# British Association for Sexual Health and HIV National Guideline on the Management of Sexually Acquired Reactive Arthritis 2020

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## What is new in the 2020 guideline

- Changing incidence of Sexually Acquired Reactive Arthritis (SARA)
- Pathogens that are newly recognised as linked to SARA
- The emerging importance of enteric pathogens that may be acquired sexually
- New treatments for seronegative spondyloarthritis, although their effect on SARA is as yet unknown
- Clear graded recommendations using the GRADE system

## Introduction and Methodology

**Objectives:**

The aim is to reduce the number of sexually transmitted infections (STIs) and, therefore, their complications. Pertinent to this guideline, is to consider STIs in anyone presenting with a suspected reactive arthritis (ReA), particularly if they also have symptoms or signs suggestive of an STI.

This guideline discusses the aetiology and clinical features of sexually acquired reactive arthritis (SARA), and makes recommendations on the diagnostic tests and treatment for effective management with the aim of improving health outcomes for people with SARA. This will include appropriate partner notification and prevention of onward transmission when an STI is identified.

The guideline is aimed at those over the age of 16 years, presenting to health care professionals working in sexual health services. The recommendations are primarily aimed at services offering level 3 care in STI management within the United Kingdom. However, the principles will apply to those presenting to level 1 and 2 services, and appropriate local referral pathways will need to be developed. The guideline will also be of use to rheumatologists assessing and managing patients presenting with possible SARA. Again local pathways between rheumatology and sexual health services should be available.

**Search strategy:**

This guideline was produced according to specifications set out in the CEG document 'Framework for guideline development and assessment' (2015, updated 2019) accessed at https://www.bashhguidelines.org/media/1229/2015-guidelines-framework-amended-dec-2019.pdf. It has been updated by reviewing the previous SARA guideline (2008) and medical literature since its publication using abstracts and articles in the English language. Where there was a paucity of randomised control trials and high quality evidence expert judgement was considered.

Search terms: Reactive arthritis, sexually acquired reactive arthritis, SARA, Reiters, Spondyloarthropathy, Spondyloarthritides, Spondyloarthritis, Infectious arthritis.
Sources: OVID, Medline, PubMed, National Institute for Health and Clinical Excellence (NICE), Cochrane Library
Guidelines produced by: IUSTI, BASHH, CDC

**Equality impact assessment:**

An assessment of the guideline and its recommendations was undertaken to ensure the principles of equality and diversity were adhered to. See Appendix 1.

**Stakeholder involvement, piloting and feedback:**

The document was reviewed by the Clinical Effectiveness Group of BASHH, and their comments incorporated.

The draft guideline was placed on the BASHH website and any comments received during the consultation period were reviewed by the authors and acted on appropriately.

The document was also reviewed by a patient representative, target users and the public panel of BASHH, and their feedback considered by the authors and used to inform the guideline.

## Aetiology

Reactive arthritis is one of the seronegative spondyloarthropathies. It is a sterile inflammation of the synovial membranes, fascia, and tendons triggered by an infection at a distal site. This can be enteric infection with gastro-intestinal pathogens (eg *Salmonella*, *Shigella*, *Campylobacter*), or a sexually transmitted infection (STI), when it is termed sexually acquired reactive arthritis (SARA). Reactive arthritis also encompasses Reiter's syndrome, with its classic triad of arthritis, conjunctivitis, and urethritis, with or without cutaneous manifestations such as keratoderma blenorrhagica or circinate balanitis/vulvitis. The term Reiter's syndrome is no longer used in clinical practice.

Reactive arthritis must be distinguished from septic arthritis, which has a different aetiology and specific management requirements.

