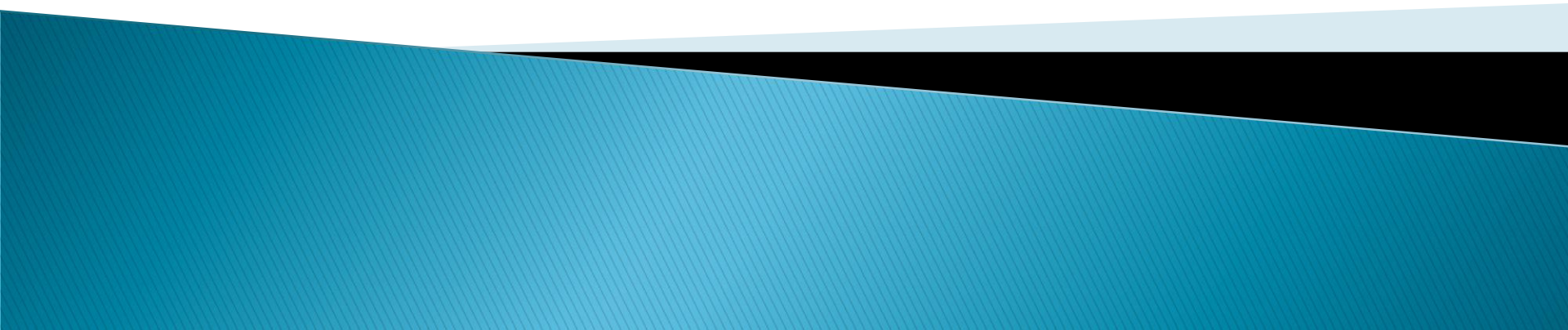


The Escaping Cell

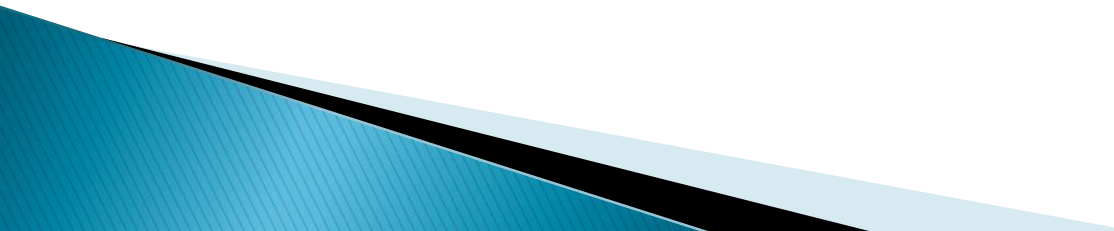
Louisa Fleure

Advanced Prostate Cancer Clinical
Nurse Specialist


Guys' and St Thomas' NHS Trust



Session Objectives

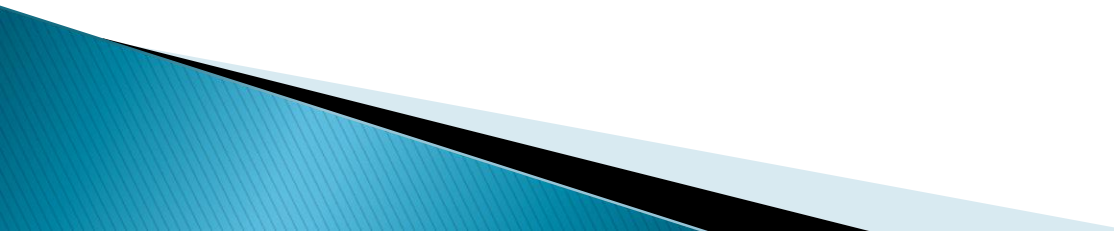
- ▶ The classification of advanced prostate cancer
 - ▶ The incidence of patients presenting with, or developing advanced prostate cancer following treatment
 - ▶ The sites of metastases
 - ▶ The presenting symptoms of advanced prostate cancer
- 

NICE guidance

- ▶ Prostate cancer is perhaps the most enigmatic malignancy in men. If men lived long enough, they would almost all die with histological evidence of the disease being present (Selly et al.1997).
 - ▶ However, only 3% of men diagnosed die as a direct consequence of having prostate cancer.
 - ▶ These are all men who have metastatic disease on diagnosis or develop disease after initial treatment
- 

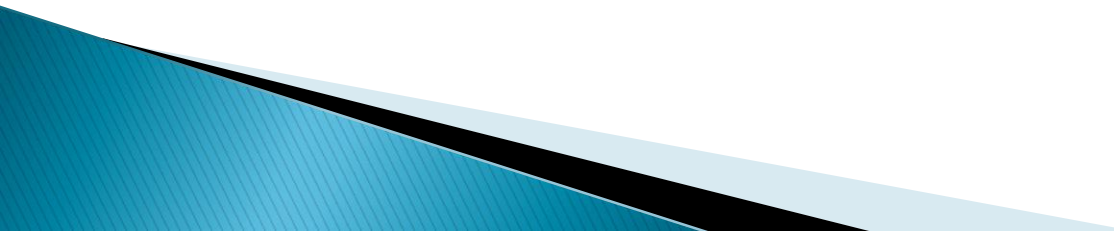
Incidence

“Prostate cancer is the most common cancer in men in the UK”

