Prostatitis - chronic

Last revised in February 2019 Next planned review by December 2020

Changes

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February 2019 — minor update. The recommendation to prescribe a course of fluoroquinolones has been removed. This was on the advice of the MHRA and European Medicines Agency. EMA reviewed serious, disabling and potentially permanent side effects with quinolone and fluoroquinolone antibiotics given by mouth, injection or inhalation.

The CHMP (https://www.ema.europa.eu/en/glossary/chmp) confirmed that the use of the remaining fluoroquinolone antibiotics should be restricted. In addition, the prescribing information for healthcare professionals and information for patients will describe the disabling and potentially permanent side effects and advise patients to stop treatment with a fluoroquinolone antibiotic at the first sign of a side effect involving muscles, tendons or joints and the nervous system.

Restrictions on the use of fluoroquinolone antibiotics will mean that they should **not** be used:

- to treat infections that might get better without treatment or are not severe (such as throat infections);
- to treat non-bacterial infections, e.g. non-bacterial (chronic) prostatitis;
- for preventing traveller's diarrhoea or recurring lower urinary tract infections (urine infections that do not extend beyond the bladder);
- to treat mild or moderate bacterial infections unless other antibacterial medicines commonly recommended for these infections cannot be used. [EMA, 2019 (/prostatitis-chronic#!references)]

January 2019 — minor update. Aortic aneurysm and dissection is now listed as an adverse effect of ciprofloxacin.

September 2017 — minor update. SPC update on quinolones to align all CKS topics prescribing advice. Prostatitis – chronic, Gonorrhoea, Pyelonephritis, Diarrhoea – prevention and advice for travellers, Dyspepsia – unidentified cause, Dyspepsia – proven functional, Dyspepsia – proven peptic ulcer, Diverticular disease, Gastroenteritis and Scrotal swellings.

December 2016 — minor update.

- The adverse effects section for ciprofloxacin has been updated to include vision disorders [ABPI, 2016a (/prostatitis-chronic#!references)].
- Uveitis, severe liver injury and exfoliative dermatitis have been added as possible adverse effects of ofloxacin, in line with the manufacturer's updated Summary of Product Characteristics [ABPI, 2016b (/prostatitis-chronic#!references)].

December 2014 to February 2015 — reviewed. A literature search was conducted in December 2014 to identify evidence-based guidelines, UK policy, systematic reviews, and key RCTs published since the last revision of this topic. The main changes are to the management section. For men with chronic prostatitis/chronic pelvic pain

syndrome initial management in primary care now includes a 4–6 week trial of an alpha-blocker or an antibiotic (ciprofloxacin, ofloxacin or trimethoprim if a quinolone is contraindicated or not tolerated).

Previous changes

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February 2013 — minor update. The 2013 QIPP options for local implementation have been added to this topic.

October 2012 — minor update. The 2012 QIPP options for local implementation have been added to this topic.

September 2010 — minor update. The lower age limit for quinolone prescriptions has been raised from 16 to 18 years. Issued in September 2010.

June 2010 — minor update. The recommendation to delay PSA testing if the man has ejaculated in the past 48 hours has been removed — the evidence that ejaculation affects PSA levels is inconsistent and unconvincing. Issued in June 2010.

May 2009 — minor update. A section on the *Complications* has been added.

August 2009 — minor update. The *Diagnosis* section about the PSA test now includes advice on when to defer testing (e.g. for at least 1 week after digital rectal examination). Issued in August 2009.

October 2008 to February 2009 — converted from CKS guidance to CKS topic structure. The evidence-base has been reviewed in detail, and recommendations are more clearly justified and transparently linked to the supporting evidence. The only major change to the recommendations is to offer an antibiotic only when there is clinical evidence (such as a previous urinary tract infection) that makes bacterial infection likely. Together with the CKS topic on *Prostatitis - acute*, this CKS topic replaces the former topic on *Prostatitis.*

June 2005 — reviewed. Validated in September 2005 and issued in November 2005.

December 2001 — rewritten, replacing guidance on *Prostatitis — acute*. Validated in March 2002 and issued in April 2002.

January 2000 — reviewed.

December 1998 — written. Validated in March 1999 and issued in May 1999.

Update

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New evidence

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Evidence-based guidelines

No new guidelines published since 1 December 2014.

HTAs (Health Technology Assessments)

No new HTAs since 1 December 2014.

Economic appraisals

No new economic appraisals relevant to England since 1 December 2014.

Systematic reviews and meta-analyses

No new systematic reviews published since 1 December 2014.

Primary evidence

No new primary evidence published since 1 December 2014.

New policies

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No new national policies or guidelines since 1 December 2014.

New safety alerts

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No new safety alerts since 1 December 2014.

Changes in product availability

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No changes in product availability since 1 December 2014.

Goals

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To support primary healthcare professionals to:

- Be aware of when to suspect chronic prostatitis.
- Accurately assess pain, urinary symptoms, and quality of life.
- Provide advice, support, and treatment to men with suspected chronic prostatitis.
- Refer when appropriate to a urologist or specialist in chronic pain management.

Outcome measures

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No outcome measures were found during the review of this topic.

Audit criteria

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No audit criteria were found during the review of this topic.

QOF indicators

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No QOF indicators were found during the review of this topic.

QIPP - Options for local implementation

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- **Nonsteroidal anti-inflammatory drugs (NSAIDs)**
  - Review the appropriateness of NSAID prescribing widely and on a routine basis, especially in people who are at higher risk of both gastrointestinal (GI) and cardiovascular (CV) morbidity and mortality (for example older patients).
  - If initiating an NSAID is obligatory, use ibuprofen (1200 mg per day or less) or naproxen (1000 mg per day or less).
  - Review patients currently prescribed NSAIDs. If continued use is necessary, consider changing to ibuprofen (1200 mg per day or less) or naproxen (1000 mg per day or less).
  - Review and, where appropriate, revise prescribing of etoricoxib to ensure it is in line with MHRA advice and the NICE clinical guideline on osteoarthritis [CSM, 2005 (/prostatitis-chronic#!references); NICE, 2008 (/prostatitis-chronic#!references)].
  - Co-prescribe a proton pump inhibitor (PPI) with NSAIDs for people with osteoarthritis, rheumatoid arthritis, or low back pain (for people over 45 years) in accordance with NICE guidance [NICE, 2008 (/prostatitis-chronic#!references); NICE, 2009a (/prostatitis-chronic#!references); NICE, 2009b (/prostatitis-chronic#!references)].
  - Take account of drug interactions when co-prescribing NSAIDs with other medicines (see Summaries of Product Characteristics). For example, co-prescribing NSAIDs with ACE inhibitors or angiotensin receptor blockers (ARBs) may pose particular risks to renal function; this combination should be especially carefully considered and regularly monitored if continued.
- **Antibiotic prescribing — especially quinolones and cephalosporins**
  - Review and, where appropriate, revise current prescribing practice and use implementation techniques to ensure prescribing is in line with Health Protection Agency (HPA) guidance.
  - Review the total volume of antibiotic prescribing against local and national data.
  - Review the use of quinolones and cephalosporin prescribing against local and national data.

[NICE, 2015 (/prostatitis-chronic#!references)]

NICE quality standards

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No NICE quality standards were found during the review of this topic.

What is it?

