BASHH Summary Guidance on Testing for Sexually Transmitted Infections, 2023

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Executive summary

This summary testing guidance has been produced by the British Association of Sexual Health and HIV Clinical Effectiveness Group to provide a benchmark for provision of testing of STIs in the United Kingdom.

Within this guideline we would like to highlight that throughout, when reference is made to trans people, our intention is that this is a fully inclusive term to include all people whose gender identity differs from that expected to follow from their birth assigned sex, and therefore includes all trans people, including those with both binary and non-binary identities. Terminology is both sensitive and constantly evolving and we therefore advise local service user engagement to ensure that the terminology used in individual services is acceptable to the people who use them (Beere, 2019). Where appropriate anatomical descriptions have been used.

The landscape of sexually transmitted testing providers has been changing and novel testing platforms, particularly multiplex pathogen panels, are being used by some providers that detect organisms that are inappropriate for routine testing (Clarke, 2022) either due to inappropriate sample type (urine/vulvovaginal swab/throat swab/rectal swab for *Treponema pallidum* PCR, Herpes simplex virus PCR, *Haemophilus ducreyi* PCR) or due to doubtful clinical significance of the organism in asymptomatic people (*Mycoplasma hominis, Mycoplasma genitalium, Ureaplasma spp*.) (Horner, 2019)

The recommended best practice in testing is summarised in tabular form with links to the referenced guidelines.

Blood borne virus screening

All people attending sexual health services in line with BASHH/BHIVA/PHE/NICE guidelines should be offered blood borne virus screening irrespective of their presentation.

Below is a summary table of current BASHH/BHIVA guidelines:

Pathogen/ Diagnosis	Whom to test	Sample type	Assay	Evidence
Hepatitis A (only if not known to be immune or vaccinated)	MSM	Blood in plain tube (Serum)	Hepatitis A total antibody assay	(Brook, 2017)
	Trans people who have sex with men			
	PWID			
	Known Hep B or Hep C seropositive status			
	PLWH			
Hepatitis B	MSM[1]	Blood in plain tube (Serum)	Hepatitis B surface antibody quantitative assay Hepatitis B core antibody and/or Hepatitis B surface antigen assay	(Brook, 2017)
	Trans people[1]			
	Those who change sexual partners frequently[1]			
	Sex workers[1]			
	PWID[1]			
	PLWH[1]			
	Presenting after sexual assault[1]			
	Contact of Hepatitis B[1]			
	From endemic country and not tested since leaving endemic area (not vaccinated)	Blood in plain tube (Serum)	Hepatitis B core antibody and/or Hepatitis B surface antigen assay	
Hepatitis C	MSM at high risk of BBV[2]	Blood in plain tube (Serum)	Hepatitis C IgG or combined Antigen/Antibody assay If previously infected, Hepatitis C RNA assay or if available Hepatitis C antigen assay	(Brook, 2017)
	Trans people[2]			
	PWID			
	PLWH			
HIV	All	Blood in plain tube (Serum)	Combination third-generation assays to detect IgM and IgG antibodies, and monoclonal antibodies to detect p24 antigen	(Palfreeman, 2020)
		Blood in EDTA (plasma)	Viral RNA or proviral DNA NOT recommended for routine diagnosis	
	Diagnostic uncertainty[3]	Blood in EDTA (plasma)	Viral RNA or proviral DNA	

Notes:

1. Without prior history of Hepatitis B vaccination
2. Eligible for 3 monthly HIV testing or on PrEP
3. Diagnostic uncertainty e.g. primary HIV or indeterminate serology on PrEP

Asymptomatic testing for sexually transmitted infections

All people attending sexual health services should be offered bloods born virus screening as above.

In general, first void urine is the specimen of choice for NAAT testing for chlamydia and gonorrhoea in anyone with a penile urethra. Throat and rectal swabs should be guided by sexual history taking. Vaginal swabs are recommended for anyone who has a vagina.

