

How long should clinicians spend sampling the pharynx for gonorrhoea culture specimens?

Sarah Stuart^A, Daniel Richardson^{A,B,*} , Collins Iwuji^{A,B} and Suneeta Soni^{A,B}

For full list of author affiliations and declarations see end of paper

***Correspondence to:**

Daniel Richardson
Sexual Health and HIV, University Hospitals
Sussex NHS Foundation Trust, BN2 5BE, UK
Email: docdanielr@hotmail.com

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Eric Chow

ABSTRACT

There are few data on the length of time clinicians should take sampling the pharynx to optimise the sensitivity of gonorrhoea culture specimens and we aimed to gain a consensus on sampling time. The estimated mean time clinicians reported that they spent sampling the pharynx for gonorrhoea culture specimens was 4.63 s (s.d. $\pm$ 2.04). There was no significant difference in sampling times between clinicians who had worked in sexual health for over and under 10 years, (4.7 (s.d. $\pm$ 2.02) vs 4.6 (s.d. $\pm$ 2.3); P = 0.45). We are now using these findings to design an educational tool with the aim of improving pharyngeal gonorrhoea culture sensitivity.

Keywords: gag reflex, gonorrhoea, gonorrhoea culture, men who have sex with men, pharynx, sampling, sexual health clinicians, sexually transmitted infections.

Pharyngeal gonorrhoea is highly prevalent among men who have sex with men (MSM) and the pharynx is an important site for the development and transmission of antimicrobial resistance (AMR).¹ Rising AMR continues to threaten the effective management of gonorrhoea and as such is an urgent public health threat.¹ National guidelines recommend that specimens for culture should be taken in all cases of suspected and confirmed gonorrhoea.² However, the sensitivity of gonorrhoea culture from the pharynx is low (27% compared with NAAT at this centre) and is dependent on several factors, including the sampling technique used by clinicians.³ Previous studies from Australia have demonstrated that increasing the surface area of swab taking, increasing the anatomical sites of the oropharynx being sampled, increasing the pressure applied during swabbing and eliciting gag reflex are all associated with an improvement in detection rate by culture.^{4,5} However, data are lacking for the length of time clinicians should take sampling the pharynx to optimise gonorrhoea culture sensitivity. Furthermore there are no published guidelines on optimal pharyngeal sampling technique for gonorrhoea culture. We aimed to gain a consensus of opinion on the sampling time for pharyngeal gonorrhoea culture specimens from sexual health clinicians to standardise practice.

As part of a service improvement project to increase gonorrhoea culture positivity from pharyngeal culture samples, we disseminated a short anonymous online survey to sexual health clinicians in our local Sussex (UK) sexual health clinical network (Brighton, Worthing and Eastbourne) in November 2020. We asked clinicians how long they had been working in sexual health, how long they take sampling (in total number of seconds) the pharynx for gonorrhoea culture specimens and the frequency at which they elicit the gag reflex. Using pictorial diagrams, we asked which anatomical sites of the pharynx they would sample for gonorrhoea culture specimens (posterior wall of the pharynx, tonsils or both). Ethical approval was not required as this was part of a service improvement project to increase the quality of pharyngeal sampling among clinicians.

A total of 110/136 clinicians responded to our survey; 12 were excluded because they did not regularly take pharyngeal swabs for gonorrhoea culture and 52/98 (53%) reported that they had worked in sexual health for more than 10 years. Eighty-two (84%) reported that they took samples from the tonsils, 75/98 (76%) the posterior wall and 94/98 (96%) took samples from both the tonsils and the posterior wall. Less than half (46/98; 47%) of the clinicians reported that they attempted to elicit the gag reflex either always or sometimes. The estimated mean time clinicians reported that they spent sampling the pharynx for

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gonorrhoea culture specimens was 4.63 seconds (s.d. $\pm$ 2.04). There was no significant difference in estimated mean sampling times between clinicians who had worked in sexual health for over and under 10 years (4.7 (s.d. $\pm$ 2.02) vs 4.6 (s.d. $\pm$ 2.3); $P = 0.45$).

There is variation in practice among sexual health clinicians when sampling the pharynx for gonorrhoea culture specimens, but reassuringly we found no difference between experienced and less experienced clinicians. Our finding of the average sampling time (4.63 s) will standardise and strengthen existing recommendations for pharyngeal sampling for gonorrhoea culture.

Considering the roll out of widespread pharyngeal sampling for COVID-19 testing we anticipate greater acceptance of thorough pharyngeal sampling. We are now using these findings to design an educational tool with the aim of improving pharyngeal gonorrhoea culture sensitivity.

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Data availability. All data from this study are presented in this research letter.

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Author affiliations

^ADepartment of Global Health and Infection, Brighton and Sussex Medical School, University of Sussex, Brighton BN1 9PX, UK.

^BSexual Health and HIV, University Hospitals Sussex NHS Foundation Trust, BN2 5BE, UK.