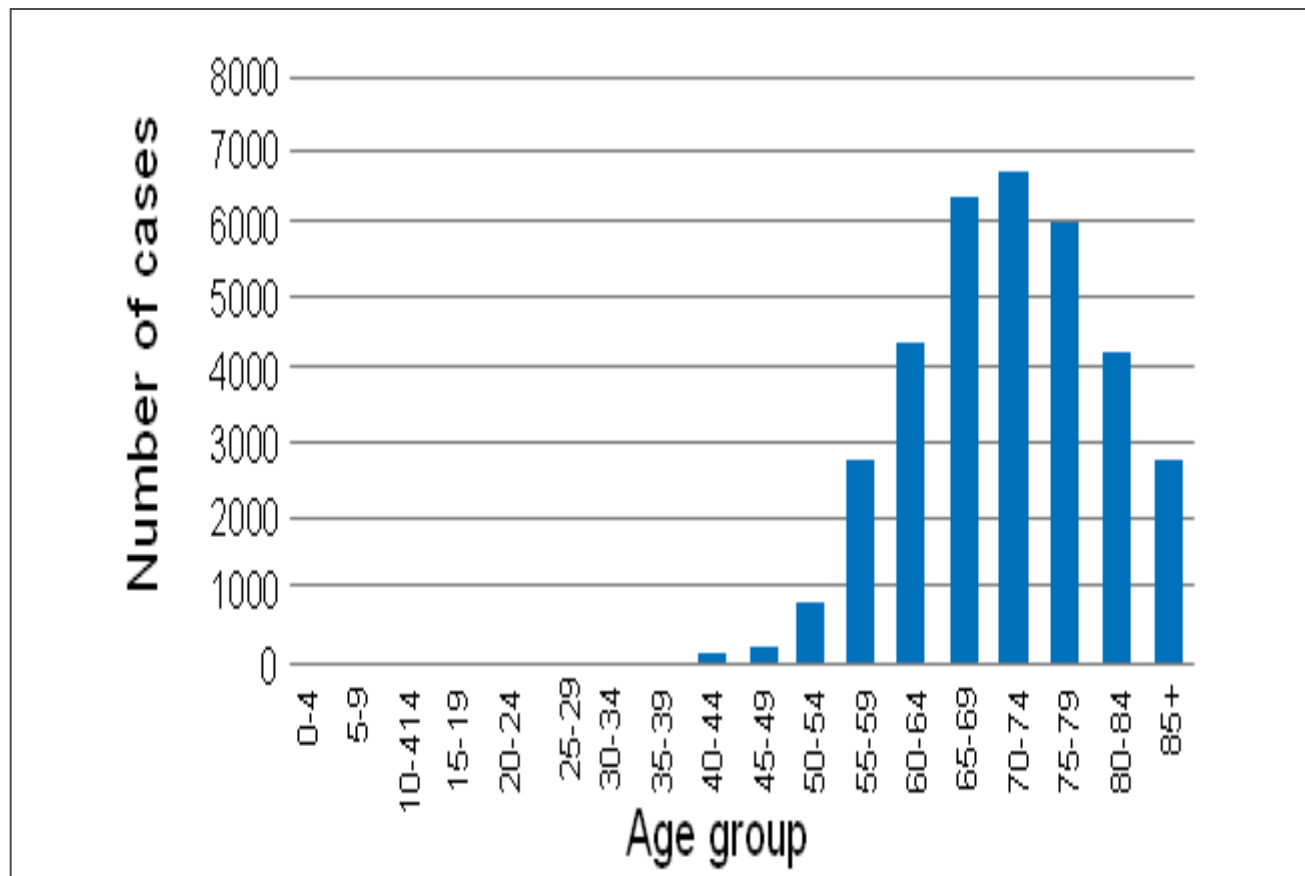
- ▶ What percentage of cancers diagnosed on the Uk are prostate cancers?
 - ▶ 25%
 - ▶ In 2009 in the UK approximately how many men were diagnosed with prostate cancer?
 - ▶ 40,800 men
 - ▶ (around 112 every day)
- 

Incidence

Prostate cancer is the most common cancer in men in the UK

- In 2008, around 324,000 men were diagnosed with prostate cancer in Europe
 - Worldwide, around 899,000 men were diagnosed with prostate cancer in 2008
- 

Incidence



Incidence

- The lifetime risk for men in the UK of developing prostate cancer is estimated to be 1 in 9
- 1 in 10 (10%) advanced at diagnosis
 - Historically 20–30% advanced at diagnosis
 - ? more

