Royal College of General Practitioners

Sexually Transmitted Infections in Primary Care

RCGP Sex, Drugs, HIV and Viral Hepatitis Group
British Association for Sexual Health and HIV (BASHH)

Second Edition 2013

Royal College of General Practitioners

BASHH

Written by:
Dr Neil Lazaro

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By Dr Neil Lazaro
Royal College of GPs
British Association for Sexual Health and HIV

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Disclaimer
This publication is intended for the use of General Medical Practitioners and other healthcare professionals in the UK. The author, publishers, RCGP Sex, Drugs, HIV and Viral Hepatitis Group and the British Association for Sexual Health and HIV (BASHH) have taken care to ensure that the information contained in this document is correct to the best of their knowledge, at the time of publication. Whilst every effort has been made to ensure the accuracy of the information presented, particularly that related to the prescription of drugs, no liability can be accepted for information that is subsequently shown to be wrong. It is the responsibility of the attending clinician to make his or her own clinical judgment on an individual basis. Readers are advised to check that the information contained in this document, especially that related to drug usage, complies with information contained in the most up to date British National Formulary, or manufacturer's data sheets, and that it complies with the latest legislation and standards of practice. Every effort has been made to give accurate information and acknowledge all references. Any omissions or corrections submitted to the publishers will gladly be incorporated where possible in subsequent editions. This guidance represents the views of the RCGP Sex, Drugs, HIV and Viral Hepatitis Group and is not necessarily the policy of the RCGP Council.

Clinical advice, particularly with regard to testing and treatments, may change. Updates are always highlighted on the BASHH Clinical Effectiveness Group guidelines webpage and readers are advised to check this regularly: www.bashh.org/guidelines

Contents

Development process

The British Association for Sexual Health and HIV (BASHH) is the lead professional representative body for those practicing sexual health, including the management of STIs and HIV, in the UK. The Clinical Effectiveness Group of BASHH produces national clinical guidelines for Secondary Care physicians; these guidelines are systematically developed and assessed in a robust and reproducible manner. Recent BASHH guidelines have received accreditation from NHS Evidence, which is managed by the National Institute for Health and Clinical Excellence (NICE): www.evidence.nhs.uk

This document is a collection, set out in chapters, of appropriate BASHH guidelines that have been adapted by the author for pragmatic use in a Primary Care setting. The author trained and worked as a GP and now sits on the Clinical Effectiveness Group of BASHH. Clinical guidance from additional sources has been cited where appropriate.

Initially, specific chapters were assessed by the specialist authors of the individual BASHH guidelines. The whole document was then reviewed by members of the *RCGP Sex, Drugs, HIV and Viral Hepatitis Group* as well as by experienced STI specialists. Furthermore, a General Practitioner with no specialist background knowledge of STIs appraised the document for usability.

The author received no funding to produce this document.

Preface

This publication updates and replaces the first edition of *STIs in Primary Care* written by me in 2006. Once again, it is based on relevant Secondary Care guidelines produced by the British Association for Sexual Health and HIV (BASHH), which have been adapted for more appropriate and practical use in a Primary Care setting. I am grateful for the feedback of each BASHH guideline author on my adaptation of their work.

The document also brings together advice from other publications that many GPs may not have time to read thoroughly. For example, the chapter on STI management standards has been written specifically to draw your attention to this important area and all readers are advised to look at this section (chapter 1).

This publication is intended to advise the busy GP on the best course of management when dealing with STIs and related conditions in a GP sugery. It has been reviewed by GPs and deals with what might reasonably be expected of the 'average' GP. In many cases, particularly with the increased availability of walk-in GU services, referral to GUM will often be the most appropriate course of action. In cases where referral is difficult, for whatever reason, this document should help with pragmatic advice.

It retains the informal and sometimes shorthand dialogue of its predecessor which has proved popular with busy clinicians wanting to look up guidance quickly. Certain tables and algorithms are repeated in various chapters as I acknowledge that sections are often looked at in isolation. Readers are advised to look at a chapter in its entirety rather than simply jump to a 'treatment' section, as STI management always involves a wider context than simply prescribing drugs. Whilst the advice in this document is correct at the time of going to press, readers are strongly advised to check the BASHH guidelines website (see foot of each page) for management updates, as tests and treatment options can rapidly change.

With sexually transmitted infections continuing to rise, there remains a need for GPs (and other non-specialist clinicians such as those working in contraceptive clinics, prisons, A&E and HM Forces etc) to be able to manage patients swiftly, pragmatically and appropriately. I hope this publication helps.

Dr Neil Lazaro
BSc (Hons) MRCGP DipGUMed DTM&H DFSRH

Member of BASHH Clinical Effectiveness Group and the Royal College of GPs Sex, Drugs, HIV and Viral Hepatitis Group

March 2013

Foreword from the Chair of the RCGP

The Royal College of General Practitioners (RCGP) is the professional membership body and guardian of standards, for family doctors in the UK. We aim to promote excellence in primary healthcare, working to improve GP education and training. We provide a comprehensive range of resources to help GPs keep their knowledge and skills up to date.

This document is such a resource. GPs frequently see people who present at risk of an STI, with or without symptoms, and this booklet will be very helpful in managing patients appropriately. It is a readable, comprehensive and very practical 'coal-face' guide of what to do (and how to do it) in a primary care setting.

Judging by the popularity of its 2006 predecessor, I'm sure it will continue to provide a valuable resource to all those involved in community healthcare. I am delighted to welcome it and will be keeping a copy in my Favourites folder!

The author, Dr Lazaro, is a former GP and current member of the RCGP. He has extensive knowledge of the subject and I congratulate him for his hard work in producing this. My thanks also to the British Association for Sexual Health and HIV for their help and support in its production.

Dr Clare Gerada
MBE MOM FRCPsych FRCGP FRCP
Chair of the Royal College of General Practitioners, London

Royal College of General Practitioners

Foreword from the President of BASHH

National specialist society guidelines are usually written from the perspective of the specialist, so they may sometimes be difficult for primary care clinicians to implement fully into their own practice. Yet many people with sexual health problems choose to consult their General Practitioner about them.

In recognition of this, the author, who has experience of working in both primary care and specialist services, set up this joint initiative between the Royal College of General Practitioners and the British Association for Sexual Health and HIV; he has produced this document by modifying the national guidelines to make them more applicable to primary care. The first edition was published in 2006 and here is the newly updated second edition.

I congratulate the author on this text, which consists of accurate and relevant information for the management of sexually transmitted infections and related conditions in primary care. Along with the condensed and compact format, this applicability to primary care will mean that this information is easily accessible and useful to all working in general practice and other non-specialist settings.

Dr Janet Wilson

President
British Association for Sexual Health and HIV

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Abbreviations

↑ / ↓	increase / decrease
♂ / ♀	male / female
BME	black and minority ethnic groups
BV	bacterial vaginosis
cf	confer (ie: compare)
c/o	complaining of
DIC	disseminated intravascular coagulation
d/w	discuss with
FCU	first-catch urine
FPU	first-pass urine
GC	gonococcus (gonorrhoea)
HPA	Health Protection Agency
HVS	high vaginal swab
HPV	human papilloma virus
Hx	history
m/c/s	microscopy, culture and sensitivity
MSM	men who have sex with other men
MSU	mid-stream urine
NAAT	Nucleic Acid Amplification Technique / Test (a very sensitive way of detecting DNA / RNA)
NSAIDS	non-steroidal anti-inflammatory drugs
PMHx	past medical history
PPT	precipitate
PROM	premature rupture of membranes
Pt	patient
PPV	positive predictive value
Rx	treatment
STI	sexually transmitted infection
Sx	symptoms
TB	tuberculosis
ToC	test of cure (another test after Rx to ensure eradication)
ToP	termination of pregnancy
TV	*Trichomonas vaginalis*
UPSI	unprotected sexual intercourse
UTI	urinary tract infection
VVS	vulvo-vaginal swab
WSW	women who have sex with other women

1. Standards for the Management of Sexually Transmitted Infections (STIs)

- Standards have been developed[1] to support **all** providers of sexual health services in achieving safe, high quality services for the management of STIs. The Standards also provide specific sections to support commissioners of services
- The Standards cover all aspects of current best practice in the management of STIs, including the diagnosis and treatment of individuals, as well as the broader public health role of infection control
- There are nine standards covering all aspects of STI management
  - clinical issues
  - commissioning issues
  - frameworks for monitoring performance, with key performance indicators
- The standards have been endorsed by all professional groups involved in providing sexual healthcare, including the RCGP.
- They represent current best practice and are intended for use in all services where STIs may be managed.
- Primarily this involves services specifically commissioned by the NHS to manage STIs (including services provided by the Third and Independent sectors) but also includes GPs who may manage STIs incidentally rather than through a formally commissioned service.
- If you are providing a commissioned STI service, you will know about these standards. If you are a GP who might occasionally manage STIs simply as part of your day to day clinical work, then bear in mind that the standards should be adhered to as pragmatically as possible (there is advice to refer patients on if you are unable to meet certain criteria).
- A patient information leaflet[2] (see figure 1) summarises what patient can expect from all service providers
- The standards have been produced for England, but clinical recommendations also apply to Wales and Northern Ireland. Sexual Health service standards for Scotland were published by NHS Quality Improvement Scotland in 2008.[3]

Figure 1: Patient information leaflet

Summary of what patients should expect from clinicians managing STIs (adapted from ref 2)

- To be offered an appointment to be seen within 2 working days of contacting an STI service
- To have care managed by trained and competent staff
- To receive confidential, non-judgmental advice
- To be offered, as a minimum, tests for Chlamydia, gonorrhoea, HIV and syphilis
- To have the most accurate tests for infections
- To receive all results (negative or positive) within 14 working days
- To be given the most effective treatment free of charge* if any infections are found
- To be offered support in helping sexual partners to access testing and treatment
- To be offered free condoms*
- To be able to give feedback about STI services received and have feedback acted upon
- To receive care from high quality STI services that are safe, well-managed and accountable
- To be referred to another service quickly and easily, if necessary

* may be difficult in non-commissioned services – consider referral

1. Standards for the Management of Sexually Transmitted Infections (STIs)

The standards document[1] is easy to read and can be downloaded for free – I recommend you take a look.

For non-specialist GPs who may simply deal with STIs on an ad-hoc basis and don't have time to look at the main document, I have summarised it in table 1. It is not exhaustive but gives you an idea of the basic issues involved in STI management. It can be used as a reference guide when GPs see a particular condition.

Don't be put off dealing with STIs, but do think "*Am I the best person to be dealing with this?*" (It may, of course be that pragmatically you ARE the best person there and then). Just be aware that if you do commence management, then there are other issues involved and be aware of them – your patients may well be (see figure 1). As with all aspects of general practice, work within your levels of competence and if unsure, ask for advice or refer.

Table 1: Standards for the management of STIs (adapted from ref 1)

Standard	Recommendations	Pragmatically what this means
1. Principles of STI care	■ STI services should be open access ■ Urgent problems should be managed the same day / next session ■ Pts should have choice of where to access services ■ Confidentiality is expected ■ Rx should be those recommended by the latest BASHH guidelines[4] ■ Partner notification should be instigated where appropriate ■ Surveillance data should be collected	If you can't provide this – refer (local care pathways should be in place. See Standard 7) Equitable standards of care should be available in every setting. This may be difficult for non-specialist GPs to provide and you may well need to be pragmatic in some circumstances after d/w Pt Partner notification is vital in some conditions and although you might not be able to do it thoroughly, it should at least be d/w Pts. Consider referral to GUM for completion Data collection will improve with use of the Genitourinary Medicine Clinic Activity Dataset which currently has been developed for data collection from commissioned enhanced sexual health services. Work is ongoing by the Health Protection Agency and the NHS Information Centre General Practice Extract Service to specify a routine extract from all GPs for the surveillance of STIs. Gonorrhoea statistics are increasingly important (↑ing resistance) and GUM should be involved in the management of all gonorrhoea cases.

1. Standards for the Management of Sexually Transmitted Infections (STIs)

Standard	Recommendations	Pragmatically what this means
2. Appropriately trained staff	■ All professionals should be competent to deliver their service ■ Competence should be assessed and maintained ■ A comprehensive clinical governance framework should demonstrate the maintenance of national and local standards of care as well as the clinical competence of the health care workers providing this ■ The leadership role of Level 3 providers[5] (mainly specialist GUM services) should be explicit and commissioned	GUM services should have a leadership role in supporting education, training and clinical governance. As with all general practice, if you feel out of your depth – refer. The problem of course, is not knowing what you don't know... Training is available (see Appendix 2: *Resources*)
3. The clinical assessment	■ Appropriate medical and sexual Hx should be taken (sensitive, private, confidential, awareness of Child Protection issues and Mental Capacity issues) ■ Appropriate examination ■ Appropriate tests ■ Any STI test? → 100% pts should be offered an HIV test as well ■ Minimum STI screen = Chlamydia, gonorrhoea, HIV and syphilis testing ■ Results procedure	Confidentiality issues. A chaperone should be offered to everyone for intimate examinations, and if needed and not available, provided at another time or place The correct materials for specimen collection and transport should be used Patient should be informed of all results, including negative results. HIV testing can be provided quickly in General Practice and easy-to-follow guidelines are available (see HIV chapter) Although the prevalence of certain infections will vary, it is good practice to screen everyone
4. Diagnostics	■ Diagnostic tests should be the latest 'gold standard' tests: validated and reliable. ■ Point-of-care tests should only be used as screening tests. A reactive result? → confirm in lab ■ Labs should be accredited ■ Results should be back < 7/7	There must be equity across all care providers

1. Standards for the Management of Sexually Transmitted Infections (STIs)

Standard	Recommendations	Pragmatically what this means
5. Clinical management	■ Syndromic management (Rx without tests) is considered sub-optimal and not recommended unless in exceptional circumstances ■ Empirical Rx (Rx at time of consultation before test result is back) may be appropriate in some circumstances (Eg: Rx'ing the partner of someone with an STI) ■ Staff should be competent at interpreting test results ■ Rx should be in line with latest BASHH guidelines[4] and be free of charge[6] ■ Partner notification should be instigated where appropriate ■ Health promotion: written information / advice, condoms supplied free, one-to-one interventions to promote behavioural change	Free Rx s are difficult in routine general practice currently. If you can't provide this (and the Pt wants free Rx) then refer (local care pathways should be in place). Of course, some Pts may not be worried about paying for a prescription from you, but the offer of free Rx at a specialist service should be made.
6. Information governance	■ Information (on Pts and their sexual contacts) should be held securely and in strict accordance with current guidance. ■ Data sharing should follow current national guidance	Your practice should have written policies on information security and sharing and confidentiality that all staff are trained to use. Be very careful about what you record in the notes. Identifiable data (e.g. the names of sexual contacts) should be recorded only if necessary for the purposes of partner notification and should not be documented in the patient's primary care record in case the information is subsequently shared e.g. insurance reports

1. Standards for the Management of Sexually Transmitted Infections (STIs)

Standard	Recommendations	Pragmatically what this means
7. Links to other services	■ Clinical links to GUM ■ Care pathways should be in place, linking Levels 1, 2 and 3 ■ Sexual health networks should be developed in every health economy	Specialist advice, support and referral should be available to you. Most people's sexual health needs are wider than the pharmacological management of an STI – GPs are well placed to be involved holistically. In fact, GPs are ideally placed to manage issues such as alcohol / drug use or mental health issues, which can adversely affect sexual health.
8. Clinical governance	■ Clinical leadership should be provided by GUM services – they should also support education and training ■ Elements of clinical practice should be audited at least annually ■ Risk management procedures should be in place	Consider auditing your care of Pts with STIs in collaboration with your local Level 3 service.
9. Patient and public engagement	■ Patients and the public should be consulted about services ■ A documented patient and public engagement (PPE) plan should be implemented ■ There should be evidence of both service user feedback and the service's response to feedback arising from implementation of a PPE plan ■ Patient-reported outcomes should be developed	Collaborate with your patient participation groups and consider how to reach specific groups such as MSM, BME, young patients, etc. Agree on a written engagement plan that includes using and responding to user feedback Pt-reported outcome measures should be pretty standard in GP.

1. Standards for the Management of Sexually Transmitted Infections (STIs)

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   Available at www.medfash.org.uk and www.bashh.org.uk
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3. Sexual Health Services Standards
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   Available at www.healthcareimprovementscotland.org
4. British Association for Sexual Health & HIV Clinical Effectiveness Group Guidelines.
   Available at www.bashh.org/guidelines.
5. The national strategy for sexual health and HIV
   Dept of Health London 2001 Gateway ref 2001 Crown copyright
   Available at www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4003133
6. A statutory right to free treatment for sexually transmitted infections originates from specific legislation:
   National Health Service. Prescription Charges for Hospital Outpatients. HM(68)30. London:
   Ministry of Health, 1968

2. HIV

- HIV infection rates are increasing and GPs should not be afraid to offer testing in Primary Care.
- Gone are the days of the HIV test being a secretive affair offered only after 'counseling' in specialist units.
- HIV testing can and **should** be done in General Practice for...
  - anyone at risk
  - anyone with clinical indicator diseases
  - anyone requesting it

  } see algorithm below
- Effective treatments are now available, making HIV a manageable long-term condition
- The earlier HIV is diagnosed, the better the outcome. Late-stage disease has a poorer prognosis
- More detailed HIV issues are beyond the scope of this document and are addressed in the excellent publication **HIV in Primary Care** (2011)[1] available at www.medfash.org.uk
  - Written by practicing GPs and HIV specialists with an interest in GP education, it is instructive, practical and easy to use with a comprehensive index and full colour illustrations.
  - Highly recommended!
- See next section for advice on HIV testing in General Practice

2. HIV

HIV testing in General Practice

Adapted from *The 6-step guide to HIV Testing in Primary Care* written by the Sex, Drugs and HIV Group of the RCGP 2010 and the UK National Guidelines for HIV Testing 2008

Do you practice in an area of high HIV prevalence (> 2 per 1000)?

Not sure? Ask your local specialists or find out at http://tinyurl.com/9dqabmq

Yes

- Offer HIV test to all new patients registering.
- Also
  - Offer test to all 'at-risk' patients*
  - Offer test to all those with clinical indicator diseases**
- You can advertise testing in your waiting room using printed publications and leaflets

No

Area of low HIV prevalence
(< 2 per 1000)?

- Offer test to all 'at-risk' patients*
- Offer test to all those with clinical indicator diseases**

*** The 'at-risk' patient**

- Anyone with an STI
- Men who have sex with other men
- Those buying / selling sex
- Those from countries of high HIV prevalence. See www.unaids.org
- IVDUs
- Any sexual partner of the above

**** Clinical indicator diseases for HIV**
See table 1

The HIV Test

- Specialist in-depth 'counselling' is not necessary.
- Explain the benefits of testing
  - earlier diagnosis → better prognosis
  - effective treatments now available → better prognosis
- The patient only needs to give verbal consent to the test
- Insurance issues? Reassure Pts that insurance companies should not ask whether an individual has ever had a negative HIV test. Applicants themselves must declare a +ve result, but that would be the case with any other medical condition. In fact some insurance companies do insure HIV+ pts
- Take 10 mls of clotted blood and send it to virology marked 'HIV test'
- Agree with Pt how and when to give results (? face to face). Check correct contact details.
- Results: If neg – talk about risk reduction (safer sex, etc). Re-test if within 3/12 window period
  If positive – refer (pathways should be in place). If unwell, refer more quickly.

2. HIV

Table 1: Clinical indicator diseases for adult HIV infection (adapted from ref 2)

Clinical specialty	AIDS defining condition	Other conditions where HIV testing should be offered
Dermatology	■ Kaposi's sarcoma	■ Severe / recalcitrant seborrhoeic dermatitis or psoriasis
ENT		■ Lymphadenopathy of unknown cause ■ Chronic parotitis
Gastroenterology	■ Persistent cryptosporidiosis	■ Oral candidiasis ■ Oral hairy leukoplakia ■ Chronic diarrhoea of unknown cause ■ Weight loss of unknown cause
Gynaecology	■ Cervical cancer	■ Vaginal intraepithelial neoplasia ■ Cervical intraepithelial neoplasia Grade 2 or above
Haematology		■ Any unexplained blood dyscrasia, including neutropaenia, lymphopaenia and thrombocytopaenia
Neurology	■ Cerebral toxoplasmosis ■ Primary cerebral lymphoma ■ Cryptococcal meningitis	■ Aseptic meningitis / encephalitis ■ Cerebral abscess ■ Space occupying lesion of unknown cause
Oncology	■ Non-Hodgkin's lymphoma	■ Anal cancer or anal intraepithelial dysplasia ■ Lung cancer ■ Hodgkin's lymphoma
Respiratory medicine	■ Tuberculosis ■ Pneumocystis	■ Bacterial pneumonia ■ Aspergillosis
Other		■ Mononucleosis-like syndrome (consider primary HIV infection) ■ Pyrexia of unknown origin ■ Any lymphadenopathy of unknown cause

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1. HIV in Primary Care 2011 (2nd edition)
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Medical Foundation for AIDS & Sexual Health (MedFASH)
BMA House, Tavistock Square, London, WC1H 9JP
www.medfash.org.uk

2. *UK National Guidelines for HIV Testing 2008*
British HIV Association, British Association for Sexual Health & HIV, British Infection Society
Available at www.bhiva.org/files/file1031097.pdf

3. Male urethritis

Background [1, 2, 3, 4]

See national STI Management Standards: Chapter 1

- Urethritis is usually due to a sexually transmitted infection although a UTI (uncommon in young ♂) may produce similar Sx
- The inflammation may sometimes be due to non-infective causes, but STIs must always be excluded if the Hx (ie: sexual contact, including oral sex) is suggestive

The following symptoms may be present

- Urethral discharge
  - usually a result of an STI
  - the type of discharge may be mucoid, purulent or muco-purulent
  - the quantity of discharge may be minimal or copious
- Urethral discomfort or 'itch'
- Dysuria
  - don't assume dysuria in a male is always a UTI!
  - a sexually active man c/o dysuria **must** have STIs excluded
  - consider screening for a UTI if Hx suggestive, or if older ♂ in whom UTI may be more likely
- Epididymo-orchitis (see chapter 9)
- Symptoms of sexually acquired reactive arthritis (see chapter 23)

STI causes (you cannot reliably distinguish these clinically):

1. Chlamydia
   - diagnosed on 1st pass urine (a NAAT test)
   - common cause of urethritis
2. Gonorrhoea (also known as 'gonococcus' or 'GC' for short)
   - less common than Chlamydia
   - ↑ prevalence in certain populations (MSM, BME groups, urban areas)
   - can also be diagnosed on 1st pass urine in ♂ (or swab sent for culture) – check with your local lab (NB: urine is **not** an optimal specimen for gonorrhoea in **females**. See gonorrhoea chapter)
3. Non-specific urethritis (NSU)
   - this is really a diagnosis of exclusion after GC and Chlamydia have been ruled out
   - lots of different organisms can cause this, such as *Mycoplasma genitalium*, TV, yeasts, herpes, and adenoviruses (the latter is often seasonal and associated with oral sex)
     - sometimes, there isn't an infective cause at all
     - normally diagnosed on microscopy in GUM. Not practical in GP – thus this diagnosis will be presumed on the basis of negative GC and Chlamydia tests
     - partner notification should still be carried out (see below)

3. Male urethritis

Management (see also STI Management Standards chapter)

- Take a Hx (including a sexual Hx)
- Examine
- If you suspect an STI...

- Refer to GU (local care management pathways should be in place)

  or

- If an urgent (< 48 hours) appt is not possible then consider:
  - taking tests for STIs
  - and then treating empirically (see below)

Note:

- This is not ideal, but is simply pragmatic especially if it is a Friday evening when urgent GU access may be difficult
- Treating an STI promptly, not only alleviates symptoms but also halts the subsequent spread of infection
- If you decide to treat a presumed STI, you must attend to the process of notifying recent sexual partners, who may be unaware they might be carrying an asymptomatic infection.
  - At the very least, this involves telling the index patient they should abstain from sex until recent sexual partners have been checked / treated, and that those partners should seek medical advice.
  - Water-tight partner notification is difficult to achieve in General Practice and is probably best left to GU clinics
- Rx'ing an STI involves other principles – see the chapter on STI Standards

Tests

You should talk to your local lab / GUM about which swabs and samples to take. Consider...

- Obtain a first pass urine specimen (ideally when Pt hasn't passed urine for at least 1 hour – but you may need to be pragmatic)
  - send the 1st pass urine for Chlamydia NAAT and Gonorrhoea NAAT (both can be done on the same urine sample, if available in your local lab) (NB: urine is **not** an optimal specimen for gonorrhoea detection in females. See gonorrhoea chapter)
  - look for 'threads' (these are strands of mucus / pus suspended in urine. They can be a useful clue for inflammation in the anterior urethra , but this is neither sensitive nor specific and should not be relied upon as a sole diagnostic criteria for urethritis)
- If gonorrhoea NAAT unavailable, take a urethral swab for gonorrhoea culture, but this needs to reach the lab promptly (within 24 to 48 hours. d/w your local lab)
- Test for other STIs (minimum: Chlamydia, gonorrhoea, as well as syphilis and HIV blood tests)

3. Male urethritis

Treatment

- Syndromic management (Rx without tests) is considered sub-optimal and **not recommended** unless there are exceptional circumstances. If you plan to Rx, then take tests first!
- Empirical Rx (Rx at time of consultation before test result is back) may be appropriate in some circumstances (Eg: pragmatic Friday evening consultation). Don't forget partners may need Rx as well.

- The Rx for **Chlamydia and NSU** is:

  AZITHROMYCIN 1 g po stat

  or

  DOXYCYCLINE 100 mg po bd 7/7

- The Rx for uncomplicated urethral **gonorrhoea** (see also the Gonorrhoea chapter) is currently

  1st line: CEFTRIAXONE 500 mg im injection stat + AZITHROMYCIN 1 g po stat

  2nd line: CEFIXIME 400 mg po stat + AZITHROMYCIN 1 g po stat

NB:

- Increasing resistance to gonorrhoea – the Rx given in this publication is correct at the time of going to press but it may change. See BASHH website for latest Rx guidance. www.bashh.org/guidelines
- If you intend to treat for gonorrhoea, take a swab for culture first if possible (resistance needs to be monitored)
- If oral Cefixime regimen is used, beware Rx failure
- Pts **must** be followed up
  - All gonorrhoea cases should have a test of cure taken (see gonorrhoea chapter)
  - All Rx failures must be reported to the HPA
  - Partner(s) must be Rx'd
  - Tests of cure are not generally required for urethral Chlamydia / NSU cases in males.

The complexities of gonorrhoea management make it difficult for most GPs to deal with and cases should be referred promptly to GUM for management[5]

- The difficulty, of course, is initially differentiating Chlamydia / NSU (easier to Rx in GP) from gonorrhoea
  - this is difficult clinically – you cannot tell just from Sx / signs
  - Friday evening consultations are difficult. Pragmatic Rx needed
- Pragmatically, therefore
  - if you are likely to come across gonorrhoea (Eg: high local prevalence) have a plan agreed in advance with local GUM services about out-of-hours / non-GU management
  - if you strongly suspect gonorrhoea, Rx according to guidance as best as you can but follow-up the Pt closely
  - make sure you have the Pt's contact details for follow-up

3. Male urethritis

Note:

- Advise pt to tell their sexual partner(s) to attend GU clinic for Rx.
  - A generic Contact Slip for use in Primary Care can be found in Appendix 1 – you may wish to print it off to use
- Consider FU (? GU / ? GP) in 1 to 2 weeks (⟶ Rx compliance, partner notification, symptoms resolved? etc)
- Advise pt NO sexual encounters at all, until given the all clear
  - not even with a condom because sexual contact can occur before a condom is put on
  - condoms can also split
  - 'No sex' includes **all** genital-mucous membrane contact (so no oral sex either)
- They may not attend for follow up, so when you Rx them initially, advise no sex until 7 days after Rx finishes and symptoms resolved and partner (s) have been successfully treated. Partners must wait >7 days after their Rx before commencing sex again.
- **All** gonorrhoea cases need a test of cure. Gonorrhoea is best managed in GUM.
- Give Pt written advice (Pt information leaflets)
- Document all of this.

Partner notification

How far back you trace depends on what the diagnosis is and when the Pt developed urethral symptoms

- **Gonorrhoea**[2]
  symptoms? – all sexual partners in previous 2 weeks
  no symptoms? – all sexual partners in previous 3 months

- **Chlamydia**[3]
  symptoms? – all sexual partners in previous 4 weeks
  no symptoms? – all sexual partners in previous 6 months

- **NSU**[4]
  symptoms? – all sexual partners in previous 4 weeks

These figures are arbitrary as it is not known for sure how long asymptomatic carriage can be. Common sense should be used in assessing which sexual partners may have been at risk, and sometimes longer time periods may be involved. d/w GUM for advice (or refer Pt).