### Infective pathogens

The precise mechanisms linking infective pathogens with SARA are not fully understood, nor is it clear why some individuals develop SARA as a result of an STI and others do not. It is thought that SARA is caused by an immune response to the infective agent, with DNA and/or surface pathogens being identified in the joint material of patients with SARA.[1-9] *Chlamydia trachomatis* has been shown to exist in an unusual and persistent state in patients with SARA. This aberrant form represses synthesis of the major outer membrane protein (MOMP) and produces heat shock proteins, which contribute to the inflammatory response.[10-12]

STIs with a link to SARA include:

- *Chlamydia trachomatis* - this has the strongest association with SARA, and has been identified in up to two thirds of cases. It has been suggested that ocular serovars of C. trachomatis (trachoma), rather than genital strains, may be preferentially associated with SARA.[13] The theory being that in a minority of cases the genital inoculum includes both ocular and genital strains, and that the ocular strains then travel to the joint and are responsible for the development of SARA. However, this is unproven and more work is needed to determine this. There have also been some recent case reports of SARA associated with other chlamydia types, namely lymphogranuloma venereum (LGV).[14] More recently a decline in the incidence of SARA has been observed despite rising *C. trachomatis*

diagnoses. This may reflect detection and treatment of the genital infection at early stage or represent a more complex picture than previously thought.[15]

- *Neisseria gonorrhoeae* - associated in up to 16% of cases, and distinct from its role in septic arthritis.[16-20]
- *Mycoplasma genitalium* - this is a well-recognised cause of urethritis but has only been identified in the joints in a few cases so its arthritogenic potential is not yet fully known.[21-23] Similarly, *Ureaplasma urealyticum* has been reported in a few cases of arthritis but a causal role in the development of SARA has not been established.[24-25]
- Sexual transmission of enteric pathogens triggering SARA have been reported[26-27]and Shigella outbreaks have been identified in men that are independent of travel history, thus raising the likelihood of sexual transmission.[28] Therefore, ReA due to *Shigella* could be acquired through the enteric or sexual route. Whether other enteric pathogens may also have this potential is unclear.
- There is insufficient evidence to suggest a causal role for other genital tract pathogens and commensals.

### Risk factors and associations

SARA is more commonly seen in men, with a ratio of over 10 to 1, although under recognition or a different disease phenotype in women may be a possible explanation.[16,20,29,30] Possession of the HLA-B27 gene increases susceptibility to SARA and is associated with increased severity of the condition.[18,30-35]

ReA has been increasing in incidence in the sub-Saharan HIV positive population, where almost all cases of HIV-associated ReA are HLA-B27-negative, but similar observations have not been documented in Caucasian populations with HIV.[36-38]

SARA may be associated with other spondyloarthritides, most commonly axial spondyloarthritis, ranging from the non-radiographic form to the established, radiographic subset known as ankylosing spondylitis; sometimes psoriatic arthritis; occasionally inflammatory bowel arthritis; and SAPHO (synovitis, acne, pustulosis, hyperostosis, osteitis).

## Clinical features

### History

It is important to ask about genital and urinary symptoms, joint and other musculoskeletal symptoms and extra-articular features. There may also be a past or family history of spondyloarthritis, iritis, psoriasis, inflammatory bowel disease or SAPHO.[16,19,29,33,39]

It is essential to take a thorough sexual history. There is usually a history of sexual intercourse with a new partner within 3 months of the onset of the arthritis symptoms[30,32,34] and on average genital symptoms occur 14 days before the arthritis.[16,19,29,30,32]

**Symptoms and signs**

Women are more likely than men to be asymptomatic in terms of genital symptoms. However, they may report altered vaginal discharge, pelvic pain, deep dyspareunia, inter-menstrual or post-coital bleeding. Clinical examination may reveal mucopurulent cervicitis, with or without cervical contact bleeding, and/or tenderness on abdominal or bimanual examination.

Male genital symptoms include urethral discharge, dysuria and/or testicular pain or swelling. On examination there may be visible urethral discharge, testicular pain and/or swelling.[19,20,30,34,40]

Depending on the sexual history, STIs at extra-genital sites may produce rectal discharge, bleeding, discomfort and tenesmus. However rectal infection may be asymptomatic, and pharyngeal infections frequently are. Rectal discharge, bleeding and/or inflammation may be visible on proctoscopy examination in the presence of a rectal STI.