Cancer research UK 2009

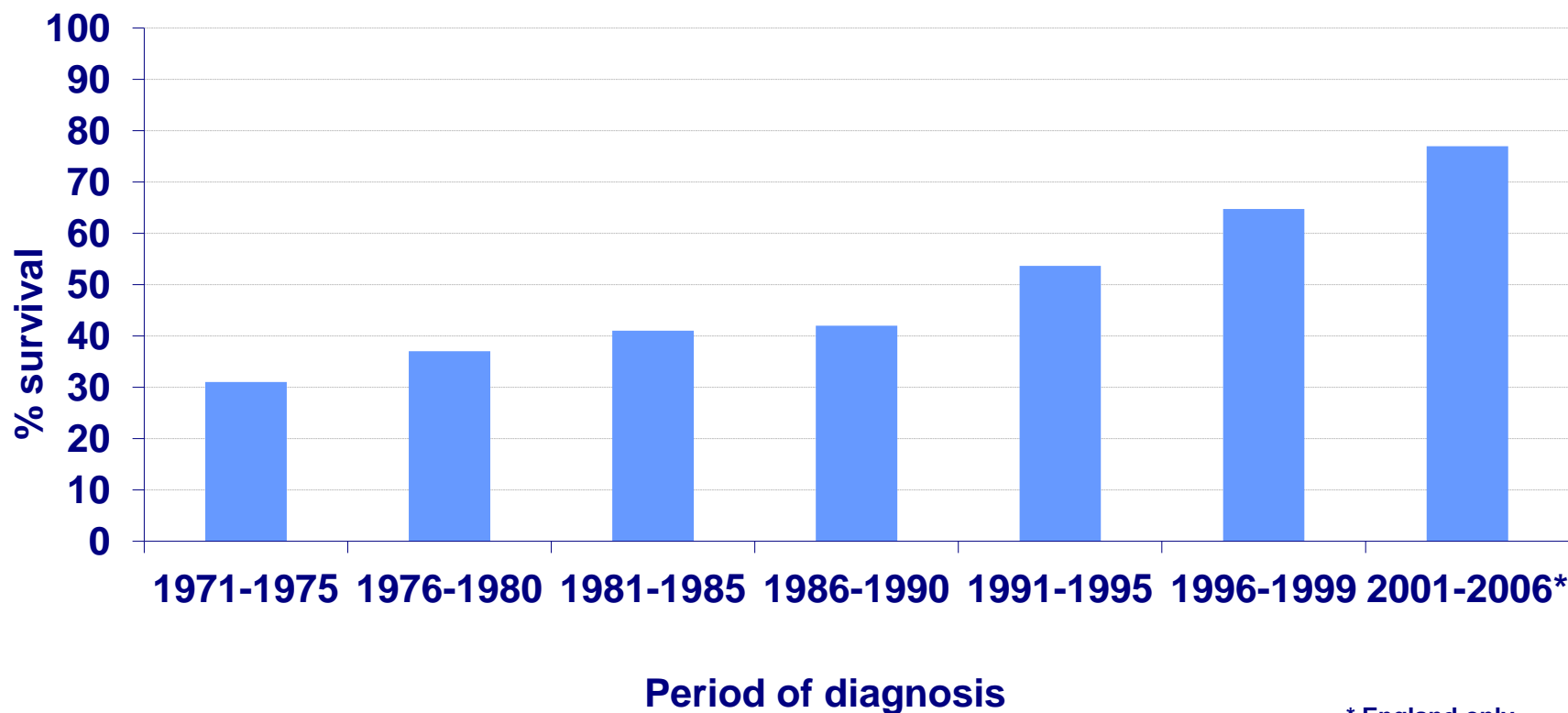


Incidence – Post treatment

- ▶ The risk of extra-prostatic disease in patients with clinically localized disease remains high (30–60%).
- ▶ Up to 50% of patients with clinically localized prostate cancer are estimated to progress despite initial treatment with intent to cure
 - Nomograms e.g. D'Amico 1999
 - Pre-therapy PSA, clinical stage, and biopsy Gleason score predictors for recurrence

Prostate cancer – Five-year survival rates

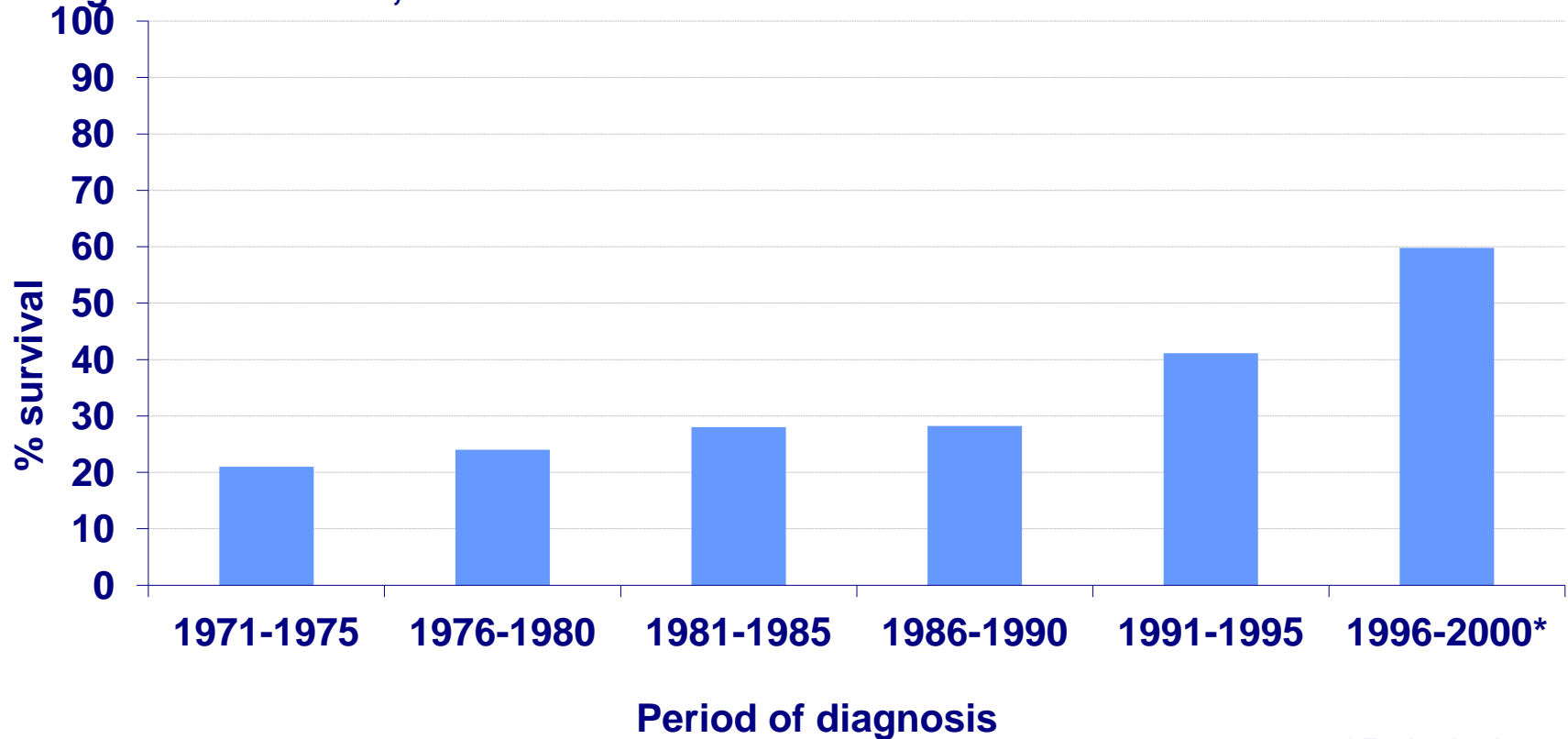
Figure 3.2: Age-standardised five-year relative survival rate, prostate cancer, England and Wales, 1971-2006



