Benign prostatic hyperplasia (BPH)

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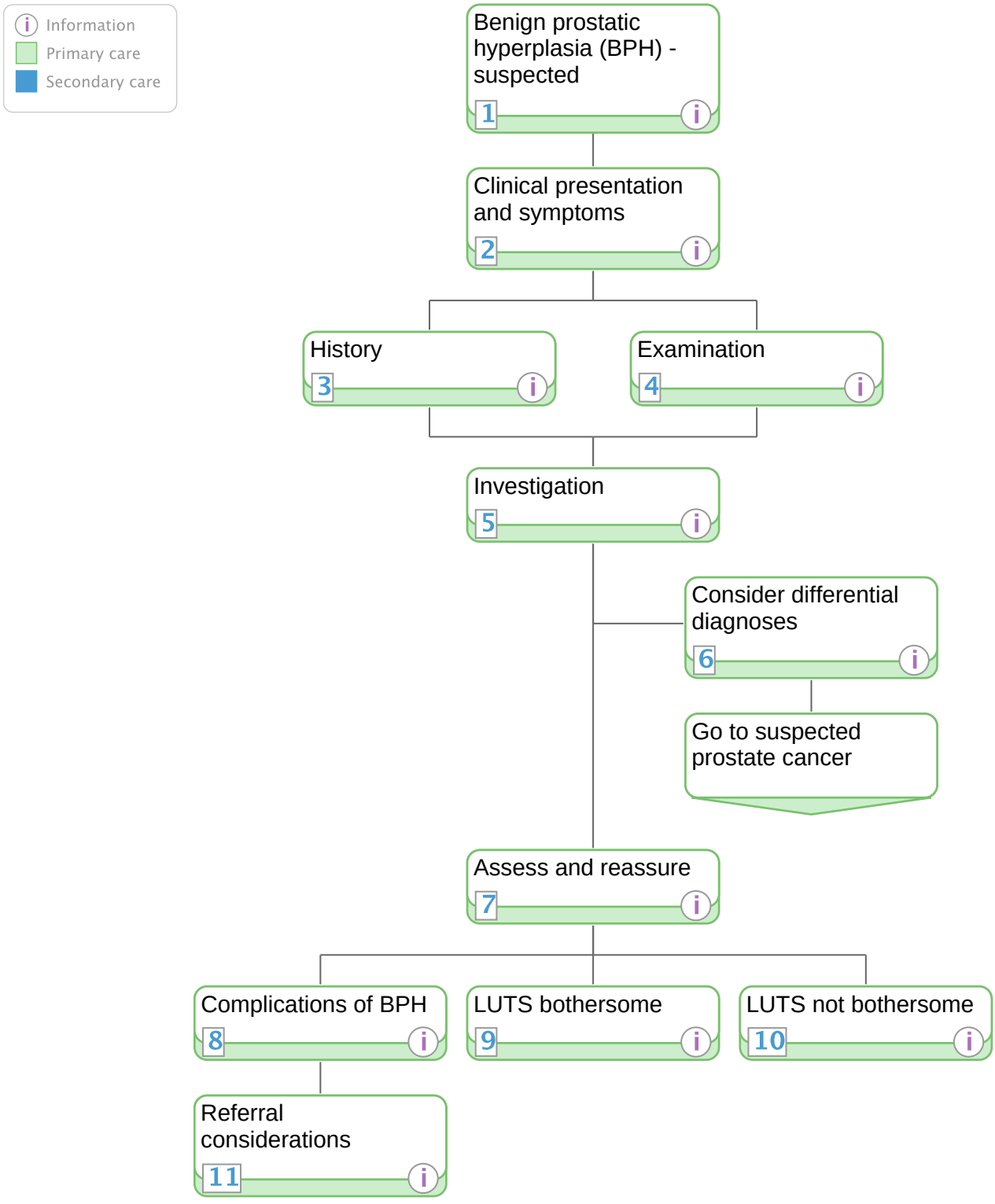

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IMPORTANT NOTE
Locally reviewed refers to the date of completion of the most recent review process for a pathway. All pathways are reviewed regularly every twelve months, and on an ad hoc basis if required. Due for review refers to the date after which the pathway on this page is no longer valid for use. Pathways should be reviewed before the due for review date is reached.