The arthritis is inflammatory in nature, with joint pain, often at night, possible swelling, and early morning stiffness. Peripheral joint involvement typically occurs as an asymmetrical arthritis, typically an oligoarthritis, primarily involving the lower limbs - knees, ankles and feet.[19,29-31,33,41]

Other musculoskeletal symptoms include pain or difficulty on walking due to enthesitis and/or plantar fasciitis (20-40%),[16,18,20,29,30,41] painful movements due tenosynovitis (30%), fusiform swelling of a finger or toe with dactylitis (16%),[29,30,41] and lower back pain and stiffness if sacro-iliitis is present in an acute episode (10%).[16,18-20,30,31,41-43]

Examination of the articular system may reveal multiple swollen joints, with pain on active or passive movement. Specific entheses to examine are the Achilles tendon and plantar fascial attachments to the calcaneum.[16,18,20,29,30,33] In the presence of enthesopathy there may be tenderness with or without swelling. Tenosynovitis may produce crepitus on movement over tendon sheaths,[29,30] with associated tenderness and or swelling. Tenderness on direct sacral pressure may indicate sacro-iliitis,[16,18,20,29,30] though can also be present with lumbosacral disc disease and other pathologies.

Irritable and red eyes with photophobia may occur with conjunctivitis (20-50%) or iritis (2-11%), and less commonly disturbance of visual acuity and ocular pain with uveitis. Any individual with eye symptoms should undergo formal slit-lamp examination to identify iritis, corneal ulceration, keratitis, intra-ocular haemorrhage, optic neuritis, and posterior uveitis. These are all rare but reported manifestations.[16,18-20,29,30,33,43]

Circinate balanitis or vulvitis are present in 14-40% of patients.[16,18,20,29,30,35,43] Extra-genital muco-cutaneous features include psoriasiform eruptions (12%),[19] keratoderma blennorrhagica (5-33%)[16,18-20,29,30,33,35,43] and nail dystrophy (6-12%).[19,43] Inspection of the oral cavity may reveal oral ulceration or geographical tongue which are both reported in a minority of cases.[43]

Other rare extra-articular features which may have few or no symptoms or signs:

- Cardiovascular: tachycardia, left ventricular dilatation, aortic valve disease, cardiac conduction delays[18-20,29,35,44]
- Renal: proteinuria, microscopic haematuria, aseptic pyuria, glomerulonephritis[31,45]
- Others: cranial nerve palsies, meningoencephalitis, thrombophlebitis of the lower limbs, subcutaneous nodules.[16,19,20,29]

Non-specific systemic symptoms of malaise, fatigue, weight loss, and fever are seen in some patients.[30,41,42]

## Diagnosis

The diagnosis of SARA is based on clinical findings - namely typical features of spondyloarthritis with a sexually transmitted genital infection. There are no specific diagnostic criteria.

All patients should be offered screening for STIs (Grade 1A), as per BASHH guidelines[46] and as follows:

Male genital samples:

- Urine NAAT for *C. trachomatis* and *N. gonorrhoeae*
- Urethral gram stained smear (if urethral symptoms)
- Urethral culture and sensitivity testing for *N. gonorrhoeae*

Female genital samples:

- Vulvovaginal NAAT for *C. trachomatis* and *N. gonorrhoeae*
- Endocervical culture and sensitivity testing for *N. gonorrhoeae* (if microscopy or NAAT positive)

Genital samples in trans people:

- Urine NAAT for *C. trachomatis* and *N. gonorrhoeae* in all patients
- If the patient has a vagina (including post genital reconstruction surgery) and is using it for sex, vulvovaginal NAAT for *C. trachomatis* and *N. gonorrhoeae*
- Urethral and/or endocervical gram stained smear and culture for *N. gonorrhoeae* as appropriate (depending on symptoms, genital configuration and any reconstructive surgery)

- More details on STI screening in trans people are available from the BASHH guideline at *https://www.bashh.org/media/4400/bashh-recommendations-for-integrated-sexual-health-services-for-trans-including-non-binary-people-2019pdf.pdf*

