OBSTETRICS AND GYNAECOLOGY
CLINICAL PRACTICE GUIDELINE

Sexually Transmitted Infections (STI)

Scope (Staff):	Clinical staff
Scope (Area):	Obstetrics and Gynaecology

This document should be read in conjunction with the Disclaimer.

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Screening tests for sexually transmitted infections

Specimen collection

See Clinical Guidelines: Vaginal Procedures and Cervical Screening Test

Screening tests

Take a detailed sexual and drug history.[1] The patient's privacy and confidentiality are maintained according to relevant laws, policies and professional codes of ethics/conduct.

Essential tests[1]

Women presenting for a sexually transmitted infection (STI) / HIV assessment, should be offered screening for[1]:

- Chlamydia
- Gonorrhoea
- Syphilis
- HIV[3]
- Hepatitis B[2]
- Hepatitis A: If symptomatic or other risk factors e.g. Hepatitis C infection or a history of male to male and / or oro-anal sex, and if there is an intention to vaccinate if negative.[1]
- Hepatitis C: If clinical suspicion e.g. History of intravenous drug use (IVDU),[1] incarceration, acute hepatitis[4]

Note: Gain informed consent and provide counselling / support as required.[1-6]

Additional tests

Consider testing for other (non-notifiable) diseases[1] such as:

- Genital herpes[1]
- Trichomoniasis[1]
- Bacterial vaginosis
- Candidiasis.

Also consider testing for:

- Donovanosis – when lesions are present & other causes have been excluded e.g. herpes, syphilis[1]
- Cervical screening test (CST)- should be performed on all new patients, unless one has been performed in the last 6 weeks.

Equipment

- 3x Swab packs (with charcoal transport medium plus a slide) to collect:

1. A high vaginal specimen (HVS) for culture & make a smear on glass slide for microscopy
2. Cervical discharge (if present) for culture and make a smear for microscopy
3. For urethral microscopy and anal culture.

- Glass slide in slide container for urethral, vaginal and endocervical swab (ECS) smear
- Dry swab for collection of ECS for chlamydia and gonorrhoea PCR
- Urine container for collection of first void urine for Chlamydia and Gonorrhoea PCR
- Jumbo cotton swabs – for wiping away secretions
- Narrow range pH paper (range 4.0-6.0)
- Cervical Screening Test equipment See Clinical Guideline, O&G: Vaginal Procedures: Cervical Screening .
- Speculum
- Lubricant.
- Optional charcoal swab for anal gonorrhoea testing
- Optional charcoal and Dry swab PCR test for oropharyngeal testing for gonorrhoea and chlamydia
- Optional dry PCR swabs X2 for urethral and endocervical PCR testing for Mycoplasma genitalium
- Optional dry PCR swab X1 for high vaginal trichomoniasis PCR

Summary table for screening tests[1]

Screening	Specimen collection	Additional information
Chlamydia / Gonorrhoea	• Test vaginal pH **AND** • Obtain a charcoal HVS (& slide) for culture and sensitivity.[1] **AND** • Collect Dry swab ECS for Chlamydia PCR & place swab back into container. • Collect Charcoal ECS for culture and sensitivity – apply to slide, then place into charcoal medium.[1] **AND** • Obtain a 20ml first void urine for PCR[1] **OR** If urine is not available take a dry urethral swab for PCR.[1]	A HVS may exclude other pathogens.[1] Cervical screening is taken prior to an ECS when required.[1] Ensure mucus is cleared from the cervix with a 'jumbo' cotton swab. If the cervix is inflamed or pus is present also collect an ECS for culture and sensitivity.[1] Consider collecting 2x throat and anal dry swabs for PCR and culture and sensitivity if sexual practices pose risk or if patient is named contact of gonorrhoea.[1]

