



Complete Summary

GUIDELINE TITLE

2002 national guideline for the management of epididymo-orchitis.

BIBLIOGRAPHIC SOURCE(S)

Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVVD). 2002 national guideline for the management of epididymo-orchitis. London: Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD); 2002. Various p. [45 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Epididymo-orchitis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Infectious Diseases
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To present a national guideline on the management of epididymo-orchitis

TARGET POPULATION

Men in the United Kingdom with epididymo-orchitis

INTERVENTIONS AND PRACTICES CONSIDERED

Assessment/Diagnosis

1. Assessment of clinical features
2. Diagnostic testing
 - Urethral swab stained by Gram's method and examined microscopically
 - Urethral culture for *Neisseria gonorrhoeae* or a nucleic acid amplification test for *Neisseria gonorrhoeae* of urethral swab or first void urine
 - A nucleic acid amplification test or antigen detection test for *Chlamydia trachomatis* of first void urine or urethral swab
 - Examination of the first void urine for urinary threads if the Gram stained urethral swab is negative. Threads should be stained by Gram's method and examined microscopically
 - Microscopy and culture of midstream urine for bacteria
 - Color Doppler ultrasound
 - Epididymal aspiration (if re-current infection fails to respond to therapy and if epididymo-orchitis is found at operation)

Management/Treatment

1. General advice and patient education, including, avoiding unprotected sexual intercourse until patient and partner(s) have completed treatment and follow-up.
2. Screening for other sexually transmitted infections in men who have epididymo-orchitis caused by a sexually transmitted infection.
3. Empirical therapy, including bed rest, scrotal elevation and support, analgesics, and non-steroidal anti-inflammatory drugs.
4. Antibiotic therapy
 - Ceftriaxone or ciprofloxacin, plus doxycycline (gonococcal infection)
 - Doxycycline (chlamydial infection or other non-gonococcal, non-enteric organisms)
 - Ofloxacin (allergy to cephalosporins and/or tetracyclines)
 - Ofloxacin or ciprofloxacin (enteric organisms)

Note: Corticosteroids were considered but not recommended

5. Epidemiological treatment of sexual partners
6. Follow-up and differential diagnosis as needed

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developers performed a Medline search for 1966-2000 using the keywords "epididymitis" and "orchitis." The Cochrane Database of Systematic Reviews and the Cochrane Controlled Trials Register up to 2000 were reviewed using the same keywords. Further references from articles identified were included.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence:

I a

- Evidence obtained from meta-analysis of randomised controlled trials

I b

- Evidence obtained from at least one randomised controlled trial

II a

- Evidence obtained from at least one well designed controlled study without randomisation

II b

- Evidence obtained from at least one other type of well designed quasi-experimental study

III

- Evidence obtained from well designed non-experimental descriptive studies such as comparative studies, correlation studies, and case control studies

IV

- Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The revision process commenced with authors being invited to modify and update their 1999 guidelines. These revised versions were posted on the website for a 3 month period and comments invited. The Clinical Effectiveness Group and the authors concerned considered all suggestions and agreed on any modifications to be made.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grading of Recommendations:

A (Evidence Levels Ia, Ib)

- Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation.

B (Evidence Levels IIa, IIb, III)

- Requires availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation.

C (Evidence Level IV)

- Requires evidence from expert committee reports or opinions and/or clinical experience of respected authorities.

- Indicates absence of directly applicable studies of good quality.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The initial versions of the guidelines were sent to the following for review:

- Clinical Effectiveness Group (CEG) members
- Chairs of UK Regional GU Medicine Audit Committees who had responded to an invitation to comment on them
- Chair of the Genitourinary Nurses Association (GUNA)
- President of the Society of Health Advisers in Sexually Transmitted Diseases (SHASTD)
- Clinical Effectiveness Committee of the Faculty of Family Planning and Reproductive Health Care (FFP).

Comments were relayed to the authors and attempts made to reach a consensus on points of contention with ultimate editorial control resting with the Clinical Effectiveness Group. Finally, all the guidelines were ratified by the councils of the two parent societies.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions of the levels of evidence (I-IV) and grades of recommendation (A-C) are repeated at the end of the Major Recommendations field.