Samples in both men and women:

- Pharyngeal and rectal NAAT samples for *C. trachomatis* and *N. gonorrhoeae* where indicated by the sexual history.
- Screening for HIV and syphilis
- Screening for hepatitis B and C based on risk factors in the sexual history
- Consider *M. genitalium* NAAT (urine in men/vulvovaginal sample in women)

The following are also useful initial investigations:

- Acute phase response - erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) or plasma viscosity (PLV)
- Full blood count (FBC)
- Urinalysis

**Further investigations**

The following tests may be useful in some situations, but are not necessarily always required. Close liaison with relevant pathology departments is advisable to ensure that the correct samples are obtained.

Biochemistry:

- Liver and kidney function tests

Microbiology:

- Blood cultures
- Stool culture
- Synovial fluid aspirate for cell count, gram stain crystals and culture (to exclude septic arthritis and gout)

Radiology

- X-rays of affected joints
- Ultrasonography of affected joints or entheses
- Magnetic resonance imaging of sacro-iliac joints

Others:

- HLA-B27
- Electrocardiogram (ECG)
- Echocardiogram
- Synovial biopsy
- Exclusion tests for other rheumatological diseases
  - Rheumatoid factor (rheumatoid arthritis)
  - Autoantibodies (systemic lupus erythematosus)
  - Plasma urate (gout)
  - Chest x-ray and serum angiotensin-converting enzyme level (sarcoidosis)

## Management

### General advice

In the majority of cases SARA may be self-limiting and the principles of management reflect this. However, this is not always the case. Patients should receive a detailed explanation of their condition and the likely prognosis. This should be supported by appropriate written information and online resources. Patient information leaflets are available via the BASHH website.

As with all sexually transmitted infections, patients should be advised to abstain from all sexual contact until they and their partner(s) have completed treatment and follow up.

Patients should be advised to avoid potentially 'triggering infections' in the future, either urogenital or enteric, to avoid a new flare of SARA. Therefore, safer sexual practice should be discussed and the importance of food hygiene stressed.[31]

Close liaison between relevant specialists, depending on the clinical features, is advised. This may include GUM physicians, rheumatologists, dermatologists, ophthalmologists and microbiologists.

## Treatment

Therapy is directed at the distinct elements of the condition with specialist advice being obtained depending on the individual's symptoms and signs.

All patients with eye symptoms should be urgently referred for specialist ophthalmological advice.

In those cases where significant peripheral joint or spinal joint symptoms are present, prompt liaison with the rheumatologists and/or a referral to an Early Arthritis Clinic is recommended.

### Recommended and Alternative regimens

<u>Antibiotics</u>

- Antimicrobial therapy for any genital infection identified is essential and should be as in uncomplicated infection, as directed by relevant infection guidelines.[47-49]
- Whether short course antibiotic treatment for the acute genital infection influences the non-genital aspects of SARA is controversial. It may reduce the risk of recurrent arthritis developing in individuals

with a history of ReA but is unlikely to affect the arthritis once it is manifest. [30,41,43,50,51] (Grade IB)

- Longer course antibiotic therapy for joint symptoms has been considered as some have anti-collagenolytic properties.[52] Many studies had small numbers of individuals with SARA and mostly the antibiotic therapy had been commenced after the arthritis had become established. Conflicting results have been obtained, with various antibiotic regimens including combination antibiotic therapy.[53-64] Similarly, the effect of antibiotic therapy on the late prognosis of arthritis has not been confirmed.[65,66] The role of longer term antimicrobial therapy in SARA has not been proven and is therefore not recommended.[33,41,53-60,62-70] (Grade 1C)

<u>Physical therapy</u>

- Rest is helpful for constitutional symptoms, enthesitis and arthritis, particularly in weight bearing joints and tendons where restriction of activity is part of first-line treatment.
- Physiotherapy should be used, as necessary, to prevent muscle wasting and, when symptoms improve, to strengthen muscles and improve the range of movement in the affected joints and tendons. Physiotherapy and exercise are particularly important where there is axial involvement.[11,33,69,71-74] (Grade 1D)
- Cold pads may be used to alleviate joint pain and oedema,[72-74] and ultrasound[33] and orthotics with insoles, cushioning and heel supports may help with enthesitis.[11,33] (Grade 1D)