HIV, Hepatitis	• Collect serology (5ml red or gold top serum tube)[1, 2]	
Syphilis	• Collect serology[1] **AND** • If an ulcer is present collect a dry swab for PCR[1]	Take the dry swab from the inner edges of the ulcer.[1] The ulcer can be cleaned with saline if required.[1]
Donovanosis	• Collect a dry swab at or near the edge of the ulcer for PCR[1] **AND** • Impression smear (scrape / slide)[1] **OR** Crush smear[1] **OR** Punch biopsy[1]	The specimen should be clearly labelled 'for Donovan bodies', or 'Genital Ulcer Disease'. Impression smear – gently clean the lesion with a gauze swab and saline. Squeeze the lesion gently. Press a clean slide onto the lesion to collect exudate, or swab the lesion vigorously and make a smear from the internal lesions.[1] Crush smear – if possible remove and place granulation tissue into saline and send to lab.[1]
Bacterial Vaginosis	• Collect a vaginal pH[1] **AND** • HVS (& a smear on glass slide).[1]	Culture is not routinely performed.[1] Diagnosed with any 3 of these criteria: Vaginal pH>4.5, "fishy" malodour, characteristic discharge & presence of clue cells.[1]
Genital Herpes	Collect specimen as per instructions provided by the KEMH collection kit.	Swab for NAAT (PCR)
Trichomoniasis	• Obtain a vaginal pH[1] **AND** • HVS PCR swab	Vaginal pH >4.5[1] NAAT is useful.[1]

Note: All women having screening tests for STIs should be offered Cervical screening at the same time when meeting the criteria for the testing.

Screening tests: Asymptomatic patients (male & female)

Aim

- To inform staff of the STI screening for patients who present as asymptomatic.

Background

Although most patients present as asymptomatic, some may have a sexually transmitted infection (STI).[1] Sexual health checks should be a 'normalised' part of routine health care.[1] Patients presenting for other tests, such as cervical screening, contraception or wellness checks, provide an opportunity for healthcare practitioners to offer screening.[1] Patients can also request STI screening tests.[1]

Procedure: Routine screening

All patients

1. Brief sexual / drug history- consider relevant investigations.[1]
2. Consider serology:
    - Syphilis[1]
    - HIV antibody[1]
    - HSV-2 serology
    - Hepatitis B[1]:
        - If previously unvaccinated: HBsAg / HbcAb
        - If previously vaccinated: HBsAb
    - Hepatitis A if: If symptomatic or a history of MSM and / or oro-anal sex, and if there is an intention to vaccinate if negative.[1]
    - Hepatitis C if: IVDU,[1] MSM, or HBV carrier or sex industry worker (SIW)

Abbreviations: HBV: Hepatitis B virus; HIV: Human immunodeficiency virus; HSV-2: Herpes simplex virus type 2; IVDU: Intravenous drug use; MSM: Men who have sex with men, SIW; cervical screening test (CST)

3. Anal swabs (x2) if: Receptive anal sex (1. Charcoal swab for Gonorrhoea culture & sensitivity; 2. Dry swab for Chlamydia and Gonococcal PCR). These can be self-obtained with instructions.[1]
4. Oral swabs (x2) if: Receptive oral sex (1.Charcoal swab for Gonorrhoea culture & sensitivity; 2. Dry swab forChlamydia PCR).[1]
5. Provide advice on safe sex practices and encourage condom use.[1]
6. Review after one week and check results.[1]
    - Chlamydia on rectal swabs requires "Proof of cure" after 1 month.[1]
    - Review 3 months after exposure to provide an opportunity to repeat serology.[1]
    - If positive for Gonorrhoea or Chlamydia, patients should return at 3 months for re-testing as re-infection is high.[1]
7. Additional tests depending on gender and clinical situation (see Female & Male section below).

Females

1. Physical examination- patients may not be aware of lesions[1]
    - If being examined:
        - Endocervical swab Dry swab (ECS)[1]
        - Also collect ECS for MC&S if pus observed or inflamed cervix[1]
        - CST (if required)– see Guideline: Vaginal procedures: CST
        - Vaginal pH, lateral wall and posterior fornix smear and culture.
    - If the woman declines a physical examination: Offer the woman the opportunity to self-collect a low vaginal swab and first void urine.[1]
        - If the woman declines the vaginal swab, the urine sample alone is acceptable.[1]
2. First void urine[1]: 20mL into a sterile urine collection jar – the woman ideally should not have voided for 2 hours prior to collection of the urine sample.
3. Serology (see "All patients" above).

Note: Urine, urethral and endocervical swabs will be tested by PCR methodology for *Neisseria gonorrhoeae* and *Chlamydia trachomatis.*

Males

1. Physical examination- patients may not be aware of lesions[1]
2. First void urine for Chlamydia and Gonorrhoea[1]: 20mL of urine into a sterile urine collection pot – the man ideally should not have voided for 2 hours prior to collection of the urine sample. If unable to void, provide a specimen jar and the man can provide the sample when able.[1]
3. Serology (see "All patients" above).