Partner notification should be pursued in all patients, preferably by a trained Health Advisor in GU medicine, who can also document action and outcomes. This applies, to a greater or lesser degree, to most STIs. For the time being, water-tight partner notification remains difficult to achieve in Primary Care. You must be aware of the need for it and document that you have discussed this with the patient. See STI Standards chapter.

3. Male urethritis

References

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   British Association for Sexual Health and HIV Clinical Effectiveness Group
   Available at www.bashh/guidelines
5. *Guidance for gonorrhoea testing in England and Wales 2010*
   Health Protection Agency / British Association for Sexual Health and HIV
   Available at www.bashh/guidelines and www.hpa.org

4. Abnormal vaginal discharge in women of reproductive years

Background[1]

Causes

- Infective
  - Bacterial vaginosis (commonest cause of abnormal vaginal discharge)
  - Candida
- Non-infective
  - Physiological (common) – a diagnosis of exclusion
  - Others (cervical ectopy, polyps, foreign bodies, genital dermatoses, malignancies, allergies, fistulae)
- Sexually transmitted
  - Chlamydia (common)
  - Gonorrhoea (less common)
  - *Trichomonas vaginalis* (less common)

History – essential!

- 'Candida' is often over-diagnosed (by patients as well as clinicians) and over-Rx'd[2]
- BV is often under-diagnosed (despite being more common than Candida)
- STIs may be missed if a sensitive sexual history is not taken
- Ask...
  - What has been noticed? For how long?
  - Any itch? Any malodour?
  - Consistency of discharge? Eg: lumpy (→ ? Candida), homogeneous (→ ? BV), frothy (→ ? TV)
  - Anything make it better or worse?
  - Any Rx tried? (Prescription as well as any over-the-counter preparations). Any vaginal douching?
  - Cyclical symptoms?
  - Any Sx / signs of PID? (have a low threshold to examine to examine if so)
  - Any risk of STIs? Does their partner have any Sx of STIs (Eg: urethral discharge? Epididymitis?)
  - Contraceptive use?
  - Past medical Hx

NB: Note that I have not listed 'colour' here as my personal view is that it is very subjective and not always helpful (unless, of course, blood stained). As the commonest causes of abnormal vaginal discharge are **BV** and **Candida**, the questions I ask early on in the consultation are about associated **malodour** and **itch**.

4. Abnormal vaginal discharge in women of reproductive years

Table 1: Vaginal discharge – diagnosis clues (see also individual chapters)

	Bacterial vaginosis	Vulvo-Vaginal Candidiasis	Trichomoniasis
Notes	Commonest cause of abnormal vaginal discharge. Not sexually transmitted.	Perceived by women to be more common than it actually is. Not sexually transmitted.	An STI ! Diagnosis should be made with a reliable method as there will be implications for partner(s)
Discharge	Homogeneous (ie: same consistency) – thin and watery)	Variable but often thick, lumpy and white	Variable – may be frothy
Odour	Malodour	No malodour	Malodour
Associated symptoms (not all may be present)	Usually none (unless accompanied by Candida)	Itch / soreness External dysuria External dyspareunia	Itch / soreness Dysuria Lower abdominal pain
Typical signs	Discharge coats the vagina and vestibule No vaginal or vulval inflammation (unless accompanied by Candida)	May look normal or Vaginal inflammation and / or Vulval inflammation +/- fissures +/- oedema +/- satellite lesions	May look normal or Frothy discharge +/- vulvitis +/- vaginitis +/- cervicitis* (*the so-called 'Strawberry cervix' : often quoted but actually rare: < 2%)
Vaginal pH (take from lateral wall) Normal = 3.5 to 4.5	> 4.5	≤4.5 (ie: normal)	> 4.5

4. Abnormal vaginal discharge in women of reproductive years

Examination

- Not always needed (see algorithm below). It is pragmatic not to have to examine every woman c/o vaginal discharge providing it sounds uncomplicated. But...
  - You should take a thorough history and not simply rely on a patient's self-diagnosis
  - Patients with recurrent Sx or those that fail to improve should be examined and investigated
  - Certain conditions should prompt an appropriate examination and investigations first-line

If you do examine, then…

- Note appearance of discharge and any associated signs
  - Check vaginal pH (see below)
- Evidence of cervicitis? Consider STIs – take endocervical swabs for Chlamydia and gonorrhoea.
  - TV suspected? TV is difficult to diagnose in GP (see chapter 7) – consider referral. d/w GUM / lab
- Retained foreign body? Remove and consider antibiotics (however, this isn't always needed once the foreign body is removed). If toxic shock (rare) then Rx appropriately.
- PID suspected? – see PID chapter
- Sounds physiological (cyclical, no itch, no malodour, no other Sx)?
  - reassure, but examine and investigate if necessary, if only to exclude other causes

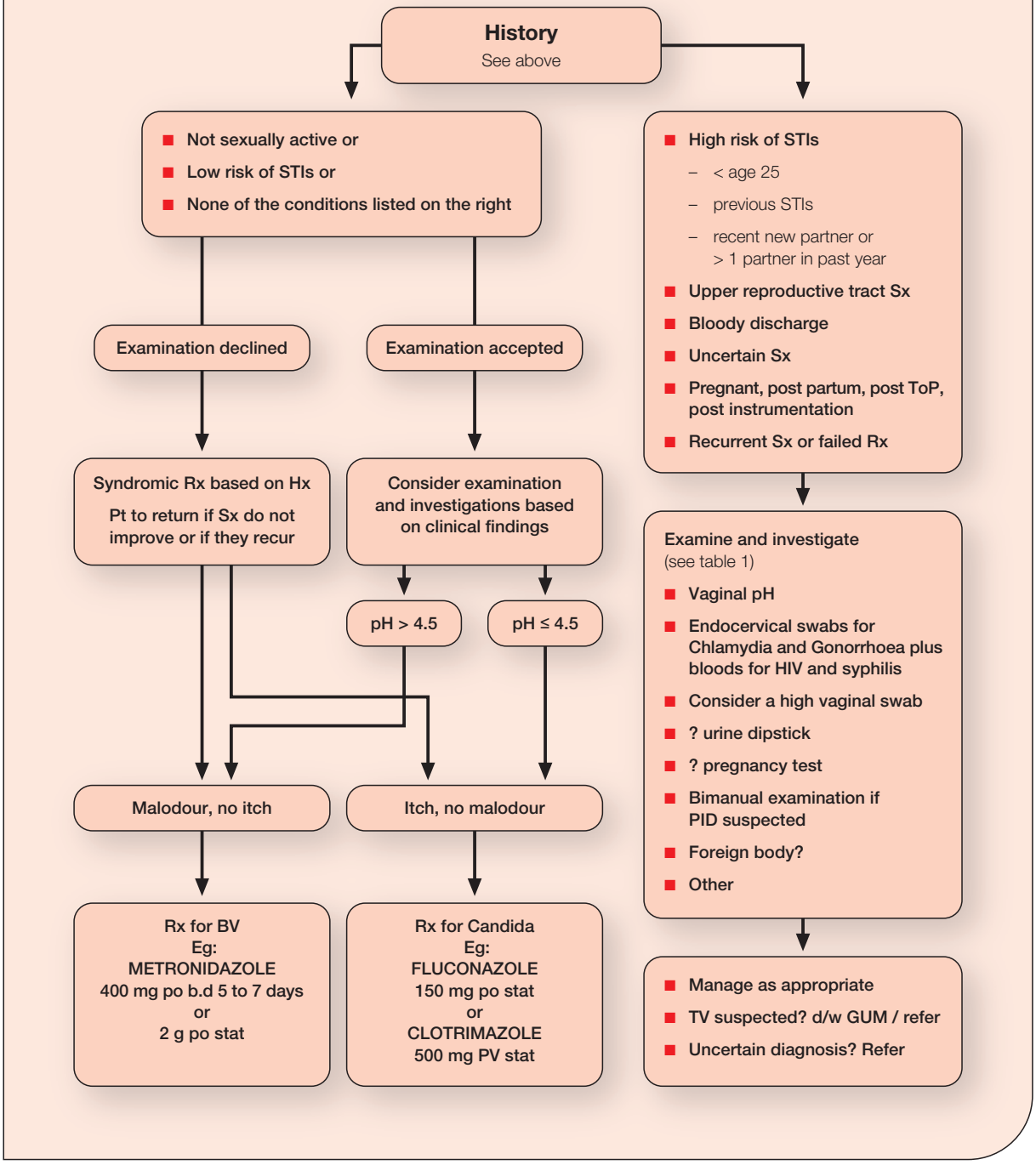
Investigations

pH

- Normal vaginal pH is up to 4.5 (← kept acidic by normal lactobacilli)
- It's an indicator of vaginal ecology
  - It is sensitive (for pH) but
  - It is not very specific
- It can be normal (acidic) with
  - Normality
  - Candida
- It can be raised with
  - local blood, semen, cervical secretions, lubrication used on the speculum
  - BV and TV (cannot distinguish between these two on pH alone)
  - Sometimes cervical gonorrhoea and Chlamydia infections (→ alter the local vaginal ecology and often occur with BV)
- How to measure vaginal pH
  - take a swab or plastic loop, rub it along the lateral wall collecting some discharge, then rub it onto pH paper
  - avoid the cervix which has alkaline secretions; these can collect in the posterior fornix, so avoid this area as well
  - specific narrow-range pH paper must be used, urine dipsticks are not suitable (GUM can advise you of pH paper suppliers)

4. Abnormal vaginal discharge in women of reproductive years

Figure 1: Vaginal discharge in Primary Care algorithm (adapted from ref 1)



4. Abnormal vaginal discharge in women of reproductive years

Tests for STIs (see also appropriate chapters)

See national STI Management Standards: Chapter 1

Gonorrhoea

- endocervical swab (charcoal transport swab) for culture (but correct storage and/or prompt transport to lab is needed)
- alternatively, a NAAT test may be used (fewer transport issues compared with culture)
  - as a speculum is in, you might as well take an endocervical swab
  - but be aware this will not give antibiotic sensitivities so consider a culture swab as well if gonorrhoea is strongly suspected
  - make sure the NAAT result will be a valid one (is the PPV > 90% ? – d/w lab / GUM)
  - NB: female urines are sub-optimal for gonorrhoea NAAT tests
  - A vulvo-vaginal swab (which can be self-taken) may also be used to detect gonorrhoea (and Chlamydia)

Chlamydia

- a NAAT should be used
  - urines are OK but as a speculum is in, you might as well take an endocervical swab
  - It can be the same swab as the gonorrhoea NAAT
  - A vulvo-vaginal swab (which can be self-taken) may also be used to detect Chlamydia (and gonorrhoea)

TV

- Currently difficult to diagnose in GP
  - The easiest test in GP is a high vaginal swab (HVS)
    - Ideally should reach the lab within a **few hours** to find organisms alive (difficult++ in most GP settings)
    - Staining may be undertaken on the HVS in the lab to look for dead organisms
  - But! Whist a +ve report on a high vaginal swab can probably be relied upon, a negative report does not exclude TV. This makes HVSs of limited value in diagnosing TV
  - Specific TV culture media is available but not widely used
  - Newer NAAT tests are in development but not yet widely available
  - Thus, it's probably easier at the moment to refer suspected cases to GUM

HIV and syphilis

- These blood tests should be taken as well if gonorrhoea and Chlamydia are tested for[3]
- When testing for HIV[4]
  - In general
    - any doctor / nurse / midwife should be able to take an HIV test
    - lengthy pre-test 'counseling' is not required for HIV tests unless the Pt requests or needs it
    - many Pts with HIV do not know they are infected

4. Abnormal vaginal discharge in women of reproductive years

- The patient should
  - be aware of the test and give consent (formal written consent is not necessary)
  - be aware of the 3 month window period and re-test again as necessary
  - be aware that simply having a test (with a subsequent negative result) should not have implications for insurance / mortgage issues. See ref 4 for more details
- You should
  - explain the benefits of testing (Rx saves lives, safer sex advice for future, etc)
  - agree details of how the results will be given to the patient (check contact details)
  - discuss future safer sex issues
  - have a process in place for fast-track referral of +ve results
- See also the HIV chapter

High Vaginal Swabs (HVS)

- Much used by GPs – but poor evidence of them being useful!
  - Think of the last time you had a HVS report. What was the yield? Did it change you practice? Or did you just get a report back saying '*Mixed anaerobes*' and wondered what to do?!!
  - The lab will simply report what is cultured, but reporting of commensals may lead to over-Rx and cause undue anxiety. For example, do not diagnose BV just because *Gardnerella vaginalis* is found on HVS – it is found in 30 to 40% 'normal' women
  - Results should be interpreted with the whole clinical picture in mind
- HVSs are not always used in GU clinics – partly because their usefulness is questionable, and partly because GU clinics are able to do near-pt tests like microscopy (which can give 'instant' results for BV, TV and Candida)
- HVSs may be useful to find micro-organisms that can cause cervicitis / endometritis / salpingitis, so consider taking an HVS in these circumstances, although the most important tests will be endocervical swabs for Chlamydia and gonorrhoea
- Why is the usefulness questionable?
  - some evidence that the information provided by the lab from an HVS isn't exactly what the GP thought it would provide[5]
  - labs may differ in what tests they do and what organisms they report, and also what advice on Rx they may give
  - some labs will run more tests than others, some will run more tests when detailed clinical information is given You should discuss these points with your lab
  - Some evidence that
    - diagnostic yield of an HVS is poor except for finding Candida[6], which produces characteristic symptoms anyway (and if it's not producing symptoms, you wouldn't need to treat!)
    - limited value of HVS in diagnosing BV (and may lead to under diagnosis if no other diagnostic criteria are used)[7]

4. Abnormal vaginal discharge in women of reproductive years

So, should GPs take high vaginal swabs?

- Not sure! Probably not routinely
- They should not be a knee-jerk response to any vaginal discharge – an undisciplined fishing expedition!
- Whilst 'fishing expeditions' have their place in general practice (at least to exclude certain things) the yield of HVSs may be poor when not used appropriately
- Probably useful to confirm organisms that can cause or complicate cervicitis / endometritis / salpingitis, so take an HVS if you suspect these conditions
- Useful in persistent vaginitis, for group B strep screening and in pregnancy, post-partum and post-instrumentation infections.
- Useful to prove a diagnosis of recurrent candidiasis.
- Not useful for gonorrhoea and Chlamydia (these are cervical organisms – take endocervical swabs instead)
- If you do send a high vaginal swab, give the lab as much clinical information as possible. Do not assume that a full range of tests will be run on your sample; most labs tailor the tests done on a sample depending on the clinical information supplied. The more information you supply on the form, the better the yield. Don't just write 'discharge'!
  - Site sampled
  - Associated Sx
  - Infection suspected
  - Past / proposed Rx

Bottom line: useful in some circumstances, but think about what might be going on, what you hope to confirm and ensure you take into account the whole clinical picture.

Management

- Candida
  - If suspected / proven (with Sx) : Rx (see Candida chapter)
  - If recurrent: see Candida chapter
- BV
  - If suspected on Sx: Rx (see BV chapter)
  - If recurrent: see BV chapter
- TV
  - If suspected: refer to GUM
  - If proven: see TV chapter
  - If Rx'ing in GP – do not forget the national STI management standards
- Chlamydia / gonorrhoea
  - If suspected: test
  - If proven: see appropriate chapters
  - If Rx'ing in GP – do not forget the national STI management standards
- Others
  - As appropriate
  - Refer difficult cases

4. Abnormal vaginal discharge in women of reproductive years

References

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7. Can a laboratory diagnosis of bacterial vaginosis be made from a transported high vaginal swab using anaerobic culture and microscopy of a wet preparation?
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Further reading

The management of vaginal discharge in non genito-urinary medicine settings 2012
Faculty of Sexual and Reproductive Healthcare, Clinical Effectiveness Unit ISSN 1755-103X
Available at www.fsrh.org and www.bashh.org/guidelines

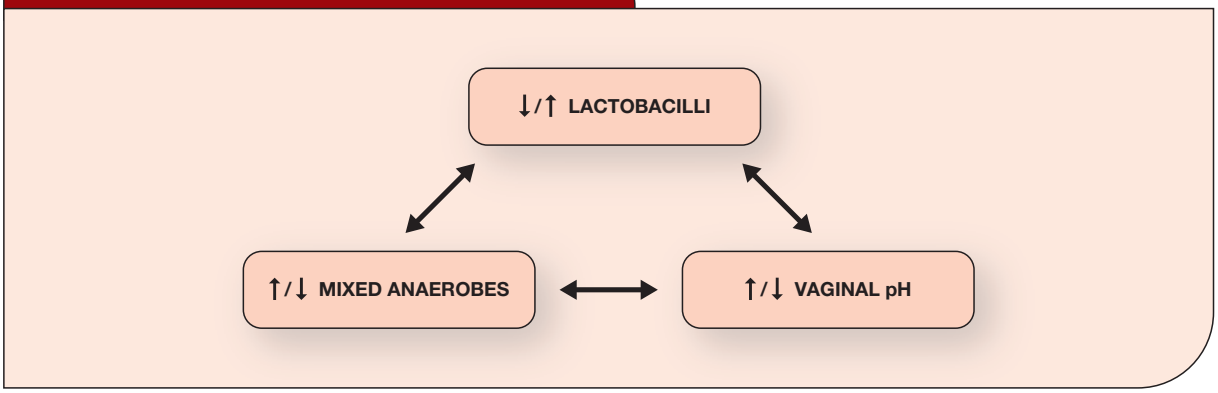
5. Bacterial vaginosis (BV)

Background[1,2,3]

- Commonest cause of abnormal vaginal discharge in women of childbearing age
- BV can arise and remit spontaneously in sexually active and inactive women
- ? Trigger* → overgrowth of mixed (mostly anaerobic) bacteria → 'normal' vaginal lactobacilli replaced

  * Recent studies have identified some bacterial species, hitherto unidentified, which seem to be specific for BV.These may have a principle role in the aetiology of BV. Further research is ongoing.
- An acidic pH (3.5 to 4.5) is associated with Lactobacilli (they produce lactic acid) = normal
- An alkaline pH (> 4.5) favours the growth of the mixed anaerobes which produce the Sx of BV
- Thus, there is an interplay between vaginal pH and the growth of normal or abnormal bacteria

Figure 1



- Associations
  - not specifically sexually transmitted but more likely to occur in the sexually active
  - hence the term 'sexually associated'
    - – ↑ risk if recent new sexual partner
  - linked with concurrent STIs
  - more common in black ♀ / smokers / vaginal douching / bubble baths / receptive cunnilingus
  - ↑ risk if copper IUD (unclear if this is also the case with IUS)
  - linked with alkaline vaginal pH (← menstruation, semen)
- What protects against BV?
  - Combined oral contraceptive pill (oestrogen favours lactobacilli)
  - Condoms
  - Circumcised partner
- BV may co-exist with other causes of vaginal discharge (TV, candida, cervicitis)

5. Bacterial vaginosis (BV)

Symptoms

- Offensive fishy-smelling watery discharge (malodour often noticed after UPSI ← alkaline semen)
- Not usually associated with soreness or itching (it is an '*-osis*' not an '*-itis*')
- May be asymptomatic (although if Rx'd, women may notice a difference)

Signs

- Thin grey / white homogeneous discharge
- Raised vaginal pH: > 4.5 (normal is 3.5 to 4.5)

Complications

- Pregnancy
  - BV is associated with late miscarriage, PROM, preterm birth, post-partum endometritis
- PID
  - uncertain if BV causes PID. Whilst the prevalence of BV is high in women with PID, there are no data on whether Rx'ing asymptomatic women for BV reduced their subsequent risk of developing PID
- TOP
  - BV is associated with post-op endometritis and PID (thus screen pre-TOP)
- IUCD insertion
  - BV more likely (but no studies of whether BV → PID after IUCD insertion)
- STIs
  - Linked with ↑ risk of ♀ to ♂ HIV transmission and increased acquisition of STIs in women
  - One study observed that BV was associated with non-gonococcal urethritis in ♂ partners[4]
- Some surgical procedures
  - ↑ incidence of infection following trans-vaginal hysterectomy

5. Bacterial vaginosis (BV)

Diagnosis (this is difficult in General Practice!)

There are two ways to diagnose BV

1. Most GU depts use a diagnosis based on the **microscopic appearance** of a Gram-stained smear of vaginal discharge, the *Ison / Hay* criteria:

   Grade 1: lactobacilli predominate (this is normal)

   Grade 2: some lactobacilli but other organisms present (intermediate)

   Grade 3: few / absent lactobacilli – lots of other organisms (this is BV)

2. Another diagnostic method uses ***Amsel's criteria***: 3 out of 4 make the diagnosis...

   1. Thin white homogenous discharge
   2. pH of vaginal fluid > 4.5 (normal is 3.5 to 4.5)
   3. Release of fishy odour on adding alkali (10% KOH) to drop of discharge on a microscope slide
   4. 'Clue cells' (vaginal epithelial cells covered in bacteria) seen on microscopy

Both of these diagnostic criteria rely on microscopy and, in the case of Amsel's criteria, the use of 10% KOH which is very caustic and potentially dangerous outside of a laboratory setting.

Clearly, these are difficult to do in a GP setting, and the diagnosis of BV in primary care may, for the time being, have to be a pragmatic one based simply on the presence of a malodorous discharge with a raised pH and no soreness / irritation (see figure 2)

Some pathology labs diagnose BV on a microscope slide

- prepared in the lab from a high vaginal swab, or
- taken directly in GP and sent to the lab in a protective box (similar to the old Cx smear boxes)

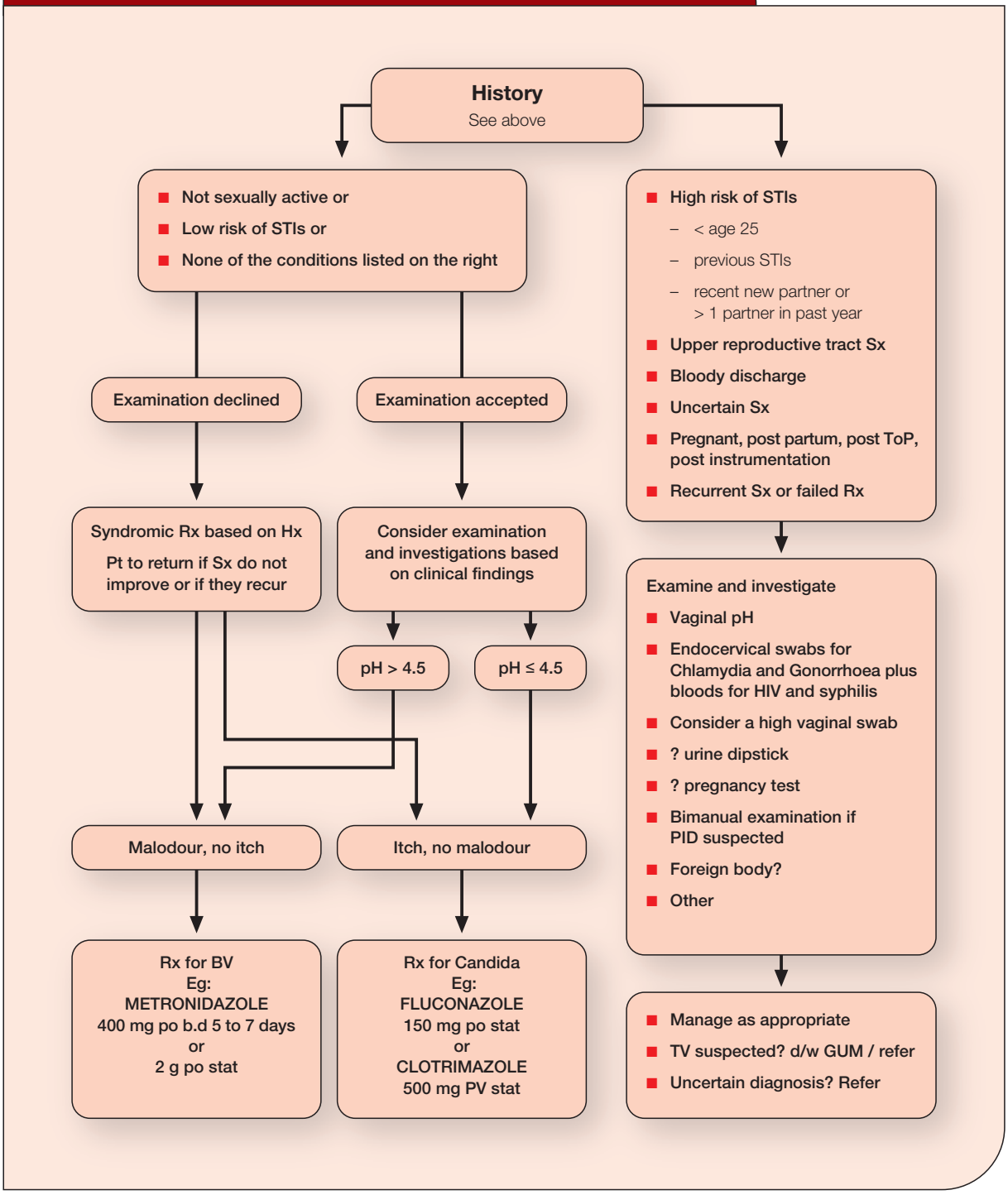
Talk to your lab / GU service about the locally preferred method for diagnosing BV outside of GU settings

NB:

- The isolation of Gardnerella vaginalis on HVS culture should not be used to diagnose BV because it is found in 30 to 40% 'normal' women.
- New point-of-care tests exist and perform adequately, but are not yet widely available
- NAAT tests detecting BV-associated bacteria are under development

5. Bacterial vaginosis (BV)

Figure 2: Vaginal discharge in Primary Care algorithm (adapted from ref 2)



5. Bacterial vaginosis (BV)

Treatment

General advice:

- Avoid vaginal douching / bubble baths / antiseptics etc, which can affect the normal vaginal flora allowing BV to develop
- Exclude STIs if Hx suggests possible risk
- No need to routinely Rx male partner (but there are no data on Rx'ing female partner in lesbian couples)

Treatment is indicated for:

- Symptomatic women
- Women undergoing some surgical procedures
- Some pregnant women (those with Sx)

Recommended regimens:

- METRONIDAZOLE 400 mg to 500 mg po bd for 5 to 7 days (ok in pregnancy) (cost = approx £0.70)[4]

  or
- METRONIDAZOLE 2 g po stat (BNF recommends avoiding this high dose in pregnancy) (£0.30)[4]

  or
- METRONIDAZOLE 0.75% vaginal gel pv od 5/7 (£4.31)[4]

  or
- CLINDAMYCIN 2% intravaginal cream pv od 7/7 (£10.86)[4]

  or
- TINIDAZOLE 2 g po stat (approx £2.76)[4]

  or
- CLINDAMYCIN 300mg po bd 7/7 (approx £13.70)[4]

NB:

- Oral Metronidazole and Tinidazole may interact with alcohol (no data on effects of alcohol with Metronidazole vaginal gel, but probably best avoided)
- The 2 g stat dose of Metronidazole may be inferior to other doses. None are superior
- Allergic to Metronidazole? → use Clindamycin cream
- Clindamycin (oral and topical) may be linked with pseudomembranous colitis
- Vaginal gel / creams may weaken condoms
- A test of cure is not needed if Sx resolve
- Non-antibiotic-based Rx's with probiotic lactobacilli or lactic acid preparations: poor evidence – no recommendations on their use to treat acute episodes can be currently made.

BV in pregnancy

- Not enough evidence to recommend routine screening of all pregnant ♀ as yet
- Pregnant ♀ with Sx of BV? → Rx as above
- Pregnant ♀ with incidental finding of BV but no Sx? → insufficient evidence that Rx will prevent pre-term birth
- Pregnant ♀ with additional risk factors for pre-term birth? → may benefit from Rx before 20/40
- Metronidazole is safe to use in 1st trimester (but avoid high doses such as 2 g stat)

5. Bacterial vaginosis (BV)

Breastfeeding

- Systemic Metronidazole and Clindamycin enter breast milk. May be prudent, therefore, to use intravaginal Rx

Termination of Pregnancy

- Risk of endometritis and PID, so BV should be screened for and Rx'd if found.

Sexual partners

- No need to routinely screen and Rx male partner
- Unsure if female partner in WSW (lesbian) couples need concurrent Rx. ? May help.