* England only

Prostate cancer – Ten-year survival rates

Figure 3.3: Ten-year relative survival rate, prostate cancer, England and Wales, 1971-2000

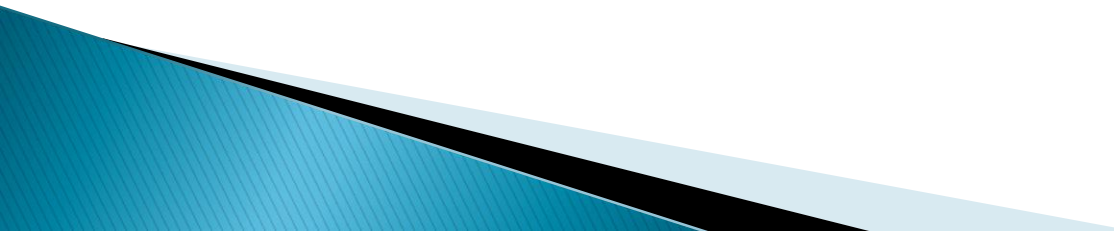


* England only


Prostate cancer survival: now and then

- ▶ In the 1970s
 - around three in ten men diagnosed with prostate cancer survived their disease beyond five years
 - only two in ten men survived their disease for at least ten years.
- ▶ Now more than eight in ten survive beyond five years and seven in ten beyond ten years
- ▶ Better treatments?
- ▶ Increased use of PSA testing in the UK which has led to the diagnosis of many prostate cancers which would have gone undetected.
- ▶ Lead time bias

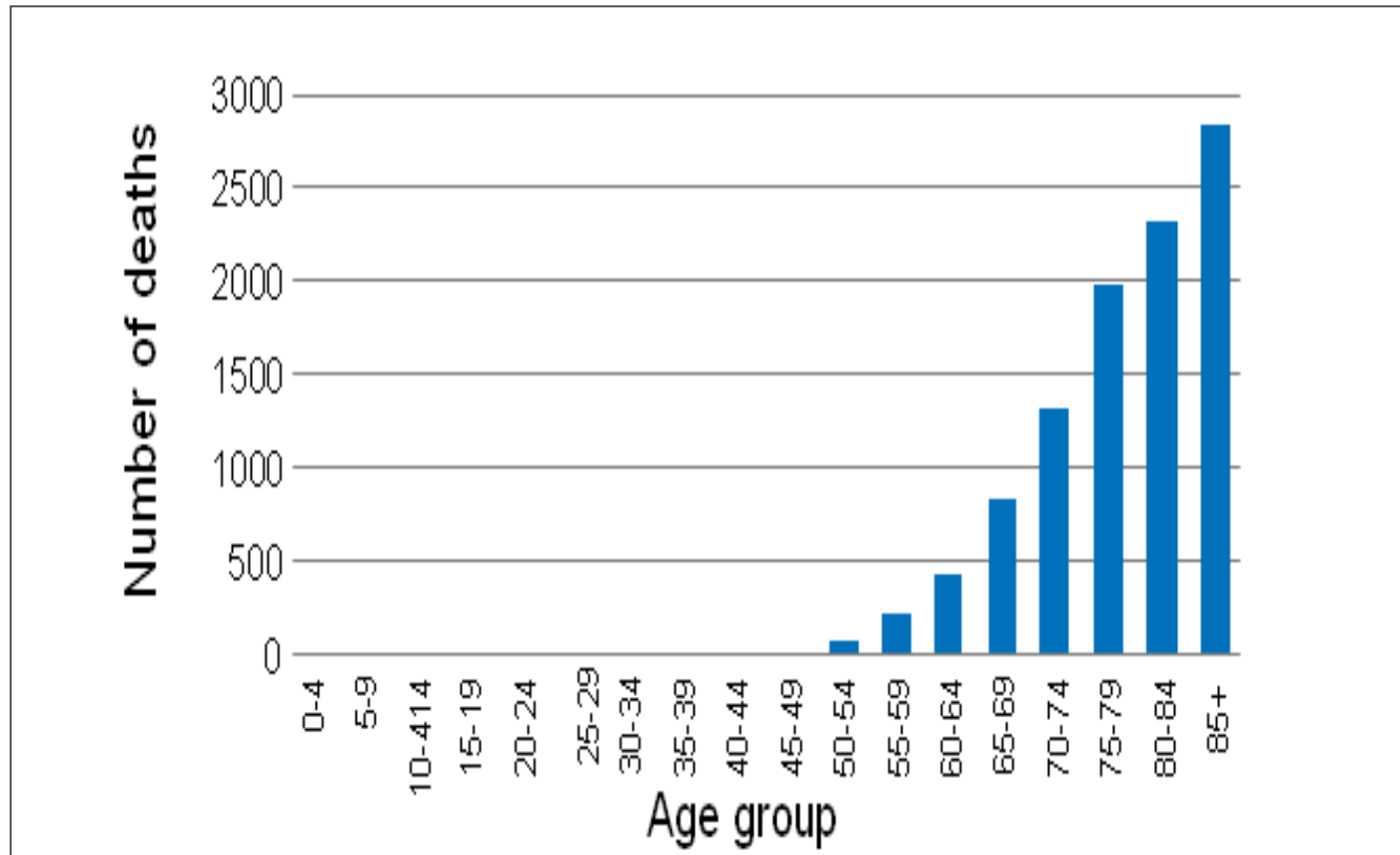
Survival by stage at diagnosis

- ▶ Survival from prostate cancer is strongly related to the stage of the disease at diagnosis
 - ▶ For disease which is confined to the prostate, five-year relative survival for patients in England in 1999–2002 is 90%
 - ▶ If the disease is metastatic at presentation five-year relative survival is lower at around 30%
- 