<u>Non-Steroidal Anti-inflammatory drugs</u> (NSAIDs)

- NSAIDs are well established as the main stay of therapeutic management for many inflammatory arthritides. It is important that they are used regularly for the maximum anti-inflammatory benefit. No specific NSAID has benefits over others in these circumstances, and individual responses will vary.[31,33,35,41,71-78] (Grade 1B)
- NSAIDs may also be useful for associated constitutional symptoms and oral or topical options exist for symptoms of enthesitis[11,31,33,79] (Grade 1D)
- Potential side effects of NSAIDs should be considered – namely gastrointestinal, renal and cardiovascular. NSAIDs should be given for the shortest possible time period, particularly in those with other underlying risks factors for toxicity.[33,71,75,79-81] (Grade 1A)
- For individuals at high risk of gastrointestinal bleeding, a cyclo-oxygenase (COX)-2 selective drug should be used. (Grade 1A)
  Risk factors for gastrointestinal bleeding include previous history of the same, age over 65 years, male gender, cigarette smoking, excessive alcohol intake, concomitant oral glucocorticoids, antiplatelet agents and anticoagulants.[75] Gastro-protective agents such as proton pump inhibitors or histamine-2 receptor blockers can reduce the gastrointestinal risks.
- COX-2 selective drugs have been linked with increased cardiovascular risk independent of baseline cardiovascular risk factors.[82] The greatest

risk may be with high doses taken long-term and in those with multiple risk factors for cardiovascular or cerebrovascular disease. Naproxen appears to have the best cardiovascular safety profile.[75, 83-85]

Corticosteroids

- For single troublesome joints, intra-articular corticosteroid injections are especially valuable. There are no randomised placebo-controlled trials (RPCTs) of their use in SARA.[31,33,35,41,71,72,74,79,86-89] ((Grade 1C)
- Local corticosteroid injections can be used for enthesitis, although should be used judiciously at weight-bearing sites.[11,31,41,74,87,88] (Grade 2C)
- Topical corticosteroid preparations can be used for cutaneous or mucosal lesions. Low potency options are preferable for mucosal lesions.[9,30] (Grade 1C) Alternative options for mild to moderate lesions include topical salicylic acid ointments, vitamin D3 analogues such as calcitriol,[90] (Grade 1C) and for more severe lesions retinoids such as acitretin.[31,35,91] (Grade 1C)
- Topical corticosteroid eye drops, or oral corticosteroids, and mydriatics are used to treat uveitis. Posterior uveitis usually requires more aggressive therapy.[31] All patients with eye symptoms should have a slit lamp examination and be managed with specialist ophthalmological advice. (Grade 1A)
- Systemic corticosteroids may be valuable where there are several joints involved, or where severe constitutional symptoms arise. They can be given orally, as a single intramuscular injection, or occasionally as an intravenous bolus. There are no RPCTs of use of corticosteroids in SARA, but they have been demonstrated to reduce inflammation in rheumatoid arthritis.[31,33,71,72] (Grade 2D) If systemic corticosteroids are used consideration should be given to osteoporosis prophylaxis, although this is unlikely to be required if a short course or single injection is used.[92-94]

Disease Modifying Anti-Rheumatic Drugs (DMARDs)