Follow-up

- ToC not needed if Sx resolve

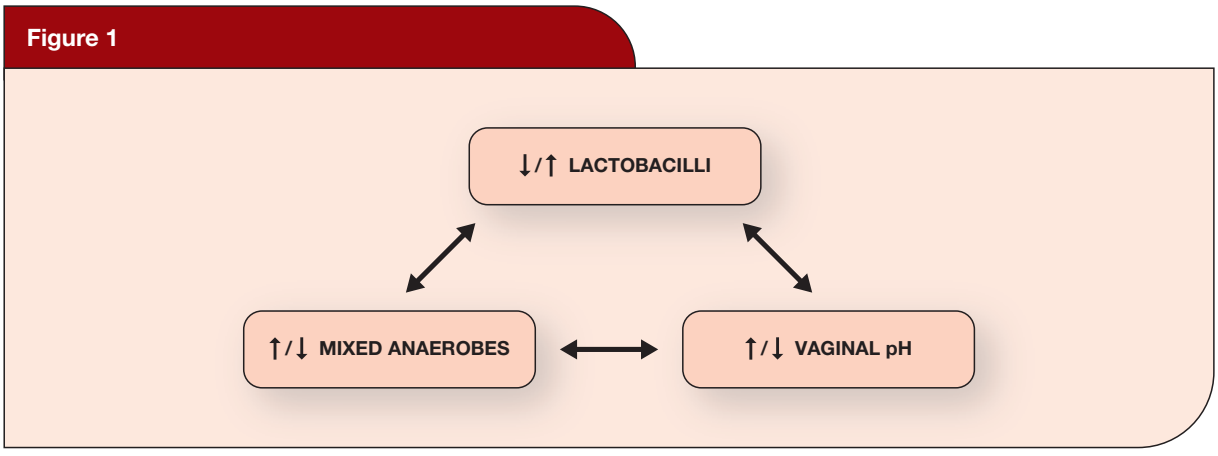
Recurrent BV

- No specifically agreed definition
- Up to 70% ♀ can get it again within 3/12 of Rx ?Why
  - Doesn't appear to be antibiotic resistance
  - Seems to simply be re-emergence of the BV associated bacteria
  - Normal vaginal flora (lactobacilli) don't seem to fully re-establish
- Difficult to manage. Optimum Rx has not been established. Discuss this with the Pt ⟶ realistic expectations
  - Possible options (consider combinations of these options)
    - Lifestyle measure (stop smoking, avoid douching)
    - Review contraceptive methods (see above)
    - Getting ♂ partner Rx'd 'just in case' does not seem to make a difference – no need for routine ♂ Rx.

One study[5] conducted in an STD clinic population reported a very high rate of non-gonococcal urethritis (NGU) in male partners (> 70%) so there might be some rationale for checking for NGU, but no RCT conducted. Suggest d/w GUM.

Management options should take into account the interplay between vaginal pH and the growth of normal or abnormal bacteria.

Figure 1



5. Bacterial vaginosis (BV)

- Antibiotics.
  Consider episodic, anticipatory, pulse or suppressive Rx for 4 to 6 months.[3]
  Eg:
  - METRONIDAZOLE 400 mg po bd for 3/7 at start and end of menstruation

    or
  - METRONIDAZOLE 2 g po stat once a month

    or
  - METRONIDAZOLE 0.75% vaginal gel pv twice a week for 16 weeks

  NB
  - Even with Metronidazole maintenance Rx, symptoms may recur after stopping Rx
  - Candida may occur during Rx
- Acidifying agents
  - Mixed evidence, small studies
  - Two lactic acid vaginal gel products are currently available for prescription and OTC sale in the UK. See BNF
  - Consider using for alternate evenings for 1 month or longer if required[2]
- Probiotic / Lactobacilli preparations
  - Conflicting evidence
  - No firm recommendation can be made at present

References

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3. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
   Pattman *et al*
   Oxford University Press 2010 ISBN 978-0-19-957166-6
4. British National Formulary March 2013
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5. An association between non-gonococcal urethritis and bacterial vaginosis and the implications for patients and their sexual partners
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   Genitourin Med 1997;73:373-377 doi:10.1136/sti.73.5.373

6. Vulvo-vaginal candidiasis

Background[1]

Cause

- ~ 92% cases: *Candida albicans*
- ~ 8% non-albicans sp
  - eg: *C glabrata, Saccharomyces cerevesiae, C.Krusei*
  - May respond poorly to standard antifungal courses.
- can arise spontaneously or 2° to disturbance of vaginal flora (e.g. recent antibiotics)

Symptoms (not all may be present)

- Vulval / vaginal itch / soreness, external dysuria, external dyspareunia (beware other causes of these Sx, such as dermatoses, herpes, *Trichomonas*)
- Vaginal discharge

Signs (not all may be present)

- Erythema, fissures (diferential diagnosis = herpes), satellite lesions, excoriation
- Discharge (typically curdy, but may be thin); generally no malodour (cf: BV)
- Vulval oedema

Note:

- Symptoms and signs are no guide to species
- 10 to 20% women without symptoms harbour *Candida* species (no treatment needed if no symptoms)
- It is mostly uncomplicated, unless
  - Severe symptoms (subjective)
  - Pregnant
  - Recurrent (> 4 symptomatic episodes / year)
  - Non-*albicans* species (particularly persistent infections)
  - Abnormal host factors (immunosuppression, diabetes, ↑ oestrogen levels)

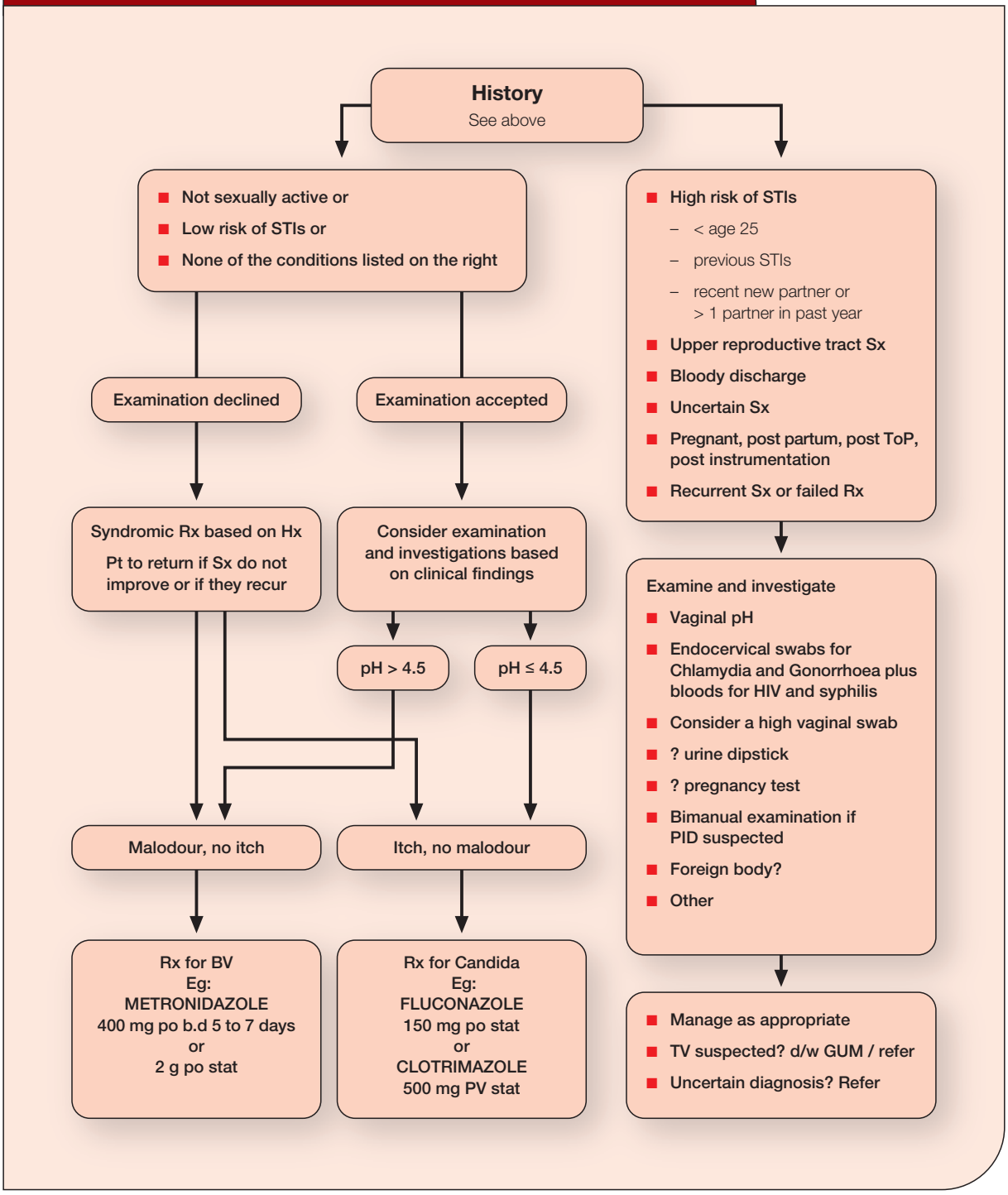
6. Vulvo-vaginal candidiasis

Diagnosis

- Take a history! The majority of women may misdiagnose themselves as having *Candida* and use over-the-counter treatments inappropriately[2]
- History should include a sexual history, contraceptive use, treatments tried (including OTC) and responses, new allergens?
- Symptoms and signs (note: not specific – sometimes BV, vulval dermatitis, HSV, lichen sclerosus, TV)
- Investigations:
  - Not always needed in general practice (see figure 1)
    - consider empirical Rx based on Hx (see also Vaginal Discharge chapter, page 24)
    - if recurrent, take HVS (request Candida species and sensitivity if chronic / recurrent) – see below
  - If you do examine, the pH should be 4 to 4.5 (i.e. normal) if candida. If higher, think of BV or TV:
    - BV ⟶ malodour, generally no soreness
    - TV ⟶ itch, soreness, erythema. Difficult to diagnose in GP – consider referral to GUM
- High Vaginal Swab?
  - Probably not useful unless recurrent Sx (see below) or diagnosis uncertain.
  - See Vaginal Discharge chapter, page 24

6. Vulvo-vaginal candidiasis

Figure 1: Vaginal discharge in Primary Care algorithm (adapted from ref 3)



6. Vulvo-vaginal candidiasis

Management

General advice

- Avoid local irritants and tight fitting clothes
- Use emollients as soap substitute
- No need to Rx male partner if he has no Sx
- Offer screen for STIs if risk

Treatments

Uncomplicated acute Sx

- In general
  - intravaginal and oral azoles = similar efficacy
    - little benefit other than dosing convenience, costs, Pt preference
  - oral Rxs may interact with other medications and are contra-indicated in pregnancy
    - always check pregnancy risk
  - topical antifungal creams
    - may be used in addition to oral / vaginal Rx's if there are vulval Sx[3]
    - may damage latex condoms and diaphragms – warn patient
    - may cause local irritation, so have this in mind if irritation persists / worsens
- Topical (intravaginal) Rx examples (not exhaustive)
  - CLOTRIMAZOLE pessary 500 mg pv stat (£2.94)[4]
  - CLOTRIMAZOLE pessary 100 mg pv x 6 nights (£3.63)[4]
  - CLOTRIMAZOLE 10% vaginal cream 5 g pv stat (£5.86)[4]
  - ECONAZOLE pessary 150 mg pv x 3 nights (£2.95)[4]
  - MICONAZOLE ovule 1.2 g pv stat (£2.94)[4]
- Oral Rx examples (not exhaustive)
  - FLUCONAZOLE 150 mg po stat (£0.88)[4]
  - ITRACONAZOLE 200 mg po b.d x 1 day (£3.67)[4]
- Follow-up and test of cure unnecessary if Sx resolve

6. Vulvo-vaginal candidiasis

Complicated vaginal candidiasis

1. Severe symptoms whether 'one-off' or recurrent

- Repeat stat Rx 3 days later
  - Eg: FLUCONAZOLE 150 mg po stat: day 0 and day 3
  - Or CLOTRIMAZOLE 500 mg pv stat: day 0 and day 3
- For symptomatic relief, consider low potency topical steroids in addition to antifungal Rx

2. Pregnant

- Asymptomatic colonization with *Candida sp* more common – not associated with low birth weight or premature delivery.
- Symptomatic candidosis more prevalent as well.
- Rx
  - Rx if Sx. No evidence that asymptomatic women need Rx
  - Avoid oral agents – use topical agents. No evidence that any one is better than another
  - may need longer courses of Rx

3. Recurrent

- Definition: at least four documented episodes of Sx with resolution of Sx in-between ← 5% women
- Cause
  - More likely to be host factors (see below) than more virulent strain or re-infection
  - May sometimes be non-albicans species
- Confirm with culture
  - When symptomatic, take HVS labelled '*? recurrent Candida – species and sensitivity please*'
  - Moderate / heavy growth should be found on at least two occasions
- Consider investigating for host factors (fasting glucose, HIV test, etc)
  - In the past, iron deficiency was thought to be implicated, but there is no evidence for this
- Rx
  - General advice as per uncomplicated disease
  - Attend to host factors (see below)
  - Be guided by sensitivity report
  - Principle of management is induction Rx (→ clinical remission) followed by maintenance Rx
    - Eg: FLUCONAZOLE 150 mg po every 72 hours x 3 doses (induction) followed by FLUCONAZOLE 150 mg po once a week for 6 months (maintenance) (NB: unlicensed use)
    - with this regimen, approx 90% women will remain disease-free at 6 months and 40% at 1 year
  - Not sure about optimum duration of suppressive Rx (no trials). If recurrent disease is re-established, consider repeating the induction and maintenance regimen
  - Consider CETIRIZINE 10 mg po o.d for 6 months, in women who fail to get complete resolution of Sx with suppressive Fluconazole.

6. Vulvo-vaginal candidiasis

4. Non-albicans species

- Most are still susceptible to available Rx's; only a problem if chronic infection.
- Repeated isolation of the same species of non-C. albicans yeast from the vagina despite treatment, requires a different approach.
- Suggest d/w GUM - Rxs can start to get complicated (off-license use, Rx's may not be in BNF)

5. Abnormal host factors

- Diabetes
  - improve glycaemic control, then stat dose of FLUCONAZOLE 150 mg po is often enough
  - d/w GUM if difficult to manage
- HIV
  - More frequent and more persistent if immune suppressed. Not usually a problem if established on antiretrovirals.
  - Rx as necessary (d/w GUM)
- ↑ Oestrogen levels (← HRT and some COCs)
  - Consider switching to Depo -Provera® or Cerazette®

Alternative Rxs

- Probiotics (oral or vaginal lactobacilli)
- Diet
- Tea-tree oil

} insufficient evidence to make recommendations currently

References

1. UK National guideline on the management of vulvovaginal candidiasis 2007
BASHH Clinical Effectiveness Group
Available at www.bashh.org.uk/guidelines

2. Women's use of over-the-counter antifungal medications for gynecologic symptoms
Journal of Family Practice 1996; 42(6):595–600.

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Available at www.fsrh.org and www.bashh.org/guidelines

4. British National Formulary Sept 2011
BMJ Group and RPS publishing
www.bnf.org

7. Trichomonas vaginalis (TV)

Background[1]

- TV is a flagellated protozoan
- Almost exclusively an STI: needs direct inoculation
- Lives in vagina, urethra, under foreskin, in para-urethral glands

See national STI Management Standards: Chapter 1

	Males	Females
Symptoms	up to 50% have no Sx discharge dysuria	up to 50% have no Sx vaginal discharge vulval soreness / itching dysuria
Signs	often none urethral discharge rarely balanoposthitis	frothy discharge (pH > 4.5) vulvitis / vaginitis cervicitis ('strawberry Cx' seen in 2% of patients) < 15% ♀ have no abnormal signs (but there will be ↑ vaginal pH

Diagnosis

- Prompt microscopy of vaginal discharge → motile organisms observed
  - Common investigation in most GU clinics but not practical in GP settings
- High vaginal swab?
  - Must reach the lab within hours to find viable organisms for culture – may not be practical in GP
  - 'Dead' organisms may be stained on a high vaginal swab. Good specificity but poor sensitivity. d/w lab the validity of results. Not all labs offer this specific staining.
- Cervical cytology?
  - In the past, Pap' smear reports sometimes used to report TV: low sensitivity so confirmation was always advised.
  - Most smears now utilize liquid based cytology and the national cervical screening programme is no longer reporting infections (other than HPV)
- Culture (using specific culture media) – currently the 'gold standard'. Not widely available in GP. d/w lab / GUM
- Newer NAATs are on the horizon – not yet widely used. There will be issues of validity and the positive predictive value must be known before reliability can be assigned.

7. Trichomonas vaginalis (TV)

Complications

- pre-term delivery and low birth weight
- ? enhanced HIV transmission

GP Management (See also the chapter on abnormal vaginal discharge, page 24)

- If you suspect it
  - refer to GU who are currently better placed to test for it
- If you find it
  - check the validity of the test used
  - it is invariably an STI and this may have implications in relationships
  - screen for other STIs (gonorrhoea, Chlamydia, HIV, syphilis) – or refer to GUM
- If you need to Rx it...
  - see below

Treatment

- Systemic Rx advised (will cover all sites of infection)
  - METRONIDAZOLE 2 g po stat (avoid in pregnancy / breastfeeding)

    or
  - METRONIDAZOLE 400 mg to 500 mg po bd 5 to 7 days
    - No sex until they and partner(s) have completed Rx
    - Test of cure only if Pt remains symptomatic or if Sx recur
    - Rx failure? (if reinfection ruled out) → d/w / refer GUM
    - Metronidazole allergy? → refer GUM

Partner Notification

- Current partners should be screened for all STIs and Rx'd for TV regardless of results

References

1. UK national guideline on the management of *Trichomonas vaginalis* 2007
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines

8. Pelvic inflammatory disease

Background[1]

- Ascending infection from cervix ⟶ endometritis, salpingitis, oophritis, tubo-ovarian abscess
- Can also spread in the peritoneum ⟶ peritonitis, peri-appendicitis, peri-hepatitis

Symptoms (can be absent / intermittent / mild / severe)

- Lower abdo pain, typically bilateral (+/- RUQ pain if peri-hepatitis)
- Abnormal pv bleeding (intermenstrual, post-coital, menorrhagia)
- Abnormal vaginal discharge (sometimes purulent)
- Deep dyspareunia

Signs

- Lower abdo tenderness, usually bilateral
- Fever > 38°C (not always present)
- PV examination

  ⟶ adnexal tenderness or mass

  ⟶ cervical motion tenderness
- Cervicitis

  (Can you differentiate this from an ectopy? See Chlamydia chapter)
- RUQ tenderness – perihepatitis (= *Fitz-Hugh-Curtis syndrome:* peritoneal / lymphatic spread of GC / Chlamydia ⟶ inflammation of hepatic capsule)

Diagnosis

- Clinical Sx and signs lack sensitivity and specificity (PPV of clinical diagnosis is 65 to 90% compared to laparoscopy)
- Clearly not every woman can be laparoscoped, and given the risks of leaving PID untreated, it is reasonable that if suspicious of PID on history and examination, then Rx may be given.
- Differential diagnosis: see table 1 (list not exhaustive)

8. Pelvic inflammatory disease

Table 1

Differential diagnosis of abdominal pain in women of of reproductive age (not exhaustive)	Notes
Ectopic pregnancy	Should be excluded in all women
Acute appendicitis	■ Nausea and vomiting occurs in most people with appendicitis but only 50% of PID cases ■ Cx excitation occurs in 1/4 ♀ with appendicitis
Endometriosis	Sx may be related to menstrual cycle
Complications of ovarian cysts (torsion, rupture)	Often sudden onset
UTIs	Associated Sx
Irritable bowel syndrome	See NICE diagnostic criteria www.nice.org.uk
Functional pain	May be associated with longstanding Sx

Causes

- STIs (such as Chlamydia or gonorrhoea)
  - The absence of STIs does not exclude a diagnosis of PID. Other bacteria may be involved (see below)
- Mixed aerobes and anaerobes
  - ? 2º to initial STI damage
  - often multiple different bacteria can be isolated

Risk factors

- Young age, multiple partners, recent new partner
- Past STI, past PID
- Recent uterine instrumentation

Management

- Delay in Rx → ↑ risks of long term sequelae (ectopic pregnancy, infertility and pelvic pain)
- Hence, low threshold for prompt empirical Rx

> A diagnosis of PID should be considered and Rx usually offered, in any young (< 25 years) sexually active woman with recent onset bilateral lower abdo pain associated with local tenderness on PV exam, in whom pregnancy has been excluded

- Broad spectrum antibiotics are used, to cover most STIs and other upper genital tract pathogens

8. Pelvic inflammatory disease

History

- remember pregnancy risk (beware ectopics)
- other differential diagnoses (appendix, endometriosis, etc)
- sexual Hx, contraceptive Hx
- PMHx, drugs, allergies, etc

Examination

- abdominal examination, speculum examination, bimanual examination

Investigations

- Consider pregnancy test if sexually active
- Consider urine dipstick (? UTI)
- GC and Chlamydia tests (also test for other STIs, such as HIV and syphilis)
  - Endocervical or vulvovaginal NAAT samples for Chlamydia and GC are recommended but, if gonorrhoea is suspected, an endocervical swab for culture should also be taken prior to Rx to check for antibiotic resistance (get the GC culture swab to the lab promptly).
  - Urine NAATs can be used to check for Chlamydia (urine is a sub-optimal specimen for GC in females)
  - Thus, pragmatically, consider the following
    - endocervical or vulvo-vaginal swab for Chlamydia and GC NAAT
    - if GC is likely, then also take endocervical swab for GC culture
    - 1st pass urine for Chlamydia and GC NAAT only if endocervical or vulvo-vaginal swab unavailable
    - Bloods for syphilis and HIV

Other tests

- *Mycoplasma genitalium* has been associated with PID but routine screening is not yet justified – limited information on prevalence, natural Hx, Rx and cost effectiveness[2]
- ESR / CRP may help to assess severity but won't alter immediate management

In general...

- If Hx, Sx and signs lead you to think it might be PID, start Rx quickly. Partner(s) should be Rx'd (see below) – abstain from sex during Rx.
- If Sx severe – admit under gynae (may need iv Rx).
- If Sx mild / moderate – refer to GU if you are unable to undertake appropriate management
  - If urgent appt not possible, then take the best tests you can (see above) start Rx yourself and refer pt to GU subsequently.
  - The sooner Rx is started, the better.
- Admission should be considered if
  - Cannot exclude surgical emergency
  - Lack of response to oral Rx (see below)
  - PID in pregnancy – iv Rx advisable

8. Pelvic inflammatory disease

Treatment

1. 1st line:

CEFTRIAXONE 500 mg i.m stat
plus
DOXYCYCLINE 100 mg po bd 14/7
plus
METRONIDAZOLE 400 mg po bd 14/7

} this i.m regimen will be difficult for most GPs to give

or

OFLOXACIN 400 mg po bd.14/7 (or LEVOFLOXACIN 500 mg po o.d 14/7)
plus
METRONIDAZOLE 400 mg po bd 14/7

2. 2nd line:

MOXIFLOXACIN 400 mg po o.d 14/7 (no additional Metronidazole needed)
(but ↑ risk liver reactions and QT interval prolongation, so only used if other agents inappropriate / failed)

NB

- Metronidazole may be poorly tolerated – can be stopped in mild-moderate disease if need be
- If high risk of gonococcal PID, **beware using quinolones – increasing gonorrhoea resistance.**
  - Better using i.m Ceftriaxone regimen (replacing it with oral cephalosporins is **not** recommended)
  - In fact, complications of gonorrhoea, such as PID, should really be referred to GUM.
- Gonorrhoea is more likely to be found in[3]
  - Contacts of gonorrhoea
  - young adults / urban areas / MSM / black ethnic minority populations
  - clinically more severe disease
- Ofloxacin may be used in children[2] but PID in children needs referral.

In addition to Rx, advise...

- Rest and analgesia (caution with NSAIDs and quinolones – they may interact)
- Whilst awaiting STI results, instigate partner notification. Refer to GUM if you can't do this.
  - screen current male partner for STIs and whilst awaiting results give AZITHROMYCIN 1 g po stat, to cover possible Chlamydia infection.
  - Pt to avoid UPSI until they and their partner(s) have completed Rx and follow up
  - trace contacts within 6 month period of onset of Sx (or longer depending on sexual Hx)
- Pt to seek medical advice if Sx worsen

8. Pelvic inflammatory disease

Follow up

- Review Pt in 3 days time – if not improved, review diagnosis and Rx → consider referral
- Further review at end of Rx may be useful to check Sx and compliance with all advice
- Repeat pregnancy test at appropriate time interval if indicated
- If gonorrhoea was detected, a test of cure should be taken (see GC chapter).
  You are strongly advised to involve GUM.

Complicated situations

HIV

- HIV+ women can have more severe Sx of PID but do not require any different Rx if they are immunocompetent
- Consider referral or
- Rx in GP but check interactions with Pt's HIV Rxs on www.hiv-druginteractions.org

IUD / IUS in situ?

- Consider removal, especially if no improvement within 72 hours.
- Decision to remove it needs to be balanced against risk of pregnancy (any UPSI in last 7/7?)
  Consider emergency hormonal contraception in such situations[2]

PID in pregnancy

- Refer gynae

Gonococcal infections

- Refer GUM

General advice to patients

- With prompt Rx, fertility is usually maintained but there remains a risk of future infertility, chronic pelvic pain or ectopic pregnancy
  - Clinically more severe disease is associated with greater risk of sequelae
  - Repeat episodes of PID are associated with an exponential increase in the risks of infertility
  - The sooner Rx is given, the lower the risk of future fertility problems
- Sexual contacts should be screened to prevent reinfection
- Future use of barrier contraception will significantly reduce the risk of recurrent PID

References

1. UK national guideline for the management of pelvic inflammatory disease 2010
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines
2. Management of acute PID 2008
   RCOG Green Top Guideline No 32
   Available at www.rcog.org.uk
3. Health Protection Agency data
   Available at www.hpa.org.uk

9. Epididymo-orchitis

Background[1]

Pain / swelling / inflammation of the epididymis +/- testicle(s)

- Usually
  - complication of urethritis (ie: an STI) ← Chlamydia, GC, NSU (esp if < 35 years old and sexually active)
- Sometimes
  - complication of UTI (esp if > 35 years old, recent instrumentation, insertive anal sex)
  - viral
    - 20 to 30% of post-pubertal men with mumps develop orchitis[2]
    - vaccination is the best policy to avoid it[2]
    - recent resurgence of mumps cases in the population, esp non-vaccinated adults born between 1982–86
- Rarely
  - blood spread (*Strep* etc)
  - drugs (eg: Amiodarone)
  - TB (if Pt from TB area or immunosuppressed)

Symptoms / Signs

- Swelling, scrotal erythema, pain
  - pain is usually unilateral, but can be bilateral and starts with the tail at the lower pole of the epididymis, spreading towards the head and upper pole of the epididymis, sometimes causing inflammation of the testis itself
  - swelling (+/- secondary hydrocoele) can make examination and differential diagnosis difficult. If torsion / tumour difficult to exclude → refer (but consider STI testing and giving antibiotics also
- If STI urethritis is the cause
  - there may be associated dysuria / urethral discharge, but sometimes the urethritis has no Sx
- If UTI is the cause
  - there may be associated UTI Sx
- Torsion – the most important differential diagnosis! (Delay > 6 hours → infarction)
  - more likely if < 20 years old, sudden onset of pain
  - if you cannot fully exclude this → urgent urology referral
- Tumour
  - 1/4 tumours present with pain
  - refer
- Mumps orchitis
  - Commonest complication of mumps in post-pubertal men, affecting 20 to 30% cases[2]
  - Initial headache, fever … unilateral / bilateral parotid swelling... 7 to 10d later: unilateral testicular swelling. But
    - 30 to 40% pts with mumps do not develop parotitis[2]
    - Scrotal Sx can occur without systemic Sx
- Tuberculosis
  - Subacute / chronic onset of scrotal swelling +/- pain , +/- systemic Sx of TB

9. Epididymo-orchitis

Management

History taking is vital

- Suspicion of torsion / tumour ⟶ Urology. But always test for STIs and consider offering empirical antibiotics prior to referral
- STIs must always be excluded. STI more likely if...
  - younger age, sexual activity, no UTI Sx
  - urethral discharge
  - urine dipstick neg (or +ve for leucocytes only)
  - in MSM
- UTIs should also be excluded. UTI more likely if...
  - older age, low risk sexual Hx, previous UTI / instrumentation
  - no urethral discharge
  - urine dipstick +ve for leucocytes and nitrites

In general...

Consider immediate referral to GUM for thorough investigations.

If this is not possible

- check for urethritis
  - Sx and signs?
  - Consider looking for threads in 1st pass urine (see Male Urethritis chapter)
- test for Chlamydia (NAAT) and gonorrhoea (NAAT or culture) – in those with higher risk of GC you should ideally test for both NAAT and GC culture
- urine dipstick +/- MSU

9. Epididymo-orchitis

Treatment

See national STI Management Standards: Chapter 1

1. ? STI

NB:

- Whilst GPs can test for most STIs, the problem is not being able to diagnose possible gonorrhoea 'instantly' on microscopy. This affects your immediate management, because although gonococcal epididymitis is rare, the Rx is different to non-gonococcal cases.
- GP clues for possible gonococcal epididymitis
  - known contact of gonorrhoea
  - particularly severe Sx (Eg: purulent urethral discharge) although you can't always tell
  - being a member of a higher risk group for gonorrhoea[3] (young adults / urban areas / MSM / black ethnic minority populations)
- With **increasing antibiotic resistance to gonorrhoea**, it is vital that correct management for gonorrhoea is followed (see gonorrhoea chapter). Basically
  - Culture should be taken prior to Rx so antibiotic sensitivity can be monitored
  - All +ve cases need a test of cure after Rx
  - 1st-line Rx is an im injection plus oral Rx
  - All Rx failures must be reported to the HPA
  - Partners must be traced and Rx'd
- Pragmatically, therefore, it may be easier to refer urgently to GUM. If not possible, then...
- If high suspicion of non-gonoccal STI cause, give (there and then in surgery, after tests have been taken and before results are back)…
- DOXYCLINE 100 mg po bd 14/7 (consider NSAIDS as well)

  or
- OFLOXACIN 200 mg po bd 14/7 (avoid NSAIDS – interact with Quinolones)
- If you suspect **gonococcal epididymitis, refer to GUM**.