Diagnosis

The following should be performed:

- Urethral swab stained by Gram's method and examined microscopically for the diagnosis of urethritis (greater than or equal to 5 polymorphonuclear leucocytes per high power field x 1000) and presumptive diagnosis of gonorrhoea.
- Urethral culture for *Neisseria gonorrhoeae* or a nucleic acid amplification test for *N. gonorrhoeae* of urethral swab or first void urine.
- A nucleic acid amplification test or antigen detection test for *Chlamydia trachomatis* of first void urine or urethral swab. A nucleic acid test amplification test is preferable as it is much more sensitive.

- Examination of the first void urine for urinary threads if the Gram stained urethral swab is negative. Threads should be stained by Gram's method and examined microscopically for the diagnosis of urethritis (greater than or equal to 10 polymorphonuclear leucocytes per high power field x 1000).
- Microscopy and culture of midstream urine for bacteria.

If it can be arranged without delay, color Doppler ultrasound is useful to help differentiate between epididymo-orchitis and torsion of the spermatic cord (Herbener, 1996; al Mufti, Ogedegbe, & Lafferty, 1995; Wilbert et al., 1993; Middleton et al., 1990).

There is no role for epididymal aspiration in routine clinical practice. It may be useful in recurrent infection which fails to respond to therapy and if epididymo-orchitis is found at operation (Editorial, 1987; Scheibel et al., 1983).

Ureaplasma urealyticum is found in men with epididymo-orchitis, often in association with N. gonorrhoeae or C. trachomatis infection. Evidence supporting it as a common cause of epididymo-orchitis is lacking and routine investigation for Ureaplasma urealyticum is not recommended (Berger et al., 1979; Harnish et al., 1977; Berger et al., 1978; Hoosen, O'Farrell, & Van den Ende, 1993; Jalil et al., 1988).

Management

General advice

- Bed rest, scrotal elevation and support, and analgesics are recommended. Non-steroidal anti-inflammatory drugs may be helpful (Lapides et al., 1967; Herwig, Lapides, & Maclean, 1971) (level of evidence III, grade of recommendation B).
- Patients should be advised to avoid unprotected sexual intercourse until they and their partner(s) have completed treatment and follow up.
- Patients should be given a detailed explanation of their condition with particular emphasis on the long-term implications for the health of themselves and their partner(s). This should be reinforced by giving them clear and accurate written information.

Further investigation

All patients with sexually transmitted epididymo-orchitis should be screened for other sexually transmitted infections.

Treatment

- Empirical therapy should be given to all patients with epididymo-orchitis before culture results are available. The antibiotic regimen chosen should be determined in light of the immediate tests as well as age, sexual history, any recent instrumentation or catheterisation, and any known urinary tract abnormalities in the patient.
- Antibiotics used for sexually transmitted pathogens may need to be varied according to local knowledge of antibiotic sensitivities.

Recommended regimens

For epididymo-orchitis most probably due to gonococcal infection:

- Ceftriaxone 250 mg intramuscularly single dose (Hoosen, O'Farrell, & Van den Ende, 1993) (III, B)

or

- Ciprofloxacin 500 mg by mouth single dose (Hoosen, O'Farrell, & Van den Ende, 1993) (III, B)

plus

- Doxycycline 100 mg by mouth twice daily for 10-14 days (Berger et al., 1979; Hoosen, O'Farrell, & Van den Ende, 1993) (III, B).

For epididymo-orchitis most probably due to chlamydial infection or other non-gonococcal, non-enteric organisms:

- Doxycycline 100 mg by mouth twice daily for 10-14 days (Berger et al., 1979; Hoosen, O'Farrell, & Van den Ende, 1993) (III, B).

For epididymo-orchitis most probably due to enteric organisms:

- Ofloxacin 200 mg by mouth twice daily for 14 days (Melekos & Asbach, 1987; Weidner, Schiefer, & Garbe, 1987; Weidner et al., 1990) (IIb, B).
- Ciprofloxacin 500 mg by mouth twice daily for 10 days (Eickhoff et al., 1999) (Ib, A)

Corticosteroids have been used in the treatment of acute epididymo-orchitis but have not been shown to be of benefit (Moore et al., 1971; Berger, 1991) (IIa, B).