- These are indicated where there are disabling joint symptoms that have persisted for over 3 months, earlier where there is severe disease, or where erosive joint damage is identified.
- Sulphasalazine has been shown to reduce the severity and duration of peripheral joint synovitis, although it may not influence long term recovery. There may also be some benefits in early sacroilitis but not in established ankylosing spondylitis. High doses of 3g daily are associated with significant toxicity, particularly gastrointestinal, whereas 2g daily appears to be equally effective and better tolerated. The dose of sulphasalazine should be titrated upwards until an effective dose is reached.[31,35,72,79,95-99] (Grade 1B)
- Methotrexate is favoured by many physicians because of the ease of weekly oral administration and the favourable responses seen in rheumatoid disease and psoriatic arthritis. The main effect of methotrexate is seen in the peripheral joints and enthesis. It may be helpful with severe mucous membrane and skin lesions, although its

side effects also include mouth ulceration and gastro-intestinal intolerance. There is no proven efficacy of methotrexate in the treatment of axial or spinal joint disease. In addition, there are no published RPCTs of its use in SARA. Doses range from 7.5-15mg orally as a single weekly dose. This can be increased to 25mg orally in resistant arthritis. It may also be given as an intramuscular preparation. It is important to give oral folic acid, usually as a single 5-15 mg dose weekly, at 24 hours following the methotrexate dose.[31,35,71-73,79,91] (Grade 1B)

Biologic agents

- Tumour necrosis factor (TNF) alpha blockers, of which there are a number, are highly effective in the treatment of rheumatoid arthritis,[81,100-103] ankylosing spondylitis,[11,69,81,103-109] psoriatic arthritis[11,69,81,103,104,107,109-112] and skin lesions,[69,103,107,109-112] other spondyloarthritides,[79,107,113,114] and related enthesitis.[109,111] They have also been reported to reduce the frequency of episodes of uveitis when treating ankylosing spondylitis.[31,103,107,109,115-118]
- There are side effects with TNF alpha blockers including infusion reactions; an increased risk of infection, including tuberculosis; development of autoantibodies; systemic lupus erythematosus and vasculitis; demyelinating disease; and worsening congestive cardiac failure. There is no proven risk for solid cancer and lymphoma development but caution is necessary for cutaneous malignancies and frequent skin examination is required.[79,103,105,107,119,120]
- Experience of the use of biological agents in the treatment of ReA, including SARA, is limited and no large or controlled studies are available. Early reports are encouraging and it does not appear that they re-activate the infective trigger in patients with ReA.[31,121] However, the place of such therapy in SARA is not yet established.[11,33,35,79,107,122-129] (Grade 2C)
- New treatments for seronegative spondyloarthritis including axial spondyloarthritis and psoriatic arthritis include IL-17A inhibitors[130, 131] and JAK inhibitors[132] have shown effectiveness in rheumatoid arthritis. No data are currently available on their potential effect in SARA.

Rare treatments

Medical synovectomy

- Procedures involving Yttrium-90, Osmic acid, Samarium-153 or Rhenium-186 have shown short term benefit in symptomatic chronic single joint synovitis, but their advantage over intra-articular corticosteroids has not been confirmed.[133] (Grade 2D)

Radiotherapy

- This is exceptionally used for severe, disabling heel pain from enthesitis.[11] (Grade 2D)

Surgery

- In certain circumstances surgical procedures such as synovectomy and arthroplasty may be valuable. It has been a suggested that a 3 month course of azithromycin be given alongside the synovectomy, but this

trial did not include a placebo arm so benefit can not be confirmed.[72,134] (Grade 2D)

Low dose TCAs

- Severe post-inflammatory pain and fatigue can be treated with low dose tricyclic drugs such as amitriptyline 10-25mg nocte. (Grade 2D)