  If this is very difficult (although referral pathways should be in place) then commence Rx there and then in surgery, after tests have been taken and before results are back:
  - CEFTRIAXONE 500 mg im injection stat, plus DOXYCYCLINE 100 mg po bd 14/7
  - i.m injections are difficult for most GPs to organize in surgery. If this is so, d/w GUM. Ofloxacin may be used but it is vital that sensitivity testing (ie: culture, not NAAT) is taken first (NB: ciprofloxacin does not effectively treat Chlamydia)
  - Ensure prompt appropriate delivery of the swab to the lab for culture
  - See gonorrhoea chapter for background information

In general

- As with all STI management, advise patient no sexual contact during Rx and until partner(s) treated
- Consider referral to GUM for partner notification
- Screen for other STIs (minimum HIV, syphilis, Chlamydia, gonorrhoea)
- See STI standards chapter

9. Epididymo-orchitis

2. ?UTI

- If Hx , examination and urine dipstick suggestive, treat as for **complicated UTI:**
  - Rx: local prescribing policy (eg: OFLOXACIN 200 mg po bd for 14/7)
  - Confirmed UTI cause? ⟶ urinary tract should be investigated further

3. Others

- TB
  - Three early morning urines for AAFBs, chest X ray, etc
  - Seek specialist advice
- Mumps[2]
  - Diagnosed by mumps IgM/IgG serology
  - Of affected testicles, up to 50% show a degree of testicular atrophy
  - Rarely leads to sterility but may contribute to sub-fertility
  - Rx: self limiting therefore supportive Rx (rest, NSAIDs, etc). Steroids may ↓ pain and oedema but do not alter clinical course

General advice

- rest. Sometimes Sx are severe enough to warrant a sick (fit) note
- scrotal elevation / supportive underwear
- follow up in 3 days to check Sx resolving (arrange to see sooner if Sx worsen)
  - if not improving, reassess diagnosis and Rx
- Sx should be considerably better at end of Rx
  - If better, check all results.
    - If STI, check compliance with Rx and partner notification
    - If UTI ⟶ investigate urinary tract and refer to urology
  - If no better, consider alternative diagnosis / ultrasound scan / consider urology referral

References

1. 2010 UK National Guideline for the management of epididymo-orchitis
BASHH Clinical Effectiveness Group
available at www.bashh.org/guidelines

2. Mumps orchitis
Masarani *et al*
J R Soc Med. 2006 Nov; 99 (11):573–5.

3. Health Protection Agency data
Available at www.hpa.org.uk

10. Chlamydia

Background[1, 2]

See national STI Management Standards: Chapter 1

- Genital Chlamydia is the condition of being infected with Chlamydia trachomatis, a bacterial species within the genus *Chlamydia*
- The classification is complex, but basically there are 3 species of Chlamydia that cause disease in humans (table 1)

Table 1

Species	Serovar	Natural host	Human disease
C. psittaci	multiple	Birds, lower mammals	Psittacosis
C. pneumoniae	TWAR	Humans	Respiratory disease
C.trachomatis	A, B, C	Humans	Hyperendemic trachoma
	D – K	Humans	Genital infection, proctitis, conjunctivitis, sexually acquired reactive arthritis
	L1, L2, L3	Humans	Lymphogranuloma venereum

- *C trachomatis* is an obligate intracellular pathogen with a lifecycle of 48 to 72 hours.
- Main sites of infection are the mucous membranes of the urethra, endocervix, rectum, pharynx, and conjunctiva.
- Can be asymptomatic at all these sites (and uncertain how long for)
- Transmission is by direct inoculation of infected secretions from one mucous membrane to another.

Epidemiology[2,3]

- Commonest bacterial STI in the UK: highest incidence in young adults.
- Approx 3 to 7% of sexually active women under the age of 24 and men aged between 20 to 24 may be currently infected. See Health Protection Agency website for latest statistics www.hpa.org
- 2/3 of sexual partners of Chlamydia +ve individuals will also be Chlamydia +ve
- Risk factors for infection
  - Age under 25
  - More than 1 partner in the last year, or a recent new sexual partner (the latter is more significant)
  - Lack of consistent use of condoms
- Untreated infections may persist for > 1 year (in 50% people). About 95% will clear spontaneously after 4 years. Latent long-term persistence is possible.

10. Chlamydia

Symptoms / signs

Women

- Asymptomatic in 70%
- Vaginal discharge
- Post coital or intermenstrual bleeding (always suspect Chlamydia esp if this is a new Sx in a young adult)
- Dysuria (beware 'sterile pyuria' reported on an MSU – it may be Chlamydia)
- Lower abdo pain
- Deep dyspareunia
- Cervicitis (can you tell the difference from an ectopy? Some clues...)

	Cervical Ectopy	Cervicitis
Appearance	Flat red patch around the cervical os	Oedematous congested appearance, friable and bleeds easily (contact bleeding)
Notes	May be prone to infection (? greater exposure of susceptible columnar epithelial cells).	
	No pus present	Mucopurulent discharge sometimes present
Cause	Temporary hormonal influences (puberty, pregnancy, COC pill) → extension of the soft glandular and more vascular endocervical epithelium, over the paler epithelium of the ectocervix	– May be normal – Infections (most often Chlamydia, sometimes gonorrhoea and others)

Men

- Asymptomatic in over 50% in community settings
- Dysuria (beware 'sterile pyuria' – it may be Chlamydia)
- Urethral discharge, urethral discomfort, epididymo-orchitis, sexually acquired reactive arthritis
- Rectal infections usually asymptomatic, but may cause anorectal discomfort and discharge (see Proctocolitis chapter – LGV)

10. Chlamydia

Complications[2]

It's estimated that Chlamydia complications cost > £100 million annually in UK and most health economic valuations show Chlamydia screening to be cost effective

- **Pelvic Inflammatory Disease (PID)**
  - With no Rx, 10 to 40% ♀ will develop PID
  - Risk of developing PID increases with each recurrence of Chlamydia infection
  - PID can lead to tubal factor infertility, ectopic pregnancy and chronic pelvic pain
  - See PID chapter
- **Epididymo-orchitis**
  - Evidence of Chlamydia causing male infertility is limited
  - See Epididymo-orchitis chapter
- **Adult conjunctivitis**
  - Autoinoculation or splash from genital fluids
  - Unilateral or bilateral follicular conjunctivitis 1 to 2 weeks after exposure
- **Neonatal conjunctivitis**
  - transmission to neonate from mother's cervix at birth
  - can also cause pneumonitis (hence **systemic** Rx is needed)
  - see ophthalmia neonatorum chapter
- **Sexually Acquired Reactive Arthritis 'SARA'**
  - men > women
  - polyarthritis of weight-bearing joints
  - see SARA chapter
- **Perihepatitis (Fitz-Hugh-Curtis syndrome)**
  - inflammation of the hepatic capsule → RUQ pain, sometimes referred to right shoulder
  - if chronic, adhesions (like 'violin strings') may form between the liver capsule and abdominal wall
  - usually in ♀ with PID, suggesting intra-abdominal spread, but blood or lymph spread is a possibility
- **Pregnancy and the neonate**
  - ↑ risk premature rupture of membranes, pre-term delivery and low birth weight
  - ↑ risk intra-partum pyrexia and late post partum endometritis
  - ↑ risk post-abortal PID
  - Neonatal infections – exposed in birth canal during delivery
    - 30 to 50% exposed infants develop infection. → eyes, lungs, nasopharynx, genitals
    - ↓ risk if mother Rx'd before delivery
  - Currently there is no UK consensus on whether pregnant women should be screened for Chlamydia[4]

10. Chlamydia

Whom to test?

- Those with symptoms, including neonates (see above)
- Opportunistic screening of those in whom prevalence is known to be highest: the under 25s or with > 2 sexual partners in the previous 12 months, or a recent change of sexual partner
- All women undergoing a termination of pregnancy
- Sexual partners of Chlamydia +ve pts
- Those previously diagnosed with Chlamydia

When to test?

- The offer of testing can be made easily during most GP consultations especially those discussing relationships and sexual health[4] (Eg: pill checks). Advise pt to be tested once a year or when changing sexual partners
- Expert opinion currently suggests a two week window period after exposure, when using NAAT tests[5]

Which test?

- Nucleic Acid Amplification Techniques (NAATs) – a very sensitive way of detecting DNA – have now replaced Enzyme Immuno Assays
- Reassure Pt they might not necessarily need to be examined – non invasive tests may be used if appropriate
- Can utilize a swab or urine. A rapidly developing field so d/w GUM and local lab re current advice
  - Swab in ♀
    - using a speculum to see the cervix, rotate swab 360° inside cervical os. If os is stenosed, then just swab the external os 360° and include vaginal secretions.
    - Alternatively, the Pt may take a self-taken lower vaginal swab (see below) which avoids the need for examination and speculum (there are pros and cons to this). In terms of identifying Chlamydia, it is as good a specimen as a cervical swab and better than a first-void urine (Gaydos C. et al JCM 2010; 48:3236.).
  - Swab in ♂
    - insert 2 to 4 cm into urethra and rotate once.
    - this is very uncomfortable for males and 1st pass urine is preferable.
  - Urine
    - Ok for both ♂ and ♀ Chlamydia NAAT tests (cf: gonorrhoea NAAT which is **not** optimal in female urines)
    - Send 15 to 20 ml of first-void urine (not mid stream) to lab
    - Hold urine > 1 hour prior to sample.
  - Pharyngeal samples? Not currently routine – d/w GUM
  - Rectal samples should be considered if indicated by Hx (eg: if Lymphogranuloma venereum is suspected (see Proctocolitis chapter). Refer +ve cases to GUM
  - There is a strong argument for offering rectal NAAT swabs in asymptomatic men practicing receptive anal intercourse.
  - NAAT samples are still suitable for testing several days after collection. This, together with their non-invasive collection methods, makes them useful in non-specialist settings
  - Note: although very accurate, NAATs are not 100% sensitive or specific and confirmation of a reactive test is currently recommended. Your lab should do this automatically before issuing a final report

10. Chlamydia

How to take a self-taken lower vaginal swab

- Insert the swab into the vagina, about two inches, and gently rotate the swab for 10 to 30 seconds
- Place swab in appropriate transport medium

Ref: *Chlamydia trachomatis* UK Testing Guidelines 2010 BASHH CEG www.bashh.org/guidelines

What to do with a +ve result

- The management of STIs in any setting, including General Practice, should conform to national standards[6] See STI Management Standards chapter.
- Local policies vary. You should discuss locally agreed management plans (including partner notification) with your GU clinic
- All those found to be +ve for Chlamydia should be tested for other STIs (a minimum STI screen is: gonorrhoea, Chlamydia, HIV and syphilis, with an appreciation of appropriate window periods)

Options in General Practice. See STI Management Standards chapter.

- Rx pt yourself (see below) and attend to partner notification and all follow-up. Test for other STIs including HIV

  or

- Rx pt yourself (see below) and refer to GU for partner notification and screening for other STIs.
  - GU should see patients at least 1/52 after Rx finishes (if antibiotics are still in the system it will spoil the pick up of other STIs).
  - The concern, however, is that the patient might not bother to attend GUM once they have been Rx'd. You should d/w Pts the rationale behind this (and document the discussion). Partners need appropriate management and the index Pt should be screened for other STIs.

  or

- Refer all pts to GU medicine. They will arrange Rx and screening for other STIs, along with all partner notification.

Treatment

Uncomplicated infection (men and women): 1st line Rx

- DOXYCYCLINE 100 mg po b.d 7/7 – contraindicated in pregnancy (= £2.00 approx)[7]

  or

- AZITHROMYCIN 1 g po stat (= £9.65)[7] – useful where Rx compliance may be an issue

Alternative regimens

- ERYTHROMYCIN 500 mg po b.d 10 – 14/7

  or

- OFLOXACIN 200 mg po b.d or 400mg po o.d for 7/7

10. Chlamydia

Pregnancy (or risk of pregnancy) and breastfeeding

- AZITHROMYCIN 1g p.o stat
  - BNF advises its use only if no alternatives available. Alternatives (see below) are not without their drawbacks so pragmatically Azithromycin may well be the best choice and current data indicates this to be safe
  - Taking compliance, tolerability, and efficacy into account, it is recommended as a pragmatic option by the Scottish Intercollegiate Guidelines Network *2009 Chlamydia* guideline (see www.sign.ac.uk)
  - Off label prescription, so d/w Pt

  or
- ERYTHROMYCIN 500 mg po qds 7/7 (but compliance may be an issue ← nausea)

  or
- ERYTHROMYCIN 500 mg po b.d 14/7 (compliance may be an issue)

  or
- AMOXYCILLIN 500 mg po t.d.s 7/7 (*in vitro* studies show Penicillins may induce latency and reactivation of infection later on. Suggest d/w GUM)

Complications

- **IUD / IUS**
  - If Chlamydia +ve at pre-fitting screen, Rx it first. It may be wise to re-test for Chlamydia (6 weeks after Rx) to ensure eradication prior to fitting the IUD / IUS[8]
  - If Chlamydia (or gonorrhoea or a purulent cervicitis) is found in a Pt with an IUD/IUS in situ, it does not necessarily need to be removed if the Pt wishes to keep it.[9] Rx the infection and review if not improving.
  - If Chlamydia is found in an asymptomatic woman with an IUD / IUS in situ, the optimum management (in terms of which antibiotics) is not yet established.[10] A stat dose of Azithromycin 1 g orally might well be adequate, but clearer advice may be available in due course.
  - In a woman with symptomatic PID, current FSRH and RCOG advice would be to leave an intrauterine device in situ unless there is poor response to treatment and this advice would imply that the IUD can be left in situ in asymptomatic cases.
- **PID**
- **Epididymo-orchitis**
- **SARA**
- **Ophthalmia neonatorum**
- **Adult conjunctivitis**

  see appropriate chapters
  - Rx as for genital infections with systemic Rx
  - Screen for genital infection
  - Partner notification needed

10. Chlamydia

General issues

See STI Management Standards chapter

- Give pt written information (this is shown to ↓ rates of reinfection)
- Allow the Rx time to work
  - Tell pt NO sex (not even with a condom), including oral sex, or any genital-mucous membrane contact, until they and their partner(s) have been Rx'd. There is a risk of reinfection, otherwise.
  - If Azithromycin was used, wait 7 days after the stat dose before resuming sex, even if both index pt and partner are Rx'd at the same time.
- Do not forget the contact(s)!!
  - Partner notification must be attended to
  - Practice nurses can do this as well as GUM health advisers providing they have been trained and are supported by local GUM health advisers[11]
  - You might consider giving the patient a short note on headed paper detailing diagnosis and Rx, for partners to show their own GP or GU clinics. Alternatively, a generic Partner Notification slip is available in Appendix 1
  - Outcomes should be documented.
  - GUM is often best placed to do this notification work, so consider referral.
- If you see a Chlamydia contact in your surgery
  - Consider epidemiological treatment (Azithromycin 1 g po stat is easiest) after taking a test for Chlamydia and other STIs. Rx's should be free (see STI Standards chapter)

    or
  - If they decline the epidemiological Rx, then test them (for all STIs) and advise them to wait for a negative Chlamydia result before resuming sex with the index patient.

    or
  - Refer to GUM
- Discuss safer sex practices for the future – consider repeat testing in a few months (esp if new sexual partner)

Partner notification – see Appendix 1

- Partner notification should be pursued in all patients identified with Chlamydia infection, preferably by a Healthcare professional trained in partner notification
- Action and outcomes should be documented
- Offer patients a choice of who will deal with partner notification issues

10. Chlamydia

Look-back intervals

We do not know how long Chlamydia can be carried without symptoms; arbitrary cut offs are taken.

Look-back intervals for Chlamydia partner notification[12]

- Male with urethral symptoms – all contacts since and in the 4 weeks prior to the onset of symptoms
- Male with symptoms in other anatomical sites (rectal, throat, eye)
- All females
- All asymptomatic patients

} All contacts since and in the 6 months prior to the onset of symptoms

Common sense needs to be used in assessing which sexual partners may have been at risk in these situations, and longer look-backs may be needed if appropriate.

Those at risk should be informed and invited to attend for evaluation and epidemiological Rx as above

Follow up

A follow-up telephone call with the index Pt one week after Rx can be useful to

- Check partner notification
- Check compliance with advice and re-Rx if necessary
- Reinforce health education
- Reminder about whether or not a test of cure needs to be performed (see below)

Consider re-testing patients 3 to 12 months later (sooner if a new sexual partner)

Test of cure

- Not routinely recommended if standard 1st-line Rx was given
- Consider a test of cure if anything other than 1st line Rx was given
- Do perform a test of cure if
  - pregnant (↓ efficacy of antibiotics): test 5 weeks after Rx ends (6 weeks if Azithromycin was used)
  - if non-compliance with advice is suspected

10. Chlamydia

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11. Gonorrhoea

The complexities of managing patients with gonorrhoea in General Practice make referral to GUM strongly recommended

Background[1]

See national STI Management Standards: Chapter 1

- Gonorrhoea is the condition of being infected with the Gram-negative diplococcus *Neisseria gonorrhoeae*
- Main sites of infection are the mucous membranes of the urethra, endocervix, rectum, pharynx, and conjunctiva
- Transmission is by direct inoculation of infected secretions from one mucous membrane to another
- Gonorrhoea facilitates the transmission of HIV[2]

Symptoms

Men

- Urethral infection produces symptoms most of the time (urethral discharge in > 80%, dysuria in > 50%) starting within 2 to 5 days of exposure
- Infections may occasionally be asymptomatic (esp in pharynx and rectum)

Women

- Endocervical infection is often asymptomatic (up to 50%) but may present as abnormal vaginal discharge
- Rarely, it may cause intermenstrual bleeding or menorrhagia
- Infections may be occasionally be asymptomatic (esp in pharynx and rectum)

Complications (uncommon, but can be serious)

- PID, epididymo-orchitis, prostatitis, local abscesses, disseminated spread, neonatal infection

Diagnosis[1,2,3]

- Gonorrhoea is diagnosed by detecting *Neisseria gonorrhoeae* at an infected site
- Tests should be taken no earlier than 3 days after the sexual contact. Conventionally, testing for gonorrhoea (and Chlamydia) is recommended 14 days after the contact
- There is no evidence to support widespread unselected screening for gonorrhoea in the community
- It is vital that you talk to your local laboratory and GUM clinic / Level 3 STI service, to understand gonorrhoea tests in community settings. Basically...
  - The prevalence of gonorrhoea varies around the country and this will affect the reliability of the test used
  - Gonorrhoea is more likely to be found in[4]
    - Contacts of gonorrhoea
    - Young adults / urban areas / MSM / black ethnic minority populations
  - Different testing methods are available, but all should be reliable (a positive result should give a positive predictive value of > 90%)
  - The specimen type and anatomical site of sampling should be validated for the test used.
  - The reliability of test results, patient care pathways and management options, including partner notification, should be understood by all parties.

11. Gonorrhoea

- Two main diagnostic methods
  - **Culture**

    Pros:

    – antibiotic susceptibility testing can be carried out (essential +++)

    – resistance can be monitored

    Cons:

    – not as sensitive as NAATs

    – delicate organism – swabs require prompt transport to the lab. May not be viable if delay in reaching lab (⟶ false negative result)

    – requires a swab – urine is not suitable
  - **Nucleic acid amplification techniques (NAATs)**

    Pros:

    – generally more sensitive than culture

    – some specimens can be non-invasive. Eg: 1st pass urine can be used in men and self-taken vaginal swabs in women. (NB: urine is **not** optimal in women)

    – can also detect Chlamydia on the same specimen

    Cons:

    – antibiotic susceptibility testing cannot be carried out

    – because they are so sensitive, may get false +ves from contamination or non-gonococcal *Neisseria* species

    – lower sensitivity in female urine (thus it is not an optimal specimen in women; vulvo-vaginal swabs or endocervical swabs are better)
- Before a gonorrhoea NAAT service is offered, a care pathway, which includes notifying the patient of the result, appropriate treatment and partner notification, needs to be in place.[2]
- Increasing antibiotic resistance means it is vital to have antibiotic susceptibility testing and resistance surveillance.

  Thus
  - culture must be taken from all patients with NAAT positive results **before** Rx
  - all Rx'd cases should have a test of cure (see below)

11. Gonorrhoea

Management

Increasing antibiotic resistance prompted a change to the UK treatment of gonorrhoea in 2011

- Screen for other STIs (minimum: Chlamydia, HIV, syphilis)
- Because...
  - 1st -line Rx is an im injection (and oral Rx) and
  - All NAAT +ve result should have culture taken prior to Rx and
  - Partner notification must be instigated and
  - All Rx'd cases need a test of cure and
  - All Rx failures must be reported to the Health Protection Agency to keep an eye on any developing resistance

  ...it is more appropriate for non-specialist settings to refer all +ve gonorrhoea cases to GUM

Treatments

Referral to GUM is advised. However, if difficult to arrange, then Rx is:

Uncomplicated anogenital infection in adults

1. CEFTRIAXONE 500 mg as a stat i.m injection plus AZITHROMYCIN 1 g orally stat
   (Azithromycin is given regardless of any Chlamydia results, to boost the Ceftriaxone)
2. Alternative regimens (d/w lab and GUM)
   - CEFIXIME 400 mg orally stat
     or
   - SPECTINOMYCIN 2 g im stat
     or
   - CEFOTAXIME 500 mg im stat

   ...all need AZITHROMYCIN 1 g po stat as well

Note

- Ceftriaxone is supplied as a powder which is reconstituted with 1% Lidocaine solution. A 1 g vial of Ceftriaxone should be mixed with 3.5 ml 1% Lidocaine solution; half of the resulting solution is then given by deep intra-muscular injection. Do NOT give this intravenously.
- **Cefixime and other oral cephalosporins have demonstrated repeated Rx failures and should only be used if im injection is contraindicated or refused. You are strongly advised to d/w GUM**
- Quinolones should not be used (resistance++) unless the infection is known to be Quinolone sensitive. If so, use CIPROFLOXACIN 500 mg po stat or OFLOXACIN 400 mg po stat.

11. Gonorrhoea

Complicated infections

- Refer to GUM

Partner notification – see Appendix 1

Partner notification should be pursued in all patients identified with gonococcal infection, preferably by a trained Health Adviser in GU Medicine. Action and outcomes should be documented.

Male with symptomatic urethral infection:	all partners in past 2 weeks
Male and female patients with infections at other sites:	all partners in past 3 months
Male and female patients with asymptomatic infections:	all partners in past 3 months

Longer look-back periods rarely necessary.

Follow Up and Test of Cure

- Follow-up should take place to confirm compliance with advice, resolution of symptoms and partner notification issues
- Test of cure is needed in all patients
  - If using NAATs, test 2 weeks after Rx. If +ve ⟶ send culture
  - If using culture, test > 72 hours after Rx
- It is vital that resistance is monitored, so any cases of failure on cephalosporin Rx should be reported to the Health Protection Agency. GU clinics can access the appropriate website.

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12. Genital Herpes

Background[1, 2, 3]

Usually presents as:

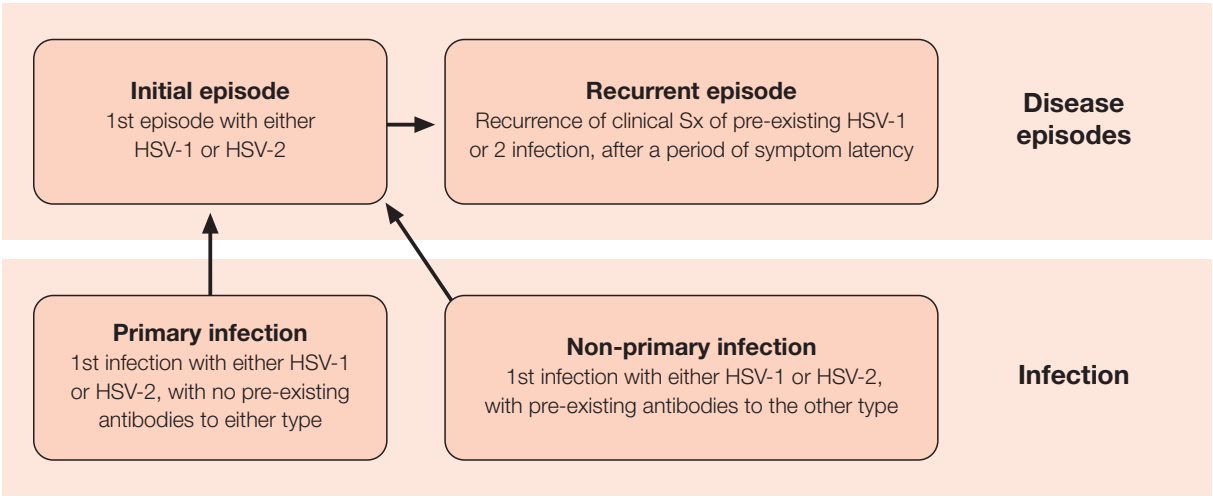
- multiple painful ulcers (but herpes infection is often asymptomatic, or symptoms are not recognized)
- beware a single painless ulcer (– primary syphilis?)

See national STI Management Standards: Chapter 1

Herpes information

- Two types of herpes simplex virus (HSV) cause genital ulcers: HSV types '1' and '2'
- Common perception that HSV-1 → oral and HSV-2 → genitals, but...
- Both HSV 1 and 2 can infect mouth and/or genitals (because of oral sex / autoinoculation)
- HSV is transmitted by close physical contact when an already infected individual is shedding the virus
- Shedding can happen sporadically and not just when there are symptoms
- In fact, most cases of HSV transmission occur without symptoms!
- Infection is lifelong, with periodic episodes of symptoms

Definitions



12. Genital Herpes

Primary infection

- This is the first time the virus is acquired, but it may not necessarily result in symptoms
- In fact, most infections are acquired without symptoms (80% of people who are +ve for HSV type-specific antibodies are unaware that they have been infected)
- If symptoms do occur, this first 'attack' tends to be longer and more severe than future recurrences
- Prior infection with HSV-1 modifies the Sx of 1st infection by HSV-2
- After the 1° infection, the virus establishes in local sensory ganglia, reactivating periodically and appearing subsequently at the skin surface (where it may or may not produce symptoms)
- HSV replication occurs much more frequently then previously thought, with the virus trickling down the sensory nerve like a slowly dripping tap. Viral replication at the dermal level is held in check by local lymphocytes[4]
- Once in a while the local immune response does not hold the virus in control and the virus manages to replicate in the dermis.
- This viral replication explains the concept of asymptomatic viral shedding (and subsequent risk of onward transmission)
- If and when symptoms do occur, they can be in any area covered by the sacral dermatomes. Typically the lesions are ulcers, but they may be innocuous fissures, abrasions, or even mild erythema.