Note: Both the urethral swab and urine will be tested by PCR methodology for *Neisseria gonorrhoea* and *Chlamydia trachomatis.*

Screening tests: Symptomatic female

Aim

- To describe the routine screening tests required for a woman who presents with a history of symptoms associated with a sexually transmitted infection (STI).

Procedure

1. Obtain a medical, drug and sexual **history** & perform a **physical examination** with consent.[1, 7]
2. **Urethral swabs**:
    - First swab for culture- for *Neisseria gonorrhoea*:
        - Wipe the meatus clean of vaginal secretions before taking the swabs

  - Urethral swab smeared for microscopy and then placed into a charcoal transport medium.
- Second dry swab for PCR- for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* (multiplex PCR). Place into a PCR container.
  - Optional PCR for *Mycoplasma genitalium*
- **Vaginal swabs**- Charcoal swabs Cultured for fungi and genital bacterial flora Test the vaginal pH by sampling some vaginal secretion and then place the secretion onto the testing paper.
- Swab the posterior fornix and both lateral walls of the vagina, smear for microscopy and the place into charcoal transport medium.
- Swab pool of secretions in vagina with dry swab r for *Trichomonas vaginalis* PCR testing

3. **Cervical screening test**:
   - Perform this before wiping the os. See Guideline: Vaginal procedures: CST
   - **Cervical swabs**- Cultured for *Neisseria gonorrhoeae:*
   - Wipe or clean the os of secretions first.
     - Endocervical swab smeared for microscopy and then placed into charcoal transport medium.[7]
     - Dry swab PCR for *Neisseria gonorrhoeae Chlamydia trachomatis* (multiplex PCR).
     - Optional PCR for *Mycoplasma genitalium* (requires dry swab)
   - Endocervical dry swab to collect cells (cultured for *Neisseria gonorrhoea* and *Chlamydia trachomatis*).[1]
     - If testing for *Mycoplasma genitalium*; collect separate urethral and endocervical dry PCR swabs.
4. **Urine collection**- Cultured for *Neisseria gonorrhoea* and *Chlamydia PCR:*
   - 20mL first void urine (the first 20mL) into a sterile urine collection jar.[1, 7] Patients should ideally not have voided for >1 hour prior to urine collection.[7]
5. Consider **throat or anal swabs** if history includes oral or anal receptive sex.[1] If discharge present, include charcoal swabs for culture.[1] All named contacts of gonorrhoea should have anal gonorrhoea swabs collected
6. **Serology**:
   - Syphilis[1]
   - HIV antibody[1]
   - Hepatitis B[1]:
     - If previously vaccinated HBsAg / HbcAb
     - If vaccination status is unknown: HBsAg / HbcAb/ HBsAb
   - Hepatitis A: If symptomatic or other risk factors e.g. Hepatitis C infection, IVDU, or a history of male to male and / or oro-anal sex, and if there is an intention to vaccinate if negative.[1]

- Hepatitis C: If clinical suspicion or other risk factors e.g. History of IVDU[1] or HBV carrier[4] or SIW
- HSV serology.[1]

7. **Lesion / ulcer samples**: Examine the lesions.[7]

Collect swab to diagnose/exclude genital herpes:

- Perform HSV PCR of lesions[1,7]

Genital ulcer, possibly not herpes:

- Clean the ulcer with saline if required and take a dry swab from an inside edge of the ulcer.[1] Perform GUMP PCR (genital ulcer multiplex PCR) which tests for herpes, syphilis, chancroid and donovanosis. Specify on the request form the possible diagnoses for testing[1]

8. **Education**: Encourage safe-sex practices and condom use, and provide condoms. Treat as appropriate and discuss partner investigation and treatment. Advise to avoid sex until any lesions are healed, and partner has been tested / treated appropriately. Requires follow-up in one week.[1]

See also section: Screening Tests for Sexually Transmitted Infections.

Screening tests: Symptomatic male

Aim

- To describe the screening tests for a male with symptoms of a sexually transmitted infection.