Benign prostatic hyperplasia (BPH)

1 Benign prostatic hyperplasia (BPH) - suspected

Quick info:

This pathway covers:

- primary assessment and diagnosis of benign prostatic hyperplasia (BPH) and the watchful waiting, medical and invasive approaches to management in adult men
- management may be in general practice, nurse specialist clinics or urology (depending on availability and whether surgery is indicated)

Benign prostatic hyperplasia (BPH)

- **Clinically** – lower urinary tract symptoms (LUTS) (used to be known as prostatism)
- **Histologically** – proliferation of glandular epithelium, stroma and smooth muscle of the prostate
- There is no direct relationship between severity of LUTS and size of the prostate
- The cause of BPH is unknown but aging and long-term exposure to testosterone and particularly dihydrotestosterone are important factors
- Most men with LUTS can be managed in primary care
- Men with BPH are no more likely than men without BPH to develop prostate cancer
- benign enlargement of prostate gland due to stromal and epithelial cell hyperplasia in peri-urethral zone
- usually leads to lower urinary tract symptoms, although some male patients with histological evidence of hyperplasia are asymptomatic

Prevalence:

- rare in males under age 40 years
- prevalence of 60% of males by age 60 years
- prevalence of 90% of males by age 85 years
- LUTS attributed to obstruction associated with BPH is a very common problem affecting men as they get older
- It is estimated that about 4 million men >40 years of age in the UK have LUTS

Risk factors:

- increasing age

References:

PRODIGY. Prostate – benign hyperplasia. Newcastle upon Tyne: PRODIGY; 2005.

American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

Nickel JC, Herschorn S, Corcos J. Canadian guidelines for the management of benign prostatic hyperplasia. Can J Urol 2005; 12: 2677-83.

Webber R. Benign prostatic hyperplasia. Clin Evid 2005; 1076-91.

2 Clinical presentation and symptoms

Quick info:

LUTS due to BPH are classified as obstructive (or voiding) and irritative (or filling).

Lower urinary tract symptoms

- Obstructive:
  - frequency
  - urgency
  - nocturia
  - hesitancy in initiating voiding
  - slow, intermittent or weak force of stream
  - sensation of incomplete bladder emptying
  - straining to void
  - double voiding (the need to void again immediately after urinating)
  - acute urinary retention(maybe the presenting symptom)
  - overflow incontinence
  - terminal dribbling
- Irritative (filling) symptoms include:
  - Nocturia
  - Day-time frequency
  - Urgency
  - Urge incontinence

The International Prostate Symptom Score (IPSS) is not a diagnostic tool but allows lower urinary tract symptoms to be graded as mild, moderate, or severe

- It is valuable for assessing impact of urinary symptoms on the individual and monitoring progress and response to treatment

References:

PRODIGY. Prostate – benign hyperplasia. Newcastle upon Tyne: PRODIGY; 2005.

American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

3 History

Quick info:

Urinary tract symptoms:

- can use the International Prostate Symptom Score (IPSS) in initial assessment
- also consider International Continence Society male questionnaires, Danish Prostatic Symptom Score and BPH Impact Index
- previous surgical procedures
- medical conditions and symptoms producing bladder dysfunction or polyuria
- fitness for surgical procedures

References:

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4 Examination

Quick info:

On abdominal examination

- The bladder may be palpable if there is chronic urinary retention
- digital rectal examination usually reveals smooth, firm, elastic enlargement of the prostate. Cancer suggested by hard, nodular, irregular prostate
  - size, shape and consistency of prostate
- focused neurological examination:
  - mental status
  - ambulatory status
  - neuromuscular function of lower extremity
  - anal sphincter tone

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American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

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5 Investigation

Quick info:

- There are no routine diagnostic tests.
- Tests to exclude complications or other causes of LUTS include:
  - Urinalysis is recommended to check for blood, leucocytes, nitrite, glucose
    - Nitrite and leucocytes may indicate UTI
    - Blood may indicate bladder carcinoma as a cause of LUTS
    - Glucose may indicate diabetes mellitus
    - recommended to exclude UTI
  - Serum creatinine + eGFR is optional but recommended in men with chronic retention to exclude renal impairment and establish a baseline level

PSA is to exclude cancer

- It can act as a proxy for prostate size and as a useful indicator of progression risk. Where results are available it will help to

influence decision to treat and treatment selection
- Counsel according to PSA guidelines
- recommended to be offered to patients when the results may alter the management
- this includes:
  - detection of prostate cancer in patients with a 10 year life expectancy; and
  - estimation of prostate volume may alter management of voiding symptoms

Consider PSA monitoring during treatment

urine cytology:
- in patients with predominantly irritative symptoms, particularly if there is a history of smoking or other risk factors

Consider postvoid residual urine measurement by bladder scan or KUB U/S

References:

PRODIGY. Prostate – benign hyperplasia. Newcastle upon Tyne: PRODIGY; 2005.