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- **Chronic prostatitis** is defined as at least 3 months of urogenital pain, which may be perineal, suprapubic, inguinal, rectal, testicular, or penile and is often associated with lower urinary tract symptoms (such as dysuria, frequency, hesitancy, and urgency), and sexual dysfunction (erectile dysfunction, painful ejaculation, or postcoital pelvic discomfort) [Public Health Agency of Canada, 2013 (/prostatitis-chronic#!references); Rees et al, 2014 (/prostatitis-chronic#!references)].
  - In practice a diagnosis of chronic prostatitis is often suspected after a shorter duration of symptoms as symptoms can fluctuate.
- Chronic prostatitis can be further classified as [Rees et al, 2014 (/prostatitis-chronic#!references)]:
  - **Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) (sometimes also referred to as abacterial prostatitis or prostate pain syndrome)** — accounts for about 90% of men with chronic prostatitis (there is no proven bacterial infection).
  - **Chronic bacterial prostatitis (CBP)** — accounts for about 10% of men with chronic prostatitis [Engeler et al, 2012 (/prostatitis-chronic#!references)].

- **Effective management of chronic prostatitis in primary care rarely depends on an accurate classification of prostatitis.**
  - Although the name prostatitis suggests infection and inflammation, the pathology is poorly understood and there are limited correlations between symptoms, histology, and outcomes following antibiotic and nonsteroidal anti-inflammatory drug treatment [Nickel et al, 2007 (/prostatitis-chronic#!references)].
  - There is therefore debate about the role of the prostate in the pathogenesis of the condition, and some experts prefer the term 'chronic pelvic pain syndrome' as this does not imply that the cause lies in the prostate [Nickel et al, 2008 (/prostatitis-chronic#!references)].
- **Prostate pain syndrome** — the European Association of Urology (EAU) uses the term 'prostate pain syndrome' (PPS) instead of CP/CPPS [Engeler et al, 2012 (/prostatitis-chronic#!references)]. This term is not used in the UK, CKS therefore uses the terms CP/CPPS in this topic.

What causes chronic prostatitis?

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- **Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS)**
  - The exact cause of chronic prostatitis is unknown but is thought to be multifactorial. Infection and inflammation have been implicated as possible triggers and there is some evidence that the pain associated with CP/CPPS may be neuropathic in nature [Vasdev and Thorpe, 2011 (/prostatitis-chronic#!references); Rees et al, 2014 (/prostatitis-chronic#!references)].
- **Chronic bacterial prostatitis (CBP)**
  - CBP is thought to be caused by [Dickson, 2013a (/prostatitis-chronic#!references)]:
    - An ascending urethral infection, *or*
    - Lymphogenous spread of rectal bacteria, *or*
    - Undertreated acute bacterial prostatitis, *or*
    - Recurrent urinary tract infection with prostatic reflux.
  - A wide range of pathogens are thought to be responsible for infection, including *Escherichia coli* (most common), *Klebsiella* species, *Proteus mirabilis*, *Enterococcus faecalis*, and *Pseudomonas aeruginosa* [European Association of Urology, 2014 (/prostatitis-chronic#!references)].
  - Men who have HIV or who are immunocompromised are more susceptible to prostate infection with *Mycoplasma tuberculosis*, *Candida* species, *Coccidioides immitis*, *Blastomyces dermatitidis*, and *Histoplasma capsulatum* [European Association of Urology, 2014 (/prostatitis-chronic#!references)].
  - Rarely, CBP can occur secondary to a sexually transmitted infection such as chlamydia, gonorrhoea or trichomoniasis [Lazaro, 2013 (/prostatitis-chronic#!references); BASHH, 2014 (/prostatitis-chronic#!references)].

How common is it?

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- **The true incidence and prevalence of chronic prostatitis is unknown as there is significant overlap with symptoms of other conditions such as benign prostate hyperplasia and prostatic cancer** [Rees et al, 2014 (/prostatitis-chronic#!references)]**.**
- **The risk of chronic prostatitis is thought to increase with age** [Nickel, 2011 (/prostatitis-chronic#!references); Engeler et al, 2012 (/prostatitis-chronic#!references)]**.**
  - Men aged between 50–59 years old have a three-fold increased risk of having prostatitis than men aged between 20–39 years old.

What is the prognosis?

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Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS)

- An observational study (n = 286) in men with CP/CPPS found that symptoms improved in most men after 6 months of treatment [Turner et al, 2004 (/prostatitis-chronic#!references)]:
  - Treatments prescribed included alpha-blockers (2%), antibiotics (56%), nonsteroidal anti-inflammatory drugs (20%), or opiates (4%).
  - Chronic, mild, persistent, or recurrent symptoms were common and the prognosis appeared to be worse in those with previous episodes and more severe symptoms.
- A second prospective observational study (n = 293) in men with CP/CPPS found that 31% of men considered themselves moderately or markedly improved at 2 years after diagnosis [Propert et al, 2006 (/prostatitis-chronic#!references)]. The authors of this study did not report what treatment these men received but stated that 'subjects were managed according to usual practice at each clinical site'.

Chronic bacterial prostatitis (CBP)

- Bacterial eradication rates reported in clinical trials, following treatment with antibiotics are:
  - Ciprofloxacin — up to 77%.
  - Levofloxacin — up to 75%.
  - Azithromycin — up to 80%.
  - Doxycycline — up to 77%.
  - Clarithromycin — up to 80%.
- These trials also reported significant symptom improvement after treatment, however only two trials used the validated NIH-CPSI (http://www.prostatitis.org/symptomindex.html) tool to measure clinical outcomes.

[Rees et al, 2014 (/prostatitis-chronic#!references)]

What are the complications?

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- **Chronic prostatitis is associated with** [Rees et al, 2014 (/prostatitis-chronic#!references)]**:**
  - A greatly reduced quality of life — distress and difficulties in coping can be similar to that in people who have other long-term conditions such as, angina, or Crohn's disease [Wenninger et al, 1996 (/prostatitis-chronic#!references)].
  - Depression, anxiety, and panic disorder — small case control studies have found that these conditions are more common in men with chronic prostatitis [Rees et al, 2014 (/prostatitis-chronic#!references)].
- **Chronic bacterial prostatitis is the most frequent cause of recurrent UTI in men** [European Association of Urology, 2014 (/prostatitis-chronic#!references)]**.**

When to suspect chronic prostatitis

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- **Suspect chronic prostatitis in men who present with pain or discomfort (for at least 3 months) in the:**
  - Perineum (the most commonly reported location for pain).
  - Inguinal, or suprapubic region.
  - Scrotum, testis, or penis (especially pain at the penile tip).
  - Lower back, abdomen, or rectum.
- **Other symptoms that may also be present include:**
  - **Lower urinary tract symptoms (LUTS):**
    - Voiding symptoms (for example straining, hesitancy, and weak stream).
    - Storage symptoms (for example urinary urgency, frequency, and nocturia).
    - Dysuria.
  - **Sexual dysfunction symptoms:**
    - Erectile dysfunction.
    - Pain or discomfort during or after ejaculation.

    - Premature ejaculation.
    - Decreased libido.
- **If the man has LUTS, perineal or suprapubic pain and a feverish illness of sudden onset (with or without rigors, arthralgia, or myalgia), these may indicate the presence of acute bacterial prostatitis which requires urgent management.** For more information, see the CKS topic on Prostatitis - acute (/prostatitis-acute).
    - Unlike men with acute bacterial prostatitis, men with chronic bacterial prostatitis (CBP) or chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) are *not* systemically unwell.

Basis for recommendation

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Symptoms of chronic bacterial prostatitis (CBP) and chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS)

- The information on the symptoms of CBP and CP/CPPS is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)] and guidelines published by the European Association of Urology *Guidelines on chronic pelvic pain* [Engeler et al, 2012 (/prostatitis-chronic#!references)].

Acute bacterial prostatitis

- The recommendation that men with acute bacterial prostatitis are systemically unwell in contrast to men with CBP and CP/CPPS is based on expert opinion from two review articles [Sharp et al, 2010 (/prostatitis-chronic#!references); Vasdev and Thorpe, 2011 (/prostatitis-chronic#!references)]. Urgent management is required because if left untreated acute bacterial prostatitis can lead to sepsis and prostatic abscess [Sharp et al, 2010 (/prostatitis-chronic#!references)].