Routine screening in symptomatic men

1. Obtain a medical/drug/sexual health **history** & perform a **physical examination** with consent.[1, 7]
2. **Urethral swabs**:
3. First urethral swab smeared for microscopy then placed into charcoal transport medium – cultured for *Neisseria gonorrhoeae* **Urine collection**: 20mL first void urine (the first 20mL passed) into a sterile urine collection jar. Patients should ideally not have voided for >1 hour prior to urine collection.[7] This is tested by PCR for *Neisseria gonorrhoeae* and *Chlamydia trachomatis;* optional request for *Mycoplasma genitalium*
4. **Anal swabs**: In symptomatic men a protoscope should be inserted and two swabs taken (dry swab for PCR & charcoal swab for culture). If asymptomatic, the man can self-obtain anal swabs (no slide required if self-obtained).[1]
5. **Throat swabs** (if required): If history of orally receptive sex, take two throat swabs (dry one for PCR & charcoal one for MC&S with slide).[1]
6. **Lesion / ulcer swabs** (if present): Examine lesions and collect dry swab for HSV PCR (herpes). If ulcer possibly not herpes, collect GUMP PCR (genital ulcer multiplex PCR) which tests for herpes, syphilis, chancroid and donovanosis. Specify on the request form the possible diagnoses for testing.[1]

7. If discharge is present: Milk the discharge to enable collection of specimen for microscopy (MC&S) with a swab. Smear on glass slide and place swab in charcoal medium.[1]
8. **Serology**:
    - Syphilis[1]
    - HIV[1] antibody
    - Hepatitis B (HBV)[1]
        - If previously unvaccinated: HBsAg / HbcAb /HbsAb
    - Hepatitis A – if symptomatic or other risk factors e.g. History of male to male and/ or oro-anal sex and there is intention to vaccinate if negative, IVDU,[1] or HBV carrier
    - Hepatitis C - If clinical suspicion or other risk factors e.g. History of IVDU[1] or HBV carrier[4]
    - HSV 2 serology.[1]
9. **Consider treatment**: If doubt about follow-up, commence treatment based on clinical diagnosis.[1]
10. **Education**: Encourage safe-sex practices and condom use, and provide condoms. Treat as appropriate and discuss partner investigation and treatment. Advise to avoid sex until any lesions are healed, and partner has been tested / treated appropriately. Requires follow-up in one week.[1]
11. **MSM/BSM should be offered Menactra meningococcal vaccination**

See also section: Screening Tests for Sexually Transmitted Infections.

Interpretation of treponemal serology

RPR	TPPA	FTA IgG	IgM Capture ELISA	INTERPRETATION
POS	NEG	NEG	NEG	1. False positive serology or 2. Early Primary Treponematosis Repeat serology until diagnosis established.
NEG	**POS**	NEG	NEG	
NEG	NEG	**POS**	NEG	
NEG	NEG	NEG	**POS**	
NEG	**POS**	NEG	**POS**	2. Early Primary Treponematosis
POS	**POS**	**POS**	**POS**	1. Primary Treponematosis) or 2. Secondary Treponematosis) Treated or 3. Early Latent Treponematosis) or or 4. Tertiary Treponematosis) Untreated

POS	**POS**	**POS**	NEG	1. Secondary Treponematosis) Treated 2. Latent Treponematosis) or 3. Tertiary Treponematosis) Untreated 4. Some cases of reinfection
NEG	**POS**	**POS**	NEG	1. Treated Treponematosis or 2. Old untreated Treponematosis
NEG	**POS**	**POS**	**POS**	1. Primary Treponematosis or 2. Late Latent Treponematosis or 3. Tertiary Treponematosis or 4. False Positive IgM or 5. Early Reinfection Repeat serology until diagnosis established

Sequential Appearance of Positive Tests

1. IgM Capture ELISA; **2.** TPPA ; **3.** FTA (Abs) IgG; **4.** RPR

Cryotherapy

Indications

This treatment is painful to many patients and should only be used as first line treatment if:

- The lesion is isolated
- The lesion(s) are keratinised
- The lesion(s) are very large and need rapid debulking.

Procedure

1. Inform the patient of the following prior to commencing the procedure:
   - Possible pain associated with the freezing[8, 9]
   - Possible blister formation[9]/infection[8]/ulceration / itching which usually heals within 12 weeks
   - Possible scarring (usually areas of depigmentation) after treatment.[8, 9]
2. Place a frozen cotton wool swab on the wart and 1-2 mm of surrounding tissue until it goes white. Frozen forceps also work well to provide a single freeze.
3. Only one freeze thaw cycle is usually required.
4. Overly aggressive treatment can cause excessive pain to the patient and scarring.
5. Combination treatment with a layer of 0.5% podophyllotoxin placed on the wart and 1-2mm around the wart can be used after freezing.

