# BACTERIAL LOAD OF CHLAMYDIA IN THE OROPHARYNX AND SALIVA AMONG GAY AND BISEXUAL MEN WITH UNTREATED OROPHARYNGEAL CHLAMYDIA

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**Background:** Previous studies have found that saliva can carry infectious gonorrhoea, which has led to the hypothesis that saliva could play an important role in gonorrhoea transmission. However, no study has examined the role of saliva in chlamydia transmission. The aim of this study was to determine whether *Chlamydia trachomatis* could be detected in saliva and to determine if the infection is specific to an anatomical site; oropharynx or tonsils.

**Methods:** Men who have sex with men (MSM) who tested positive for oropharyngeal chlamydia at Melbourne Sexual Health Centre, who had no antibiotics in the past 4 weeks, and returned for treatment within 14 days between August 2017 and August 2018 were invited to participate. On the day of treatment, throat swabs were taken by clinicians at the tonsillar fossae and another at the posterior oropharynx. A saliva sample was also collected. All samples were tested for Chlamydia by nucleic acid amplification tests. The sample adequacy and bacterial load of *Chlamydia trachomatis* were assessed by quantitative PCR.

**Results:** Forty-two MSM were included with a median age of 28 (Interquartile range [IQR]:25-33). The majority of men (76.2%; n=32) tested positive at both the tonsils and the oropharynx, followed by 9.5% (n=4) positive at the oropharynx only, and 4.8% (n=2) positive at the tonsils only. Chlamydia was detected in saliva in two-thirds of men (68.0%; n=29). The median bacterial load of chlamydia was 446 copies/ml (IQR: 204-1390 copies/ml) in saliva, 1230 copies/ml (IQR: 538-18200 copies/ml) from the tonsils and1660 copies/ml (IQR: 456-22400 copies/ml) at the oropharynx. The chlamydia loads did not differ between the tonsils and the oropharynx (p=0.865).

**Conclusion:** Chlamydia can be detected in saliva in most of oropharyngeal chlamydia cases among MSM. Sampling both the tonsils and oropharynx is important for optimal detection of oropharyngeal chlamydia.