**Pregnancy and breast feeding**

- Many drugs are not licensed in pregnancy or during breastfeeding, and should be avoided unless the potential benefit outweighs the risk.
- Recommended and alternative treatment regimens for individual STIs in pregnancy can be found in the relevant STI guidelines on the BASHH website (www.bashh.org/guidelines)
- NSAIDs have the potential to cause reversible sub-fertility by the leuteinised unruptured ovarian follicle syndrome.[135] If used regularly during pregnancy, particularly in the third trimester, they may result in premature closure of the foetal ductus arteriosis, oligohydramnios, delayed onset and increased duration of labour.[136,137] Advice on breastfeeding depends on the specific NSAID being used.[138]
- Prolonged use of corticosteroids carries a risk of intrauterine growth restriction and fetal adrenal suppression. Systemic effects to the baby from breastfeeding are unlikely unless the mother is taking more than 40mg of prednisolone (or equivalent) a day. With higher doses, appropriate monitoring of infant adrenal function is recommended.[137] (Grade 1A)
- Sulphasalazine carries a theoretical risk of neonatal haemolysis in the third trimester so should be used with caution in pregnancy and during breastfeeding, and with maternal folate supplementation.[137] (Grade 1A)
- Methotrexate and retinoids are both teratogenic and therefore contraindicated in pregnancy and breastfeeding. Men should also avoid conception in their female partners for at least 3 months after methotrexate use. Women taking retinoids should be advised about use of effective contraception for 1 month before, during, and for 3 years after any retinoid therapy.[137] (Grade 1A)
- TNF blockers and other biologic therapies should only be used under advice of the appropriate specialist as advice varies depending on the specific medication.[138]

**In HIV positive individuals**

- There is no evidence to suggest that treatments should be any different in HIV positive individuals. Drug interactions and overlapping toxicities with antiretrovirals should be considered. (www.hiv-druginteraction.org/checker)

**Reactions to treatment**

- There are many treatment options described in this guideline with key side effects highlighted. However, we recommend referring to the British National Formulary (BNF) (https://www.medicinescomplete.com) or Summary of Product Characteristics (SPC) for full details and to check on interactions with other concomitant medications.

## Follow up

Follow up for specific STIs should be as for uncomplicated infections. In certain cases this will include follow up for test of cure, or repeat screening. See BASHH STI guidelines for further information (www.bashh.org/guidelines).

Follow up may be useful to confirm adherence to treatment, and clarify the risk of reinfection. Where a test of cure is not required, this follow up could be done over the telephone.

Follow up for extra-genital features should be under the guidance of the relevant specialist.

SARA is a self-limiting disease in the majority of individuals, with mean duration of symptoms of 4-6 months. However, 50% of patients may experience recurrent episodes at variable time intervals, particularly those individuals who are HLA-B27 positive, which is a recognised predictor of disease chronicity and severity in spondyloarthritis.[16,18,19,29,30,33,35,39,41,43,104, 139]

Up to 17% will develop chronic symptoms lasting over 12 months,[29] and 15% will experience persistent locomotor disability. The latter is principally due to erosive joint damage and resultant deformity.[18,39]

Ocular involvement with uveitis may lead to cataracts and rapid loss of vision in a minority,[18-20,39] hence the need for expert ophthalmological input.

## Contact tracing and treatment

Contact tracing for specific STIs should be performed according to BASHH guidelines (www.bashh.org/guidelines), with reference to look back periods. Patients should be informed of the importance of partner notification, and supported to do this by appropriately trained professionals.

Patients who present as a sexual contact of a known STI should be offered epidemiological treatment, and screening for all STIs.

## Auditable outcomes

- Proportion of patients with clinical diagnosis of SARA tested for sexually transmitted infections (chlamydia, gonorrhea, HIV and syphilis as a minimum). Performance standard 97%
- Proportion of patients treated with recommended regimen for confirmed STI. Performance standard 97%
- Proportion of patients offered information (written or digital) about their diagnosis and management. Performance standard 97%

## Recommendations for further research

Investigation of the significance of *M.genitalium* and SARA.

Elucidation of the current frequency and type of *C. trachomatis* and *N. gonorrhoeae* in synovial fluid of individuals with SARA.

A protocol for a Cochrane systematic review has been established to evaluate this contentious area and this needs to be progressed.[140]

## Qualifying statement

Decisions to follow these recommendations must be based on professional clinical judgement, consideration of individual patient circumstances and available resources.

All possible care has been undertaken to ensure specification of the correct dosage of medication and route of administration. However, it remains the responsibility of the prescribing clinician to ensure the accuracy and appropriateness of the medication they prescribe.