Post treatment management

1. Advise the patient to bathe the area twice daily with salt water if ulceration occurs.
2. Treat the patient weekly until the lesions are gone.[1, 9, 10] Most respond within 3 months.[9]
3. Patients with extensive perianal condylmata may require twice weekly treatment.
4. Follow up/evaluate treatment regularly,[9] at: 3 weeks, 6 weeks, 3 months, and 6 months.

Vaginal discharge

Aim

- To guide correct diagnosis, testing and treatment of vaginal discharges and vaginitis.

Background

The keystones to diagnosing and treating vaginal discharges are:

- Taking a medical and sexual history[1]
- Physical / genital examination[1]
- Vaginal pH testing (normal pH is <4.5)[1]
- Providing an air dried smear of the discharge for gram stain
- Excluding gonorrhoea and Chlamydia infection
- Cultures of vaginal discharge[1].

A vaginal discharge may have originated from the vagina, cervix or upper genital tract.[1] In women under the age of 25, chlamydia should always be considered as a concomitant infection[11] even if the presumptive diagnosis is candidiasis.

As clinical tests do not always reflect the severity of the condition, it is useful to have objective measurements of:

- The amount, consistency, odour and colour of the vaginal discharge[1]
- Documentation of:
  - Vulval erythema
  - Vaginal erythema.[1]
- Bimanual examination for forniceal or uterine tenderness should also be done.

Testing of vaginal discharge

1. See relevant section, Screening Tests for STI's, for investigations and the procedure for collecting specimens.
2. Urethral, vaginal and endocervical charcoal swabs for microscopy and culture should be taken as well as a urine and endocervical PCR test on a dry swab for *Chlamydia trachomatis* and *Mycoplasma genitalium;* and vaginal PCR for *Trichomonas vaginalis.*[1]

3. Smears of secretion from the urethra, vagina and endocervix should be placed on the slide appropriately labelled and air dried.[1]
4. Both urethral and endocervical samples should be taken to improve the likelihood of detecting gonorrhoea or chlamydia.[1]
5. Testing of pH can be performed with a pH meter or narrow range pH paper (pH 4-6).[1] The vaginal secretion is taken from the entrance of the vagina, placed on the paper or meter and then read after 30 seconds (samples taken further up the vagina may contain cervical secretions that may lead to a falsely raised pH reading).[1] Use either a loop or swab to obtain vaginal secretions or press the pH paper against the vaginal wall.[1] Litmus paper must not be used. Holding the paper with a bright light behind can assist identify any colour change.[1]
6. Patients with an elevated pH can be presumptively treated with Metronidazole rather than inappropriately being given anti-fungal agents.

Causes of an elevated vaginal pH (>4.5)

Pathological

- Bacterial vaginosis[1]
- Trichomoniasis[1]
- Gram negative or faecal bacteria overgrowth
- Miscellaneous discharges including desquamative inflammatory vaginitis[1]
- Absent lactobacillus syndrome
- Atrophic vaginitis[12].

Physiological or other cause[1]

- Patient is menstruating
- Post menopause (and not on hormone therapy)
- Unprotected sexual intercourse within 24 hours of examination
- Sampling of cervical rather than vaginal secretion
- Contamination by the examiners glove touching the pH strip.[1]

Note: An elevated vaginal pH may contribute to HIV susceptibility.[1]

The value of microscopy and a gram stain smear

The laboratory should ideally comment on white cells, red cells, vaginal epithelial cells, clue cells, lactobacilli, other bacteria and yeasts. For urethral and endocervical smears the presence or absence of Gram negative intracellular diplococci (GNID) should be included.

Interpretation of a report

- Note whether lactobacilli are present of not. If the laboratory has not provided this information, it is imperative that you request this information from them. The normal vaginal flora seen on a gram stain consists of 95% lactobacilli;

therefore if they are not present, significant vaginal pathology is present and warrants investigation and treatment.

- The normal white cell count on vaginal smears is 1+ (<10/hpf.) If the count is many (3+) (>25/hpf) severe inflammation is present.
- Clue cells with an altered bacterial flora usually indicate bacterial vaginosis.
- Yeasts indicate a Candida infection and the presence of hyphae indicates active infection.
- Immature epithelial cells indicate a severe vaginitis unless the woman is post-menopausal.
- If Desquamative Inflammatory Vaginitis is suspected, perform vaginal cytology and request a cellular maturation index.