How do I assess someone with chronic prostatitis?

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A diagnosis of chronic prostatitis is made based on the man's history and the exclusion of other conditions (/prostatitis-chronic#!diagnosisSub:3) that may be causing symptoms.

- **When taking a history determine if the man has:**
    - Recurrent or relapsing urinary tract infections — this may indicate the presence of chronic bacterial prostatitis.
    - A history of acute prostatitis — about 10% of men with acute bacterial prostatitis go on to develop chronic bacterial prostatitis and a further 10% develop chronic pelvic pain syndrome.
    - A history of haematospermia — this may be present in men with chronic prostatitis, but may also be present in many other conditions such as hypertension, prostate cancer, or a sexually transmitted infection.
        - For more information, see the CKS topic on Haematospermia (/haematospermia).
    - Irritable bowel syndrome (IBS) — present in up to 30% of men with chronic prostatitis and can increase pain severity.
        - For information on how to assess and manage IBS, see the CKS topic on Irritable bowel syndrome (/irritable-bowel-syndrome).
- **Ask about:**
    - The duration of symptoms — chronic prostatitis is indicated by a history of persistent or recurrent symptoms for a minimum of 3 months.
    - Symptom severity and impact on quality of life, and ask the man to complete the National Institutes of Health Chronic Prostatitis Symptom Index, NIH-CPSI (http://www.prostatitis.org/symptomindex.html).

- Lower urinary tract symptoms and assess the severity of symptoms using the International Prostate Symptom Score (pdf) (http://www.ruh.nhs.uk/patients/Urology/documents/patient_leaflets/Form_IPSS.pdf) (IPSS), if appropriate.
  - For more information, see the CKS topic on LUTS in men (/luts-in-men).
- The man's main concerns, for example whether he is worried about cancer, infertility, or symptom progression.
- The presence of depression or anxiety.
  - For more information, see the CKS topics on Depression (/depression) and Generalized anxiety disorder (/generalized-anxiety-disorder).

- **Examine the:**
  - Abdomen for signs of tenderness or a distended bladder — this may indicate the presence of chronic urinary retention.
  - External genitalia to identify conditions which may cause or contribute to symptoms, for example urethral discharge, phimosis, meatal stenosis, or penile cancer.
  - Prostate by performing a digital rectal examination (DRE) — the prostate may be enlarged, tender, or normal.
    - Do not perform a prostatic massage to obtain prostatic secretions to test for infection in the prostate.

Basis for recommendation

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Diagnosis

- The recommendation that the diagnosis is made based on the man's history and the exclusion of other conditions is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/ chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], guidelines published by the European Association of Urology *Guidelines on chronic pelvic pain* [Engeler et al, 2012 (/prostatitis-chronic#!references)], and a review article [Vasdev and Thorpe, 2011 (/prostatitis-chronic#!references)].
- The information that about 10% of men with acute bacterial prostatitis go on to develop chronic bacterial prostatitis and a further 10% develop chronic pelvic pain syndrome is based on expert opinion from a review article [Wagenlehner et al, 2013 (/prostatitis-chronic#!references)].
- The information that haematospermia may be present in men with prostatitis, but may also be present in other benign or more serious conditions is based on expert opinion in a review article [Torigian and Ramchandani, 2007 (/prostatitis-chronic#!references)].
- Depression and anxiety are more common in men with chronic prostatitis and it is thought that psychological stress is a major contributor to symptom severity [Dickson, 2013b (/prostatitis-chronic#!references)].

Performing prostatic massage

- Diagnostic prostatic massage is not recommended in primary care because it is not practical and is rarely done [Lazaro, 2013 (/prostatitis-chronic#!references)]. However, guidelines for specialists recommend that infection of the prostate be further assessed (by the specialist in secondary care) by culturing the urine both before and after massage of the prostate in an attempt to localize infection to the prostate [Rees et al, 2014 (/prostatitis-chronic#!references)].

What investigations should I do?

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- **Dipstick test the urine and collect a mid-stream specimen of urine (MSU) to confirm the presence of a urinary tract infection and/or haematuria.** For more information, see the CKS topic on Urinary tract infection (lower) - men (/urinary-tract-infection-lower-men).

- A positive urine culture indicates the presence of chronic bacterial prostatitis, however unless an acute UTI is present an MSU may be normal in men with chronic bacterial prostatitis. Therefore it is advisable to also check previous MSU reports.

- **Also perform a sexually transmitted infection (STI) screen (first pass urine for gonorrhoea/chlamydia NAAT [Nucleic Acid Amplification Test]), and consider sending a urethral swab for trichomoniasis.** Particularly in sexually active men younger than 35 years and men with multiple sexual partners or recent partner change.
  - For more information, see the CKS topics on Gonorrhoea (/gonorrhoea), Chlamydia - uncomplicated genital (/chlamydia-uncomplicated-genital), and Trichomoniasis (/trichomoniasis).
- **Consider a prostate specific antigen (PSA) blood test to rule out prostate cancer only after discussing the indications for the test, the interpretation and implications of the result, and considering with the man whether an abnormal result would affect further management choices.**
  - Provide sufficient time for the man to decide if he wishes to have the test.
  - For more information, see the Investigations (/luts-in-men#!diagnosisSub:1) section in the CKS topic on LUTS in men (/luts-in-men).
- **Assess renal function by measuring serum creatinine and estimated glomerular filtration rate (eGFR) if clinically indicated, for example if the man has:**
  - Recurrent urinary tract infection.
  - Chronic urinary retention.
  - A history of renal stones.
    - For more information, see the CKS topics on Chronic kidney disease - not diabetic (/chronic-kidney-disease-not-diabetic) and Acute kidney injury (/acute-kidney-injury).

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Dipsticking the urine and collecting a mid-stream urine sample

- These recommendations are based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], a guideline published by the European Association of Urology (EAU) *Guidelines on urological infections* [European Association of Urology, 2014 (/prostatitis-chronic#!references)], and two review articles [Sharp et al, 2010 (/prostatitis-chronic#!references); Dickson, 2013a (/prostatitis-chronic#!references)]. Men with chronic bacterial prostatitis (CBP) commonly present with recurrent urinary tract infections [Dickson, 2013a (/prostatitis-chronic#!references)].

Screening for a sexually transmitted infection

- CKS acknowledges that sexually transmitted infections are a rare cause of chronic prostatitis. The recommendation to screen for chlamydia and gonorrhoea is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/ chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)] and review articles from the US and Australia [Sharp et al, 2010 (/prostatitis-chronic#!references); Dickson, 2013b (/prostatitis-chronic#!references)]. Expert opinion from reviewers of the CKS topic on Prostatitis - acute (/prostatitis-acute) has guided which particular groups of men to consider for testing.
- The recommendation to consider sending a urethral swab to test for trichomoniasis is based on what CKS considers to be good clinical practice as prostatitis is a rare complication of trichomoniasis [BASHH, 2014 (/prostatitis-chronic#!references)].

Prostate specific antigen (PSA) blood testing

- Expert opinion regarding PSA testing in men varies. These recommendations are based on UK consensus guidelines *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/ chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], guidelines published by the EAU *Guidelines on urological infections* [European Association of Urology, 2014 (/prostatitis-chronic#!references)], and the National institute for Health and Care Excellence *The management of lower urinary tract symptoms in men* [National Clinical Guideline Centre, 2010 (/prostatitis-chronic#!references)].
  - For more information, see the Basis for recommendation (/luts-in-men#!diagnosisBasis:1) for investigations in the CKS topic LUTS in men (/luts-in-men).