Why most people don't realise they have herpes

- Infections (acquired and transmitted) are often asymptomatic
- Symptoms can be subtle – not identified as herpes by Pt (or clinician!)
- HSV isn't on clinician's radar, therefore not tested for

- Symptoms (if they occur) of primary genital infection
  - Constitutional malaise – febrile flu-like illness lasting 5 to 7 days. More common in 1° infection.
  - Non-primary infections are less likely to have constitutional or severe Sx
  - Tingling / neuropathic pain in genital area, buttocks or legs (← sacral dermatomes)
  - Extensive bilateral crops of genital blisters, ulcers or fissures (cf the lesions of **recurrent** genital herpes, which, like those of herpes zoster, are usually unilateral)
  - Tender inguinal lymphadenitis
  - May get local oedema
  - Untreated, a first episode may last 3 weeks or so
  - Differential diagnosis: 'cystitis' (← external dysuria), candida, shingles, lichen sclerosus
- Complications
  - 2° infection of lesions (← Candida, Strep)
  - Auto-inoculation to fingers and adjacent skin
  - urinary retention (may be 2° to severe local pain, or may rarely be due to autonomic neuropathy)
  - aseptic meningitis

12. Genital Herpes

Recurrent episodes

- As with the initial episode, there may or may not be symptoms
- If there are symptoms, they tend to be milder than with the initial episode
- Prodrome (local skin tingling, sciatic nerve pain) occurs up to 48 hours before lesions appear in 1/2 Pts
- Lesions are similar to initial episode, but smaller area involved and lesions heal more quickly
- Main complication is psychological, esp if frequent symptomatic recurrences
- Most herpes is transmitted without symptoms (asymptomatic viral shedding)
- In HIV+ve pts, both asymptomatic and symptomatic shedding are increased

Management of initial episode

Consider referral to GU same day. If urgent (same / next day) appt not possible, then:

- Swab base of lesion (pop blister if necessary) for HSV using a viral swab
  - Virus typing (to differentiate HSV type 1 from type 2) should be obtained – will help with prognosis, counseling and management
  - Check with your lab which swab and which test (culture? NAAT?)
    - HSV NAAT : DNA detection by polymerase chain reaction (PCR) increases HSV detection rates by 11 to 71% compared with virus culture
    - HSV culture: still used in some centres but will miss approximately 30% of PCR positive samples (most significantly patients presenting with late or with mild recurrent disease).
  - HSV serology?
    - Not routinely done in General Practice – d/w GUM if needed
    - Must be type-specific and needs careful interpretation (IgM detection is an unreliable indicator of recent infection).
- Saline bathing (1 tsp salt in 1 pint warm water) prn may ease Sx
- Consider topical anaesthetics (Eg: LIDOCAINE 5% ointment) if very painful – useful prior to micturition
- Oral analgesia
- Topical anti-virals are less effective than oral agents. Combined topical and oral Rx? ⟶ no benefit

12. Genital Herpes

- Oral antiviral Rxs
  - Indicated within 5 days of the start of the episode, or
  - While new lesions are still forming, or
  - If systemic Sx persist

    ACICLOVIR 200 mg po 5 x day for 5 days (£2.03)[5]

    or

    ACICLOVIR 400 mg po TDS for 5 days

    or

    VALACICLOVIR 500 mg po bd for 5 days (£19.51)[5]

    or

    FAMCICLOVIR 250 mg po TDS for 5 days (£107.00)[5]
- No evidence of benefit from courses longer than 5 days, but worth reviewing Pt after 5 days and continuing Rx if new lesions still appearing and/or complex disease (eg neurological Sx, severe constitutional symptoms, etc)
- Complications?
  - d/w / refer to GUM
  - consider admitting if severe (Eg: urinary retention, cannot swallow oral Rx)
- Follow up at GU in 2 to 3 weeks (⟶ pt education / full STI screen)
- Tell pt to report to GU sooner if Sx not improving

Management of recurrent episodes

- Median symptomatic recurrence rate after a symptomatic 1st episode is:
  - HSV 2: 0.34 recurrences per month (= roughly 4 episodes / year)
  - HSV 1: 0.08 recurrences per month (= roughly 1 episode / year)
- Most HSV outbreaks decline in frequency over time
- Prodromal Sx (local skin parasthesia, sciatic nerve pain) occur up to 48 hours before appearance of lesions
- Lesions are milder than the initial episode, with faster resolution
- As Sx are mild and self limiting, management should be made in partnership with the patient.
- Options are:

  1. Supportive Rx only
  - saline bathing, topical petroleum jelly, Lidocaine ointment, etc , for a few days prn

  2. Episodic Rx
  - By the time the pt presents for medical care, the lesions are often healing and antiviral Rx will have 'missed the boat.'
  - Thus, give prescription for oral Rx as a standby for next episode and tell pt to start Rx at prodrome (if they can recognise it)

12. Genital Herpes

- Options

  ACICLOVIR 200 mg po 5x day for 5/7 or

  ACICLOVIR 400 mg po tds for 3 – 5 /7 or

  VALACICLOVIR 500 mg po bd for 5/7 or

  FAMCICLOVIR 125 mg po bd 5/7 or

  ACICLOVIR 800 mg po tds for 2/7 or

  FAMCICLOVIR 1 g po bd for 1/7 or

  VALACICLOVIR 500 mg po bd 3/7

  Head-to-head studies show no advantage of one Rx over another, or of 5-day versus shorter duration Rx's.

3. **Suppressive Rx** – regular daily dosing for several months (see below). Options are...

   ACICLOVIR 400 mg po bd or

   ACICLOVIR 200 mg po qds or

   VALACICLOVIR 500 mg po od or

   FAMCICLOVIR 250 mg po bd

NB:

- The full suppressive effect is usually only obtained 5 days into treatment.
- Ideally, make sure you have a diagnosis before starting long term Rx. The decision to start suppressive Rx is a subjective one, balancing the frequency of attacks against the cost and inconvenience of Rx.
- Suppressive Rx should be discontinued after a maximum of 12 months to reassess symptom episode frequency. The minimum period of assessment should include 2 further attacks. Patients who continue to experience unacceptably high rates of recurrence may restart suppressive Rx.
- Monitoring of patients with no underlying liver or kidney problems is not routinely required regardless of the length of continuous therapy[6]
- The best strategy for managing an individual Pt may change over time according to recurrence frequency, Sx severity and relationship status.

12. Genital Herpes

Pregnancy and HSV

Danger! – risk of neonatal infection. Seek GUM advice in all cases

- Neonatal HSV is usually acquired during delivery from maternal viral shedding
- It's most likely to occur with new maternal acquisition of HSV in the final trimester
- It is rare but can be catastrophic with morbidity and mortality
- Sx appear in the neonate 2 to 28 days after delivery: ⟶ vesicles, jaundice, encephalitis, DIC

If you have a pregnant woman with herpes, ask yourself:

- Is this a 1st episode or a recurrence? (but this may be difficult to establish)
- Which trimester?

...then refer or d/w GUM

Management of first episode HSV in pregnancy

1st and 2nd trimester?

Manage Pts according to clinical need

- consider Aciclovir orally for 5/7 if needed
- although it is not licensed for pregnancy, there is substantial clinical evidence over many years to support its use
- anticipate vaginal delivery at term
- inform midwife. Vigilance for HSV lesions will be needed at delivery.
- daily suppressive Rx (Aciclovir 400 mg po tds) from 36 weeks may be considered

3rd trimester? (Beware! – risk of neonatal infection)

- if in labour – admit to labour ward and inform admitting doctor. LSCS likely to be needed
- if not in labour
  - Refer to GUM. Inform Obstetricians / midwives
  - LSCS may still be needed, especially if within 6/52 of delivery (can still be shedding virus at delivery, even if no visible lesions).
  - Continuous oral Aciclovir in the last 4 weeks of pregnancy reduces risks of HSV recurrences at term

Management of HSV recurrences in pregnancy

- Obstetrician should be informed if Hx of recurrent genital HSV – need to be vigilant for vulval lesions at delivery
- No role for regular viral swabs in late pregnancy (does not predict shedding at term)
- Symptomatic recurrences are likely to be brief, so aim for vaginal delivery if no lesions at labour
- Continuous oral Aciclovir in last 4 weeks of pregnancy may be beneficial (refer to GUM)
- If vaginal delivery was undertaken whilst HSV lesions were present at birth, then community midwife and GP should be informed ⟶ look out for signs of neonatal HSV in baby subsequently (d/w Paeds)

12. Genital Herpes

Prevention of acquisition of infection in pregnancy

- Consider taking a Hx in all pregnant women at booking re Hx of HSV themselves (or in partner)
- Remember, sexual partners may change during pregnancy
- Discuss using condoms
- Discuss risk from oro-genital sex if partner has Hx of cold sores (often overlooked)

Asymptomatic viral shedding from genitals

- More likely in first 12 months after infection
- More likely if symptomatic recurrences
- More likely in HSV type 2 than type 1
- Shedding diminishes over time
- Shedding may be reduced with suppressive Rx

Preventing transmission

- Condoms may help ↓ transmission
- Suppressive Rx helps ↓ viral shedding and reduces transmission by 50%
- No vaccines currently. Trials ongoing. BASHH does not support the use of unauthorized or unlicensed vaccines outside of clinical trails.

Counseling

- Significant psychological distress sometimes
  - Vital Pts receive appropriate advice. Refer to GUM if you're not able to give this
  - Patients who have failed to adjust to the diagnosis after a year should be considered for more intensive counselling interventions
- Partner notification may help, esp in discussing the asymptomatic nature of infection (see below)
- A criminal prosecution[7] for the 'reckless transmission' of HSV (August 2011) prompted a statement from BASHH – see below. BASHH is currently working with the Crown Prosecution service regarding this subject.

Management of sexual partners

- Given the fact that infection with HSV is often latent, there are no specific look-back periods
- Thus there are no specific partner notification recommendations, unless the sexual partner has symptoms
- If the index patient wishes, it may, however, be useful to see their current sexual partners to give further explanation, education and advice
- Note the criminal prosecution in 2011. You may wish to discuss the issues set out in the BASHH statement below

12. Genital Herpes

BASHH statement regarding criminal prosecution for HSV transmission 2011

BASHH has prepared the following statement endorsed by its Board to summarise the specialty position regarding the recent Golding prosecution.

Herpes simplex is extremely common. Most people will catch HSV-1 during their lives and 12.5% of women and 4% of men will catch HSV-2. Most HSV-2 infections and many HSV-1 infections will be genital. The infection is usually caught from undiagnosed individuals many of whom will be asymptomatic at the time of transmission. First time symptoms are often mild, and may be so trivial that they are ignored. Only about a third of those infected will notice any symptoms at the time of their infection and only a proportion of these will go to a doctor or clinic at this time. Minor symptoms can be difficult to diagnose and negative test results do not necessarily preclude the possibility of infection.

Whatever the site of infection:

- Herpes simplex can occasionally cause problems which require medical input.
- The most frequent problems, when they occur, are short lived urinary complications during primary illness.
- Recurrent infections can occasionally cause complications, and very rarely be life-threatening, but they are extremely rare in the UK.
- Most life-threatening infections are in newborns when the mother has only recently been infected towards the end of pregnancy. These complications are very rare in the UK.

Herpes simplex viruses remain in the body and may cause recurrent symptoms so it is important for patients to understand the possible ways in which it can be caught and may be passed on. The BASHH guideline on the management of genital herpes explains the important facts that should be given to patients and what they can do to reduce transmission – these will include learning to recognise recurrences (with limited selective abstention from sex) and the use of condoms. The guideline also explains that regular use of antiviral drugs may also be useful to reduce transmission risks.

Health care professionals are also advised to discuss with patients the issue of how to inform current and future sexual partners. There is reason to believe that in some cases informing a partner may reduce the risk of transmission. It may be that where both partners are aware that one of them is infected they will be able to work together to make transmission less likely. Because of the risk of mother to baby transmission during childbirth from a newly infected woman, those who have been diagnosed should be advised to take care not to infect their partners in the weeks leading up to delivery.

Some patients may be alarmed by the possibility of prosecution if they infect partners. This has several important public health implications. It is in their own interest, as well as the public interest, that they are diagnosed, treated and advised if they have genital herpes. Fear of prosecution is not helpful in this respect.

BASHH is currently working with the Department of Health to clarify the legal situation and to ensure that the Crown Prosecution Service appreciate the negative consequences for public health that would result from individuals being unwilling to seek help because they fear prosecution.

12. Genital Herpes

Pt information on herpes

- BASHH is producing Pt information leaflets – see www.bashh.org.uk/guidelines
- The Herpes Virus Association see www.herpes.org.uk

References

1. UK national guideline for the management of genital herpes 2007
   BASHH Clinical Effectiveness Group
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2. Draft UK national guideline for the management of genital herpes 2012
   BASHH Clinical Effectiveness Group
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3. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
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   Sex Transm Infect 2011; 87: A84–85.
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   BMJ group and RPS publishing
   www.bnf.org
6. Personal communication from Dr Raj Patel, Consultant GU Physician and Senior Lecturer, Southampton University and co-author of the UK national guidelines for the management of genital herpes (see Ref 1and 2)
7. The Golding prosecution. See www.hva.org.uk/PR_aug11.pdf

13. Syphilis

Syphilis is a treatable but complicated infection, best managed by GU medicine. Refer.

See national STI Management Standards: Chapter 1

Background[1]

- Syphilis is caused by *Treponema pallidum* subspecies *pallidum*, a spirochete bacterium
- It is spread through close contact (almost exclusively sexual)
- It may also be spread via in-utero transmission (→ congenital syphilis) and infected blood products
- The symptoms and signs are complicated and varied and can be easily misdiagnosed as a variety of other clinical conditions
- It is a relatively rare infection, compared to other STIs such as Chlamydia, warts and herpes
- However, rates have increased since the late 1990s, especially in certain groups
  - between 1997 and 2007, annual diagnoses of infectious syphilis increased twelvefold (from 301 to 3789)[2]
- The highest rates are in:
  - men who have sex with other men (accounting for 73% of infectious syphilis cases)[2]
  - the over 25s
  - certain urban areas (London, Brighton, Manchester)

  Note
  - Not all men who have sex with men will volunteer this to you
  - Many could be married or in long-term heterosexual relationships
  - Take a sensitive sexual history
- Many patients may be HIV+ as well (and may not even know it)
- There is an increasing number of cases in women, especially those from abroad

13. Syphilis

What should alert you?

- Symptoms / signs (see below) especially in the above groups

What test should you do?

- **Referral of suspected cases to GUM is strongly recommended.**
- If you decide to test in GP, then...
  - Send 10 ml clotted blood to your lab requesting syphilis serology (request syphilis IgM if you suspect very early infection).
  - Serology should be repeated a few weeks later if initially negative, yet strong clinical suspicion of syphilis
  - window period is < 90 days
- Some labs can test for *Treponema pallidum* on swabs from ulcers using NAAT tests. Check if this is the case with your lab.
- Offer testing for HIV (and Chlamydia and gonorrhoea) as well

Note:

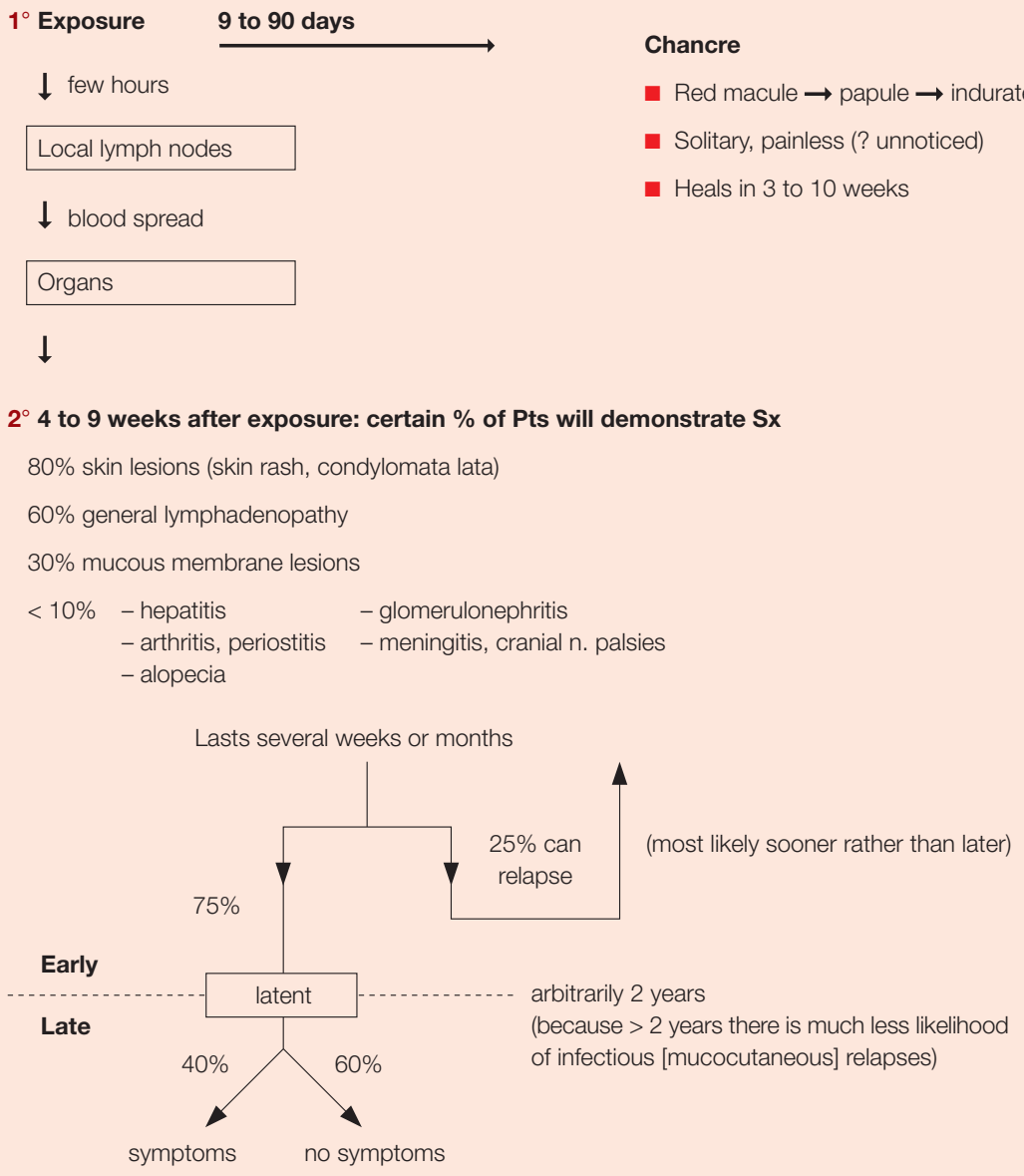
- Non-venereal treponemal infections (Yaws, Bejel, Pinta) from some tropical countries will induce similar antibody responses to those of syphilis. They are sometimes discovered incidentally in patients from outside the UK. Despite being non- sexually transmitted, appropriate management is best undertaken by GUM. Refer.
- Sometimes elderly patients will have positive treponemal serology on routine screening (Eg: dementia) Refer to GUM if there is no record of previous treatment in the notes.
- Newer point-of-care rapid tests for syphilis are becoming available. The validity of test results should be fully understood – confirmation with standard serological tests is currently recommended

13. Syphilis

Symptoms / Signs[1]

See figure 1 which demonstrates the Primary, Secondary and Tertiary stages of syphilis

Figure 1: The natural history of syphilitic infection



13. Syphilis

Primary syphilis

- Somewhere between 9 and 90 days after exposure, the site of inoculation becomes a painless indurated ulcer (a 'chancre'). The chancre defines 'Primary' syphilis
  - Because the ulcer is painless, it may go unnoticed, especially if it cannot be seen easily (anal area, vagina, cervix, tonsils)
  - Sometimes the chancres are actually multiple and painful
  - The chancre heals spontaneously

Secondary syphilis

- Soon afterwards the organisms spread systemically and a systemic illness ensues. This is 'Secondary' syphilis.
- The commonest manifestation of secondary syphilis is a maculopapular rash which can sometimes affect palms and soles. It tends not to be itchy
- Syphilis was known as the 'Great Imitator' for good reason – it can present in a variety of ways, especially in the secondary stages:
  - generalised malaise
  - lymphadenopathy, hepatosplenomegaly
  - oral mucous patches ('snail track' ulcers)
  - moist warty lesions ('condylomata lata') at sites of skin friction (perianal, vulval, under breasts, axillae)
  - patchy alopecia
- By the time the lesions of secondary syphilis are present, serology will almost certainly be positive. It may even be positive when you see a chancre (request an IgM on serology if you see a chancre)
- The mucous membrane lesions, and condylomata lata, are very infectious; it's no wonder syphilis spreads so easily through close intimate contact and oral sex
- Untreated, syphilis lesions resolve spontaneously, although they can recur episodically for up to 2 years. This is called 'Early' syphilis
- After 2 years or so, a period of clinical latency is reached: the organisms remain in the body, but there are no overt symptoms. This is called 'Late' syphilis

Tertiary syphilis

- Years later, late syphilis manifestations may develop in other systems, so-called 'Tertiary' syphilis. Late stage manifestations are rare because in the course of a lifetime, syphilis may be inadvertently treated by antibiotics for other incidental infections.

13. Syphilis

Briefly...

Cardiovascular system

- Aortic incompetence with aortic regurgitation
- Aortic aneurysms

Nervous system

- General paralysis of the insane
- Tabes dorsalis

Skin and bones

- Gummatous (localised vascular granulation tissue) lesions with nodule formation and destructive ulceration.

Take home message

- Syphilis has re-emerged as a clinically relevant (and in some populations common) infection in the UK
- Have syphilis on your radar especially in the at-risk groups above
- Think about co-infection with HIV
- Encourage all women to have ante-natal screening (this varies across regions from 77% to 100%)[3] to help prevent congenital syphilis
- Talk to you local GU clinic if concerned about a patient → fast track referral

References

1. Sexually Transmitted Diseases (4th Ed)
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   McGraw Hill 2008 ISBN 978-0-07-141748-8
2. Syphilis and LGV – resurgent STIs in the UK
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   Available at www.hpa.org
3. Health Protection Agency. : National Monitoring of Antenatal Infection Screening
   Annual Report on 2005 data. London
   Health Protection Agency 2007 – Centre for Infections 2007.
   Available at www.hpa.org

14. Genital warts

Background[1,2,3,4,5]

See national STI Management Standards: Chapter 1

- Caused by Human Papilloma Virus (HPV) – there are > 100 different types of HPV
- HPV ⟶ attacks basal cells of epithelium ⟶ abnormal cell proliferation at skin surface (= 'wart')
- Different HPV types prefer different anatomical sites...

Type of HPV	Skin lesion
1, 2, 4	Solitary plantar warts
2, 4, 26, 27	Common warts on hands
2	Filiform warts on face
3, 10	Flat warts
6, 11	Genital warts (rarely oral)
6, 11	Laryngeal papilloma
16, 18	CIN
16	Head and neck Ca

Pathogenesis

- HPV transmission is from direct skin to skin contact with apparent or sub-clinical lesions and/or contact with genital secretions ⟶ micro-abrasions in the recipients skin allow viral access to the basal cells of the epithelium
- Poor initial immune response: HPV can persist as a latent infection, with no visible warts
- Subsequently the immune system 'catches up': local lymphocyte infiltration ⟶ lesions may regress spontaneously (1/3 of all visible warts disappear spontaneously within 6/12)
- Immunosuppression may ⟶ reactivation of HPV ⟶ reappearance of visible warts
- Infection results in type-specific protection (but whether there is cross protective immunity is uncertain)
- HPV is a multi-focal infection of the anogenital skin. Visible lesions are most common at sites of micro trauma during sexual intercourse, but they may occur at any site

14. Genital warts

Genital warts

- Most anogenital warts are benign and caused by HPV types 6 and 11, regardless of morphology and anatomical location
- Some lesions may contain oncogenic HPV types (refer suspicious looking lesions)
- Perianal warts are not necessarily associated with anal sex – HPV infected genital secretions may have collected in this area, producing visible warts subsequently
- Warts inside the anal canal may be associated with penetrative anal sex and may indicate the need for rectal swabs for Chlamydia and gonorrhoea as well as tests for HIV, syphilis and Hepatitis B, depending on the history
- Molecular and serology studies report prevalence rates of genital HPV of 30 to 50% in sexually active adults
- Most genital HPV infections are actually subclinical: < 10% of infected individuals have any visible lesions
- Most genital HPV infections are transient: HPV DNA is no longer detectable in 95% people by 2 years post infection
- Peak age of prevalence is 20 to 24 years in ♀ and 25 to 34 years in ♂
- Risk of HPV acquisition rises with increasing numbers of sexual partners (HPV is rarely found in the genital tract of virgins)
- HPV detection declines with increasing age (← immune response?)
- HPV detection increases with pregnancy, immune suppression and smoking
- Occasionally, there may be *digital* → *genital* and *genital* → *digital* transmission
- Oro-genital transmission is also possible
- The long latent period, just as with herpes, means that the presence of warts in only one partner, does not necessarily imply recent infidelity
- Non sexual transmission? – uncertain
  - fomites can transmit hand warts, but ? genital warts (poor evidence)
  - no cases of blood-borne transmission
  - perinatal transmission is recognised
- Rx may reduce infectivity (but uncertain if this affects asymptomatic viral shedding)
- Clinical manifestations of genital HPV
  - Genital warts
  - Warts in the larynx (respiratory papillomatosis)
  - Pre-malignant and malignant lesions in the ano-genital area and oro-pharynx

14. Genital warts

Symptoms

- Warty growths in and around genital skin. Little discomfort (sometimes itchy) but often psychological distress++
- Bleeding from cervical / urethral / anal lesions
- Distorted urinary stream with urethral lesions

Signs

- Lesions can be flat or raised, single or multiple, soft or keratotic, small or large 'cauliflower-like', flesh-coloured or pigmented
- Generally < 10 mm diameter, but may coalesce into large plaques, esp in diabetics / immunosuppressed
- Differential diagnosis
  - Normal anatomy (pearly penile papules, vulval papillae, sebaceous glands)
  - Skin tags, dermatofibromas, epidermoid cysts, molluscum contagiosum
  - Condylomata lata (warty lesions in 2º syphilis), intra-epithelia neoplasias, malignant lesions

Diagnosis

- Clinical appearance
  - if in doubt – refer to GUM
  - See Resources section (Appendix 2) for advice on recognition of genital warts
- HPV DNA detection methods are available (useful in cervical cytology) but routine benefit of detecting subclinical skin infections is uncertain (may ↑ anxiety and HPV is often cleared spontaneously anyway)
- Biopsy of atypical lesions

General management issues

- See STI Management Standards chapter
- Screen for other STIs
- Rx is essentially cosmetic. Significant psychological distress sometimes – reassure Pts that HPV often clears spontaneously
- Women with external anogenital warts should have a speculum examination to check for vaginal / cervical lesions
- Rx options
  - no Rx is an option (lesions can resolve spontaneously)
  - destruction (cryoRx)
  - anti-mitotic agents (Podophyllotoxin)
  - immune modifiers (Imiquimod cream)
  - surgery

14. Genital warts

- Rx options may depend on
  - your own clinical experience (see Resources section for further information)
  - morphology, number, distribution of lesions
  - pregnancy (cannot use topical creams / lotions – see below)
  - patient preferences
  - costs
- Rx options probably reduce, but may not eradicate HPV infectivity
- Recording of lesions on genital diagrams at each visit may be useful in providing a visual record of response to Rx
- Clearance and recurrence rates vary – very difficult to compare different treatments
- Generally speaking, warts can recur in a quarter of cases after apparent clearance
- Some data suggests that smokers may respond less well to Rx than non-smokers
- Not all strains of genital HPV produce cervical cancer – there is no benefit from more frequent cervical screening: start at appropriate screening age and be guided by the cytology report each time, even if visible warts are present
- Pts should receive clear written information regarding the cause, Rx, outcomes and possible complications of genital warts
- Reassure Pts that although wart clearance may take 1 to 6 months and recurrences may occur, complete clearance occurs in most, sooner or later.

Treatments

NB

- the evidence base to advise on 1st and 2nd line Rx's is not strong
- all Rx's have significant failure and relapse rates
- Rx may involve discomfort and side effects – give written information to Pt

Generally

- Soft, non-keratinized warts respond well to Podophyllotoxin
- Keratinized lesions respond better to physical ablative methods (cryotherapy, electro-cautery, excision)
- Imiquimod cream may be suitable for both keratinized and non-keratinized lesions
- Pts with a small number of small warts, irrespective of type, may be best Rx'd with ablative methods from the outset

14. Genital warts

Also

- Consider developing a Rx algorithm / referral pathway in association with your local GUM clinic
- Have a low threshold to refer
  - Suspicious / uncertain / internal lesions
  - Recalcitrant lesions (consider HIV test)
  - Cervical lesions (consider colposcopy referral)
  - Immunosuppressed Pts
  - Pregnant women
  - Children
  - Elderly patients (? malignancy)

Specific Rx options

CRYOTHERAPY

- Liquid nitrogen spray or cryoprobe
- Causes cytolysis at dermal / epidermal junction → local necrosis

PODOPHYLLOTOXIN

Cost[6] approx £12 to £14

- This is an antimitotic agent that comes in cream (0.15%) and solution (0.5%) forms.
- Applied BD for 3 days followed by 4 days of no application.
- If ineffective after 4 courses of Rx (ie: 1 month) then try a different method (or refer to GU)
- Licensed for genital warts but not extra-genital (ie: anal) warts
- Do not use in pregnancy
- See BNF / SPC data sheet for more details

IMIQUIMOD 5% CREAM

Cost[6] approx £48

- This is an immune modulator.
- Not suitable for internal genital warts.
- It is applied nightly for 3 nights a week (usually Mon / Wed / Fri) and then washed off each morning.
- Treat for up to 16 weeks.
- Not approved for use in pregnancy
- See BNF / SPC data sheet for more details

EXCISION under local anaesthetic

- Useful if pedunculated warts, or small warts at anatomically accessible sites

14. Genital warts

Management of sexual partners[4, 7]

- Given the fact that infection with HPV is often latent, there are no specific look-back periods
- Thus there are no specific partner notification recommendations (no evidence that it reduces transmission)
- If the index patient wishes, it may, however, be useful to see current sexual partners to
  - Examine for any undetected warts
  - Give further explanation and advice on warts and HPV
  - Screen for other STIs

References

1. UK national guideline on the management of anogenital warts 2007
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7. The Manual for Sexual Health Advisors (2004)
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   Available at www.ssha.info

15. The ABC of Hepatitis

The clinical management of hepatitis is beyond the remit of this booklet. This chapter takes the form of a large table combining data from lots of different sources (primarily BASHH national guidelines[1]) to simply compare hepatitis A, B and C. It may help to answer some questions that patients ask. Don't forget, all acute cases of hepatitis are notifiable (probably best to inform the pt of this). If in doubt – seek advice.