INTERPRETING THE WOMAN'S GRAM STAIN REPORT

	WOMEN WITH A NORMAL VAGINAL pH i.e. ≤ 4.5				WOMEN WITH AN ELEVATED VAGINAL pH i.e. >4.5				
DISEASE/ GRAM STAIN	**CANDIDIASIS**	**GONORRHOEA**	**CHLAMYDIA**	**NON-SPECIFIC VAGINITIS***	**BACTERIAL VAGINOSIS**	**TRICHOMON-IASIS**	**GRAM NEGATIVE BACTERIAL OVERGROWTH**	**ATROPHIC VAGINITIS**	**DESQUAMATIVE INFLAMMATORY VAGINITIS**
Sample site	Vagina	Urine/urethra/ cervix	Urine/urethra/ cervix	Vagina	Vagina	Vagina	Vagina	Vagina	Vagina
White cell count	Normal or increased	Normal or increased	Normal or increased	Increased	Normal/ occasionally increased	Increased	Few/normal/ increased	Increased	Increased
Epithelial cells* **	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Immature	Immature
Clue cells	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent
Lactobacilli	Moderate or many	Present/ or not seen	Present or not seen	Present	Absent or few	Absent or few	Few/ normal	Absent	Absent
Bacterial flora	Normal	Normal except GNID	Normal	May be increased numbers of gram positive cocci	Many Gram-variable coccobacilli Use Nugent score	Many Gram positive and negative bacteria	Many Gram negative rods	May be incr. no's Gram pos cocci, diphtheroids& nonacidophilic coliforms	Many Gram positive cocci
GNID	Absent	Present	Absent	Absent					
Yeasts	Present - hyphae	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Treatment (adults) *Alternate treatments may be available (e.g. child, pregnancy, resistance). See specific guidelines*	1, 3, 7 day courses of antifungal creams or pessaries[10] i.e. clotrimazole, miconazole, econazole. Fluconazole 150mg[1] PO is as effective as above treatments but cannot be used in pregnancy. See Candida protocol for more information	Ceftriaxone 500mg IM **AND** Azithromycin 1g(oral) stat[1, 10] Also treat for Chlamydia[1] Contact tracing[10]. See gonorrhoea protocol for more information	Azithromycin 1 gm stat **OR** Doxycycline oral 100mg bd 7 days[1] Contact tracing[10]. Test of cure in 4 weeks (it takes 3 weeks for the PCR test to become negative) and 3 months. See Chlamydia protocol for more information	200mg povidone-iodine vaginal pessaries Available through TGA as no longer commercially available in Australia	Metronidazole 400mg bd for 5days **OR** Metronidazole 2g stat **OR** Clindamycin 2% PV cream for 7 days.[10] See Bacterial Vaginosis protocol for further details	Metronidazole 2 gm stat[1] *Avoid alcohol while on treatment.*[1] See Trichomoniasis protocol for further details	Clindamycin 2% Vaginal cream for 1-2 weeks	Intravaginal or systemic oestrogen i.e. Vagifem 10mcg pessary daily for 2 weeks[13] (start slower if the woman is 15 years post menopause)	Clindamycin 2% vaginal cream for 2weeks.[14] Use maintenance therapy as required[14]

(* Many women have a previous history of candidiasis. Group B streptococci are commonly cultured; ** Some resistance to this drug exists and partial treatment may cause disease suppression for weeks to months; *** Formal cytological assessment may be required)

A test of cure should be performed on women one week after treatment unless the specific Clinical Guideline for that condition indicates otherwise.

Vaginitis[1]

Symptoms include odour (e.g. in bacterial vaginosis or trichomoniasis), itch (candidiasis), Vulval swelling or soreness (trichomoniasis or candidiasis), and increased (noticeable to the woman) vaginal discharge.[1] Signs include increased discharge pooling at the posterior fornix or adhered to the vaginal walls (speculum examination). Note the colour, consistency, odour and any vaginal wall inflammation.[1]