Assessing renal function

- This recommendation has been extrapolated from recommendations in the CKS topic LUTS in men (/luts-in-men) topic.
  - For more information, see the Basis for recommendation (/luts-in-men#!diagnosisBasis:1) for investigations in the CKS topic LUTS in men (/luts-in-men).

What else might it be?

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- **Conditions which present with similar features to chronic prostatitis include:**
  - **Acute prostatitis** — suspect if the man presents with sudden onset of fever, irritative urinary symptoms (dysuria, frequency, urgency), perineal or suprapubic pain, pain on ejaculation, or pain during defecation. For more information, see the CKS topic on Prostatitis - acute (/prostatitis-acute).
  - **Prostatic abscess** — suspect if the prostate is fluctuant on gentle palpation or fever persists, particularly in men who are immunocompromised, have diabetes mellitus, or have had recent instrumentation of the urinary tract.
  - **Urinary tract infection** — suspect if there is dysuria, frequency, urgency, nocturia, and suprapubic discomfort. For more information, see the CKS topic on Urinary tract infection (lower) - men (/urinary-tract-infection-lower-men).
  - **Urethritis** — suspect when there is dysuria, frequency, or urethral discharge, if the man is sexually active or at risk of a sexually transmitted infection, or if symptoms persist despite treatment for a presumed UTI. For more information, see the CKS topic on Urethritis - male (/urethritis-male).
  - **Pyelonephritis** — suspect when there is loin pain and/or fever. For more information, see the CKS topic on Pyelonephritis - acute (/pyelonephritis-acute).
  - **Epididymitis** — suspect when there is scrotal pain, and the epididymis is oedematous and tender.
  - **Benign prostatic hyperplasia (BPH)** — for more information, see the CKS topic on LUTS in men (/luts-in-men).
  - **Cancer of the prostate, bladder, or colon** — for more information, see the CKS topics on Prostate cancer (/prostate-cancer), Urological cancers - recognition and referral (/urological-cancers-recognition-and-referral), and Gastrointestinal tract (lower) cancers - recognition and referral (/gastrointestinal-tract-lower-cancers-recognition-and-referral).
  - **Urethral stricture** — suspect if there is reduced urine flow, straining, spraying urine or a double stream, or dysuria.
  - **Obstructive calculus in the urinary tract, or a foreign body.**
  - **Pudendal neuralgia** — pain is usually localized to the perineum, rectum, and area immediately medial and anterior to the ischial tuberosities. Pain is usually worse on sitting and relieved when standing.

Basis for recommendation

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The information on differential diagnosis is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/ chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], and two review articles [Luzzi, 2002 (/prostatitis-chronic#!references); Hibner et al, 2011 (/prostatitis-chronic#!references)].

Scenario: Managing chronic prostatitis

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From age 16 years onwards (Male).

How should I manage a man with suspected chronic prostatitis?

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- **Explain that:**
  - The cause is not always understood.
  - The condition is chronic and treatment can be difficult, but most men notice improvement within six months.
  - Treatment is often more about controlling symptoms rather than effecting an immediate cure
- **Reassure the man about the nature of the disease and that chronic prostatitis is not cancer and is very rarely caused by a sexually transmitted infection.**
- **Provide information about self-help resources:**
  - Prostate Cancer UK provides online information and support on their website (www.prostatecanceruk.org (http://prostatecanceruk.org/information/prostatitis)).
  - NHS Choices provides online (http://www.nhs.uk/Conditions/Prostatitis/Pages/Introduction.aspx) information for men with chronic prostatitis.
- **For men with suspected chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), management options in primary care include:**
  - Referral to a urologist if there is diagnostic uncertainty or the man's symptoms are severe (use clinical judgement to determine the urgency of referral).
  - Prescribing paracetamol and/or a nonsteroidal anti-inflammatory drug (NSAID) for pain relief.
    - Do not prescribe opioids.
  - Prescribing a stool softener such as lactulose or docusate if defecation is painful.
  - Offering a 4–6 week trial of an alpha-blocker if significant lower urinary tract symptoms (LUTS) are present.
    - For more information, see the CKS topic on LUTS in men (/luts-in-men).
  - Offering a single course of antibiotics, if symptoms have been present for less than 6 months (*do not* prescribe an alpha-blocker and an antibiotic at the same time). Antibiotic options include:
    - Trimethoprim 200 mg twice a day for 4–6 weeks or
    - Azithromycin 500mg once a day, three times a week for 3 weeks.
  - Referral to a urologist for specialist assessment and management, if symptoms persist after initial management.
- **For men with suspected chronic bacterial prostatitis (a history of urinary tract infection, or an episode of acute prostatitis within the last 12 months):**
  - Refer to a urologist for specialist assessment (use clinical judgement to determine the urgency of referral).
  - While awaiting referral prescribe a single course of antibiotic treatment. Options include:
    - Trimethoprim 200 mg twice a day for 4-6 weeks or
    - Azithromycin 500mg once a day, 3 times a week for 3 weeks.
  - If the man is in pain, prescribe paracetamol and/or a nonsteroidal anti-inflammatory drug (NSAID).
  - If defecation is painful — offer a stool softener such as lactulose or docusate. For more information, see the CKS topic on Constipation (/constipation).
  - If symptoms persist after urological treatment and management, consider referral to a chronic pain specialist.

Basis for recommendation

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Advice and information

- [Perletti, 2013 (/prostatitis-chronic#!references)] The recommendation to provide advice and information to men with suspected chronic prostatitis is based on expert opinion from guidelines published by the Royal College of General Practitioners and British Association for Sexual Health and HIV *Sexually transmitted infections in primary care* [Lazaro, 2013 (/prostatitis-chronic#!references)] and what CKS considers to be good clinical practice.

Management options for men with suspected chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS)

- **Referral to a urologist**
  - The recommendation to refer men with CP/CPPS to a urologist if there is diagnostic uncertainty or the man's symptoms are severe is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], and is supported by guidelines published by the Royal College of General Practitioners and British Association for Sexual Health and HIV *Sexually transmitted infections in primary care* [Lazaro, 2013 (/prostatitis-chronic#!references)] and expert opinion from a review article [Sharp et al, 2010 (/prostatitis-chronic#!references)].
- **Alpha-blockers**
  - The recommendation to offer a 4–6 week trial of an alpha-blocker is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)] and is supported by guidelines published by the European Association of Urology (EAU) *Guidelines on chronic pelvic pain* [Engeler et al, 2012 (/prostatitis-chronic#!references)].
    - Both guidelines identifies a meta-analysis that pooled data from five randomized controlled trials (RCTs) (n = 568). This meta-analysis found that compared with placebo, alpha-blockers (alfuzosin, doxazosin, tamsulosin, and terazosin) significantly reduced total symptoms score (-1.7, 95% CI -2.8 to -0.6), pain (-1.1, 95% CI, -1.8 to -0.3), voiding (-1.4 95% CI, -2.3 to -0.5), and quality of life (-1.0 95% CI, -1.8 to -0.2) [Anothaisintawee et al, 2011 (/prostatitis-chronic#!references)]. Pooled data from a more recently published meta-analysis (8 trials, n = 770) also found that alpha-blockers significantly reduced the total symptom score (-4.80, 95% CI -7.08 to -2.58) when compared with placebo. However the authors also noted a significant placebo effect and they did not consider a 4.8 reduction in total symptom score to be clinically significant.
- **Antibiotics**
  - The recommendation to offer an antibiotic trial of an antibiotic is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], guidelines published by the EAU *Guidelines on urological infections* [European Association of Urology, 2014 (/prostatitis-chronic#!references)], and a meta-analysis of antimicrobial therapy for chronic bacterial prostatitis *Antimicrobial therapy for chronic bacterial prostatitis* [Perletti, 2013 (/prostatitis-chronic#!references)].
    Previous advice was to prescribe a fluoroquinolone for 4-6 weeks for chronic prostatitis. However, advice from the MHRA and European Medicines Agency has advised that EMA has reviewed serious, disabling and potentially permanent side effects with quinolone and fluoroquinolone antibiotics given by mouth, injection or inhalation.
    The CHMP (https://www.ema.europa.eu/en/glossary/chmp) confirmed that the use of the remaining fluoroquinolone antibiotics should be restricted. In addition, the prescribing information for healthcare professionals and information for patients will describe the disabling and potentially permanent side effects and advise patients to stop treatment with a fluoroquinolone antibiotic at the first sign of a side effect involving muscles, tendons or joints and the nervous system.