Prostate cancer mortality

- ▶ Prostate cancer is the second most common cause of cancer death in UK men after lung cancer
 - ▶ In 2010 in the UK around 10,700 men died from prostate cancer (around 29 every day)
 - ▶ It is estimated that more than 70,000 men in Europe (EU-27) died from prostate cancer in 2008.
 - ▶ Worldwide an estimated 258,000 men died from prostate cancer in 2008
 - ▶ More than 9 in 10 prostate cancer deaths occur in men aged 65 and over
- 

Mortality and Age



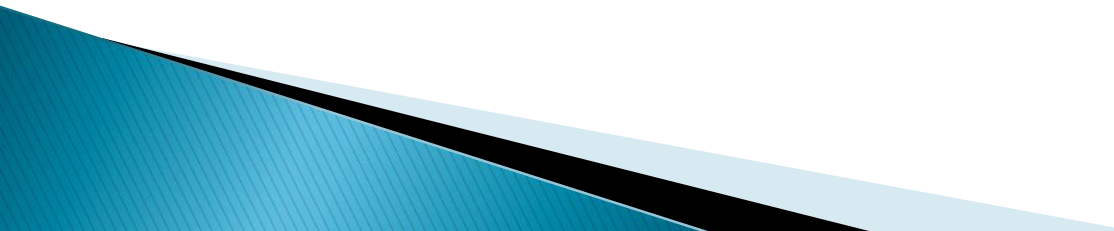
Prostate cancer in the UK: summary

- ▶ **Number of new cases (UK 2009)** 40,841
 - ▶ **Incidence rate per 100,000 population** 106.3
 - ▶ **One-year survival rate**
(patients diagnosed 2005–2009, England) 93.5%
 - ▶ **Five-year survival rate**
(patients diagnosed 2005–2009, England) 81.4%
 - ▶ **Ten-year predicted survival rate**
(patients diagnosed 2007, England and Wales) 68.5%
 - ▶ **Number of deaths (UK 2010)** 10,721
 - ▶ **Mortality rate per 100,000 population** 23.8
- 

Classification

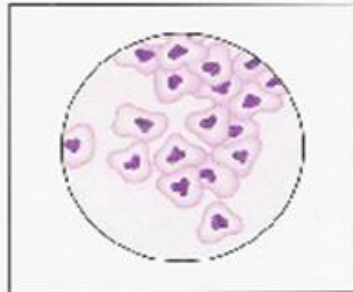
- ▶ Organ confined
- ▶ Locally advanced
- ▶ **Advanced or Metastatic**

TNM GRADING

- ▶ T – Tumour
 - ▶ N – Nodes
 - ▶ M – Metastases
- 

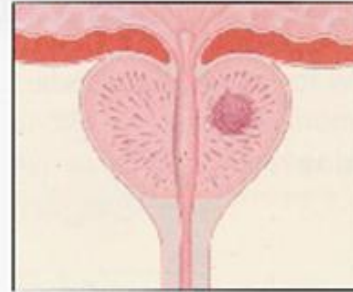
Tumour Stage

T1
stage



early prostate cancer
which can only be seen
under the microscope

T2
stage



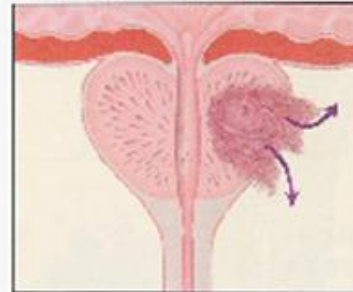
early prostate cancer
which can be felt on
examination

T3
stage



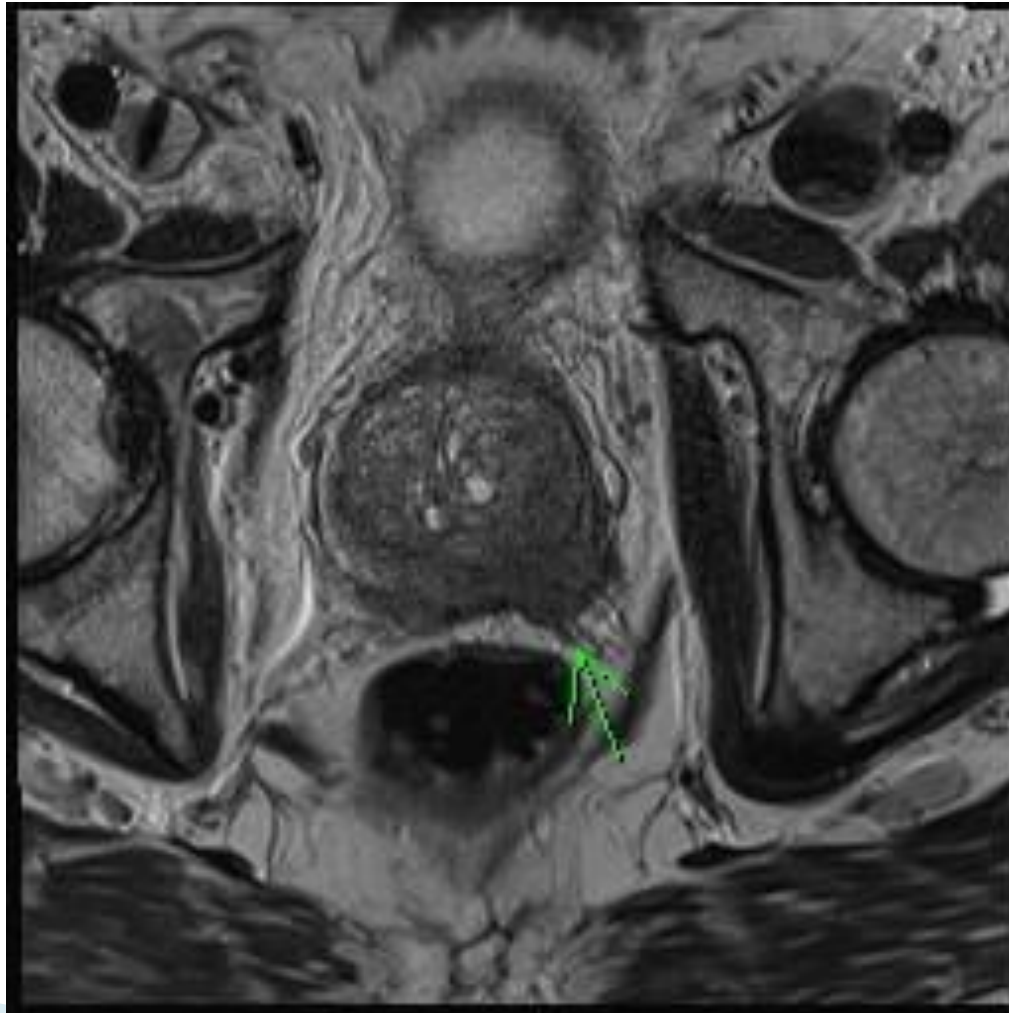
locally advanced prostate
cancer which may cause
urinary problems