Atrophic Vaginitis

- Symptomatic atrophic vaginitis is uncommon however some women have vaginal dryness, spotting, discharge, burning, pruritus or dyspareunia.[12] Some women can have severe inflammation with very few symptoms. Screening of postmenopausal women is important as atrophic vaginitis is a common finding in 10-50% of postmenopausal women[12].
- Symptomatic lack of oestrogen results in thinning of the genital skin and absence of glycogenation, erythema, some discharge and contact bleeding.[12] The vaginal pH is high >5. [12]
- Treatment is individualised to the woman, with non-hormonal lubricants and either local oestrogen[12]- oestriol cream 0.5g PV twice weekly for at least 6 months to reduce the risk of relapse, however symptomatic improvement occurs usually within 4 weeks. Women with breast, endometrial or ovarian cancer should discuss hormonal treatments with their oncologist prior to use.[12]

Desquamative Inflammatory Vaginitis

- This is an uncommon, chronic, purulent vaginitis and the aetiology is not understood.[14] Symptoms can be nonspecific[14] and have often been ongoing for over 12 months as the diagnosis is difficult except in experienced hands. Diagnosis requires first excluding other causes of purulent vaginitis.[14]
- Main symptoms include dyspareunia and discharge that is characteristically purulent,[14] without an odour. There is often intense vestibulo-vaginal irritation / erythema,[14] however these findings often resolve with just one course of therapy making diagnosis difficult if treatment had been given prior to the patient being referred in for treatment.
- The classical laboratory features are an increase in inflammatory cells and the presence of parabasal cells,[14] leukocytosis, elevated vaginal pH (>4.5)[14], many gram positive cocci and a lack of lactobacilli.
- Relapse is common (in around 30%), so long term observation for several months is recommended, using maintenance treatment as required.[14]

Cervicitis[1]

Visualised inflammation (red, swollen, contact bleed, discharge) and >30 white blood cells (WBC/HPF).[1] The woman may be asymptomatic with minimal discharge, or may observe yellow discharge, dysuria,[1] or spotting after intercourse.[15]

Vaginal Cytology Maturation index

This is a useful test to request if desquamative inflammatory vaginitis is considered as a diagnosis. The presence of parabasal cells on vaginal cytology is almost pathognomic for DIV if the woman in premenopausal. Vaginal cytology is taken like a PAP smear but from the walls of the vagina and processed the same way in the Cytology department as a PAP smear would have been processed. Normal women have a majority of superficial and intermediate cells present. Reversal of the process indicates lack of oestrogen or severe inflammation. Basal cells are not seen on cytology. Parabasal cells indicates immature cells are present and they are never present unless the woman in post-menopausal and not on oestrogen supplementation.

Faecal overgrowth

This is suspected because of a high vaginal pH, odour and gram stain abnormalities on a vaginal smear. First line therapy is Augmentin Duo Forte one tablet bd for 5 days.

Urine collection

Aim

- Appropriate collection of a urine specimen for testing for sexually transmitted infection.

Procedure

First void urine (FVU)- for infections causing a urethritis

This is the urine sample requested for PCR testing for *N. gonorrhoeae* and *C. trachomatis*.[1] The first 20mL of urine voided should be collected at least one hour after the patient last passed urine.[7] *Mycoplasm genitalium* and *Ureaplasma urealyticum* PCR can also be requested from this sample.[1]

Mid-stream specimen of urine (MSU) - for suspected urinary tract infection

This is a midstream sample and should consist of 20mL of urine. See Clinical Guideline, Bladder Management: Collection of a Midstream Urine Specimen.

NB: Urine samples are to be collected in a sterile galley pot and poured into a sterile collection container. It is not recommended that patients void directly into the specimen container as this has been found to produce a significant amount of contamination on the outside of the container.

Chlamydia, Condylomata acuminata (genital warts), Gonorrhoea, Herpes, Syphilis, Trichomoniasis

For information on diagnosis and treatment outside of pregnancy consult the Silver Book- STI/BBV Management Guidelines WA or Therapeutic Guidelines via KEMH Library

Advice can also be sourced from the Sexual Health Service at KEMH, KEMH Microbiology Registrar, or on call Consultant (via KEMH switchboard).

