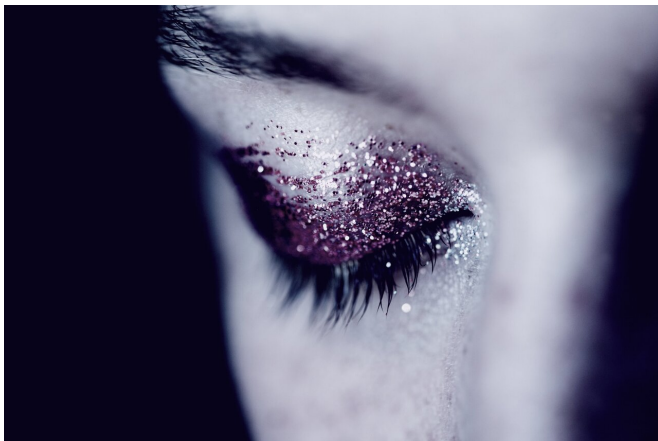


# Study investigates saliva testing for medication monitoring among patients with psychiatric disorders

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Lithium is a common medication prescribed to patients with psychiatric disorders, namely bipolar disorder, schizophrenia, and depression. It is used as a mood stabilizer and lessens the intensity of manic episodes, with particular benefit in reducing suicidality. While highly effective, the drug requires routine blood monitoring, which can be uncomfortable, expensive, and inconvenient for patients who must travel to clinical labs for frequent blood testing.

Research from the University of California, Irvine's Institute for Interdisciplinary Salivary Bioscience (IISBR) points to saliva testing as a potential alternative to blood sampling. Compared to blood, saliva collection is easier, non-invasive, requires less processing, and can be carried out in any setting.

A recent study published in the international journal *Bipolar Disorders* showed a high correlation between saliva and serum lithium levels and that

saliva-serum ratio within an individual could robustly predict a patient's serum lithium level. These findings suggest that saliva could in fact be used for lithium monitoring among patients with mood [disorders](#).

Over the course of 18 months, researchers collected 171 saliva samples from 75 patients with diagnosed [bipolar disorder](#), schizophrenia, schizoaffective disorder, major depressive disorder, or generalized anxiety disorder.

Findings from the study will fill critical gaps in literature on the efficacy of [saliva](#) for drug monitoring. While a large body of work dating back 30 years does exist, sample sizes were small, techniques were varied, and older methods were used. The study, as well as the ongoing work being conducted at IISBR, will open the door for the development and implementation of novel salivary testing methods, which will undoubtedly improve [treatment options](#) for patients taking lithium medications, as well as the psychiatric patient experience overall.

Co-investigators of the study include UCI Public Health epidemiology doctoral student and corresponding author Georgia Parkin; UCI Public Health and IISBR epidemiology researcher Elizabeth A. Thomas, Ph.D.; IISBR laboratory manager Hillary Piccerillo; and professor emeritus and former IISBR director Douglas A. Granger, Ph.D.

**More information:** Georgia M. Parkin et al, Saliva testing as a means to monitor therapeutic lithium levels in patients with psychiatric disorders: Identification of clinical and environmental covariates, and their incorporation into a prediction model, *Bipolar Disorders* (2021). [DOI: 10.1111/bdi.13128](https://doi.org/10.1111/bdi.13128)

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