American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

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6 Consider differential diagnoses

Quick info:

The differential diagnosis of BPH include
- **urgent referral** (to be seen within 2 weeks) for suspected prostate cancer is indicated if:
  - elevated age specific prostate specific antigen (PSA) in males expected to live more than 10 years
  - high PSA (more than 20ng/mL) in clinically suspected cases of prostate cancer
  - visible haematuria

Other differential diagnoses include:
- adverse effects of drugs (causing urine retention):
  - tricyclic antidepressants
  - sedating antihistamines
  - nasal decongestants
  - *Other* antimuscarinics]
- bladder cancer
- bladder tumour
- constipation
- diabetes mellitus
- neurogenic bladder
- urinary tract infection
- urethral strictures
- bladder stones
- phimosis
- Prostate carcinoma
  - Digital rectal examination may reveal the firm hard nodular and irregular mass typically found with more advanced stages of cancer of the prostate – but these features are also found with BPH, focal infarcts and calculi
- In men who present with predominantly irritative symptoms consider malignancy if urine dipstick tests are positive
- UTI, including prostatitis or sexually transmitted diseases, causing frequency and urgency
- Pelvic mass causing obstructive symptoms (eg bladder or rectal neoplasm)
- Diabetes causing urinary frequency
- Neurological bladder causing incontinence and incomplete emptying of bladder
- Urethral stricture causing obstructive symptoms
- Heart failure causing nocturia
- Phimosis causing voiding symptoms

References:

PRODIGY. Prostate – benign hyperplasia. Newcastle upon Tyne: PRODIGY; 2005.

American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

7 Assess and reassure

Quick info:

Assess

- Urinary symptoms
- Sexual symptoms (e.g. erectile dysfunction; pain/discomfort on ejaculation)

Consider tests to exclude complications or other causes of LUTS

- U+E, eGFR
- Urinalysis
- Urine culture

Reassure

- Address concerns about probability of prostate cancer
- Discuss advantages/disadvantages of PSA
- Provide patient information leaflet and advice

8 Complications of BPH

Quick info:

- bothersome or serious complications of benign prostatic hyperplasia (BPH) warrant specialist referral
- complications include:
  - urinary retention (acute and chronic)
  - haematuria
  - bladder stones
  - recurrent urinary tract infections
  - renal insufficiency
  - incontinence

References:

PRODIGY. Prostate – benign hyperplasia. Newcastle upon Tyne: PRODIGY; 2005.

American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

Singapore Ministry of Health. Lower urinary tract symptoms suggestive of benign prostatic hyperplasia. Singapore: Ministry of Health; 2005.

Rule AD, Lieber MM, Jacobsen SJ. Is benign prostatic hyperplasia a risk factor for chronic renal failure? J Urol 2005; 173: 691-96.

9 LUTS bothersome

Quick info:

First consideration:

- **No** risk factors for progression
- Prescribe alpha-blocker e.g. tamulosin, alfuzosin, doxazosin. Counsel re side effects of dizziness, tiredness and premature ejaculation.
- Symptoms should improve within several days with full response after 4-6 weeks

Second consideration:

- **Risk** factors for progression are present
- Consider alpha blocker **OR**
- 5-alpha reductase inhibitor **OR**
- Both combined

If combined therapy used consider stopping alpha blocker at 6 months except in men with severe symptoms

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American Urological Association (AUA). The management of benign prostatic hyperplasia. Baltimore, MD: AUA; 2003.

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10 LUTS not bothersome

Quick info:

First consideration:

- Minimum frequency, nocturia, urgency and urge incontinence
- **No** risk factors for progression i.e.
  - Large prostate or
  - Raised PSA
  - Bladder empties properly
- Watchful waiting
- Consider treatment options based on:
- patient preference - anticipate times when urinary frequency and urgency likely to be most inconvenient (eg when going out) and reduce fluid intake beforehand
  - Make sure not to reduce total daily fluid intake (about 1.5 litres)
- symptom severity
- interference with daily living activities
- presence of complications
- reduce or avoid alcohol and caffeine which can aggravate frequency, urgency and nocturia
- relax when initiating urination
- void twice to ensure bladder is emptied completely
- control urgency by practising distraction techniques such as breathing exercises and mental tricks to take the mind off the bladder
- try retraining the bladder by “holding on” and increasing intervals between emptying bladder
- try pomegranate juice
- consider referral to nurse specialist clinics (if available)

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11 Referral considerations

Quick info:

Monitor annually

- Reassess symptoms
- Review man’s preferences for treatment

Consider referral if:

- Failed to respond to medical treatment **OR**
- Significant residual urine (>200ml)
- Hydronephrosis
- Acute retention
- PSA (in accordance with guidelines)
- Recurrent UTI
- Epididymoorchitis

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Key Dates

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