Restrictions on the use of fluoroquinolone antibiotics will mean that they should **not** be used [EMA, 2019 (/prostatitis-chronic#!references)]:
    - To treat infections that might get better without treatment or are not severe (such as throat infections).
    - To treat non-bacterial infections, e.g. non-bacterial (chronic) prostatitis.
    - For preventing traveller's diarrhoea or recurring lower urinary tract infections (urine infections that do not extend beyond the bladder).
    - To treat mild or moderate bacterial infections unless other antibacterial medicines commonly recommended for these infections cannot be used.
- **Combining alpha blockers with antibiotics in primary care**
    - A UK consensus guideline found weak evidence from small trials suggesting that combining an alpha-blocker with an antibiotic may be more effective than monotherapy [Rees et al, 2014 (/prostatitis-chronic#!references)]. However CKS do not recommend combining an alpha-blocker with an antibiotic as initial treatment in primary care for men with CP/CPPS because if treatment is successful, it is not possible to know which drug is effective.
- **Referral if symptoms persist**
    - This recommendation is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)].

Management options for men with suspected chronic bacterial prostatitis (CBP)

- **Referral to urology**
    - Men with CBP commonly present with recurrent urinary tract infections which require further assessment by a urologist to exclude an underlying urological abnormality. The recommendation to refer for urological assessment is based on expert opinion in COMPASS *Therapeutic notes on the management of bacterial urinary tract infections in primary care* [COMPASS, 2012 (/prostatitis-chronic#!references)], and expert opinion in the Scottish Intercollegiate Guidelines Network (SIGN) national clinical guideline *Management of suspected bacterial urinary tract infection in adults* [SIGN, 2012 (/prostatitis-chronic#!references)]. COMPASS recommends looking for underlying causes of recurrent UTI such as prostatic enlargement due to cancer or benign prostatic hypertrophy, urinary calculi, and bladder cancer, which require specialist referral to confirm these diagnoses.
- **Antibiotics**
    - The recommendations on the choice of antibiotic and the duration of treatment are based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)], guidelines published by the EAU *Guidelines on urological infections* [European Association of Urology, 2014 (/prostatitis-chronic#!references)], and a meta-analysis of antimicrobial therapy for chronic bacterial prostatitis *Antimicrobial therapy for chronic bacterial prostatitis* [Perletti, 2013 (/prostatitis-chronic#!references)].
    - Previous advice was to prescribe a fluoroquinolone for 4-6 weeks for chronic prostatitis. However, advice from the MHRA and European Medicines Agency has advised that 'EMA has reviewed serious, disabling and potentially permanent side effects with quinolone and fluoroquinolone antibiotics given by mouth, injection or inhalation. The CHMP (https://www.ema.europa.eu/en/glossary/chmp) confirmed that the use of the remaining fluoroquinolone antibiotics should be restricted. In addition, the prescribing information for healthcare professionals and information for patients will describe the disabling and potentially permanent side effects and advise patients to stop treatment with a fluoroquinolone antibiotic at the first sign of a side effect involving muscles, tendons or joints and the nervous system.
    - Restrictions on the use of fluoroquinolone antibiotics will mean that they should **not** be used [EMA, 2019 (/prostatitis-chronic#!references)] :
        - to treat infections that might get better without treatment or are not severe (such as throat infections);
        - to treat non-bacterial infections, e.g. non-bacterial (chronic) prostatitis;

    - for preventing traveller's diarrhoea or recurring lower urinary tract infections (urine infections that do not extend beyond the bladder);
    - to treat mild or moderate bacterial infections unless other antibacterial medicines commonly recommended for these infections cannot be used.
- **Analgesia**
    - There are a lack of trial data with regards to the use of simple analgesia in men with chronic prostatitis. The recommendation to prescribe simple analgesia is based on expert opinion from a UK consensus guideline *Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline* [Rees et al, 2014 (/prostatitis-chronic#!references)] and a guideline published by the EAU *Guidelines on chronic pelvic pain* [Engeler et al, 2012 (/prostatitis-chronic#!references)].
    - The recommendation not to prescribe opioids is based on expert opinion in a published by the EAU *Guidelines on chronic pelvic pain* [Engeler et al, 2012 (/prostatitis-chronic#!references)]. It is thought that opioids only produce modest pain relief for men with chronic prostatitis and there are concerns with regards to dependency.
- **Laxatives for painful defecation**
    - The recommendation to prescribe stool softeners for painful defecation is based on what CKS considers to be good clinical practice.
- **Referral to a pain specialist**
    - The recommendation to refer to a pain specialist is pragmatic, as the pain associated with chronic prostatitis may be neuropathic in nature and require specialist assessment and management.

Paracetamol and NSAIDs

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For prescribing information on paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs), see the CKS topics on Analgesia - mild-to-moderate pain (/analgesia-mild-to-moderate-pain) and NSAIDs - prescribing issues (/nsaids-prescribing-issues).

Alpha-blockers

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For prescribing information on alpha-blockers see the prescribing information section on Alpha-blockers (/luts-in-men#!prescribingInfoSub) in the CKS topic on LUTS in men (/luts-in-men).

Trimethoprim

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Contraindications

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- Avoid using trimethoprim in people with blood dyscrasias.
    - Because of its potential anti-folate effect, there have been reports that trimethoprim causes blood disorders. Consequently, trimethoprim is contraindicated in anyone with blood dyscrasias.

[ABPI Medicines Compendium, 2013a (/prostatitis-chronic#!references)]

Cautions

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Trimethoprim should be prescribed with caution in the following conditions:

- **Renal impairment**
  - As the drug is predominantly excreted by the kidney, dose adjustment may be required [BNF 68, 2014 (/prostatitis-chronic#!references)]:
    - If estimated glomerular filtration rate (eGFR) is 15–30 mL/minute/1.73 m^2, use half the normal dose after 3 days.
    - If eGFR is less than 15 mL/minute/1.73 m^2, use half the normal dose.
    - If eGFR is less than 10 mL/minute/1.73 m^2, monitor the plasma trimethoprim concentration.
- **Folate deficiency**
  - Because of its potential anti-folate effect, there is a risk of further exacerbating folate deficiency in people who are already folate deficient or who are predisposed to folate deficiency (for example elderly people). Consequently, consider prescribing a folate supplement (if this has not already been prescribed) [ABPI Medicines Compendium, 2013a (/prostatitis-chronic#!references)].