For information in pregnancy:

- **For syphilis**: See also guideline O&G: STI: Syphilis in Pregnancy
- **For Herpes**: See also Clinical Guideline O&G STI: Herpes in Pregnancy
- **For chlamydia**: See also STI: Chlamydia in Pregnancy

Children under 14 who are diagnosed with a STI

See DoH OD 0296/10 Interagency Management of Children Under 14 Who are Diagnosed With a Sexually Transmitted Infection (STI)

References and resources

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Resources

Department of Health WA:

- Patient information about STIs (& multicultural fact sheets): Bacterial Vaginosis; Chlamydia; Cystitis; Genital Herpes; Genital Warts; Gonorrhoea; Giardia Infection (giardiasis); Hepatitis B; HIV & AIDS; Human papillomavirus (HPV); Lymphogranuloma venereum (LGV) ; Molluscum contagiosum; Pelvic inflammatory disease (PID); Pubic lice; Scabies (STI); Syphilis; Thrush (Genital); Trichomoniasis
- Silver book: Quick Guide to STI Testing (2023) (PDF, 865KB); Quick guide for testing and treatment of syphilis (2023) (PDF 1.1MB); STI self-testing card (PDF, 716KB) (Step-by-step self-collection); Quick Reference to STI Management (2023) (PDF, 1.02MB)
- Let Them Know (external website) (for fact sheets and ways of informing sex partners, including anonymously)

- http://www.couldihaveit.com.au (external website) (Community resource from DoH WA)

Legislation - *Health Act 1911*; *Privacy Act 1988*; *Children and Community Services Act 2004*; *Freedom of Information Act 1992*; *Public Sector Management Act 1994*

Related policies

WA Health Mandatory Policy MP 0067/17: Information Security Policy
WA Health Mandatory Policy MP 0175/22 Consent to Treatment Policy
OD 0296/10 Interagency Management of Children Under 14 Who are Diagnosed With a Sexually Transmitted Infection (STI)
WA Health Mandatory Policy MP 0166/21 Mandatory Reporting of Child Sexual Abuse Training Policy
WA Health Patient Confidentiality Fact Sheet
Child and Adolescent Health Service Guidelines for Protecting Children 2020

Related WNHS policies, procedures and guidelines

KEMH Clinical Guidelines: Obstetrics & Gynaecology:

- Bladder Management: Collection of a Midstream Urine Specimen
- STI in Pregnancy: Chlamydia in Pregnancy; Herpes in Pregnancy; Syphilis in Pregnancy
- Vaginal Procedures
- Cervical Screening Test

Pharmacy Medications A-Z

Pathwest Laboratory Medicine WA Pathology Handbook
WNHS Policy: Pathology and Ultrasound: Request by Midwife/Nurse/Nurse Practitioner

Keywords	STI, sexually transmitted infection, chlamydia, treponemal, venereal, neurosyphilis, latent syphilis, Cryotherapy, condylomata acuminata, genital warts, Herpes simplex virus, HSV-1, HSV-2, genital herpes, asymptomatic STI screen, routine STI screen, STI screening tests, routine male STI screening, Treponemal serology, syphilis results, first void urine, mid-stream urine, MSU, vaginitis, vaginal discharge, elevated vaginal pH				
Document Owner:	Co-Directors, Obstetrics and Gynaecology Directorate				
Author/ Reviewer	Clinical Nurse Midwife Specialist Clinical Guidelines and Quality				
Date First Issued:	September 2017	Last Reviewed:	August 2024	Review Date:	August 2025
Endorsed by:	Midwifery and Obstetrics Clinical Practice and Outcomes Committee			Date:	22/08/2024
NSQHS Standards Applicable:	Std 1: Clinical Governance, Std 3: Preventing and Controlling Healthcare Associated Infection, Std 4: Medication Safety, Std 6: Communicating for Safety				
Printed or personally saved electronic copies of this document are considered uncontrolled					

Version History (optional)

Version Number	Date	Summary
1.0	September 2017	First version 14 individual STI guidelines created from March 2010 were amalgamated into this new single STI guideline. Previous titles: 1. Screening Tests for STI 2. Screening Tests for Asymptomatic Male and Female Patients 3. Screening Tests for Symptomatic Females 4. Screening Tests for Symptomatic Males 5. Urine Collection 6. Vaginal Discharges 7. Syphilis 8. Interpretation of Treponemal Serology 9. Gonorrhoea 10. Herpes Simplex 11. Trichomoniasis 12. Condylomata Accuminata (Genital Warts) 13. Cyrotherapy 14. Chlamydia
2.0	March 2018	Minor amendment
2.1	June 2020	Tinidazole removed- discontinued
3.0	August 2024	Clinical decision by Executive to extend review date by 12 months

The health impact upon Aboriginal people has been considered, and where relevant incorporated and appropriately addressed in the development of this policy.

This document can be made available in alternative formats on request for a person with a disability.