Asymptomatic people should be considered for the following investigations:

Pathogen	Whom to test	When to test	Sample type	Assay	Evidence
Chlamydia trachomatis/ Neisseria gonorrhoeae	Men/penis		FCU	NAAT[1,4]	(Nwokolo, 2016) (Dragovic, 2018) (Fifer, 2020)
	MSM	3 site testing required for all sexually active MSM	FCU	NAAT[1]	
			Throat swab	NAAT [1,2,3,4]	
			Rectal swab	NAAT [1,2]	
			Pooled samples	NAAT [1,2,3]	
	Women/ vagina		VVS	NAAT[1]	
		Not recommended for routine screening	Throat swab	NAAT [1,3,4,5]	
		Not recommended for routine screening	Rectal swab	NAAT [1,5]	
		Not recommended for routine screening	Pooled samples	NAAT [1,3]	
Gardnerella vaginalis	All	Testing is NOT recommended			(Sherrard, 2018)
Haemophilius ducreyi	All	Testing is NOT recommended			(Lautenschlager, 2017)
Herpes simplex	All	Testing is NOT recommended			(Patel, 2015)
Mpox	All	Testing is NOT recommended			(UKHSA, 2022)
Mycoplasma genitalium	Men/penis	Screening is not recommended Test contact of confirmed infection only	FCU	NAAT [6]	(Soni, 2019)
	Women/ vagina		VVS	NAAT [6]	
	Extra-genital NAAT testing for *Mycoplasma genitalium* is NOT validated				
Mycoplasma hominis	All	Testing is NOT recommended			(Horner, 2019)
Trichomonas vaginalis	Men/penis	Routine screening is not recommended. Testing can be considered in people with factors associated with high prevalence of TV Test contacts of infection	FCU	NAAT	(Sherrard, 2022)
			Meatal & Urethral swabs	NAAT (need local validation)	
	Women/ vagina		VVS	NAAT	
	Extra-genital NAAT testing for Trichomonas vaginalis is NOT recommended				
Treponema pallidum	All	(No history of syphilis)	Blood in plain tube (Serum)	Treponema pallidum antibody assay	(Kingston, 2015) (Kingston, 2019)
	All	(Previously treated syphilis)	Blood in plain tube (Serum)	RPR or VDRL	
	Treponema pallidum NAAT should not be performed in asymptomatic people				
Ureaplasma sp.	All	Testing is NOT recommended			(Horner, 2019)

Notes:

1. Any positive NG/sexual contact of NG should have culture performed on the same site/specimen before treatment is given. Specimen plated on incubated CO2 enriched Neisseria gonorrhoeae selective culture medium, liquid Amies transport medium (refrigerated) or charcoal Amies swab. Treatment should not be delayed while culture is performed and should be given immediately after culture is taken.
2. Positive rectal or pharyngeal CT NAAT (or pooled sample) in MSM should be typed for LGV.
3. Positive pharyngeal NG NAAT (or pooled samples) should be confirmed on a separate gene target.
4. Anyone with genital gonorrhoea (regardless of gender or reported sexual behaviour) should have pharyngeal sampling if either of the following apply
    a. Susceptibility results are not available and the infection may have been acquired in the Asia-Pacific region. This is because of high levels of antimicrobial resistance in region.
    b. Genital infection with a confirmed ceftriaxone-resistant strain.
5. Consider NG rectal/pharyngeal sampling in women who are sexual contacts of gonorrhoea.
6. Consider macrolide resistance testing.