Adverse effects

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- Trimethoprim is generally well tolerated [ABPI Medicines Compendium, 2013a (/prostatitis-chronic#!references)]:
  - Nausea, vomiting, pruritus, and skin rashes have occasionally been reported. These are generally mild and reversible when trimethoprim is withdrawn.
  - Severe adverse drug reactions with trimethoprim are rare.
- There have been rare reports of trimethoprim causing haematological adverse effects, including [Aronson, 2006 (/prostatitis-chronic#!references)]:
  - Macrocytic and megaloblastic anaemia: this is more likely in people with pre-existing folate deficiency.
  - Agranulocytosis — very rare. In people where leukocytes are monitored regularly, mild leukopenia has been reported in 0.4–10% of people taking trimethoprim or co-trimoxazole (trimethoprim plus sulfamethoxazole).
  - Aplastic anaemia, neutropenia, thrombocytopenia, and pancytopenia.
- For people receiving long-term trimethoprim treatment, the British National Formulary advises that they should be warned to seek immediate medical attention if they develop signs of blood disorders such as fever, sore throat, rash, mouth ulcers, purpura, bruising, or bleeding [BNF 68, 2014 (/prostatitis-chronic#!references)].

Drug interactions

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- Drug interactions associated with trimethoprim include:
  - **Methotrexate (a folate antagonist)** — several cases of bone marrow suppression have been reported (some fatal) [Baxter and Preston, 2013 (/prostatitis-chronic#!references)].
  - **Azathioprine** — increased risk of haematological toxicity has been reported in some people with a renal transplant who are taking azathioprine — particularly if both drugs are given over a prolonged period [Baxter and Preston, 2013 (/prostatitis-chronic#!references)].
    - Nevertheless, for most people, both drugs can be taken together. The combination is commonly used in practice [Baxter and Preston, 2013 (/prostatitis-chronic#!references)].
    - The reaction is also expected for mercaptopurine (a metabolite of azathioprine) [Baxter and Preston, 2013 (/prostatitis-chronic#!references)].
  - **Phenytoin and fosphenytoin (a pro-drug of phenytoin)** — there is a small risk of phenytoin toxicity (particularly if the serum phenytoin levels are at the top end of the range) as trimethoprim can decrease the clearance of phenytoin. Signs of phenytoin toxicity include blurred vision, nystagmus, ataxia, or drowsiness [Baxter and Preston, 2013 (/prostatitis-chronic#!references)].

- **Ciclosporin** — increased nephrotoxicity has been reported [ABPI Medicines Compendium, 2013a (/prostatitis-chronic#!references)].
- **Digoxin** — trimethoprim has been reported to increase digoxin levels by an average of 22% in nine elderly people after taking trimethoprim 200 mg daily for 14 days (although an increase of 75% was experienced by one person).
- **Warfarin** — the manufacturer of trimethoprim warns that it may potentiate the anticoagulant effect of warfarin [ABPI Medicines Compendium, 2013a (/prostatitis-chronic#!references)].

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Azithromycin

Cautions and precautions

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- Use azithromycin with caution in people who may be predisposed to prolongation of the QT interval. This includes people:
  - With congenital or documented acquired QT prolongation.
  - Currently receiving treatment with other active substances known to prolong the QT interval such as antiarrhythmics of classes IA and III.
  - With electrolyte disturbance, particularly in cases of hypokalaemia and hypomagnesaemia.
  - With clinically relevant bradycardia, cardiac arrhythmia, or severe cardiac insufficiency.

[ABPI Medicines Compendium, 2013b (/prostatitis-chronic#!references)]

- Prolonged QT interval or cardiac repolarization have been reported with other macrolides and a similar effect with azithromycin has not been ruled out.

Adverse effects

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- Nausea, vomiting, diarrhoea, and abdominal discomfort are the most common adverse effects of all the macrolides, but are milder and less frequent with azithromycin than with erythromycin.

[ABPI Medicines Compendium, 2013b (/prostatitis-chronic#!references); BNF 65, 2013 (/prostatitis-chronic#!references)]

Interactions

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- **Warfarin** — occasionally and unpredictably, the effects of warfarin may be markedly increased by macrolides.
  - Monitor the international normalized ratio (INR), and adjust the warfarin dose accordingly.
- **Statins** — the manufacturer reports post-marketing cases of rhabdomyolysis in people taking azithromycin with statins, although this appears to be less common than with other macrolides.
  - Advise the person to report any muscle pain, tenderness, or weakness.
- **Ciclosporin** — azithromycin can affect clearance of ciclosporin. If co-administration of these drugs is necessary, ciclosporin levels should be monitored and the dose adjusted accordingly.
- **Drugs that prolong the QT interval** (such as amiodarone, sotalol, terfenadine, and amisulpride) — all macrolides can prolong the QT interval, and concomitant use of drugs that prolong the QT interval is not recommended.
  - Use an alternative antibiotic and/or seek advice from a microbiologist.

- **Drugs that cause hypokalaemia** (such as diuretics, corticosteroids, short-acting beta-$_2$ agonists) — hypokalaemia is a risk factor for QT prolongation.
  - Use an alternative antibiotic and/or seek advice from a microbiologist.
- **Colchicine** — concomitant administration has been reported to increase levels of P-glycoprotein substrate. This protein has been linked to barriers to successful chemotherapy treatment in cancer.

[ABPI, 2016c (/prostatitis-chronic#!references); BNF 71, 2016 (/prostatitis-chronic#!references)]

Pregnancy and breastfeeding Back to top

- **Pregnancy**
  - Azithromycin is recommended as the first-line antibiotic during pregnancy to treat travellers' diarrhoea. [UKTIS, 2012 (/prostatitis-chronic#!references); WHO, 2009 (/prostatitis-chronic#!references)]
- **Breastfeeding**
  - Azithromycin may be considered for use during breastfeeding. [LactMed, 2012 (/prostatitis-chronic#!references)]

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Search strategy

Scope of search

A literature search was conducted for guidelines, systematic reviews and randomized controlled trials on primary care management of chronic prostatitis, with additional searches in the following areas:

- chronic pelvic pain
- exercise and prostate manipulation
- acupuncture, botox and alternative therapies

Search dates

July 2008 - December 2014

Key search terms

Various combinations of searches were carried out. The terms listed below are the core search terms that were used for Medline.

- chronic bacterial prostatitis.tw, chronic abacterial prostatitis.tw, chronic prostatitis.tw, exp Prostatitis/, chronic pelvic pain.tw, exp Pelvic Pain/
- exp Adrenergic alpha-Antagonists/, alpha block$.tw, exp Doxazosin/, exp Prazosin/, Tamsulosin.tw, Alfuzosin.tw, Terazosin.tw
- exp Anti-Bacterial Agents/, ciprofloxacin.tw, exp Ciprofloxacin/, ofloxacin.tw, exp Ofloxacin/, trimethoprim.tw, exp Trimethoprim/
- paracetamol.tw, exp Acetaminophen/, exp Anti-Inflammatory Agents, Non-Steroidal/
- exp "Referral and Consultation"/

