



## DNA Specimen Provenance Assignment Testing Clarifies Identity of Mixed Prostate Biopsy Samples

### BACKGROUND

Strand was contacted by a staff member at a reference laboratory after it was suspected that several biopsy jars might have contained prostate specimens from multiple patients. This was the result of a physician's office error in which multiple tissues were placed into the same jars, making it unclear whether these were from the same patient or two different people. DNA Specimen Provenance Assignment (DSPA) testing was utilized to determine the origin of all tissue samples from these mixed jars and ensure the appropriate patients could be notified of their diagnoses.



### MATERIALS AND METHODS:

A total of 21 prostate biopsy jars were collected in this case, 12 labeled for Patient A and nine labeled for Patient B. Upon further discussion with the physician's office, the reference lab learned that three of the jars submitted for Patient B contained multiple cores from both Patient A and Patient B.

A total of 12 tissue samples were placed in these mixed jars, and the reference lab requested that DSPA testing be performed on all of them so each core could be linked to the proper patient. DNA reference samples were obtained for both patients via cheek swab and compared with the tissues in question.

### RESULTS:

Six of the tissues were determined to be a DNA match for Patient A, five of the tissues were a DNA match for Patient B and one tissue contained DNA profiles from both patients. It was deemed unnecessary to retest this contaminated sample. The reference lab reported that Patient A was diagnosed with cancer, while the tissues belonging to Patient B were benign.

### CONCLUSIONS:

DSPA testing performed by Strand determined the provenance of all specimens in the mixed biopsy jars and allowed the appropriate diagnosis to be assigned to each patient. This was extremely important to ensuring proper treatment because one patient tested positive for cancer and the other did not. Use of the **know error® system** on a prospective basis (as opposed to retrospective in this particular case) would have saved the practice thousands of dollars in testing fees and allowed for a more timely diagnosis for each patient.