Recommended testing frequencies for asymptomatic STI testing

Risk group	Recommended testing frequency	Evidence
Anyone with 1 long-term mutually exclusive partner	Test at start of relationship	(UKHSA, 2022)
Sexually active people	Annually and after partner change (maximum frequency 3 –monthly)	(UKHSA, 2022)
Sexually active people at high risk of STIs: • PrEP users • >10 partners in last 12 months • Multiple or anonymous partners since last STI test • Sexualised drug use including chemsex • For 1 year after diagnosis of a bacterial STI	3-monthly testing	(UKHSA, 2022) (Brady, 2018)

Testing for STIs for people presenting with symptoms

Urethritis/Epididymo-orchitis (EO)

Pathogen/ Diagnosis	Whom to test	When to test	Sample type	Assay	Evidence
Chlamydia trachomatis	Men/penis	All	FCU	NAAT	(Nwokolo , 2016) (Dragovic, 2018)
Gardnerella vaginalis	All	Testing is NOT recommended			(Sherrard, 2018)
Herpes simplex	Men/penis	In persistent urethritis - consider	Urethral swab	HSV DNA PCR assay	(Patel, 2015)
Neisseria gonorrhoeae	Men/penis	All	FCU	NAAT	(Fifer, 2020)
Neisseria gonorrhoeae **detected**	Men/penis Urine NAAT positive	All detected NG	Urethral swab	Culture[1]	
	Pooled sample NAAT positive		Urethral swab Rectal swab Throat Swab		
Mycoplasma genitalium	Men/penis	Urethritis and diagnosis of NGU	FCU	NAAT[2]	(Soni, 2019)
	Men/penis with EO	Consider	FCU	NAAT[2]	
Mycoplasma hominis	All	Testing is NOT recommended			(Horner, 2019)
NGU/ Presumptive NG	Men/penis	History/ examination suggestive of urethritis/EO	Urethral smear	Gram stain - Microscopy	(Horner, 2015) (BASHH, 2018)
Trichomonas vaginalis	Men/penis	In persistent urethritis - consider	FCU	NAAT	(Sherrard, 2022)
Ureaplasma **urealyticum**	All	Testing is NOT recommended[3]			(Horner, 2019)
UTI	Men/penis	History suggestive of UTI/EO	Urinalysis	Mid-stream POC urine dipstick	(Horner, 2015)
		Urinalysis positive for Nitrites and Leucocytes or diagnosis of EO	Urine culture and sensitivities	Mid-stream urine culture	(BASHH, 2018)

Notes:

1. Any positive NG (NAATs positive/presumptive NG diagnosed via microscopy) should have culture performed on the same site/specimen before treatment is given. Specimen plated on incubated CO2 enriched Neisseria gonorrhoeae selective culture medium, liquid Amies transport medium (refrigerated) or charcoal Amies swab. Treatment should not be delayed while culture is performed and should be given immediately after culture is taken.
2. Consider macrolide resistance testing
3. *Ureaplasma* urealyticum: testing is NOT recommended except under specialist care after other STIs have been excluded. Assay needs to differentiate between *U. parvum* (commensal) and *U. urealyticum*

Vaginal discharge

Pathogen/ Diagnosis	Whom to test	When to test	Sample type	Assay	Evidence
Bacterial vaginosis	Women/vagina	All	Swab[1]	Gram stain – microscopy	(Hay, 2012) (Sherrard, 2018)
Gardnerella vaginalis	All	Testing is NOT recommended			
Candida	Women/vagina	All	Swab[1]	Gram stain - microscopy	(Saxon, 2020)
		Acute VVC	HVS	Fungal culture – NOT recommended Candida sp. DNA detection – Not recommended	
		Recurrent VVC	HVS	Solid fungal growth medium (Sabouraud plate)	
Chlamydia trachomatis	Women/vagina	All	VVS	NAAT	(Nwokolo , 2016) (Dragovic, 2018)
Mycoplasma genitalium	Women/cervix	with PCB/ cervicitis	VVS	NAAT[2]	(Soni, 2019)
Mycoplasma hominis	All	Testing is NOT recommended			(Horner, 2019)
Neisseria gonorrhoeae	Women/vagina	All	VVS	NAAT	(Fifer, 2020)
***Neisseria gonorrhoeae* detected**	Women/vagina	All NG detected	Endocervical swab	Culture[3]	
	Pooled sample NAAT positive		Endocervical swab		
			Throat swab		
			Rectal swab		
Trichomonas vaginalis	Women/vagina	All	Swab[4]	Wet mount microscopy	(Sherrard, 2022)
			VVS	NAAT	
			VVS	POCT antigen assay	
			VVS	Culture	
Mycoplasma hominis	All	Testing is NOT recommended			(Horner, 2019)
***Ureaplasma* sp.**	All	Testing is NOT recommended			(Horner, 2019)