	HEP A	HEP B	HEP C
Lab reported cases in England & Wales 2010	367[2]	5805[3]	8147[2]
Transmission	Faecal – oral ? Sexual	Parenteral (1:3 risk if eAg+) Sexual Vertical Sporadic	Parenteral (1:30 risk) Sexual (low risk)* Vertical Sporadic
Incubation period	15 to 45 days	6 wks to 6 months	4 to 20 weeks for the uncommon cases of acute infection
Infectious period	From 2 weeks before jaundice to 1 week after jaundice	From 2 weeks before jaundice until sAg neg which takes up to 6/12,unless chronic	From 2/52 before jaundice (if present)
Persistent infection?	No	5 to 10% cases	50 to 85% cases
What if pregnant?	Vertical transmission extremely rare Inc. risk of miscarriage and prem labour	Vertical trans: 90% if eAg + 10% if eAg – > 9/10 infected infants can become chronic carriers hence vaccinate at birth Inc risk misc and prem labour in acute infection	Vertical trans: < 5% (higher if HIV+) currently no way of reducing vertical transmission Inc risk misc and prem labour in acute infection
Breastfeeding?	Breastfeeding ok	Breastfeeding ok as no additional risk of transmission	Breast feeding? – no firm evidence of additional risk, except, perhaps, if high viral load
Contacts	MSM sexual contacts during infectious period. Household contacts managed by CCDC	Sexual or needle-sharing partners during inf period. Consider post-exposure vaccine	Sexual or needle-sharing partners during inf period

15. The ABC of Hepatitis

	HEP A	HEP B	HEP C
General advice to pt	No food handling or UPSI during inf period	Avoid sexual contact until sAg negative (unless partner has Ab) 18% infection rate for regular heterosexual partner of pt with acute Hep B	Do not donate blood / semen / organs Avoid sharing toothbrushes and razors. Low risk through UPSI
Follow up	Acute inf? See at 1 to 2 weekly intervals until LFTs normal (usually 1 to 3 months)	Acute inf? as for Hep A but consider referral Chronic inf? (ie: sAg > 6/12) – refer gastro	Acute inf? as for Hep A but consider referral Chronic (PCR+ve) inf? – refer gastro
Diagnosis	Hep A IgM	Hep B core Ab IgM sAg eAg (up to 6/12 window)	Hep C Ab (usually +ve within 3/12 of exposure, but can take up to 9/12 If + check viral PCR)

* Hepatitis C and sexual transmission: higher risk in MSM esp if HIV+ve / anal sex / traumatic sex / concurrent rectal STIs / recreational drug use

Additional resources

RCGP Certificate in the detection, diagnosis and management of Hepatitis B and C in Primary Care
See: www.rcgp.org.uk

References

1. UK National Guideline on the management of viral hepatitides A, B and C 2008
BASHH Clinical Effectiveness Group
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www.hpa.org.uk

16. Pubic lice

Background[1,2]

See national STI Management Standards: Chapter 1

- Infestation by the crab louse *Phthirus pubis*: a wingless blood-sucking insect
- Spread by close body contact, unlikely to survive > 24 to 48 hours off the host
- Incubation period from 5 days to 5 weeks (sometimes longer and asymptomatic)
- Life cycle lasting 15 to 25 days
- Not known to be vectors of human disease (cf: head lice and body lice)

Symptoms / Signs

- Adult lice infest strong hairs (pubic hair, body hair, eyebrows and eyelashes)
- Eggs (nits) are strongly attached to the hairs
- There may be no Sx or the lice may be spotted with alarm!
- There may be pruritis due to hypersensitivity
- Blue macules (maculae caerulae) may be visible at feeding sites on skin (← salivary enzymes of louse)

Diagnosis

- Finding adult lice (typical appearance :smaller and squatter than body lice) and/or nits on body hair

Management

General advice

- Avoid close body contact until index pt and partner(s) have completed Rx
- Full STI screen should be taken (ie: Chlamydia, gonorrhoea, syphilis and HIV). Refer if you can't offer this
- Clothes and bed linen washed at 50°C

Treatment options[1,3]

- Lotions probably more effective than shampoos – apply to all body hair (inc facial hair)
- 2nd application after 7 days is advised to kill lice emerging from surviving eggs
- Recommended regimens
  - MALATHION 0.5% AQUEOUS SOLUTION
    - Apply to whole body and wash off after at least 2 (preferably 12) hours
  - PERMETHRIN 5% CREAM RINSE – Rx of choice in pregnancy or breastfeeding
    - Apply to whole body, allow to dry and wash off after 12 hours
- Infestation of eyelashes can be Rx'd with PERMETHRIN 1% lotion keeping the eyes closed during the 10 min application. Alternatively, paraffin eye ointment topically bd for 8 to 10 days will suffocate the nits

16. Pubic lice

Sexual partners

- Current sexual partners should be examined and Rx'd
- Contact tracing of partners from the previous 3/12 should be undertaken

Follow up

- Re-examine for lice after 1 week
- Rx failure (live lice) → use an alternative preparation
- Dead nits can remain attached to hairs – does not imply Rx failure. Can be removed cosmetically with a nit comb

References

1. UK national guideline on the management of *Phthirus pubis* infestation 2007
BASHH Clinical Effectiveness Group
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www.bnf.org

17. Genital scabies

Background[1,2]

See national STI Management Standards: Chapter 1

- Caused by the microscopic parasitic mite *Sarcoptes scabiei var hominis*
  - mites are blind with no eyes; ♀ is 0.4 x 0.3 mm^2, ♂ is smaller and dies after mating
  - ♀ mites burrow into the skin where they lay eggs → offspring crawl out → new burrows
  - lifespan of 4 to 6 weeks, feed on lymph and lysed skin tissue
  - move rapidly on warm skin: 2.5 cm / min!
- Spread by skin to skin contact (mites transferred after about 10 to 20 mins of close contact)
- Can't survive off human host > 72 hours
- Unlikely to be spread by clothes, towels, bedding etc. (except Norwegian scabies)
- Can affect any part of the body – not always sexually transmitted
- Norwegian scabies
  - Extensive crusted lesions with 'breadcrumb'-like hyperkeratotic lesions over elbows, palms, knees, soles
  - Immunocompromised or elderly
  - Highly contagious

Symptoms

- Main one is generalised pruritis, esp at night. Can take 6/52 to develop
  (← hypersensitivity reaction to excreta, absorbed into skin capillaries)

Signs

- Erythematous genital papules / nodules
- Silvery skin burrows (look at inter-digital folds, wrists and elbows, around breast nipples in ♀)

Diagnosis

- typical signs / Sx
- scrapings from burrows may be examined under a microscope – not practical in General Practice

17. Genital scabies

Management

- If you see signs of scabies on genitals, it may imply genital – genital contact and other STIs may be present, so consider a full STI screen (ie: Chlamydia, gonorrhoea, syphilis and HIV)
- Advise Pt to avoid close body contact until Pt and recent partner(s) have completed Rx
- Rx
  - PERMETHRIN 5% dermal cream to whole body from neck downwards, wash off 12 hours later

    or
  - MALATHION 0.5% aqueous lotion applied to whole body from neck down and washed off after 24 hours[3]
- Norwegian scabies is Rx'd with oral IVERMECTIN (named pt basis)
- If hands washed in soap within 8 hours of Rx, they should be re-Rx'd with cream
- Do not have a hot bath before applying cream (risk of systemic absorption after vasodilatation)
- Permethrin is safe in pregnancy and breastfeeding – Rx of choice in these situations
- Pruritis may persist – use Crotamiton 10% cream and/or oral antihistamines
  - Pruritis persisting for > 2 weeks after Rx may reflect Rx failure , re-infection or drug allergy to anti-scabetics
- Wash potentially contaminated clothes / bedding at high (> 50°C) temp
- Current sexual contacts and household or institutional contacts should also be Rx'd at same time
- An arbitrary time-span is for contacts from the previous 2 months to be traced

References

1. UK national guideline on the management of scabies infestation 2007
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines
2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
   Pattman *et al*
   Oxford University Press 2010 ISBN 978-0-19-957166-6
3. BASHH Clinical Effectiveness Group – *Correction to the use of Malathion 0.5% aqueous lotion in scabies*
   Nov 2011
   Available at www.bashh.org.uk/guidelines

18. Genital molluscum contagiosum

Background[1,2]

- Benign viral skin infection ← caused by a type of Pox virus
- Humans are the only natural host
- Direct skin to skin contact (or autoinoculation through excoriation)
- Can affect any part of the body. ♂ = ♀
- No cases of maternal – fetal transmission
- Not a true STI, but because genital lesions imply genital contact, consider screening for other STIs
- Anecdotal evidence linking adult FACIAL molluscum lesions with HIV infection. Recommend HIV test

Symptoms / Signs

- 3 to 12 week incubation period
- Discreet smooth pearly lesions with central dimple
- Usually < 5 mm diameter (larger if immunodeficiency)
- If immunocompetent, then spontaneous regression after several months is the norm

Complications

- 2º bacterial infection if lesions scratched
- Lesions can become large in HIV
- 1/3 people experience recurrences over next 1 to 2 years

Management

- No Rx is an option – spontaneous regression is expected if immunocompetent
- STIs may co-exist – offer screen for other STIs
- Facial lesions? May indicate low immunity – HIV test recommended
- Rx options
  - Cryotherapy, manual expression of core, piercing +/- phenol, curettage / diathermy,
  - Podophyllotoxin 0.5% cream or Imiquimod 5% cream can be self applied in men (unlicensed use)
- No need for contact tracing unless another STI is found

References

1. UK National guideline on the management of molluscum contagiosum 2007
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines
2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
   Pattman *et al*
   Oxford University Press 2010 ISBN 978-0-19-957166-6

19. Balanitis

Background[1]

Balanitis = Inflammation of the glans penis (+ foreskin? = 'balano**posth**itis')

Causes

Disparate conditions with similar clinical presentations – varying aetiologies

Infections

- Candida
- *Trichomonas vaginalis*
- Strep
- Staph
- Anaerobes
- Herpes
- HIV (oral and genital ulcers in seroconversion illness)
- Syphilis
- Others

Dermatoses

- Lichen sclerosus
- Lichen planus
- Zoon's balanitis
- Circinate balanitis
- Psoriasis
- Eczema
- Seborrhoeic dermatitis
- Contact allergy
- Drug reactions (fixed drug eruption or Stevens-Johnson syndrome)
- Immuno-bullous disorders
- Others

Miscellaneous

- Trauma
- Irritation
- Poor hygiene
- Pre-malignant conditions (carcinoma in situ)
- Others

19. Balanitis

Management

History

- What is noticed?
- Time frame (Eg: herpes is acute, dermatoses are more chronic)
- Itch? Odour?
- Is foreskin tight (think of lichen sclerosus)
- Any new potential allergens?
- Recent new drug?
- Sexual history
- Does sexual partner have any Sx (Eg: female with Candida? TV? Herpes?)
- Sx elsewhere? (Eg: candidal balanitis ← new diabetic?)
- Signs
  - Local: colour, texture, ulcers, discharge, oedema, odour, etc
  - General: Any enlarged lymph nodes? Rash elsewhere? Any signs in mouth? Arthritis? Eye Sx? Phimosis? Meatal stenosis? Signs suspicious of malignancy? Etc.

Investigations

- Bacterial swab (→ m/c/s) often needed. Be guided by report, but
  - Strep B is usually a commensal and wouldn't necessarily warrant treatment.
  - Candida may be a super-infection and its presence does not exclude an underlying dermatosis.
- Herpes swab if Sx suggestive
- Urine dipstick → glycosuria?
- Consider STI screen
  - Chlamydia, gonorrhoea, HIV and syphilis
  - Consider referral to GUM if TV is suspected (difficult to diagnose in GP)
  - Consider urgent ref to GUM if syphilis / HIV suspected

Management

General advice

- Avoid soaps while inflammation is present
- Saline bathing often helps
- If topical creams prescribed, warn that they may weaken condoms
- Refer if diagnosis uncertain or not responding to initial Rx

19. Balanitis

Specific Rxs

This section is very brief and is included simply to raise awareness. Refer if in doubt esp if suspicious of malignancy or pre-malignant conditions

	Symptoms	Signs	Notes	Treatment
Candida	'red rash' +/- itch	blotchy erythema	check for glycosuria sub-prep swab	topical Imidazoles or stat dose oral Fluconazole Consider Rxing female partner if recurrent
Herpes	painful ulcers	ulcers	take HSV swab (beware syphilis!)	oral Aciclovir etc saline wash
Anaerobic Balanitis	malodour +/- erythema	+/- erosions	sub-prep swab	oral Metronidazole 7/7
Staph / Strep	non-specific erythema	+/- erosions	sub-prep swab	depends on report
Circinate balanitis	well demarcated red / grey patches	may have dysuria and discharge (beware chlamydia! See SARA chapter)	conjunctivitis? arthralgia? (⟶ chlamydia?) See SARA chapter Refer for STI screen	saline wash (+/- Hydrocortisone 1% cream)
Plasma cell ('Zoon's') balanitis	painless 'red rash' always in the uncircumcised typically older ♂	glossy well demarcated orange-red areas, often with small pinpoint spots ('cayenne pepper' spots)	refer if in doubt may need biopsy (diff diag = malignancy)	topical steroids saline washes ? circumcision
Lichen Sclerosus	white patches phimosis urethral stenosis itch	atrophic white plaques +/- haemorrhagic vesicles	consider referral small (< 5%) risk of malignancy	potent steroids aqueous cream as soap substitute at least annual review in view of malignancy risk
Carcinoma in situ Keratinized skin? = *Bowen's disease of penis*: discrete scaly plaque Glans? = *Erythroplasia of Queyrat*: red moist patch / plaque Consider biopsy for any persistent plaque lesion				biopsy essential biopsy essential

References

1. 2008 UK national guideline on the management of balanoposthitis
BASHH Clinical Effectiveness Group
Available at www.bashh.org.uk/guidelines

20. Vulval conditions

Background[1,2]

These non-infective conditions have a variety of causes affecting one particular anatomical site

Often present to GPs – can be managed alone according to knowledge, skills, etc, or in conjunction with GUM / Dermatology / Gynae

Three main groups (conditions discussed here are not exhaustive)

- Dermatoses
- Pain syndromes
- Pre-malignant conditions

General management

- Contact tracing not required unless an STI is diagnosed. If so, see STI Management Standards chapter.
- For all conditions:
  - Avoid contact with soap, shampoo, bubble bath etc
  - Simple emollients can be used as soap substitutes
  - Avoid tight-fitting garments ⟶ irritation?
  - Avoid spermicidally lubricated condoms ⟶ irritation?

1. Vulval dermatoses

a. Vulval lichen sclerosus

Cause

- inflammatory condition – unknown aetiology (? autoimmune)

Sx

- itch, irritation, sore, external dyspareunia, may be asymptomatic

Signs

- patches of pallor and atrophy ('cigarette paper' appearance)
- sometimes excoriation, erosions, fissures and blisters
- hyperkeratosis
- changes can be localized or in 'figure of 8' distribution, involving perianal area as well as vulva
- does not involve vagina (cf: lichen planus)

Complications

- loss of architecture with skin fusion
- may develop into squamous cell carcinoma (risk thought to be small)

Diagnosis

- clinical
- biopsy if uncertain or malignant change suspected

20. Vulval conditions

Investigations

- consider screening for other autoimmune conditions (Eg: thyroid tests)
- skin swab if 2° infection suspected
- ? patch testing if allergy suspected

Rx

- Give pt written info – seek medical advice if any suspicious changes (?Ca)
- V.potent topical steroids (Eg: Clobetasol proprionate).
  - Various regimens can be used – consider once/day for 1/12, then alternate days for 1/12, then twice weekly for 1/12 with review at 2 to 3 months
  - Maintenance Rx often needed afterwards – can be with weaker steroids or with less frequent use of v.potent steroids. 30g tube of v.potent steroid should last at least 3 months.
- Topical steroids with antibacterial / antifungal components may be useful if 2° infection
- Surgery if severe, or complications of fusion / malignant change
- Stable disease on follow-up? ⟶ annual review, but see sooner if suspicious changes
- Active disease assessed as clinically required
- Lubrication can help with sex

b. Vulval lichen planus

Cause

- Inflammatory skin condition occurring on any area of keratinized skin as well as oral / genital mucosa – unknown aetiology

Sx

- itch, irritation, sore, external dyspareunia , may be asymptomatic

Signs

- there are overlapping subtypes
- look for signs of lichen planus elsewhere on body (mouth, wrists)
- may also involve vagina (cf: lichen sclerosus)
  - Erosive (commonest type in vulva).
    - Eroded mucosal surfaces – Wickham's striae sometimes seen. As erosions heal, synaechiae and scarring can develop. Presenting Sx is usually pain.
  - Guttate, annular and plaque (commonest type on keratinized skin).
    - Polygonal papules ⟶ can merge to give plaques or annular lesions. Shinier than surrounding skin – mauve/purple colour. Wickham's striae can be seen on surface.
  - Hypertrophic.
    - Raised keratotic lesions – commonly seen on legs
  - Flexural.
    - Groins and sub-mammary folds – can be erosive or non-erosive

20. Vulval conditions

- Lacey network.
  - Oral and genital mucosa – can be asymptomatic. 1/3 pts with oral lesions also have vulval lesions
- Vulval splitting.
  - Consider LP in cases of recurrent vulval splitting and dyspareunia. Skin may look clinically normal but LP may be found on biopsy.

Complications

- Scarring and vaginal synaechiae
- Development of squamous cell carcinoma (3% Pts in one study)

Diagnosis

- Clinical. Look for LP elsewhere. May also co-exist with lichen sclerosus.
- Histology if uncertain / malignancy suspected

Investigations

- consider screening for other autoimmune conditions (Eg: thyroid tests)
- skin swab if 2° infection suspected
- ? patch testing if allergy suspected
- Link with Hep C (and sometimes Hep B) in some countries, but no evidence of ↑ incidence in UK so routine screening not thought necessary

Rx

- Give pt written info (see resources below) – seek medical advice if any suspicious changes (? Ca)
- Referral recommended for erosive or recalcitrant disease
- V.potent topical steroids (Eg: Clobetasol proprionate) – erosive disease is often treatment resistant
  - Various regimens can be used – consider once/day for 1/12, then alternate days for 1/12, then twice weekly for 1/12 with review at 2 to 3 months
  - Maintenance Rx often needed afterwards – can be with weaker steroids or with less frequent use of v.potent steroids. 30g tube of v.potent steroid should last at least 3 months.
- Topical steroids with antibacterial / antifungal components may be useful if 2° infection
- Surgery if severe, or complications of fusion / malignant change
- Stable disease on follow-up? → annual review, but see sooner if suspicious changes
- Active disease assessed as clinically required
- Lubrication can help with sex

20. Vulval conditions

c. Vulval dermatitis

Cause

- Irritant , allergy, atopic, seborrhoeic
- 2° to Iron deficiency, 2° to candidal infection

Sx

- Itch, soreness

Signs

- Erythema, lichenification, excoriation, fissures

Complications

- 2° infection

Diagnosis

- Clinical
- Skin disease elsewhere
- History of atopy

Investigations

- skin swab ⟶ m/c/s. Rx depends on report
- Serum Ferritin
- Consider referral for patch tests, biopsy etc

Rx

- Topical steroids – potency depends on severity of disease. Combination preparations if 2° infection

2. Vulval pain syndromes: Vulvodynia[1,2,3,4]

- **Definition**

'Vulval discomfort most often described as burning pain, occurring in the absence of relevant visible findings or a specific clinically identifiable neurological disorder'

International Society for the Study of Vulval Diseases 2007

- Can be classified according to

When it happens

- Provoked (occurs on touch)
- Unprovoked (can occur at any time)
- Mixed

Where it is

- Localised (specific area)
- Generalised (more widespread over vulval area)

20. Vulval conditions

- Clinical diagnosis – often no identifiable pathology (thus Rx can be difficult)
- The suffix '-itis' is best avoided as it implies an inflammatory component which is unproven
- Can affect any age, any race, any social group

General principles – take a structured approach[3]

- Believe in her Sx!
  - It's hard to get better when you have to prove to someone you're ill
- Exclude other causes of Sx
  - Consider STI tests and skin swabs
- Take full pain Hx
  - assess degree of Sx and impact on the Pt
  - analogue scales and pain diaries may be helpful
  - try and classify Pt into provoked / unprovoked and localised / generalised (may be difficult as these can overlap)
- If appropriate, sexual Hx should be taken – any sexual dysfunction?
- Diagnosis is mostly clinical – biopsies generally not needed
- Combining Rxs is often useful. Topical anaesthetics can be used in all Pts.
- Give Pts written info (esp with prescription medicines and when regimens may be complicated)
- Surgery should be offered only after other options tried
- Look for and address any pelvic floor dysfunction. Biofeedback is helpful
- Multidisciplinary approach most useful – physio, psychology, pain management teams, etc

a. Provoked vulvodynia

Cause

- Unknown. Sometimes a trigger factor (Candida, childbirth, stressful life event)

Sx

- Vulval pain mainly at introitus at penetration during SI or with tampon insertion or speculum exam
- Usually long-standing (often tolerated for a long time before seeking help)

Signs

- No signs of acute inflammation. May be erythema over Skene's and Bartholin's ducts
- Focal tenderness (lightly touch various areas with cotton bud or swab, to map out area of Sx)
- Check if pain is provoked by sitting (and relieved by standing or lying) – may be pudendal neuralgia → refer to pain team.
- Check for Sx / signs of herpes, Candida, TV, vulval dermatoses

Complications

- Vaginismus, depression, relationship problems

Diagnosis

- Clinical (but exclude other causes)

20. Vulval conditions

Investigations

- Examine the area – Pt needs reassurance. Any signs of infection? Dermatoses?
- Consider screen for STIs (including TV – this may be difficult in GP, so refer)
- If unable to tolerate speculum, allow self-taken swabs
- Skin swabs – (m/c/s and herpes)
- ? biopsy (to exclude other dermatoses if clinically suspicious)

Rx

- Psychosocial management as well as physical. What does the pain stop her from doing?
- Observation may be an option (although many Pts have suffered with Sx for a long time before seeking help)
  - remission can occur in up to 50% spontaneously within a year of diagnosis
  - if triggered by infection, prognosis is better
- Emollient soothing agents (some may irritate, so experiment with different brands)
- Topical local anaesthetics
  - Eg: Lidocaine 5% ointment) prn prior to ppt'ing factors.
  - May weaken condoms, though.
- Behavioural therapy, biofeedback
- Pain modifiers
  - More useful for unprovoked pain. Evidence for provoked pain less clear.
  - Consider Amitriptyline or Nortriptyline in low doses titrated upwards according to response and s/e's.
  - Gabapentin, Pregabalin and Carbamazepine have also been used.
- Topical steroids?
  - alone or combination with antifungals/antibacterials
  - but may cause irritation
- Psychosexual referral

b. Unprovoked vulvodynia

Cause

- unknown ? trigger factor as above

Sx

- burning pain much of the time
- may be worsened by prolonged sitting, tight clothes, cycling, penetration

Signs

- commoner in post-menopausal
- vulva appears healthy or there may be varying degrees of erythema

Complications

- as for provoked vulvodynia

20. Vulval conditions

Diagnosis

- as for provoked vulvodynia

Investigations

- as for provoked vulvodynia

Rx

- as for provoked vulvodynia
- pain modifiers (esp Tricyclic antidepressants) more useful and are an appropriate initial Rx[3]

Patient information

www.vulvalpainsociety.org

3. Pre-malignant conditions

Any persistent plaque lesion should be biopsied to exclude precancerous / cancerous change

a. Vulval intra-epithelial neoplasia

Cause

- histological diagnosis
  - different aetiologies. Commonest is Human Papilloma Virus (esp type 16)
  - also associated with lichen sclerosus, immunosuppression and smoking

Sx

- itch, pain, burning
- atypical warty lesions
- may be asymptomatic

Signs

- can be variable : raised white, erythematous or pigmented lesions
- can be multifocal

Complications

- development of squamous cell carcinoma
- association with CIN

Diagnosis

- biopsy

Investigations

- biopsy

Rx

- refer suspicious lesions to GUM / Gynae / Dermatology according to local policies

20. Vulval conditions

b. Vulval Paget's disease

Cause

- unknown

Sx

- localised itch

Signs

- red, crusting lesions. May look like eczema

Complications

- development of adenocarcinoma

Diagnosis

- biopsy

Investigations

- biopsy
- associated with adenocarcinomas elsewhere – investigate as necessary

Rx

- refer

References

1. 2007 UK national guideline on the management of vulval conditions
BASHH Clinical Effectiveness Group
Available at www.bashh.org.uk/guidelines

2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
Pattman *et al*
Oxford University Press 2010 ISBN 978-0-19-957166-6

3. Mandal D, Nunns D, Byrne M *et al*.
Guidelines for the management of vulvodynia 2010
Br J Dermatol 2010; 162:1180–5.

4. How to put out the fire of vulvodynia
Weaver,K
Primary care women's health journal p165-167 Vol 3 No 4 Oct-Dec 2011
Published by Sherborne Gibbs Limited

21. Prostatitis

Background[1,2]

Classification

I. acute bacterial prostatitis (rare)

II. chronic bacterial prostatitis (< 5% cases)

III. chronic prostatitis / chronic pelvic pain syndrome (> 90% cases)

  a. inflammatory

  b. non-inflammatory (previously called 'prostatodynia')

IV. asymptomatic inflammatory prostatitis (histological diagnosis – will not be considered here further)

I. Acute bacterial prostatitis

- Rare, but should be easy to spot and Rx effectively
- Caused by urinary tract pathogens 2° to UTI or catheterisation
- Infection can spread from urethra, bladder, blood, lymph
- Rarely 2° to STIs
  - ? Chlamydia (role not clear)[2]
  - V. rarely gonorrhoea[3] or *Trichomonas*[4]

Symptoms (! An acute severe systemic illness – treat promptly)

- Sx of UTI (dysuria, frequency, urgency)
- Sx of prostatitis (perineal / penile / rectal pain, acute retention, lower back pain)
- Sx of bacteraemia (fever, rigors, arthralgia, myalgia)

Signs

- Prostate signs: tender, swollen, warm prostate (← on gentle PR. Do not do prostatic massage, it may ppt a bacteraemia)
- Bacteraemia signs: fever, tachycardia, etc

Complications

- Acute retention, prostatic abscess, bacteraemia, epididymitis, pyelonephritis

Diagnosis

- Urine dipstick and MSU
- Blood cultures
- Consider STI screen (1st pass urine for gonorrhoea / Chlamydia NAAT)
- Do not do prostatic massage
  - painful
  - can precipitate bacteraemia
  - little yield as pathogens invariably isolated from urine

21. Prostatitis

Management

- Admit to urology if severe Sx / retention
- Otherwise, start empirical Rx immediately after blood and urine cultures:
  - CIPROFOXACIN 500 mg po bd 28 days switched according to sensitivities.

    or
  - OFLOXACIN 200 mg po bd 28/7

    or if quinolones contraindicated
  - TRIMETHOPRIM 200 mg po bd 28 days
- Rest, adequate hydration, appropriate analgesia (caution with NSAIDs and Quinolones – interaction)
- Review 48 hours: if not improving (beware urinary retention due to prostatic oedema) – admit under Urologists
- At least 4/52 of Rx needed to prevent chronic bacterial prostatitis
  - If Pt fails to respond fully to Rx, consider possibility of prostatic abscess (⟶ refer)
- If managed correctly though, prognosis is good
- When better, refer for investigation of urinary tract for structural abnormalities
- No need to trace sexual partners if STIs not found
- Gonorrhoea cases should be referred to GUM

II. Chronic bacterial prostatitis

Chronic bacterial infection of prostate

- +/- Sx of prostatitis
- Hx of recent UTI caused by same bacterial strain
- No structural abnormalities

Sx

- Recurrent or relapsing Sx of UTI / urethritis / epididymitis

Signs

- No fever, no systemic signs
- May have diffusely tender prostate during acute episodes, otherwise may be normal

Diagnosis

- Hx of recurrent / relapsing Sx (UTIs with same bacterial strain) and no structural reason found on urinary tract imaging

Investigations

- Urine dipsticks (evidence of UTI? Any haematuria?)
- MSUs can be normal unless acute UTI is present. Look back in the notes – review old MSU reports
- Consider referral to urology

21. Prostatitis

Treatment

- Be guided by bacterial cultures and sensitivities
- Consider
  - CIPROFLOXACIN 500 mg po bd 28/7

    or
  - LEVOFLOXACIN 500 mg po od 28/7

    or
  - OFLOXACIN 200 mg po bd 28/7

    or
  - NORFLOXACIN 400 mg po bd 28/7

    or if quinolones contraindicated
  - DOXYCYCLINE 100 mg po bd 28/7 (care: many UTIs may be resistant)

    or
  - TRIMETHOPRIM 200 mg po bd 28/7

Follow-up

- Risk of relapse after Rx so check MSU after finishing Rx
- If another UTI after 28/7 of Rx, investigate further. Urology opinion probably needed by now. Prolonged courses (> 3/12) of antibiotics may be considered.

