Background/Objectives:
Previous studies suggest an association between obsessive–compulsive disorder (OCD) and immune dysregulation. Saliva may provide a minimally-invasive tool for assessing mucosal immunity and neuroendocrine-immune interactions in psychiatric disorders. This study will compare inflammatory mediators in saliva from participants with childhood-onset OCD and healthy controls and evaluate their associations with OCD phenotype.

Methods:
Saliva was collected from 42 children and youth attending the BCCH Provincial OCD Program and 52 controls. All participants completed an oral health survey and medical questionnaire. Clinician-rated OCD severity was assessed with the Child Yale-Brown Obsessive Compulsive Scale. C-reactive protein (CRP) and selected pro-inflammatory cytokines were measured by multiplex immunoassay in the first 20 patient samples and age-matched controls.

Results:
Tumour necrosis factor-α (TNF-α), interleukin-1β (IL-1β), IL-6, IL-8, and CRP were detectable in saliva. There were significant bivariate correlations among all cytokines ($r_s=0.671-0.748$, $p<0.0005$ for all). Analyte concentrations were higher in participants who were younger and female. Fewer participants with OCD flossed daily compared to controls (41% versus 90%; $n=61$, $p<0.0005$). Linear regression models including age, gender, oral health measures, and OCD severity explained a large proportion of the variance in IL-6 (63%, $p=0.002$), IL-1β (46%, $p=0.059$), and TNF-α (37%, $p=0.015$). Use of braces or a retainer and presence of severe OCD were significant predictors for levels of all three salivary cytokines.

Conclusions:
These data point to the feasibility of analyzing immune components in the saliva of children and youth with OCD. Disease- or stress-associated salivary changes may ultimately aid in identifying subgroups for prognostic or treatment purposes. Because this fluid reflects both systemic and local mucosal factors, evaluation of oral health is essential. Additional proteomic profiling is ongoing.