland.

- With prostate hypertrophy in men aged > 50 years, the level of PSA usually rises.
- Higher levels are indicative of inflammation, infection or, less commonly, prostate cancer.

#### Practice point

Do not offer testing to asymptomatic men with comorbidities whose life expectancy is < 10 years.

Give balanced advice to help the patient make an informed choice about prostate testing:

#### **Benefits of testing**

- May reduce prostate cancer mortality, though all-cause mortality has not been shown to be reduced.
- Reduces incidence of presentations with metastases.

#### Potential harms of testing

- High false positives rates 3 in 4 men with elevated prostate specific antigen (PSA) do not have cancer.
- Some men experience side-effects from the biopsy.
- False negatives 8 to 10% of prostate cancers have normal PSA level. Some of these cancers can be detected on digital rectal examination (DRE).
- Overdiagnosis 28 in 1000 (2.8%) men receive a diagnosis of cancer that may remain asymptomatic for life.