## Review arrangements

An author group will be invited by the BASHH CEG to review and revise the guideline in 2025 using the BASHH framework for guideline development. However, addenda may be issued sooner than 2025, particularly if relevant new data are available relating to testing or treatment options.

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## Editorial independence

This guideline was commissioned, edited and endorsed by the BASHH CEG without funding being sought or obtained.

All members of the guideline writing committee completed the BASHH conflict of interest declaration detailed below at the time the guideline's final draft was submitted to the CEG.

## Conflict of interest

All members of the guideline writing committee completed the BASHH conflict of interest declaration form at the time the guideline's final draft was submitted to the CEG. No authors have any conflicts of interest to declare and the content of the guideline is not attributed to any organisation they are associated with.

## Membership of the Clinical Effectiveness Group

Current membership of the BASHH Clinical effectiveness group is available at https://www.bashh.org/guidelines

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## Appendix 1: NICE Equality Impact Assessment

| **BASHH Guideline Equality Impact Assessment**<br>***(based on NICE documentation shared with BASHH August 2019)*** | | | | |
|---|---|---|---|---|
| **Guidance title: BASHH Guidelines for the Management of Sexually Acquired Reactive Arthritis** | | **Completed by: E Carlin and S Flew** | | **Date: 24.10.2019** |
| **How relevant is the topic to equality?** | **Inequalities in health impact of the condition or public health issue** | **Potential of guidance to add value** | **Priority for NHS or other government department** | **Topic relevance; conclusions and outcomes** |
| | • Prevalence and impact of condition or public health problem<br>• Prevalence of risk factors | • Inequalities in access, uptake or impact<br>• Timeliness<br>• Equality issues identified by proposers of the topic<br>• Equality issues identified by patient or lay organisations | • Department of Health or other centralised NHS bodies such as NHS England<br>• Local authorities<br>• Home Office<br>• Other agencies | • If equality issues had impact on the guidance summarise these impacts |
| **Sex/gender** | SARA is more commonly identified in men | Guideline highlights under-recognition of SARA in females | N/A | N/A |
| **Race** | Potential for increased incidence in HIV positive Sub-Saharan population.<br>HLA-B27 possession linked to the condition and increased severity | Guideline highlights association with selected populations | N/A | N/A |

| | | | | |
|---|---|---|---|---|
| **Disability** | May cause locomotor or visual disability and be associated with other disabling spondyloarthropathies | Early detection, diagnosis and treatment may reduce the risk of progression and the development of disability | Collaborative working with affected specialties may reduce the development of disability and improve access for those with existing disability | Collaborative specialist working and early referral is essential to reduce the risk of long term disability |
| **Age** | Causative STIs are more common in young people but can occur in any age group. There is no direct age association with SARA. | Recommendations for STI screening are not age-specific | Importance of access to Sexual Health Services and STI and HIV testing | STI and HIV screening is advised regardless of age |
| **Sexual orientation** | Causative STIs are more common in MSM but no direct sexual orientation association with SARA | Appropriate STI screening depends on sexual practice as detailed in the guideline | As above | STI and HIV screening is advised and recommendations are given according to sexual practice |
| **Gender reassignment** | No known link with SARA | Guidance comments on sample taking in trans population | As above | STI and HIV screening is advised and recommendations are given for trans people |
| **Religion/ belief** | N/A | N/A | N/A | N/A |
| **Pregnancy & maternity** | No known link with SARA | Guidance mentions treatment options in pregnancy/breastfeeding | N/A | Guideline indicates need to consider treatment risks in pregnancy/breastfeeding |
| **Other definable characteristics &** | Geographical variation in HLA type means | Guideline indicates association with HLA-B27 | N/A | N/A |

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| **socioeconomic factors that may affected by protected characteristics, including:**<br>• Prisoners and young offenders<br>• Refugees and asylum seekers<br>• Migrant workers<br>• Looked after children<br>• Homeless people<br>• Deprivation<br>• Disadvantage associated with geographical distinctions | certain populations are more at risk due to increased HLA-B27 expression | but routine testing does not contribute to management | | |