T4
stage



late prostate cancer
probably with secondaries/
metastases

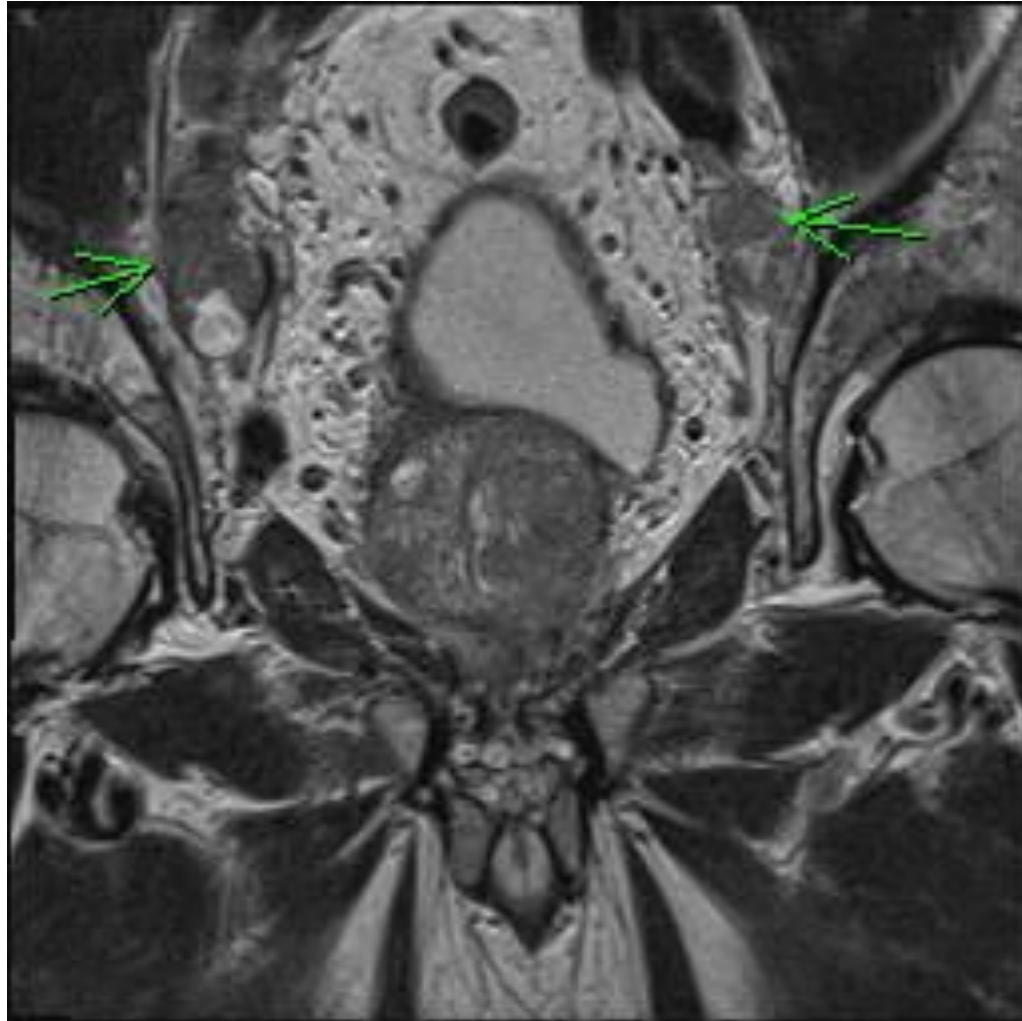
T3 Extra capsular disease



N stage

- ▶ Denotes spread to lymph nodes
 - NX Regional lymph nodes were not assessed
 - N0 No regional lymph node metastasis
 - N1 Metastasis in regional lymph node(s)
- ▶ Usually demonstrated with MRI or CT