Sources of guidelines

- National Institute for Health and Care Excellence (NICE) (http://www.nice.org.uk/)
- Scottish Intercollegiate Guidelines Network (SIGN) (http://www.sign.ac.uk/)
- Royal College of Physicians (http://www.rcplondon.ac.uk/)
- Royal College of General Practitioners (http://www.rcgp.org.uk/)
- Royal College of Nursing (http://www.rcn.org.uk/development/practice/clinicalguidelines)
- NICE Evidence (https://www.evidence.nhs.uk/topics/)
- Health Protection Agency (http://www.hpa.org.uk/)
- World Health Organization (http://www.who.int/)
- National Guidelines Clearinghouse (http://www.guideline.gov/)
- Guidelines International Network (http://www.g-i-n.net/)
- TRIP database (http://www.tripdatabase.com/)
- GAIN (http://www.gain-ni.org/index.php/audits/guidelines)
- NHS Scotland National Patient Pathways (http://www.pathways.scot.nhs.uk/)
- New Zealand Guidelines Group (http://www.nzgg.org.nz/)
- Agency for Healthcare Research and Quality (http://www.ahrq.gov/)
- Institute for Clinical Systems Improvement (http://www.icsi.org/)
- National Health and Medical Research Council (Australia) (http://www.nhmrc.gov.au/publications/index.htm)
- Royal Australian College of General Practitioners (http://www.racgp.org.au/your-practice/guidelines/)
- British Columbia Medical Association (http://www.health.gov.bc.ca/gpac/index.html)
- Canadian Medical Association (http://www.cma.ca/index.php/ci_id/54316/la_id/1.htm)
- Alberta Medical Association (http://www.topalbertadoctors.org/cpgs.php)
- University of Michigan Medical School (http://ocpd.med.umich.edu/cme/self-study/)
- Michigan Quality Improvement Consortium (http://mqic.org/guidelines.htm)
- Singapore Ministry of Health (http://www.moh.gov.sg/content/moh_web/home/Publications/guidelines/cpg.html)
- National Resource for Infection Control (http://www.nric.org.uk/)
- Patient UK Guideline links (http://www.patient.co.uk/guidelines.asp)
- UK Ambulance Service Clinical Practice Guidelines (http://www2.warwick.ac.uk/fac/med/research/hsri/emergencycare/jrcalc_2006/guidelines/)
- RefHELP NHS Lothian Referral Guidelines (http://www.refhelp.scot.nhs.uk/index.php?option=com_content&task=view&id=490&Itemid=104)
- Medline (with guideline filter)
- Driver and Vehicle Licensing Agency (http://www.dft.gov.uk/dvla/medical/ataglance.aspx)
- NHS Health at Work (http://www.nhshealthatwork.co.uk/oh-guidelines.asp)(occupational health practice)

Sources of systematic reviews and meta-analyses

- The Cochrane Library (http://www.thecochranelibrary.com/):
  - Systematic reviews
  - Protocols
  - Database of Abstracts of Reviews of Effects
- Medline (with systematic review filter)
- EMBASE (with systematic review filter)

Sources of health technology assessments and economic appraisals

- NIHR Health Technology Assessment programme (http://www.hta.ac.uk/)
- The Cochrane Library (http://www.thecochranelibrary.com/):
  - NHS Economic Evaluations
  - Health Technology Assessments

- Canadian Agency for Drugs and Technologies in Health (http://www.cadth.ca/)
- International Network of Agencies for Health Technology Assessment (http://www.inahta.org/)

Sources of randomized controlled trials

- The Cochrane Library (http://www.thecochranelibrary.com/):
  - Central Register of Controlled Trials
- Medline (with randomized controlled trial filter)
- EMBASE (with randomized controlled trial filter)

Sources of evidence based reviews and evidence summaries

- Bandolier (http://www.medicine.ox.ac.uk/bandolier/)
- Drug & amp; Therapeutics Bulletin (http://dtb.bmj.com/)
- TRIP database (http://www.tripdatabase.com/)
- Central Services Agency COMPASS Therapeutic Notes (http://www.medicinesni.com/courses/type.asp?ID=CN)

Sources of national policy

- Department of Health (http://www.dh.gov.uk/)
- Health Management Information Consortium(HMIC)

Patient experiences

- Healthtalkonline (http://www.healthtalkonline.org/)
- BMJ - Patient Journeys (http://www.bmj.com/bmj-series/patient-journeys)
- Patient.co.uk - Patient Support Groups (http://www.patient.co.uk/selfhelp.asp)

Sources of medicines information

The following sources are used by CKS pharmacists and are not necessarily searched by CKS information specialists for all topics. Some of these resources are not freely available and require subscriptions to access content.

- British National Formulary (http://www.evidence.nhs.uk/formulary/bnf/current)(BNF)
- electronic Medicines Compendium (http://www.medicines.org.uk/)(eMC)
- European Medicines Agency (http://www.ema.europa.eu/ema/)(EMEA)
- LactMed (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT)
- Medicines and Healthcare products Regulatory Agency (http://www.mhra.gov.uk/index.htm)(MHRA)
- REPROTOX (http://www.reprotox.org/Default.aspx)
- Scottish Medicines Consortium (http://www.scottishmedicines.org.uk/Home)
- Stockley's Drug Interactions (https://www.medicinescomplete.com/mc/stockley/current/login.htm?uri=http%3A%2F%2Fwww.medicinescomplete.com%2Fmc%2Fstockley%2Fcurrent%2F)
- TERIS (http://depts.washington.edu/terisweb/teris/)
- TOXBASE (http://www.toxbase.org/)
- Micromedex (http://www.micromedex.com/products/hcs/)
- UK Medicines Information (http://www.ukmi.nhs.uk/)

Stakeholder engagement

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Our policy

The external review process is an essential part of CKS topic development. Consultation with a wide range of stakeholders provides quality assurance of the topic in terms of:

- Clinical accuracy.
- Consistency with other providers of clinical knowledge for primary care.
- Accuracy of implementation of national guidance (in particular NICE guidelines).
- Usability.

Principles of the consultation process

- The process is inclusive and any individual may participate.
- To participate, an individual must declare whether they have any competing interests or not. If they do not declare whether or not they have competing interests, their comments will not be considered.
- Comments received after the deadline will be considered, but they may not be acted upon before the clinical topic is issued onto the website.
- Comments are accepted in any format that is convenient to the reviewer, although an electronic format is encouraged.
- External reviewers are not paid for commenting on the draft topics.
- Discussion with an individual or an organization about the CKS response to their comments is only undertaken in exceptional circumstances (at the discretion of the Clinical Editor or Editorial Steering Group).
- All reviewers are thanked and offered a letter acknowledging their contribution for the purposes of appraisal/revalidation.
- All reviewers are invited to be acknowledged on the website.All reviewers are given the opportunity to feedback about the external review process, enabling improvements to be made where appropriate.

Stakeholders

- Key stakeholders identified by the CKS team are invited to comment on draft CKS topics. Individuals and organizations can also register an interest to feedback on a specific topic, or topics in a particular clinical area, through the Getting involved (http://cks.clarity.co.uk/get-involved/) section of the Clarity Informatics (https://clarity.co.uk/) website.
- Stakeholders identified from the following groups are invited to review draft topics:
  - Experts in the topic area.
  - Professional organizations and societies(for example, Royal Colleges).
  - Patient organizations, Clarity has established close links with groups such as Age UK and the Alzheimer’s Society specifically for their input into new topic development, review of current topic content and advice on relevant areas of expert knowledge.
  - Guideline development groups where the topic is an implementation of a guideline.
  - The British National Formulary team.
  - The editorial team that develop MeReC Publications.
- Reviewers are provided with clear instructions about what to review, what comments are particularly helpful, how to submit comments, and declaring interests.

Patient engagement

Clarity Informatics has enlisted the support and involvement of patients and lay persons at all stages in the process of creating the content which include:

- Topic selection
- Scoping of topic
- Selection of clinical scenarios
- First draft internal review
- Second draft internal review
- External review
- Final draft and pre-publication

Our lay and patient involvement includes membership on the editorial steering group, contacting expert patient groups, organizations and individuals.

Evidence exclusion criteria

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Our policy

Scoping a literature search, and reviewing the evidence for CKS is a methodical and systematic process that is carried out by the lead clinical author for each topic. Relevant evidence is gathered in order that the clinical author can make fully informed decisions and recommendations. It is important to note that some evidence may be excluded for a variety of reasons. These reasons may be applied across all CKS topics or may be specific to a given topic.

Studies identified during literature searches are reviewed to identify the most appropriate information to author a CKS topic, ensuring any recommendations are based on the best evidence. We use the principles of the GRADE and PICOT approaches to assess the quality of published research. We use the principles of AGREE II to assess the quality of published guidelines.