Allergy

For epididymo-orchitis of all causes where the patient is allergic to cephalosporins and/or tetracyclines:

- Ofloxacin 200 mg by mouth twice daily for 14 days (Melekos & Asbach, 1987; Weidner, Schiefer, & Garbe, 1987; Weidner et al., 1990) (IIb, B).

Sexual partners

If the epididymo-orchitis is caused by, or likely to be caused by, a sexually transmitted pathogen such as *N. gonorrhoeae* or *C. trachomatis* then sexual contacts must be evaluated (Mulcahy et al., 1987; Grant et al., 1987). Please refer to appropriate sections of these guidelines for approach to partner notification. All partners should be treated epidemiologically. This will prevent illness and complications in the contact and will also prevent reinfection of the index patient.

Follow-up

If there is no improvement in the patient's condition after 3 days then the diagnosis should be reassessed and therapy re-evaluated. Reassessment is required if signs of swelling and tenderness persist after antimicrobial therapy is completed although in some cases symptoms take longer than this to settle. Surgical assessment may be appropriate in these cases (Witherington & Harper, 1982; Krieger, 1984).

Differential diagnoses to consider in these circumstances include:

- testicular ischaemia/infarction (Witherington & Harper, 1982; Krieger, 1984)
- abscess formation and/or scrotal fixation (Witherington & Harper, 1982; Krieger, 1984)
- testicular or epididymal tumour (Netherlands Association for Dermatology and Venereology, 1997; Witherington & Harper, 1982)
- mumps epididymo-orchitis (Manson, 1990)
- tuberculous epididymitis (Gow, 1971)
- fungal epididymitis (Gordon & Madden, 1992; Jenks et al., 1995)

Definitions

The following rating scheme was used for major management recommendations.

Levels of Evidence

I a

- Evidence obtained from meta-analysis of randomised controlled trials

I b

- Evidence obtained from at least one randomised controlled trial

II a

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II b

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Grading of recommendations

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B (Evidence levels IIa, IIb, III)

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C (Evidence level IV)

- Requires evidence from expert committee reports or opinions and/or clinical experience of respected authorities.
- Indicates absence of directly applicable studies of good quality.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is graded and identified for select recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis, treatment and management of men with epididymo-orchitis

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The Clinical Effectiveness Group reminds the reader that guidelines in themselves are of no use unless they are implemented systematically. The following auditable outcome measures are provided:

- Were the five basic microbiological investigations performed? Target 90%.
- Were appropriate antibiotics prescribed? Target 90%.
- Were sexual partners of men with sexually transmitted epididymo-orchitis seen and treated epidemiologically? Target 70% of sexual partners to be seen.
- Was a written action plan recorded for men who had not responded clinically to the initial course of antibiotics? Target 80%.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVVD). 2002 national guideline for the management of epididymo-orchitis. London: Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD); 2002. Various p. [45 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1999 Aug (revised 2002)

GUIDELINE DEVELOPER(S)

British Association of Sexual Health and HIV - Medical Specialty Society

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Clinical Effectiveness Group (CEG)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Authors: Paul Walker; Janet Wilson

Clinical Effectiveness Group (CEG) Members: Keith Radcliffe (Chairman); Imtyaz Ahmed-Jushuf; Jan Welch; Mark FitzGerald; Janet Wilson

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Conflict of interest: None

GUIDELINE STATUS

This is the current release of the guideline. This guideline updates a previously released version.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available in HTML format from the [Association for Genitourinary Medicine \(AGUM\) Web site](#). Also available in Portable Document Format (PDF) from the [Medical Society for the Study of Venereal Diseases \(MSSVD\) Web site](#).

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- UK national guidelines on sexually transmitted infections and closely related conditions. Introduction. Sex Transm Infect 1999 Aug; 75(Suppl 1): S2-3.

Electronic copies: Available in Portable Document Format (PDF) from the [Medical Society for the Study of Venereal Diseases \(MSSVD\) Web site](#).

The following is also available:

- Revised UK national guidelines on sexually transmitted infections and closely related conditions 2002. Sex Transm Infect 2002; 78: 81-2

Print copies: For further information, please contact the journal publisher, [BMJ Publishing Group](#).

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on December 8, 2000. The information was verified by the guideline developer on January 12, 2001. This summary was updated on June 24, 2002.

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