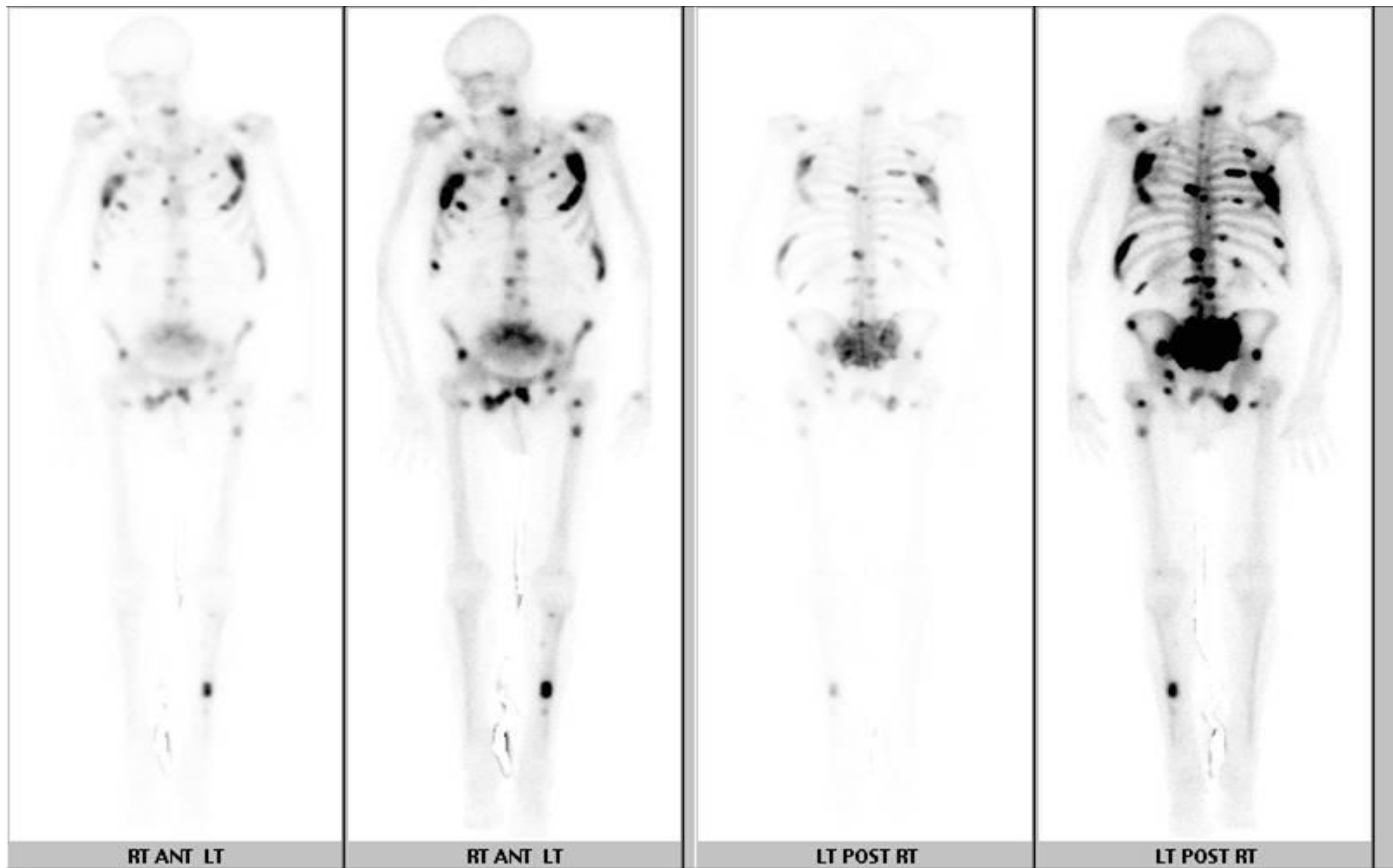
Lymph Nodes



M stage

- ▶ Describes spread to distant sites, usually the bones
 - M0: No distant metastasis
 - M: Distant metastasis
 - M1a Non regional lymph nodes
 - M1b Bone(s)
 - M1c Other site(s) with or without bone disease
- ▶ Stage with bone scan and/or CT

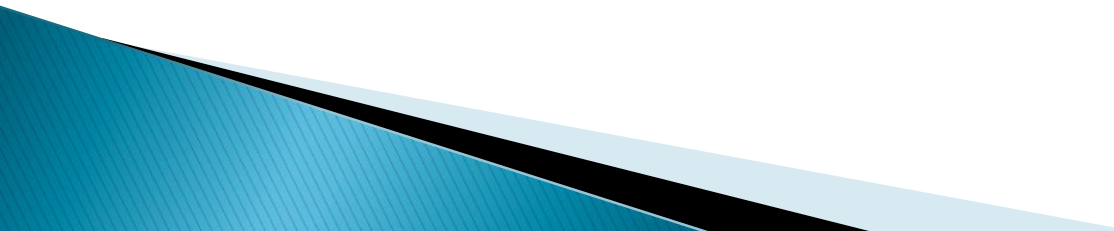
Bone Scan



Metastatic spread

- ▶ Advanced prostate cancer results from any combination of lymphatic, blood, or contiguous local spread

Metastatic sites

- ▶ Lymphatic spread to distant lymph nodes
 - ▶ The most common site of distant metastases are the bones especially spine , pelvis, femur and ribs.
 - ▶ Less common sites include lungs ,liver, brain and soft tissue
- 