Notes:

1. Taken from vaginal lateral wall at the time of speculum examination
2. Consider macrolide resistance testing
3. Any positive NG (NAATs positive/presumptive NG diagnosed via microscopy) should have culture performed on the same site/specimen before treatment is given. Specimen plated on incubated CO2 enriched Neisseria gonorrhoeae selective culture medium, liquid Amies transport medium (refrigerated) or charcoal Amies swab. Treatment should not be delayed while culture is performed and should be given immediately after culture is taken
4. Taken from the posterior fornix at the time of speculum examination

Lower abdominal pain

In addition to people presenting with vaginal discharge those presenting with lower abdominal pain should be considered for the following:

Pathogen/ Diagnosis	Whom to test	When to test	Sample type	Assay	Evidence
Cervicitis	Women with LAP	All LAP	Endocervical swab	Gram stain - microscopy	(Ross, 2019)
Chlamydia trachomatis	Women/vagina	All	VVS	NAAT	(Nwokolo, 2016) (Dragovic, 2018)
Neisseria gonorrhoeae	Women/vagina	All	VVS	NAAT	(Fifer, 2020)
Mycoplasma genitalium	People with PID	PID/cervicitis with PBC	VVS	NAAT	(Soni, 2019)
Pregnancy	Women with LAP	All LAP	Urine	Human chorionic gonadotrophin (hCG) urine test	(Ross, 2019)
UTI	Women with LAP	All LAP	Urinalysis	Mid-stream POC urine dipstick	(Ross, 2019)
		Urinalysis positive for Nitrites and Leucocytes	Urine culture and sensitivities	Mid-stream urine culture	

Anogenital ulcers

Pathogen/ Diagnosis	Whom to test	Sample type	Assay	Evidence
Donovanosis	Anogenital ulcer/ granulomas in people with sexual contacts in high risk areas	Imprint smear	Giemsa stain microscopy	(O'Farrell, 2018)
		Biopsy	Histopathological examination with Giemsa or Silver stain No commercial DNA detection assays are available	
***Haemophilus ducreyi* /Chancroid**	Painful anogenital ulcer in people with sexual contacts in high risk areas	Ulcer swab	NAAT	(Lautenschlager, 2017)
Herpes Simplex Virus	Anogenital ulcer	Ulcer swab	HSV DNA PCR assay	(Patel, 2015)
		Ulcer swab	Culture	
		Serology	Testing is NOT recommended	
		FCU	Testing is NOT recommended	
LGV	MSM with anogenital ulcer	Ulcer swab	NAAT (Reflex testing after a positive CT NAAT)	(White, 2013)
Mpox	Possible or probable cases	Lesion swab	NAAT (local test or send to Reference laboratory)	(UK Stratergy for Mpox Control, 2022) (UKHSA, 2022) (UKHSA, 2022)
		Throat swab For contacts of Mpox with systemic symptoms AND no rash		
	Monitoring confirmed cases under advice from Specialist Infectious diseases NOT for diagnosis	Blood in EDTA tube	NAAT (local test or send to Reference laboratory)	
		Urine		
	Research only	Semen	No validated tests available	
Treponema pallidum	Anogenital ulcer	Ulcer/ exudate	Dark field microscopy	(Kingston, 2015) (Kingston, 2019)
		Ulcer swab	Treponema pallidum PCR	
		FCU	Treponema pallidum PCR NOT recommended	
		VVS		
	All (No history of syphilis)	Blood in plain tube (Serum)	Treponema pallidum antibody assay	
	All (Previously treated syphilis)	Blood in plain tube (Serum)	RPR or VDRL	