III. Chronic prostatitis / chronic pelvic pain syndrome (CPPS)

- Sx of discomfort / pain in the genital / pelvic region for > 3/12 within the past 6/12
- Common – 2 to 14% lifetime prevalence?

Cause

- Unknown – may be multifactorial
- Proposed mechanisms
  - Infection (no evidence it is caused by an STI) may trigger Sx
  - Immunological
  - Neuromuscular spasm / pelvic floor dysfunction
  - Intra-prostatic urinary reflux
  - Voiding dysfunction → ? intra-prostatic pressure
  - Chronic pain syndrome

21. Prostatitis

Sx

- Perineal pain
- Lower abdo pain
- Penile pain, testicular pain, rectal / lower back pain
- Ejaculatory pain
- Variable irritative / obstructive Sx and /or ejaculatory disturbance

Sx usually remain constant (strictly speaking, present for > 3/12) although some men have fluctuating Sx and in practice the diagnosis is often suspected after a shorter duration of Sx

Validated Sx questionnaires are available[5] – not to diagnose CPPS but to assess Sx and their impact and follow-up after Rx

Exclusion criteria for the diagnosis

- Active urethritis
- Urogenital cancer
- Urinary tract disease
- Functionally significant urethral stricture
- Neurological disease affecting the bladder

Signs

- Few objective clinical signs
- Prostate may or may not be diffusely or locally tender

Complications

- Significant physical and psychological impact

Diagnosis

- No gold standard – a diagnosis of exclusion
- Diagnosis usually made on typical Hx and not on examination or investigative findings
- Exclude other causes
  - Full Hx
  - Examination including PR
  - Urine dipstick and MSU
  - Consider STI screen (to exclude)
  - Consider
    - Urine cytology (if non-visible haematuria with frequency / urgency / dysuria)
    - PSA (if abnormal prostate)

21. Prostatitis

Management

- Reassure it's common and Sx can be temporary (most men notice improvement within 6/12)
- Reassure not malignancy
- Reassure not a persisting STI
- No reliably effective Rxs – few randomised controlled trials.
  - ? antibiotics
  - ? alpha blockers
- Given such complexities, it may be more pragmatic for GPs to refer Pts to urology.

Patient information may be obtained from www.patient.co.uk/health/Prostatitis-Chronic.htm

References

1. UK National guideline for the management of prostatitis 2008
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines
2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
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3. UK National guideline for the management of gonorrhoea in adults 2011
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5. Turner JA, Ciol MA, Korff MV, Berger R.
   Validity and responsiveness of National Institutes of Health Chronic Prostatitis Symptom Index.
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22. Proctitis / colitis / enteric infections

Background[1,2]

- Related to anorectal intercourse and oro-anal contact (analingus)
- Most cases in MSM – unusual in ♀
- Put STIs on your radar of differential diagnoses

Causes

- Those that are not usually STI related
  - although bear in mind that analingus may ↑ risk ← sensitive Hx taking
  - consider HIV test if the following are found[3]
    - Bacteria (*Salmonella, Shigella, Camplyobacter*)
    - Viruses (CMV – only in severely immunocompromised Pts)
    - Protozoa (*Cryptosporidium* sp – Sx more common in HIV, *Giardia*, *Entamoeba*)
    - Nematodes (threadworms, *Strongyloides*)
- STI related (tend to cause proctitis rather than enteritis)
  - Once again, sensitive Hx taking++. You may not be aware that the Pt may be MSM
  - Strongly consider HIV test if the following are found[3]
    - Gonorrhoea
    - Chlamydia
    - Lymphogranuloma venereum
    - Syphilis
    - Herpes simplex
    - Tropical STIs
- Generally
  - Non STI related causes tend to produce enteritis rather than proctitis
  - STI related causes tend to produce proctitis rather than enteritis

Symptoms

Proctitis (rectal inflammation)

- Acute → mucopurulent anal discharge, anorectal bleeding, tenesmus, constipation
- Subacute / chronic → mucus in stools, constipation, tenesmus

Acute proctocolitis (rectal and colonic inflammation)

- Small-volume diarrhoea, lower abdo pain and tenderness, PR bleeding

Enteritis (inflammation of small intestine)

- Large-volume watery diarrhoea, mid abdominal camps, malaise, weight loss, nausea +/- vomiting

22. Proctitis / colitis / enteric infections

Management

- Hx... Examination... Investigations...
- Have a low threshold to d/w or refer to GUM
- Stools → ova / cysts / parasites
  - Manage as appropriate
- If STI is suspected, test ! Consider...
  - Chlamydia NAAT (rectal swab)
  - Gonorrhoea NAAT +/- culture (rectal swab)
  - HSV swab (anorectal swab)
  - Bloods for HIV, syphilis, HepC? (↑ risk if 'rough' anal sex)
- Rx as appropriate.

Lymphogranuloma venereum[2]

- Systemic disease caused by invasive sub-types of *Chlamydia trachomatis*
- Endemic in tropical countries, rare in industrialised settings until recently
- Recent epidemic amongst MSM in several European cities
  - Sexual networks involving gay sex-party scene
  - Many Pts are HIV+ve and Hep C +ve as well
  - International surveillance alert launched in Oct 2004
  - UK surveillance by HPA has shown that so far[5]...
    - Over 1900 cases in UK to Dec 2011
    - Rapid increase recently (> 1/3 cases diagnosed since 2010)
    - Mostly white MSM, unprotected anal sex, anonymous sex (partner notification has been difficult)

22. Proctitis / colitis / enteric infections

Clinical features

- 1° lesion
  - 3 to 30 day incubation period. Transient painless papule / pustule / erosion
- 2° lesions
  - Inflammation and swelling of lymph nodes and surrounding tissue
  - Systemic spread ⟶ fever, arthritis, pneumonitis
  - Most Pts recover without sequelae. Otherwise ⟶ 3° stage
- 3° stage
  - Chronic inflammation, local tissue destruction
- UK LGV
  - MSM
    - many are HIV +ve and Hep C +ve as well
  - Main Sx was proctitis
    - genital ulcers and inguinal Sx have been rare
    - Sx can mimic Crohn's disease
  - Diagnosis: have a high index of suspicion
    - case reports of Pts being mismanaged with systemic steroids[4]
    - consider LGV in males with rectal symptoms
    - take a rectal swab for Chlamydia or
    - suggest prompt referral to GUM if you suspect rectal LGV

References

1. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
Pattman *et al*
Oxford University Press 2010 ISBN 978-0-19-957166-6

2. UK National guideline for the management of Lymphogranuloma venereum 2006
BASHH Clinical Effectiveness Group
Available at www.bashh.org.uk/guidelines

3. UK national guidelines for HIV testing 2008
British HIV Association / British Association for Sexual Health & HIV / British Infection Society
Available at www.bashh.org.uk/guidelines and www.bhiva.org.uk

4. Lymphogranuloma venereum and HIV infection: misdiagnosed as Crohn's disease
BMJ Case Reports 2010; doi:10.1136/bcr.02.2010.2771

5. Health Protection Agency
http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/LGV/

23. Sexually Acquired Reactive Arthritis (SARA)

Background[1, 2]

Reactive Arthritis

- Sterile inflammation of synovial membranes / tendons / fascia ← ? immune response to antigens
- Can be triggered by an infection at a distant site
  - Gastrointestinal agent (eg: dysentery)
    - Associated agents include *Salmonella*, *Yersinia*, *Shigella* and *Campylobacter* species
    - Approximately 2 to 3% of cases result in reactive arthritis
  - Sexually transmitted agent (= 'sexually acquired reactive arthritis' – SARA)
    - Most lower genital tract STIs can be associated, particularly *Chlamydia trachomatis*
    - Objective features of SARA are present in 0.8 to 4% of cases
    - Whether upper genital tract infections (prostatitis, salpingitis) are associated is uncertain
    - Associated with HIV in certain populations from sub-Saharan Africa
    - Some evidence of persisting organisms intra-articularly in an aberrant form
- Reactive arthritis can also be associated with other symptoms
  - Oral / genital ulceration
  - Uveitis or iritis
  - Skin lesions ('keratoderma blenorrhagica')
  - Rarely cardiac, neurological, renal involvement
- Reiter's Syndrome (a specific triad of symptoms, described by Reiter 2° to dysentery in 1916)
  - Conjunctivitis, urethritis, arthritis (*"can't see, can't pee, can't bend the knee"*)
  - Reiter's syndrome may be incomplete, with variable features

Which organisms are associated with SARA?

- Chlamydia (up to 70% cases of SARA)
- Gonorrhoea (up to 16%) – distinct from role in septic gonococcal arthritis
- ? others – evidence lacking

Which patients?

- Men 10x > women (although under-recognition in women may be a problem)
- HLA B27 gene? (50 x increased susceptibility)

Clinical features

History

- Ask about past or family Hx of spondyloarthritis or iritis
- Sexual contact, usually with a new partner, within 3/12 prior to the onset of the arthritis
- Gut infection? (look for GI trigger as well as STI trigger)

23. Sexually Acquired Reactive Arthritis (SARA)

Symptoms

- Pain (+/- swelling and stiffness) at one or more (usually < 6) joints, especially knees, ankles, feet
- Pain and stiffness at entheses in 1/5 patients (especially posterior and plantar aspects of heels)
- Low back pain and stiffness (10% get sacro-iliitis during acute episode)
- Onset of arthritis within 30 days of sex in most patients
- Recent Hx of urethral discharge and dysuria (mean interval of 14 days between onset of genital Sx and arthritis)
- Systemic Sx of malaise, fever, fatigue in about 10% of patients
- Irritable eyes +/- redness / photophobia / drop in visual acuity
  - up to 50% get conjunctivitis
  - up to 10% get iritis

Signs

- Genital infection (urethritis, cervicitis, epididymitis, etc)
- Arthritis (1 to 5 joints, usually asymmetrical distribution, upper limb involvement is rare if no psoriasis)
- Enthesopathy (+/- swelling) especially at tendon attachments to calcaneum
- Tenosynovitis (especially in fingers)
- Pain on direct sacral pressure (but beware pre-existing back pain)
- Pain and redness of eye (this is usually conjunctivitis, but rarely iritis – refer for slit lamp examination to differentiate)
- Psoriasiform skin lesions
  - typical plaque or guttate skin lesions
  - pustular psoriasis on soles (keratoderma blennorrhagica)
  - nail dystrophy
- Mucous membrane lesions (geographical tongue, circinate balanitis)
- Heart lesions (usually asymptomatic) and rarely pericarditis
- Renal pathology (proteinuria, microscopic haematuria, sterile pyuria) – hence check urine dipstick

Complications

- SARA is usually self limiting (1st episode mean duration: 4 to 6 months)
- 50% will get recurrent episodes at variable intervals
- 17% get chronic symptoms
- May get erosive damage to joints → locomotor disability
- Complications are usually due to aggressive arthritis and are more likely if HLA B27+ve
- Acute anterior uveitis can → cataracts and blindness
  ** (rare but important to detect early – get an eye opinion if worried) **

23. Sexually Acquired Reactive Arthritis (SARA)

Diagnosis

- Clinical – no simple diagnostic test
- Be aware!
  - STI ? ⟶ ask about SARA symptoms
  - SARA symptoms? ⟶ consider STI aetiology

Management

- Low threshold to d/w rheumatology / ophthalmology / dermatology / GUM
- The following should be checked...
  - FBC (helps to exclude septic arthritis, sickle cell, bleeding diatheses)
  - ESR or CRP or plasma viscosity
  - Urinalysis (renal pathology, nephritis?)
  - Stool culture?
  - Full STI screen – even if no symptoms (asymptomatic Chlamydia?)
    - rectal STIs in men and women may be present; test if indicated by sexual history
    - standard course antibiotic Rx for any STI identified – role of longer courses or combination antibiotic therapy remains unclear
    - standard STI management issues (partner notification etc) if STI identified
- Ideally, all patients should go for ophthalmic assessment but pragmatically this might not be feasible so...
  - consider referral for slit lamp assessment even if symptom-free. I suggest you d/w local specialists re referral pathways.
  - do refer all those with eye symptoms
- Consider
  - X-rays of affected joints?
  - LFTs, U&Es
  - Testing for HLA B27?
  - ECG? Echocardiogram?
  - Exclusion tests for other diseases with rheumatological features (RA, SLE, gout, sarcoidosis, etc)

23. Sexually Acquired Reactive Arthritis (SARA)

Treatment

- **In general**
  - symptoms are self-limiting in most cases – rest, NSAIDs
- **STI?**
  - Rx any STI found using standard course Rx
  - Follow standard procedures for STI management – see STI Management Standards chapter
- **Arthritis**
  - Rest and restriction of weight bearing activity – balanced with the use of physiotherapy to prevent muscle wasting
  - Regular NSAIDs – no specific drug of choice, but consider COX-2 selective drugs, or add gastro-protective agents, for those at risk of GI complications. Beware CVS risks, so use for shortest time period or avoid / modify in at-risk patients
  - Consider intra-articular steroid injections if appropriate
  - More severe / prolonged symptoms probably require the input of a rheumatologist
- **Enthesitis**
  - Rest, physiotherapy, NSAIDs, local corticosteroid injections
- **Mucous membrane and skin lesions**
  - Mild? → self limiting – no Rx
  - Mild / Moderate cases? → consider low potency topical corticosteroids or Vitamin D3 analogues
  - Genital lesions → consider low potency topical corticosteroids
- **Eye symptoms / signs**
  - Refer to ophthalmologist
- **Post-inflammatory pain / fatigue**
  - Explanation, reassurance, patience
  - Consider low-dose tricyclic antidepressants nocte

Prophylaxis

- Avoid future 'trigger' infections → safer sex, food hygiene, etc

References

1. UK national guideline on the management of sexually acquired reactive arthritis 2008
Clinical Effectiveness Group, British Association for Sexual Health and HIV (BASHH)
Available at www.bashh.org.uk/guidelines

2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
Pattman *et al*
Oxford University Press 2010 ISBN 978-0-19-957166-6

24. Sexual assault

Background[1, 2, 3, 4]

Sexual Offences

- Definition: crimes covered by the **Sexual Offences Act 2003**
- The Act gives a comprehensive list of sex offences to protect individuals from abuse and exploitation, and is designed to be fair and non-discriminatory
- Two parts to the Act, covering...
  - Sexual offences
  - Sexual offenders (with emphasis on protection of vulnerable individuals)
- Rape
  - intentional penetration of another person, without their consent, using a penis
  - includes penetration of the mouth as well as penetration of the vagina or anus
  - can only be committed using the penis – not committed with an object
  - thus, women cannot be charged with rape (but may be charged with 'sexual assault by penetration')
  - can apply irrespective of the relationship involved (Eg: a man can be convicted of raping his wife)
- Consent
  - defined by law as: *a person consents if he or she agrees by choice to the sexual activity and has the freedom and capacity to make that choice*
- Some other aspects covered by the 2003 Act include:
  - Child sex abuse
    - any sexual intercourse with a child under 13 is treated as rape
  - Sexual offences involving the internet and grooming
  - Indecent assaults and sexual assaults
  - Trafficking people for the purposes of sexual exploitation

Epidemiology[5]

- 21% of girls and 11% of boys report some form of child sexual abuse
- 23% women and 3% men experienced sexual assault as an adult
- 5% women and 0.4% men experience rape

24. Sexual assault

Management of sexual assault in General Practice

- This guidance should be interpreted with a degree of flexibility depending on your assessment of the physical and emotional state of the patient. A pragmatic and compassionate approach is needed: the patient may be trying to regain control after a situation in which control has been lost.
- The benefit to the patient of any investigation / Rx etc, must be weighed against worsening the patient's distress.
- Your notes may be requested for disclosure to the police and the legal profession, so keep careful notes and record information verbatim, but keep the history simple: '*Who, what, when, how...*' etc. Discrepancies in the history may cause difficulties with future legal proceedings.
- Pt needs can be divided into...

1. Immediate needs (disclosure within 7 days of the assault)
2. Medium term needs (disclosure after 7 days of the assault)
3. Long term needs (disclosure after 1 year of the assault)

1. Immediate needs (< 7 days)

- Management of any immediate injuries – may need referral to A&E. Then ask...
- Does Pt wish to have forensic medical examination to gather evidence?
  - **Yes?** ⟶ Do not examine or take swabs unless urgently needed (Eg: vulval bleeding), as this may interfere with forensic evidence. Refer asap to local Police or Sexual Assault Referral Centre

Sexual Assault Referral Centers (SARCs)

- These centers take forensic swabs and offer immediate medical aftercare and counseling post sexual assault
- DNA evidence may still be detected in the vagina up to 7 days after vaginal penetration, 3 days after anal penetration and 2 days after oral penile penetration.[6] Blood can be taken for up to 2 days post incident and urine up to 14 days in some cases where drug facilitated sexual assault is suspected.[6]
- Pt's may self refer to SARCs (telephone first)
- Police do not always have to be involved. Evidence can be stored for later use.
- Immediate medical aftercare can be initiated if necessary (Eg: emergency contraception, Hep B vaccines, etc). Some SARCs offer STI management. Tetanus prophylaxis can be considered in cases of wounding. Services vary around the country, so check with your local SARC first
- An up-to-date list of SARCs in the UK can be found at www.thesurvivorstrust.org/info/isva-services-and-sarcs.aspx#sarcs

Name of local SARC

.....

Tel No. .....

24. Sexual assault

- **No? ⟶** Consider the following in General Practice…
  - Management of any injuries
  - Prophylaxis against
    - Hep B
      - vaccines may be started up to 6 weeks after the risk
    - HIV?
      - post exposure prophylaxis can be given, if appropriate, < 72 hours after risk
      - consider this if assailant(s) from high-risk group / bleeding / trauma / etc
      - commenced by GUM / SARC / A&E depending on local protocols. Refer promptly
  - Emergency contraception
    - If an IUD is to be fitted, consider prophylactic antibiotics
  - STI screen
    - NB: Consider Chain of Evidence* but you may well have to be pragmatic
    - Some advocate taking a screen at baseline, then repeating after incubation periods
    - Others advise waiting until the appropriate incubation period
      - Bacterial STI window period: 2 weeks
      - HIV / syphilis window period: 3 months
    - Some advocate prophylactic antibiotics – there are pros and cons to this
    - Refer to GUM (or pt to self refer) for next available appt (most clinics will see assault victims asap).

      *Chain of Evidence: the chronological documentation or paper trail, showing the movement and location of physical evidence from the time it is obtained until the time it is presented in court.
  - Asses psychological and social wellbeing
    - risk of self harm / suicide?
    - personal safety issues: safe at home? Is emergency accommodation required?
    - follow-up plans?

2. Medium term needs (> 7 days)

- See above, plus...
- Pregnancy test needed?
- Hep B vaccines follow-up
- Screening for STIs according to incubation periods
- Psychosocial support. Any signs of post traumatic stress disorder?

3. Long term needs (> 1 year)

- Main issues may be psychological – any post traumatic stress disorder?
- Is an STI screen needed (if only to reassure)?
- Psychosocial support

24. Sexual assault

Compensation issues

The Criminal Injuries Compensation Authority is a government body responsible for administering the UK Criminal Injuries Compensation Scheme. It provides a free service to victims of violent crime who may be interested in applying for financial compensation. See www.cica.gov.uk

Useful sources of support

(Others may be available and none are specifically recommended or endorsed)

National Domestic Violence Helpline
Free 24-hour helpline offering support and advice to women experiencing domestic violence, including referrals to refuges and outreach services. This service is available nationally
0808 200 246
www.womensaid.org.uk/www.refuge.org.uk

Rape Crisis
A national umbrella organisation for Rape Crisis Centers across the country.
Provides help and advice for the general public and healthcare professionals
0808 802 9999
www.rapecrisis.org.uk

Survivors UK
National helpline for men who have experienced sexual violence and childhood sexual violence
0845 122 1201
www.survivors.org

Samaritans
Provides confidential emotional support 24/7 to those experiencing despair, distress or suicidal feelings
0845 790 9090
www.samaritans.org

Victim Support
A national charity giving free and confidential help to victims of crime, witnesses, their family, friends and anyone else affected across England and Wales.
0845 30 30 900
www.victimsupport.org

The Survivors Trust
National umbrella agency for over 120 specialist voluntary sector agencies providing a range of counseling, therapeutic and support services working with women, men and children who are victims/survivors of rape, sexual violence and childhood sexual abuse.
01788 550554
www.thesurvivorstrust.org

24. Sexual assault

References

1. UK national guidelines on the management of adult and adolescent complainants of sexual assault 2011
   BASHH Clinical Effectiveness Group
   Available at www.bashh.org.uk/guidelines
2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
   Pattman *et al*
   Oxford University Press 2010 ISBN 978-0-19-957166-6
3. Sexual Offences Act 2003
   Available at www.legislation.gov.uk/ukpga/2003/42/contents (accessed 31.5.12)
4. Sexual Offences Factsheet
   Crown Prosecution Service
   Available at www.cps.gov.uk/news/fact_sheets/sexual_offences/ (accessed 31.5.12)
5. Cross Government Action Plan on Sexual Violence and Abuse
   HM Government April 2007
   Available at www.homeoffice.gov.uk/documents/ Sexual-violence-action-plan
6. Dr Beata Cybulska, Clinical Director of the 'The Bridge'' SARC at Bristol University Hospital NHS Foundation Trust and lead author of the *BASHH 2011 UK national guidelines on the management of adult and adolescent complainants of sexual assault*. Personal communication

25. Ophthalmia neonatorum

Background[1,2]

Definition: Conjunctivitis in neonate < 21 days old

Causes:

- during birth (Chlamydia, GC, rarely HSV) ← exposure to maternal infection in birth canal
- after birth (*Staph aureus, strep pneumoniae*, etc)

Management

- Swabs for bacterial culture and Chlamydia
  - the CMOs Expert Advisory Group on Chlamydia[3] recommends all infants with ophthalmia neonatorum or neonatal pneumonia are screened for Chlamydia
- Topical Rx's alone are inadequate for gonococcal / Chlamydial eye infections and are unnecessary when systemic Rx is given
- Don't forget the parents too, if the baby is Chlamydia / gonorrhoea +ve
- Don't assume the mother had the same sexual partner throughout the pregnancy
- Have a low threshold to refer, especially if
  - Acute onset
  - Severe Sx
  - Both eyes affected
  - Baby is unwell
- No longer a notifiable disease as of April 2010 (see List of Notifiable Diseases at www.hpa.org.uk)

Clinical findings

Chlamydia

- Sticky eye (can be unilateral). There may also be signs of otitis, rhinitis and pneumonitis
- Occurs in 30 to 50% exposed babies (↓ if mother is Rx'd before delivery)
- Incubation period of 5 to 14 days from delivery or PROM, but can be up to 2 months
- Corneal scarring is rare (cf: gonococcal conjunctivitis)
- Risk of simultaneous infection at other sites (Eg: pneumonitis – see below) so systemic Rx required
- Pneumonitis usually presents later than conjunctivitis (4 to 12 weeks)
- Management
  - Complications possible → low threshold for referral to Paeds
  - Rx: Oral ERYTHROMYCIN 50 mg / kg daily in 4 doses for 14/7 (see BNF)
  - Re-check eye swab 3/52 after Rx finishes as Rx isn't always 100% effective
  - Contact trace (sensitive d/w parents) – refer GUM

25. Ophthalmia neonatorum

See national STI Management Standards: Chapter 1

Gonorrhoea

- Acutely purulent discharge 2 to 5 days after birth +/- chemosis and lid oedema
- Occurs in 30 to 40% of exposed babies (↑ risk if PROM or preterm delivery)
- Danger! Untreated, may cause corneal scarring / ulcers / blindness +/- systemic complications
- Management
  - Urgent referral to Ophthalmology – parenteral Rx needed.
  - All infants with gonococcal disease should be tested / treated for Chlamydia infection too
  - Contact trace (sensitive d/w parents) – refer GUM

Neonatal Chlamydia infection

Have a low threshold to discuss all cases / refer to Paeds. Complications can arise

- Conjunctivitis
  - Commonest site of infection – see above.
  - Always consider Chlamydia in any baby under 3 weeks old with conjunctivitis
  - Swab → NAAT test (d/w lab)
  - Other sites often affected too, hence need systemic Rx (see below)
- Respiratory tract infection
  - Up to 80% of infected infants will develop nasopharyngeal infection – often asymptomatic
  - 1/3 of those with nasopharyngeal infection develop pneumonitis
    - usually presents between 4 and 12 weeks of age
    - no cases reported in babies over 4 months old
    - tachypnoea with repetitive staccato cough
    - often afebrile and wheezing is rare
    - CXR shows hyperinflation with bilateral diffuse infiltrates
    - If you suspect it, consider Chlamydia swab from nasopharynx: d/w Paeds / GUM.
    - If +ve consider Paeds follow-up – risk of fibrosis later in childhood
- Otitis media
  - May complicate nasopharyngeal infection
  - May become chronic if not Rx'd quickly
- Vaginal and rectal infections
  - Up to 15% exposed infants
  - Usually asymptomatic

25. Ophthalmia neonatorum

- Management
  - Low threshold to refer to Paeds
  - Rx: Erythromycin base or ethylsuccinate 50 mg / kg / day divided into 4 doses daily for 14 days
  - Effectiveness is only 80%, so another Rx course may be needed if Sx haven't resolved[4]
  - ToC recommended after Rx

Neonatal gonococcal infections

Conjunctivitis

- See above

Arthritis

- Usually polyarticular – presents as pseudo paralysis

Other sites

- Scalp abscess, rhinitis, anogenital infection, neonatal sepsis, rarely meningitis

Infants born to Chlamydia or gonorrhoea +ve mothers

- Risk of baby becoming infected from birth canal – refer to Paeds / GUM for management

References

1. Complications of infections in pregnancy and infants
(Chapter 6) in Sexual Health in Obstetrics and Gynaecology
Wilson and Everett (Editor: Walker)
Remedica publishing 2003 ISBN 1-901346-04-8

2. Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
Pattman *et al*
Oxford University Press 2010 ISBN 978-0-19-957166-6

3. Chlamydia trachomatis. Summary and conclusions of the CMO's Expert Advisory Group
Metters J.S. editor
Department of Health, London: 1998

4. Chlamydia infections among infants
STD Treatment guidelines 2010, Centers for Disease Control and Prevention, USA
Available at www.cdc.gov/std/treatment/2010

5. BNF for Children 2011-2012
London: BMJ Group, Pharmaceutical Press, and RCPCH Publications 2011
Available at http://bnfc.org

26. Haematospermia

Background[1]

Definition – the presence of blood in the ejaculate. It is usually painless, isolated, benign and self-limiting

Causes

- Inflammation (prostate, seminal vesicles, urethra, epididymis)
- Calculi of the above
- Systemic (severe hypertension, clotting problems, drugs)
- Tumours (benign warts, BPH, Ca prostate, Ca bladder)
- Vascular (varicosities, a-v malformations)
- Iatrogenic / trauma (prostate biopsy, vasectomy, local trauma)
- Unknown (fewer cases nowadays if fully investigated)

History

- Amount, colour, duration, frequency
- How observed? (exclude sexual partner as source – condom test)
- Any other Sx? (weight loss, STI?, UTI?)
- Drugs – Aspirin, Warfarin
- FHx of prostate Ca?
- TB? Schistosomiasis?

Examination

- BP, temperature
- Abdo masses?
- Genitals
- PR (re-examine urethral meatus after PR – bloody discharge?)

Investigations

- Urine dipstick and MSU
- FBC, U&Es, LFTs, ? clotting screen
- STI screen
- Consider PSA if > 40 years old, or if FHx of Prostate Ca

Management

- Most cases are benign and self limiting – conservative Mx
- Treat UTI or STI
- Refer to urology if > 40 years old, or if persistent / recurrent Sx

References

1. Haematospermia: in the context of a genitourinary medicine setting
Int J STD & AIDS 2002; 13: 517–521
Narouz and Wallace

27. Young people

Background[1,2]

- This chapter is a brief overview only – comprehensive ethical and medico-legal issues are beyond the scope of this document
- When young people attend for sexual health services, it is good practice to run through a checklist of risks / concerns – see figure 1 below. Items in the second column will raise more concerns than those in the third

If you suspect / diagnose an STI in a child, have a low threshold to d/w GUM / Paeds

Definitions

- Child = 'a person who has not yet reached 18 years of age'[3]
- The GMC makes a further definition[4]
  - Children = younger children who lack the maturity and understanding to make important decisions for themselves
  - Young people = older or more experienced children who can make these decisions

In general

- 1/4 of young people are sexually active before age 16
- They are the group least likely to use contraception
- Poor awareness of STIs (hence quick Pill-check in GP? ⟶ discuss STIs!)
- Concern about confidentiality is the biggest deterrent to seeking advice
  - do you need posters in your waiting room reassuring teenagers?