Advanced CaP case study

Symptoms

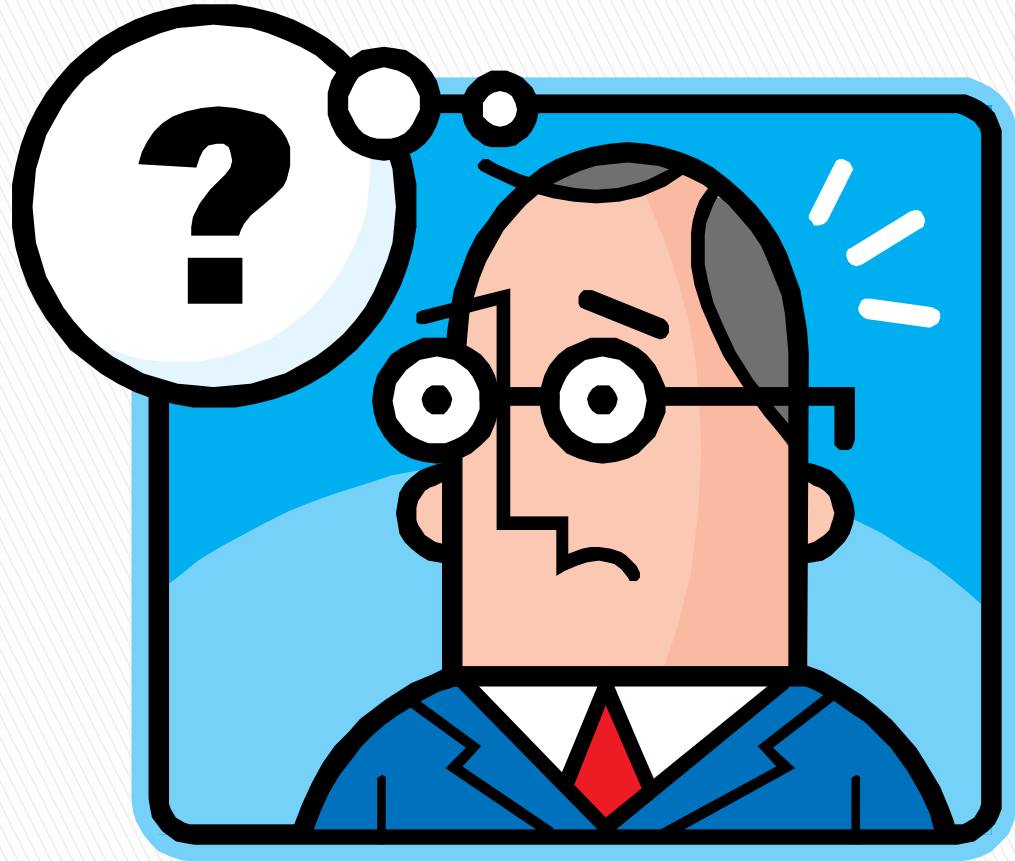
- ▶ 79 year old man
- ▶ Feeling tired and lethargic for 7 months
- ▶ Pale and dizzy
- ▶ Lack of appetite
- ▶ Deteriorating LUTS
- ▶ Constipation
- ▶ Back pain
- ▶ Leg weakness

Possible causes

- ▶ Anaemia due to bone marrow infiltration
- ▶ Renal failure due to renal obstruction
 - Prostate
 - Lymph nodes
- ▶ Bowel obstruction due to enlarged prostate
- ▶ Bone metastases
- ▶ Spinal cord compression

What investigations?

- ▶ DRE
- ▶ Biopsy
- ▶ PSA
- ▶ Fbc
- ▶ U&E
- ▶ Bone profile
- ▶ LFTs (ALP)
- ▶ Bone scan
- ▶ CT scan
- ▶ MRI spine



Presenting signs & symptoms

- ▶ Prostate enlargement
 - LUTs
 - Retention
 - Haematuria
 - Upper tract dilatation
 - Renal failure
 - Constipation
 - Local pain



Presenting signs & symptoms

- ▶ Disseminated disease
 - Bowel obstruction
 - Ureteric obstruction
 - Lymphoedema
 - Tiredness
 - Weight loss
 - Anorexia



Presenting signs & symptoms

➤ Bone metastases

- Raised ALP

- Anaemia and bone marrow suppression

- Skeletal related events

- Requiring radiotherapy for pain from skeletal metastases
- Pathological fracture
- Cord compression

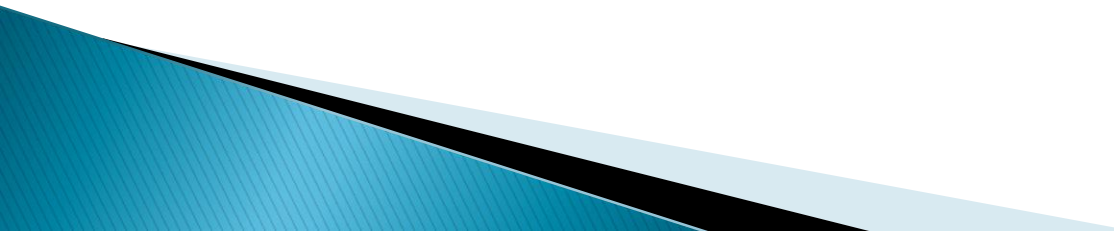
Presenting signs & symptoms

▶ Cord Compression

- Back pain (may feel like a 'band' around the chest or abdomen and can sometimes radiate over the lower back, into the buttocks or legs)
- The pain may be worse when lying down
- Numbness or pins and needles in toes and fingers, or over the buttocks.
- A new feeling of being unsteady, having difficulty walking, or legs giving way.
- Urinary retention or incontinence
- Constipation or faecal incontinence



Skeletal Related events

- ▶ Costly to the Patient
 - Effect on Quality of Life
 - Earlier Mortality
 - Often multiple SREs
 - ▶ Costly to the NHS
 - £2000 per SRE (Botteman 2006)
 - ▶ Think Prevention
- 

Conclusion

- ▶ There are significant numbers of patients with metastatic prostate cancer
 - ▶ Metastatic prostate cancer is the cause of death for over 10,000 men a year in the UK
 - ▶ Clinical symptoms may indicate advanced disease
 - ▶ Skeletal events are catastrophic and prevention is important
- 