Standard exclusions for scoping literature:

- Animal studies
- Original research is not written in English

Possible exclusions for reviewed literature:

- Sample size too small or study underpowered
- Bias evident or promotional literature
- Population not relevant
- Intervention/treatment not relevant
- Outcomes not relevant
- Outcomes have no clear evidence of clinical effectiveness
- Setting not relevant
- Not relevant to UK
- Incorrect study type
- Review article
- Duplicate reference

Organizational, behavioural and financial barriers

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Our policy

The CKS literature searches take into consideration the following concepts, which are discussed at the initial scoping of the topic.

- Feasibility
  - Studies are selected depending on whether the intervention under investigation is available in the NHS and can be practically and safely undertaken in primary care.
- Organizational and Financial Impact Analysis
- Studies are selected and evaluated on whether the intervention under investigations may have an impact on local clinical service provision or national impact on cost for the NHS. The principles of clinical budget impact analysis are adhered to, evaluated and recorded by the author. The following factors are considered when making this assessment and analysis.
  - Eligible population
  - Current interventions
  - Likely uptake of new intervention or recommendation
  - Cost of the current or new intervention mix
  - Impact on other costs
  - Condition-related costs
  - In-direct costs and service impacts
  - Time dependencies
- Cost-effectiveness or cost-benefit analysis studies are identified where available.

We also evaluate and include evidence from NICE accredited sources which provide economic evaluations of recommendations, such as NICE guidelines. When a recommended action may not be possible because of resource constraints, this is explicitly indicated to healthcare professionals by the wording of the CKS recommendation.

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Declarations of interest

Our policy

Clarity Informatics requests that all those involved in the writing and reviewing of topics, and those involved in the external review process to declare any competing interests. Signed copies are securely held by Clarity Informatics and are available on request with the permission of the individual. A copy of the declaration of interest form which participants are asked to complete annually is also available on request. A brief outline of the declarations of interest policy is described here and full details of the policy is available on the Clarity Informatics website (https://cks.clarity.co.uk/). Declarations of interests of the authors are not routinely published, however competing interests of all those involved in the topic update or development are listed below. Competing interests include:

- Personal financial interests
- Personal family interest
- Personal non-financial interest
- Non-personal financial gain or benefit

Although particular attention is given to interests that could result in financial gains or losses for the individual, competing interests may also arise from academic competition or for political, personal, religious, and reputational reasons.An individual is not obliged to seek out knowledge of work done for, or on behalf of, the healthcare industry within the departments for which they are responsible if they would not normally expect to be informed.

Who should declare competing interests?

Any individual (or organization) involved in developing, reviewing, or commenting on clinical content, particularly the recommendations should declare competing interests. This includes the authoring team members, expert advisers, external reviewers of draft topics, individuals providing feedback on published topics, and Editorial Steering Group members. Declarations of interest are completed annually for authoring team and editorial steering group members, and are completed at the start of the topic update and development process for external stakeholders.

Competing interests declared for this topic:

None.

Prostatitis - chronic: Summary

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- Chronic prostatitis is characterized by at least 3 months of pain in the perineum or pelvic floor, often associated with lower urinary tract symptoms, and sexual dysfunction (erectile dysfunction, painful ejaculation, or postcoital pelvic discomfort).
  - In practice a diagnosis of chronic prostatitis is often suspected after a shorter duration of symptoms.
- Chronic prostatitis can be further classified as:
  - Chronic bacterial prostatitis (CBP) — accounts for about 10% of men with chronic prostatitis.
  - Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) — accounts for about 90% of men with chronic prostatitis (in these cases there is no proven bacterial infection).
- Men with chronic prostatitis can experience a greatly reduced quality of life.
- In most cases the trend is for symptoms to improve over months or years.
- Chronic prostatitis should be suspected in men with:
  - Urogenital pain for example in the perineum, lower abdomen, penis (especially at the tip), testis, rectum, or and the lower back.
  - Urinary symptoms (including dysuria, frequency, hesitancy, urgency, and poor stream).
  - An enlarged, tender, or normal prostate on rectal examination.
- A diagnosis of chronic prostatitis should be made based on the man's history and the exclusion of other conditions that may be causing symptoms such as:
  - Urinary tract infection.
  - Urethritis.
  - Epididymo-orchitis.
  - Epididymitis.
  - Benign prostatic hypertrophy.
  - Cancer of the prostate, bladder, or colon.
  - Urethral stricture.
  - Obstructive calculus or a foreign body in the urinary tract.
- The presence of recurrent or relapsing urinary tract infections usually indicates the presence of CBP.
- Men with suspected CBP should be referred to urology for specialist assessment and management. While awaiting referral:
  - A single course of antibiotics should be prescribed.
  - If the man is in pain, paracetamol and/or a nonsteroidal anti-inflammatory drug (NSAID) should be prescribed.
  - If defecation is painful — a stool softener such as lactulose or docusate should be prescribed.
- For men with suspected CP/CPPS management options in primary care include:
  - Referral to a urologist if there is diagnostic uncertainty or the man's symptoms are severe (use clinical judgement to determine the urgency of referral).
  - Prescribing paracetamol and/or an NSAID for pain relief.
  - Prescribing a stool softener such as lactulose or docusate if defecation is painful.

    - Offering a 4–6 week trial of an alpha-blocker if significant lower urinary tract symptoms are present.
    - Offering a single course of antibiotics, if symptoms have been present for less than 6 months (*do not* prescribe an alpha-blocker and an antibiotic at the same time).
- If symptoms persist, men with CP/CPPS should be referred to a urologist for specialist assessment and management.

Have I got the right topic?

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From age 16 years onwards (Male).

This CKS topic covers the management of chronic prostatitis in primary care.

This CKS topic does not cover acute prostatitis, sexually transmitted infections, or urinary tract infections.

There are separate CKS topics on Balanitis (/balanitis), LUTS in men (/luts-in-men), Prostatitis - acute (/prostatitis-acute), Pyelonephritis - acute (/pyelonephritis-acute), Scrotal swellings (/scrotal-swellings) (which covers epididymo-orchitis), Urethritis - male (/urethritis-male), and Urinary tract infection (lower) - men (/urinary-tract-infection-lower-men).

The target audience for this CKS topic is healthcare professionals working within the NHS in the UK, and providing first contact or primary healthcare.

How up-to-date is this topic?

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Goals and outcome measures

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Diagnosis of chronic prostatitis

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- **Scenario: Managing chronic prostatitis (/prostatitis-chronic#!scenario):** covers the management of men with chronic prostatitis.

Prescribing information

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Important aspects of prescribing information relevant to primary healthcare are covered in this section specifically for the drugs recommended in this CKS topic. For further information on contraindications, cautions, drug interactions, and adverse effects, see the electronic Medicines Compendium (http://www.medicines.org.uk/emc) (eMC), or the British National Formulary (https://bnf.nice.org.uk/) (BNF) .

Supporting evidence

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There are no supporting evidence sections in this CKS topic. The evidence for treatments recommended are discussed within the basis for recommendations sections.

More detailed information on the evidence to support the diagnosis and all the treatment options available for men with chronic prostatitis is available in the following guidelines:

- Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline (www.prostatecanceruk.org (pdf) (http://prostatecanceruk.org/media/2403685/prostate-cancer-uk-chronic-prostatitis-guideline-full-sep-2014.pdf)).
- European Association of Urology guidelines on chronic pelvic pain (www.uroweb.org (pdf) (http://www.uroweb.org/gls/pdf/24_Chronic_Pelvic_Pain_LR%20II.pdf) and urological infections (www.uroweb.org) (pdf) (http://www.uroweb.org/gls/pdf/19%20Urological%20infections_LR.pdf)).

How this topic was developed

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This section briefly describes the processes used in developing and updating this topic. Further details on the full process can be found in the About Us (http://cks.nice.org.uk/development) section and on the Clarity Informatics (https://clarity.co.uk/) website.

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