Can genetic testing prior to antipsychotic treatment help identify risk for TD?

May 12, 2026 — The state of Tennessee just became the 24th state to pass a bill in 2026 covering biomarker testing. While these genetic tests are widely used to help identify predisposition to diseases such as cancer, can genetic testing be used to identify people at elevated risk for tardive dyskinesia?

Two widely available genetic tests, GeneSight, and Genomind PGx, are available to help determine a patient's genetic makeup and how they may interact with a drug. The GeneSight test is more popular; it provides a simple green/yellow/red color to indicate whether a drug such as an antipsychotic is more or less likely to agree with a patient's DNA or could be a riskier choice and cause more risk of side effects.

Genomind PGx, while less commonly used, is covered by Medicare (with preauthorization), and it tests for two genes that have been shown to play a role in the development of TD: genes DRD3 and BDNF.

For seniors, who are already at a higher risk for Tardive Dyskinesia (TD) due to age-related changes in metabolism and brain sensitivity, the Genomind PGx test offers a way to move away from "trial and error" prescribing. However, this test requires more knowledge on the part of the healthcare professional to interpret test data. (Genomind offers a free consultation to doctors to assist in analyzing test results.)

Both tests can help doctors identify the proper dose of antipsychotic (or dose of VMAT2 inhibitor used to treat TD) that should be used by identifying a patient's rate of metabolism of these drugs. In addition, the Genomind test can indicate whether there could be an undesirable drug-drug-gene interaction by analyzing the drugs already being taken and how they might interact with a newly prescribed drug.

Conducting one of these genetic tests, especially for patients over 50 at elevated risk for TD, can provide data to guide appropriate dosing and medication selection while providing peace of mind to both patient and doctor alike.