Proctitis/Proctocolitis

Pathogen/Diagnosis	Whom to test	When to test	Sample type	Assay	Evidence
Proctitis syndrome	MSM	All proctitis	Rectal swab	Gram stain – microscopy	(Clutterbuck, 2018)
Chlamydia trachomatis	MSM	All	Rectal swab	NAAT[1]	(Nwokolo, 2016) (Dragovic, 2018)
Enteric organism (*Shigella* spp., E.coli, *Campylobacter* spp., *Salmonella* spp.)	MSM	All	Stool sample	Stool Culture	(Clutterbuck, 2018)
				Faecal enteric pathogen DNA detection panel	
Herpes Simplex Virus	MSM	All	Rectal swab	HSV DNA assay	(Clutterbuck, 2018) (Patel, 2015)
Mpox	Possible or probable cases	Consider	Rectal swab	NAAT (local test or send to Reference laboratory)	(UKHSA, 2022)
Mycoplasma genitalium	Consider in MSM	Consider	Rectal swab	NAAT[2]	(Soni, 2019)
Neisseria gonorrhoeae	MSM	All	Rectal swab	NAAT	(Fifer, 2020)
			Rectal swab		
			Throat swab		
			Urethral swab		
Protozoa (Giardia lamblia, Entamoeba histolytica, Cryptosporidium spp.)	MSM	All	Stool sample	Examination for ova, cysts and parasites	(Clutterbuck, 2018)
Treponema pallidum	MSM	All	Rectal swab	*Treponema pallidum* DNA assay	(Clutterbuck, 2018) (Kingston, 2015) (Kingston, 2019)
				Dark Ground Microscopy	
		No history of syphilis	Blood in plain tube (Serum)	Treponema pallidum antibody assay	
		Previously treated syphilis	Blood in plain tube (Serum)	RPR or VDRL	

Notes:

1. Positive rectal or pharyngeal CT NAAT (or pooled sample) in MSM should be typed for LGV
2. Consider macrolide resistance testing

Urogenital Mycoplasmas other than *Mycoplasma genitalium*

(Horner, 2019)

The bacteria referred to in this section include:

- *Mycoplasma hominis*
- *Ureaplasma parvum* (formerly *Ureaplasma urealyticum* biovar 1)
- *Ureaplasma urealyticum* (formerly *Ureaplasma urealyticum* biovar 2)

Testing practices for these organisms are variable outside of sexual health services. Although these organisms are frequently found in the urogenital tract the evidence of association with disease is poor. There is no evidence of benefit in eradication of these organisms with antimicrobial therapy and treatments may be contributing to selection of antimicrobial resistance, both within these organisms, as well as within microbiota.

Hence, routine testing and treatment of asymptomatic or symptomatic men and women for *M. hominis*, *U. parvum*, and *U. urealyticum* is not recommended.

U. urealyticum has been associated with urethritis when present at high loads and in men with persistent urethritis where other STI pathogens have been excluded, testing using a specific *U. urealyticum* quantitative DNA detection assay may be considered in a specialist clinical setting.

Abbreviations

Chlamydia trachomatis	CT
Epididymo-orchitis	EO
First catch urine	FCU
Herpes simplex virus	HSV
High vaginal swab	HVS
Lower abdominal pain	LAP
Men who have sex with men	MSM
Mycoplasma genitalium	MG
Neisseria gonorrhoeae	NG
Non-gonococcal urethritis	NGU
Nucleic acid amplification test	NAAT
People living with HIV	PLWH
Pre-exposure prophylaxis	PrEP
People who inject drugs	PWID
Point of care test	POC
Polymerase chain reaction	PCR
Post coital bleeding	PCB
Rapid plasma regain	RPR
Sexually transmitted infection	STI
Trichomonas vaginalis	TV
Urinary tract infection	UTI
Venereal disease research laboratory	VDRL
Vulvovaginal swab	VVS

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