Legal issues (updated on Govt website[5])

- Legal age for heterosexual and homosexual sex is 16
- Under the Sexual Offences Act 2003 (England)
  - Sexual activity under the age of 16 is technically illegal – although rarely prosecuted if consensual and no Child Protection issues
  - Those aged under 13 are deemed unable to give consent – thus penetrative sexual activity is defined as 'rape'

Sexual Offences Act 2003

- Became law May 2004
- Protection for children, vulnerable people, general public
- Laws regarding aiding and abetting a sexual offence

It does not alter the provision of sexual health advice, or treatment, to young people, including those under 13, so long as you are:

- Protecting the child from an STI
- Protecting their physical safety
- Preventing unintended pregnancy
- Promoting emotional well-being by giving advice

27. Young people

Figure 1:

Suggested proforma for 'Risk assessment for young people attending sexual health services

Name / ID: ..... Age: .....

Essential			Additional Information
Age	Under 13	13–15	
Parental awareness of sexual activity	No	Yes	
Involuntary sexual activity – Current	Yes	No	
– Previous	Yes	No	
More than one partner	Yes	No	
Partners ages (specify)			
Partner in position of trust	Yes	No	
Alcohol use	Yes	No	
Drug abuse	Yes	No	
Pre-puberty	Yes	No	
Intellectual understanding	No	Yes	
Other young people / children at risk	Yes	No	
Additional			
Involvement of other sources	Yes	No	
Home circumstances of concern (e.g. in care / looked after)	Yes	No	
Out of school	Yes	No	
Aggression / coercion / bribery / grooming	Yes	No	
Mental health issues	Yes	No	
Fraser competency for treatment			
Understands advice given	No	Yes	
Cannot be persuaded to inform parent(s)	Yes	No	
Is likely to have intercourse	No	Yes	
Physical and / or mental health likely to suffer if care not given	No	Yes	
Best interest is care with or without parental consent	No	Yes	
Action			
Need to disclose	Yes	No	
Reasons			
Consent to disclose	Yes	No	
Discussed with / seen by senior doctor	Yes	No	
Action			
Referred to Health Advisor	Yes	No	
Follow up	Yes	No	
Name of Doctor / Nurse / HA			
Date:			

Reproduced with permission from the *UK national guideline on the management of STIs and related conditions in children and young people 2010* BASHH Clinical Effectiveness Group www.bashh.org.uk/guidelines

27. Young people

Duty of Care

Doctors, and other health professionals, have a duty of care regardless of the patients age, and are able to provide contraception, sexual and reproductive health advice and treatment, without parental knowledge, to an under 16 year old, provided:

- She / he understands the advice provided and its implications
- Her / his physical or mental health would otherwise be likely to suffer, and so provision of advice / treatment is in their best interests

What if there is a risk to the health / safety / welfare of the under 16? Can you break confidentiality?
Yes, if the risks **outweigh** the right to privacy.

You should:

- Follow local Child Protection Protocols and GMC guidance
- d/w young person first and seek their permission, unless to do so might cause them harm
- Discuss with colleagues with child protection responsibilities if any concerns
- Justify any disclosure and document why

The decision to break confidentiality depends on the degree of harm, other risk factors and potential risk to other young people, not just age.

Further reading

- Your local Child Protection protocols
- UK national guideline on the management of STIs and related conditions in children and young people 2010
  Available at www.bashh.org.uk/guidelines
- Best Practice Guidance for Doctors and other Health Professionals on the provision of advice and treatment to young people under 16 on contraception, sexual and reproductive health July 2004
  Dept of Health gateway ref 3382 Available at www.dh.gov.uk
- General Medical Council (2007). 0 to 18 years: guidance for all doctors.
  www.gmc-uk.org/guidance/ethical_guidance/children_guidance/index.asp.
- General Medical Council (2012). Protecting children and young people: the responsibilities of all doctors
  www.gmc-uk.org/guidance/ethical_guidance/13257.asp
- *Ethical and medico-legal issues* (Chapter 2) in Oxford Handbook of Genitourinary Medicine, HIV and Sexual Health (2nd Ed)
  Pattman et al Oxford University Press 2010 ISBN 978-0-19-957166-6

References

1. UK national guideline on the management of STIs and related conditions in children and young people 2010
   Available at www.bashh.org.uk/guidelines
2. Best Practice Guidance for Doctors and other Health Professionals on the provision of advice and treatment to young people under 16 on contraception, sexual and reproductive health July 2004
   Dept of Health Gateway ref 3382
   Available at www.dh.gov.uk
3. Children Act 1989. http://www.opsi.gov.uk/acts/acts1989/ukpga_19890041_en_1.
4. General Medical Council (2007). 0 to 18 years: guidance for all doctors.
   www.gmc-uk.org/guidance/ethical_guidance/children_guidance/index.asp.
5. Office of Public Sector Information. www.opsi.gov.uk/

28. Tropical STIs

With increasing travel...

- UK GPs are more likely to come across tropical infections, some of which are associated with sexual transmission.
- Below are some tropical STIs – they are relatively rare and most cases would require referral to GUM, hence this section is brief
- Your local tropical medicine specialists can offer advice as well

See national STI Management Standards: Chapter 1

Chancroid[1]

- After an incubation period of 3 to 10 days, a tender red papule forms → pustule → ulcerates after a few days
- May get multiple ulcers, often side-by-side autoinoculation ('kissing' lesions)
- Irregular margin with undermined edges, non-indurated ('soft-sore'), bleeds easily, painful++
- Associated with local inguinal lymphadenopathy → buboes may form and can rupture
- No prodromal symptoms
- Caused by *Haemophilus ducreyi*: sexually transmitted but also auto-inoculated
- Found in tropics and subtropics, but becoming uncommon.

Granuloma inguinale (donovanosis)[2]

- At site of 1° inoculation, firm papules / nodules develop into friable ulcers (not painful)
- May heal spontaneously or become necrotic and spread → local destruction
- May be mistaken for malignancy
- Incubation period 3 to 40 days
- Found in small endemic foci in certain tropical countries
- Caused by *Klebsiella granulomatis*

Lymphogranuloma venereum[3]

- Systemic disease caused by sub-type of Chlamydia trachomatis (serovars L1, L2 and L3)
- Classically divided into 3 stages
  - 1°: 3 to 30 day incubation period, transient painless papule, pustule or erosion
  - 2°: regional dissemination → tender lymphadenopathy. Most Pts recover at this stage
  - 3°: local tissue destruction; proctocolitis may mimic Crohn's dis.
- Prior to 2003, cases tended to be seen in travellers to tropics.
- Now seen in certain MSM in UK – dense sexual networks centred around the gay leather-bar scene
  - Presents as proctitis
  - Many Pts are HIV +ve and HepC +ve
  - Have an index of suspicion → sensitive sexual history
  - Take a rectal Chlamydia swab and/or prompt referral to GUM if you suspect it
  - Screen for other STIs

28. Tropical STIs

HIV

Travel does not just expose Pts to tropical infections – think about HIV as well!

- An increasing number of heterosexuals are exposing themselves to HIV abroad, especially when paying for sex[4]
- Pre-travel advice should include advice on safer sex as well as appropriate prophylaxis against infectious diseases
- Why not have a poster in your waiting room highlighting HIV high-risk areas? (Many patients do not realise the prevalence of HIV in places like Thailand). See www.unaids.org
- Why not also offer a post-holiday check-up (allowing for incubation periods)?
- When testing for HIV[5]
  - In general
    - any doctor / nurse / midwife should be able to take an HIV test
    - lengthy pre-test 'counseling' is not required for HIV tests unless the Pt requests or needs it
    - many Pts with HIV do not know they are infected
  - The patient should
    - be aware of the test and give consent (formal written consent is not necessary)
    - be aware of the 3 month window period and re-test again as necessary
    - be aware that simply having a test (with a subsequent negative result) should not have implications for insurance / mortgage issues. See ref 5 for more details
  - You should
    - explain the benefits of testing (Rx saves lives, safer sex advice for future, etc)
    - agree details of how the results will be given to the patient (check contact details)
    - discuss future safer sex issues
    - have a process in place for fast-track referral of +ve results
  - See HIV chapter – page 16

References

1. 2007 National guideline for the management of Chancroid
BASHH Clinical Effectiveness Group
Available at www.bashh.org/guidelines

2. 2011 UK National guideline for the management of Donovanosis (Granuloma inguinale)
BASHH Clinical Effectiveness Group
Available at www.bashh.org/guidelines

3. 2006 National guideline for the management of LGV
BASHH Clinical Effectiveness Group
Available at www.bashh.org/guidelines

4. Safe travels? HIV transmission among Britons travelling abroad
Rice *et al*
HIV Medicine 25 Jan 2012 Vol 13 p1468

5. UK national guidelines for HIV Testing 2008
British HIV Association / British Association for Sexual Health and HIV / British Infection Society
Available at www.bhiva.org

Appendix 1: Partner notification

The advice is this section is designed to be background information for GPs. See Reference 1 for more detailed advice.

- Partner notification (PN) – also known as contact tracing, is the process of providing access to specific forms of healthcare to sexual contacts who may have been at risk of an STI from an index case.
- This includes supportively providing advice to contacts about possible infection, and providing treatments for infection.
- The PN process includes
  - identifying a look-back interval during which the infection of contacts may have occurred
  - agreeing and recording contact actions with the index case
  - following up and recording the outcomes of the PN
- Reinfection with Chlamydial and gonorrhoeal infection is common[2, 3] stressing the importance of PN for the care of both individuals **and** their sexual partner(s).
- This applies to infection detection, reducing onward infection and re-infection, and the complications of infections.
- PN is important from a public health point of view because it is a core component in the prevention of sexually transmitted infections.
- PN also involves providing other sexual health needs, including managing risk-taking behaviour and dealing with certain ethical issues.
- PN can be undertaken by
  - The patient themselves advising their sexual contacts to seek treatment
  - A healthcare provider advising a patient's contact anonymously that they should seek treatment
- The choice of method of PN will depend on the availability of resources as well as acceptability to the patient and their contacts. Discuss these options with patients.
- Trained practice nurses in Primary Care (with support from GUM staff) can undertake such work. Decisions should be made locally on how best to provide PN for infections diagnosed in the community.
- Services providing PN should have written care pathways linking all providers of STI care and PN to local Level 3 services (ie: specialist GUM clinics)
- Healthcare workers providing PN should have documented competencies appropriate to the care given. These competencies should correspond to the content and methods described in the Society of Sexual Health Advisers (SSHA) *National Sexual Health Advisers Competencies – Competency Record Book*[4]
- Table 1 summarises look-back intervals and recommendations for epidemiological treatment.

Appendix 1: Partner notification

Table 1: Look back intervals for STI partner notification and recommendations for epidemiological treatment (adapted from Ref 1 with permission)

Infection	Look-back intervals for partner notification*	Epidemiological treatment*
Chancroid	All contacts since and in the 10 days prior to onset of symptoms.	Yes
Chlamydial infection	■ Male index cases with urethral symptoms: all contacts since, and in the four weeks prior to, the onset of symptoms† ■ All other index cases (i.e. all females, asymptomatic males and males with symptoms at other sites, including rectal, throat and eye): all contacts in the six months prior to presentation†	Yes
Epididymo-orchitis	Use the look-back intervals for Chlamydial infection or gonorrhoea, if these are detected. If these infections are not detected, the look-back interval is for all contacts since, and in the six months prior to, the onset of symptoms.†	Yes
Gonorrhoea	■ Male index cases with urethral symptoms: all contacts since, and in the two weeks prior to, the onset of symptoms† ■ All other index cases (i.e. all females, asymptomatic males and males with symptoms at other sites, including rectal, throat and eye): all contacts in the three months prior to presentation†	Yes
Hepatitis A‡	Index cases with jaundice: all contacts in the two weeks prior to, and one week after, the onset of jaundice. Index cases without jaundice: if possible, estimate when infection is likely to have occurred based on a risk assessment. Notify the local CCDC§, or equivalent, if an outbreak is suspected, there are household contacts, there are concerns about food or water borne infection, or the index case is a food handler.	No

Appendix 1: Partner notification

Infection	Look-back intervals for partner notification*	Epidemiological treatment*
Hepatitis B‡	PN should include any sexual contact (vaginal or anal sex, or oro-anal sex) or injection equipment sharing partners during the period in which the index case is thought to have been infectious. The infectious period is from two weeks before the onset of jaundice until the index case is surface antigen negative. In cases without jaundice, if possible, estimate when infection is likely to have occurred based on a risk assessment. In cases of chronic infection, trace contacts as far back as any episode of jaundice, or to the time when the infection is thought to have been acquired, although this may not be possible for long look-back intervals. Appropriate repeat serological testing of contacts should be offered. Arrange hepatitis B screening of children who have been born to infectious women, if the child was not vaccinated at birth, according to national guidelines.[5] For screening of non-sexual contacts, including household contacts, who may be at risk, discuss with the CCDC§ or equivalent.	No
Hepatitis C‡	The infectious period for acute hepatitis C is from two weeks before the onset of jaundice. However, usually there is no jaundice or history to suggest acute infection, and the look-back period for PN is to the likely time of infection (e.g. blood transfusion or first sharing of injection equipment), although this may not be possible for long look-back intervals. However, PN should be offered in two situations only, where: ■ There was vaginal or peno-anal sexual contact and either the index case and/or the sexual contact(s) have HIV infection ■ Sharing of injection equipment occurred during the period in which the index case is thought to have been infectious Appropriate repeat serological testing of these contacts should be offered. Sexual transmission of HCV through heterosexual sexual contact is uncommon if both the index case and sexual contacts do not have HIV infection, and PN is not recommended for this group. Check that children born to women with hepatitis C infection have been tested for hepatitis C infection in accordance with nationally accepted guidance.[6] For other non-sexual contacts thought to be at risk, discuss with the CCDC§ or equivalent.	No

Appendix 1: Partner notification

Infection	Look-back intervals for partner notification*	Epidemiological treatment*
HIV infection	An estimate, based on a risk assessment, of when infection is likely to have occurred should be made and PN provided to include all contacts since, and in the three months prior to, this estimate. If this is not possible, all previous partners should be contacted and offered HIV testing. The risk assessment should take into account sexual history, HIV testing history (including antenatal and Blood Transfusion Service testing history), and history of possible seroconversion illness. Additionally, any results for recent infection testing algorithm (RITA) assays[8] for HIV infection, as well as CD4 cell counts and trend in CD4 cell counts should be taken into account, although careful interpretation of these data is needed. PN for HIV infection should be part of ongoing care. Joint Specialist Society Guidelines recommend sexual history taking at six monthly intervals after first presentation with HIV infection.[9] Offer PN at follow-up visits when there are new sexual contacts whose HIV status is negative or unknown, or when new STIs are detected. Ongoing PN should include discussion about testing and re-testing of current partners and testing of children, where appropriate. Identifying undiagnosed HIV-positive children is a priority area of unmet need and practical guidance on the approach to HIV testing of children with HIV-positive parents is available.[10] Although there is no evidence-based guidance currently available, in a recent multi-disciplinary meeting[11] the following were agreed: ■ HIV PN should be initiated as soon as possible, and, by four weeks after a positive HIV test, agreed actions and timelines to resolve PN should be documented. Any outcomes of PN should also be documented at this time. ■ Consensus that PN should be resolved by three months, but that if PN is still unresolved by this time it should be continued, with clear timelines, as successful PN outcomes have been reported up to 12 months after a positive HIV test.	Post exposure prophylaxis where indicated – see BASHH Guidelines[7]
LGV infection	All contacts since and in the four weeks prior to the onset of symptoms.	Yes

Appendix 1: Partner notification

Infection	Look-back intervals for partner notification*	Epidemiological treatment*
Non-specific (non-Chlamydial, non-gonococcal) urethritis in men	Male index cases with symptoms attributable to urethritis: all contacts since, and in the four weeks prior to, the onset of symptoms† (Screening of men, without clinical features suggesting urethritis, by microscopy is not recommended practice, and therefore PN is not recommended for this group).	Yes
Pelvic inflammatory disease	Use the look-back intervals for Chlamydial infection or gonorrhoea, if these are detected. If these infections are not detected, the look-back interval is for all contacts since, and in the 6 months prior to, the onset of symptoms.† ¶	Yes
***Phthirus pubis* infestation**	All contacts since, and in the three months prior to, the onset of symptoms.	Yes – current sexual partner(s) only
Scabies infestation	All contacts (including non sexual contacts: those with prolonged skin-to-skin contact, bed and clothes sharing, and household contacts) since, and in the two months prior to, the onset of symptoms.	Yes – current sexual partner(s) and current non-sexual contacts
Syphilis	■ Early syphilis: – Primary syphilis: all contacts since, and in the three months prior to, the onset of symptoms – Secondary and early latent syphilis: all contacts since, and in the two years prior to, the onset of symptoms Sexual contacts of index cases with early syphilis should have serological testing for syphilis at the first visit, and have this repeated six weeks and three months from the last sexual contact with the index case. ■ Late latent and late syphilis: PN (of sexual partners and children of female patients) should be done back to the date of the last negative syphilis serology, if available. Otherwise, it should extend back over the patient's sexual lifetime as far as is feasible. Because of the possibility of congenital syphilis, consideration should also be given to the testing of mothers of patients with late syphilis who were born outside the UK in countries where sub-optimal antenatal care was a possibility.	Yes – in cases of early syphilis, particularly for high risk contacts and events and when contacts may not attend for repeat testing for syphilis Not for latent and late syphilis
Trichomoniasis	Any partner(s) within the four weeks prior to presentation should be treated.**	Yes – current partner(s) and any other partners connected with recurrent trichomoniasis. Current contact(s) should take treatment at the same time as treatment is taken by the index case

Appendix 1: Partner notification

* The look-back intervals and recommendations on epidemiological treatment stated are consistent with the BASHH Clinical Effectiveness Group (CEG) Guidelines,[12] except for chlamydial infection, where there is more qualification based on the presence or absence of symptoms (the BASHH CEG Chlamydia Guideline states four weeks for [all] symptomatic infection and six months for [all] asymptomatic infection). The recommendation in this Statement is also more consistent with the PN recommendation in the CEG BASHH guideline for gonorrhoea.

† If there have been no sexual contacts in these intervals: the most recent sexual contact beyond this interval.

‡ Acute infectious hepatitis (caused by hepatitis A, B and C) are diseases notifiable (to Local Authority Proper Officers) under the Health Protection (Notification) Regulations 2010 Health Protection Agency.[13]

§ CCDC Consultants in Communicable Disease Control (or Consultants in Health Protection), are responsible for the surveillance, prevention and control of communicable disease (as well as the health aspects of non-communicable environmental hazards) for a defined population within (a) defined local authority area(s). They work, along with specialist nurses, in the Health Protection Agency network of Health Protection Units (HPUs) in England. HPUs work closely with other local services involved in disease detection, surveillance and control, including local microbiology laboratories. There are equivalent systems in Wales and Scotland.[14]

¶ The 6 month look-back interval for PID is given arbitrarily on the basis that *Mycoplasma genitalium* may cause disease in women and be asymptomatically carried in men and women for an unknown period.[15] Also, false negative chlamydial nucleic acid amplification tests, as well as discordant chlamydial test results, and different rates of spontaneous clearance of chlamydial infection, between sexual partners, are possible.[16]

** Trichomonal infection appears to resolve spontaneously in most men, usually within two weeks, with detection rates in men decreasing with increasing time from last sexual contact with female index cases. However, prolonged asymptomatic carriage has been demonstrated in some men.[17,18,19]

Appendix 1: Partner notification

Partner notification slip: please print this off, fill it in and hand to Pt to give to their contact(s)

General Practice partner notification slip

Instructions to patient: Please give this slip to your sexual contact(s) and tell them to show it to their own GP or specialist sexual health (*Genitourinary Medicine*) clinic. Your GP may have given you the contact details of the nearest specialist clinic. Do not have any sex with your partner(s) until they have had treatment.

Advice to Healthcare professional: This slip has been given to the contact(s) of a patient seen at our surgery recently. The contact(s) will require full screening and epidemiological treatment in line with current UK guidelines that are available at www.rcgp.org and www.bashh.org/guidelines

Condition treated

Treatment given

Date treatment was given

Please contact us to inform us that the patient's contact(s) attended your service

GP PRACTICE STAMP	**Clinician** **Designation** **Date**

Appendix 1: Partner notification

References

1. McClean H, Radcliffe K, Sullivan AK, Ahmed-Jushuf I. British Association for Sexual Health and HIV. *2012 Statement on Partner Notification for Sexually Transmissible Infections* See: www.bashh.org/guidelines
2. Hillis S, Owens L, Marchbanks P, *et al*. Recurrent chlamydial infections increase the risks of hospitalization for ectopic pregnancy and pelvic inflammatory disease. *Am J Obstet Gynecol* 1997;176:103e7
3. Fowler T, Caley M, Johal R, Brown R, Ross JDC. Previous history of gonococcal infection as a risk factor in patients presenting with gonorrhoea. *Int J STD AIDS* 2010;21:277–8
4. Society of Sexual Health Advisers. *National Sexual Health Advisers Competencies – Competency Record Book.* See www.ssha.info/ssha-national-sexual-health-adviser-competencies-consultation/
5. National Institute of Clinical Excellence. PH21 Reducing differences in the uptake of immunisations (including targeted vaccines) among children and young people aged under 19 years. See http://publications.nice.org.uk/reducing-differences-in-the-uptake-of-immunisations-including-targeted-vaccinesamong-children-and-ph21/recommendations
6. Davison SM, Mieli-Vergani G, Sira J, Kelly DA. Perinatal hepatitis C virus infection: diagnosis and management. ArchDis *Child* 2006;91:781–5
7. Benn P, Fisher M, Kulasegaram on behalf of the BASHH PEPSE Guidelines Writing Group Clinical Effectiveness Group. UK guideline for the use of post-exposure prophylaxis for HIV following sexual exposure (2011). See: www.bashh.org/documents/4076
8. Health Protection Agency. Recent Infection HIV Testing Algorithm (RITA)/HIV Incidence. See: www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListName/Page/1201094588911
9. British HIV Association, British Association for Sexual Health and HIV and the Faculty of Sexual and Reproductive Healthcare. UK guidelines for the management of sexual and reproductive health (SRH) of people living with HIV infection. See: www.bashh.org/documents/1955
10. British HIV Association, British Association for Sexual Health and HIV, Children's HIV Association. Don't forget the Children. Guidance for the HIV testing of children with HIV-positive parents. See: www.bhiva.org/documents/Guidelines/Dont%20Forget%20the%20Children/DFTC.
11. Preliminary report from the National AIDS Trust's Expert Seminar on HIV Partner Notification, January 2102. Final report will be available soon at www.nat.org.uk/Our-thinking/Our-current-work.aspx
12. British Association for Sexual Health and HIV Clinical Effectiveness Group Guidelines. See: www.bashh.org/guidelines
13. Health Protection Agency. List of notifiable diseases. See: www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/NotificationsOfInfectiousDiseases/ListOfNotifiable Diseases/
14. Health Protection Agency. Health Protection Units See: www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1219908762203
15. Ross, JDC, Brown L, Saunders LP, Alexander S. *Mycoplasma genitalium* in asymptomatic patients: implications for screening. Sex Transm Infect 2009;85:436–7
16. British Association for Sexual Health and HIV Clinical Effectiveness Group. UK National Guideline on the Management of Nongonococcal Urethritis Updated Dec 2008 See: www.bashh.org/documents/1955
17. Weston TE, Nicol CS. Natural history of trichomonal infection in males. *Br J Vener Dis* 1963;39:251–7
18. Krieger JN, Verdon M, Siegel N, Holmes KK. Natural history of urogenital trichomoniasis in men. *J Urol.* 1993;149:1455–8
19. Kanno M, Sobel JD. Late recurrence of resistant *Trichomonas vaginalis* vaginitis: relapse or re-infection? *Sex Transm Infect* 2003;79:260–261

Appendix 2: Useful resources

1. Education and Training opportunities for Primary Care professionals

(Table adapted from Appendix C – Standards for the management of Sexually Transmitted Infections 2010 BASHH and Medical Foundation for AIDS and Sexual Health ISBN 978-1-905545-42-1
Available at www.medfash.org.uk and www.bashh.org.uk

Service Level	Existing courses	Training Provided		Assessment method		Professional groups		Evidence of training
		Knowledge	Skills	Knowledge	Skills	Nurse	Dr	
Level 0/1	RCGP *Introductory Certificate in Sexual Health* (online and face to face training) See RCGP website	Yes	No	Yes	No	Yes	Yes	Certificate
Level 1	DH/BASHH/RCP *e-Learning for Healthcare:* Level 1 modules of e-HIVSTI see below	Yes	No	Yes	No	Yes	Yes	On line learning management records progress
	BASHH STIF Core course (1 day)	Yes	Yes	No	No	Yes	Yes	Certificate of attendance
	BASHH STIF Level 1 *Competency* assessment	No	No	Yes	Yes	Yes	Yes	Certificate of Competence and registration on BASHH database
	Faculty of RSH Diploma www.fsrh.org	Yes	Yes	Yes	Yes	Not currently	Yes	Diploma awarded following assessment of competence
Level 2	DH/BASHH/RCP e-LfH Level 2 modules of e-HIV-STI	Yes	No	Yes	No	Yes	Yes	On line learning management records progress
	BASHH STIF Plus course (1 day)	Yes	Yes	No	No	Yes	Yes	Certificate of attendance
	BASHH STIF *Intermediate Competency* for those working in Level 2 services	Yes	Yes	Yes	Yes	Yes	Yes	Certificate of Competence and registration on BASHH database
	BASHH STIF *Level 2 Competency* for Clinical Leads of Level 2 STI services (under development)	Yes	Yes	Yes	Yes	Yes	Yes	Certificate of Competence and registration on BASHH database

For more information about STIF courses please see www.bashh.org/education_training_and_careers/stif

Appendix 2: Useful resources

2. eLearning for Healthcare – eHIV-STI

Web based access to modules covering evidence-based knowledge of all aspects of Genitourinary Medicine from Levels 1 to 3. Orientated towards primary and secondary care.

If you are employed by the NHS in the UK and have a NHS e-mail address you can register for free access to eHIV-STI via the e-LfH Learning Management System by completing the registration form on the e-LfH website: www.e-lfh.org.uk/projects/hiv-sti/register.html.

All NHS employees have a NHS email address. For more information and advice about obtaining a NHS email address visit: www.connectingforhealth.nhs.uk/systemsandservices/nhsmail/using

3. British Association for Sexual Health and HIV (BASHH)

www.bashh.org
Orientated towards Secondary Care but useful information for Primary Care professionals as well.

4. PRODIGY

Comprehensive on-line guidance for certain STIs
www.prodigy.nhs.uk/guidance

5. Map of Medicine

Pathways for asymptomatic patients and symptomatic patients requesting STI testing
www.mapofmedicine.com

6. Patient leaflets

- BASHH produces patient leaflets on certain conditions. See www.bashh.org/guidelines
- www.patient.co.uk also has very useful patient leaflets

7. The Family Planning Association

Information and resources for pts and professionals, including patient leaflets
www.fpa.org.uk/home

Appendix 2: Useful resources

8. Books

- Oxford Handbook of Genitourinary Medicine, HIV and AIDS 2nd Ed
  Pattman et al.
  Oxford University Press 2010 ISBN 978 - 0-19-957166-6
- Sexually Transmitted Diseases
  Holmes et al.
  McGraw-Hill 2008 (4th Ed)
- Clinical Practice in Sexually Transmissible Infections
  McMillan, Young, Ogilvie and Scott
  Saunders (Elsevier Science Ltd) 2002
- Sexual Health Promotion in General Practice
  Curtis, Hoolaghan, Jewitt (Eds)
  Radcliffe Medical Press 1995
- Improving Sexual Health Advice
  Wakely, Cunnion and Chambers
  Radcliffe Medical Press 2003
- ABC of Sexually Transmitted Diseases (6th Ed)
  K E Rogstad (Editor)
  BMJ books (Wiley-Blackwell) 2011
- A General Practitioners Guide to Genitourinary Medicine and Sexual Health
  Sonnex C.
  Cambridge University Press 1996
- Sexual Health in Obstetrics and Gynaecology
  Wilson J. and Everett M. (Ed: Walker J.)
  Remedica publishing 2003
- Sexually Transmitted Diseases: diagnosis in color
  Wisdom A. and Hawkins D.
  Mosby-Wolfe 1997 (2nd Ed)
- The Handbook of Sexual Health in Primary Care
  Edited by Belfield, Carter, Matthews, Moss and Weyman
  fpa 2006
- Sexually Transmitted infections and HIV
  Dr Dan Clutterbuck
  Elsevier Mosby 2004

Notes

Sexually Transmitted Infections in Primary Care 2013 (RCGP/BASHH) by Lazaro N.
Available at **www.rcgp.org** and **www.bashh.org/guidelines**