

Menses – to test or not to test?

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**'I just request a
urine sample.'**

**'I advise women to
return when they are
not on their period.'**

**Should I test women on
their period?**

**In Leeds we sample all
women the same regardless
of menstrual status**

**Which test(s) should I do in
menstruating women?**

**'I do a urine, endocx &
VVS CT/GC NAAT.'**

Published evidence / national guidance?

- Very little published evidence to inform clinicians – none for VVS or GC NAATs.

Effect of menstrual cycle and method of contraception on recovery of Neisseria gonorrhoeae. McCormack WM, Reynolds GH. JAMA 1982 Mar 5;247(9):1292-4.



Impact of patient characteristics on performance of nucleic acid amplification tests and DNA probe for detection of Chlamydia trachomatis in women with genital infections. Marrazzo JM et al. J Clin Microbiol. 2005 Feb;43(2):577-84.

- No current national guidelines specific to testing menstruating women for chlamydia & gonorrhoea.



- Expert opinion divided - ?menses potential to reduce test performance vs increased cervical shedding / menses might enhance test performance?

What about our patients?

The screenshot shows a Google search for "can i test for chlamydia on my period". The search results include links to NHS Choices, Home Health UK, The Student Room, and Patient.co.uk. Several blue callout boxes are overlaid on the page, providing specific advice:

- No advice re menses** (pointing to the NHS Choices result)
- Do not use this test during menstruation and for three days after the end of your period** (pointing to the Home Health UK result)
- I don't think they can still do it when you're on your period cos they take a sample from your vagina.** (pointing to the Student Room result)
- No advice re menses** (pointing to the Patient.co.uk result)
- No they cannot do a swab test for chlamydia when you are on your period. However, a urine sample can be taken.** (pointing to the Yahoo! Answers result)
- Your doctor will explain any preparation you need to do for the test like not taking the test near when you get your period.** (pointing to the ReachOut.com USA result)

Study summary

Sample site (performed by)	Diagnostic tests
Vulvo-vaginal swab (patient)	AC2 assay – CT & GC
Endocervix (clinician)	AC2 assay – CT & GC

- ❖ 3973 women recruited
- ❖ Overall prevalence: CT = **10.3%** & GC = **2.5%**
- ❖ Menstrual status documented – yes / no

Results

	Menstruating	Non-menstruating	Unadjusted odds ratio & 95% CIs	P value (Chi ² + Yates)
Overall	162 (4%)	3811 (96%)	----	----
CT positive	30 (18.5%)	380 (10%)	OR: 2.05 95% CI: 1.36 – 3.09	0.0008
GC positive	10 (6.2%)	90 (2.4%)	OR: 2.72 95% CI: 1.39 – 5.33	0.0055
CT and/or GC positive	33 (20.4%)	422 (11.1%)	OR 2.04 95% CI: 1.38 – 3.05	0.0004

Factors associated with menses

<u>Risk factors</u>	<u>Menstruating (162)</u>	<u>Non-menstruating (3811)</u>	<u>Odds Ratio (95% CI)</u>	<u>P value (Chi² + Yates)</u>
Mean age (years)	24	25	-	-
Prev STI	46 (28%)	1434 (38%)	0.66 (0.46-0.93)	0.02
Contact of person with a bacterial STI	20 (12%)	236 (6%)	2.13 (1.31-3.47)	0.003
Symptoms of a bacterial STI	80 (49%)	1591 (42%)	1.36 (0.99-1.86)	0.06
Cervicitis	2 (1%)	216 (6%)	0.21 (0.05-0.84)	0.02
PID	8 (5%)	161 (4%)	1.18 (0.57-2.44)	0.81
Ethnicity:				
White	126 (77%)	3045 (80%)	0.88 (0.60-1.29)	0.58
Black	17 (10%)	345 (9%)	1.18 (0.70-1.97)	0.62

Results after adjusting for confounding variables

- Menstruating women remained more likely to be diagnosed with **chlamydia**
 - Adjusted OR 1.98; 95% CI 1.27-3.09; **p=0.003**
- Menstruating women remained more likely to be diagnosed with **gonorrhoea**
 - Adjusted OR 2.72; 95% CI 1.34-5.51; **p=0.005**
- Menstruating women remained more likely to be diagnosed with **chlamydia and/or gonorrhoea**
 - Adjusted OR 2.00; 95% CI 1.30-3.06; **p=0.002**

How does VVS compare to endoCx?

- Chlamydia results:
 - 3867 women had complete paired CT results (paired McNemar's)
 - In 157 menstruating women: sensitivities
 - VVS AC2 = **100%**
 - EndoCx AC2 = **97%** (28/29)
 - $p = 1$
- Gonorrhoea results:
 - 3863 women had complete paired GC results (paired McNemar's)
 - In 157 menstruating women: sensitivities
 - VVS & EndoCx = **100%** (10/10)
 - $p = 1$

Conclusions / Discussion

- Menses does not have a negative effect on the performance of CT/GC NAATs; in fact the prevalence of infections was higher in menstruating women.
- Only 4% of study patients were menstruating suggesting that women avoid attending for STI testing during their period unless really necessary!
- We, therefore, recommend that CT&GC testing should be performed during menstruation using vulvovaginal swabs.

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