Background The time to RNA-based nucleic acid amplification tests (NAAT) clearance following treatment of NG at the pharynx remains undefined.

Methods Between March 2019–2020, we enrolled 55 men who have sex with men (MSM) with untreated pharyngeal gonorrhea detected ≤14 days to self-collect daily pharyngeal swabs at home for 21 days after treatment. All men received ceftriaxone 250mg intramuscularly plus 1g azithromycin orally once at enrollment. We used Kaplan Meier estimates to determine the median days of positive NAAT following treatment and the number of positive NAAT days when >95% of the cohort cleared, with clearance defined as 2 consecutively negative tests and censoring for loss-to-follow-up. We categorized men into groups by time-to-clearance and used chi-square and t-test (categorical and continuous variables respectively) to assess for differences by demographics, clinical history and sexual behavior.

Results Of 55 men enrolled, 7 (13%) were NAAT-negative at enrollment (pretreatment) and 8 (15%) did not return any home self-collected swabs. Of the remaining 40 MSM (NAAT-positive at baseline and returned swabs), all cleared between 0 and 17 days. The median time-to-clearance was 5 days (95% CI: 3–8 days); >95% of men cleared NG RNA at 12 days (95% CI: 10 – undefined days) following treatment. Compared to men in the slowest to clear group (median 9 days, range 8–16, n=7), men who cleared NG RNA most rapidly (<3 days, range 0–2 days, n=28) more frequently had a history of gonorrhea (14% vs. 58%, p=0.04), and were somewhat older (median 25 vs. 30 years), though the latter was not significant (p=0.124). Time-to-clearance did not differ by HIV status, BMI or mouthwash use.

Conclusions Test-of-cure for pharyngeal gonorrhea should not be performed before 12 days following treatment when using an RNA-based NAAT. The time-to-clearance may be shorter in persons with a history of gonorrhea.

P244 CLINICAL MANIFESTATIONS OF *TREPONEMA PALLIDUM* DNA POSITIVE SYPHILITIC LESIONS AMONG PATIENTS FROM STI CLINICS IN PERU

¹E Reyes Diaz*, ^{1,2}K Konda, ¹S Vargas, ¹G Calvo, ¹C Cáceres, ²J Klausner. ¹Universidad Peruana Cayetano Heredia, Lima, Perú; ²University of California, Los Angeles (UCLA), Los Angeles, USA

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Background The control of Syphilis, a sexually transmitted infection (STI) cause by *Treponema Pallidum* (TP), requires early diagnosis and treatment, especially during primary syphilis when serologic tests may fail to confirm infection. In our PICASSO cohort, we detected TP DNA from anogenital lesions from people with active syphilis, described clinical findings and took lesion images.

Methodology The Picasso cohort study recruited adults with active syphilis, diagnosed either by laboratory (new seroconversions or fourfold increase in RPR) or clinical criteria (new anogenital ulcer compatible with primary syphilis). Patients underwent a short survey, clinical examination and laboratory tests including serum RPR, TP-rapid test (TP-RT), HIV rapid test, and TP-PCR from lesion swabs. Clinical examination was performed and documented by a trained clinician and pictures were taken after obtaining consent.

Results Among 161 participants, 61 (38%) had suspected primary lesions which were swabbed and analyzed using

PCR. Results were available from 58 participants. TP-DNA was detected in 27/58 (47%) lesions. Among those 27 participants, 11(41%) were HIV positive, RPR titer ≤1:4 was found in 12 (44%), 2 were RPR non-reactive and TP-RT negative. The most common presentations were a single painless ulcer, found in 11/27 cases (41%) and multiple painless ulcers found in 10/27 cases (37%). Two participants with multiple lesions (one with painful lesions) also had cutaneous rash on the trunk and back; and one of them had rash on palms and soles. Five participants consented for the use of photographs of their lesions for research/publication purposes.

Conclusion We were able to confirm primary syphilis cases by detecting TP-DNA from anogenital lesions. Describing those cases and showing lesion photographs can contribute to the current tools for clinical training to improve syphilis diagnosis and early treatment during symptomatic stages.

P245 MISSED OPPORTUNITIES TO DIAGNOSE OCCULT PRIMARY SYPHILIS AMONG ADULTS FROM STI CLINICS IN PERU

¹E Reyes Diaz*, ^{1,2}K Konda, ¹S Vargas, ¹G Calvo, ¹C Cáceres, ²J Klausner. ¹Centro de Investigación Interdisciplinaria en Sexualidad, SIDA y Sociedad (CIISSS), UPCH, Lima, Perú; ²University of California, Los Angeles (UCLA), Los Angeles, USA

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Background Primary syphilis, the most contagious disease stage, is when serologic tests are most likely to be negative. Including the anal canal in the clinical exam can aid diagnosis, especially during this period. We used preliminary data from our PICASSO cohort to discuss the probability of occult primary syphilis in adults not presenting with cutaneous or oral lesions.

Methodology Occult primary syphilis probability (OPSP) was classified into three categories (Gunn, 2019): 1. High, having a non-reactive RPR/TP-rapid test (TP-RT) within one year; 2. Intermediate, having a non-reactive RPR/TP-RT more than a year ago; and 3. Low, no prior non-reactive RPR/TP-RT. The higher the probability of occult primary syphilis, the higher the potential benefit from an anal exam. Participants were eligible for OPSP classification if they had a diagnosis of asymptomatic (latent) syphilis, recent condomless receptive anal sex, and current RPR result ≤1:8 if HIV-negative and first TP infection, or RPR result ≤1:128 if HIV positive and/or had prior syphilis.

Results Forty-eight participants were eligible for OPSP classification. Among those, 19 (40%) were HIV positive, 35 (73%) had prior syphilis, and 42 (88%) were diagnosed with early latent syphilis. Twenty participants (42%) were classified as high OPSP, 3 (6%) as intermediate, and 25 (52%) as low OPSP. Anoscopes were available at the study centers for 19 of the 48 cases, but only one anoscopy (5%) was performed. No anal lesions were found despite 13/19 (68%) being classified as high OPSP. Participant refusal was the primary reported reason for lack of anoscopy.

Conclusion High OPSP among asymptomatic individuals with primary syphilis is common, but anoscopy was used infrequently even when available, missing the opportunity of diagnosis. Anoscopy promotion among clinicians and patients is needed to reduce the gap of under-diagnosed primary syphilis and prevent TP transmission when it is most contagious.