PRECISION MEDICINE AT THE MOLECULAR LEVEL: **GERMLINE TESTING**

Mercy, Mercy Research and their partners are working not only to detect cancers in the earliest stages, but also to stop cancer from ever developing in the first place.

Between five and ten percent of all cancers, including some of the most commonly occurring cancers, are caused by inherited mutations, such as the BRCA-1 and -2 genes, which cause breast and ovarian cancer. Genetic codes hold the key to determining an individual's probability of developing certain cancers. Germline testing allows researchers to determine patients' probability of developing certain cancers, including breast, ovarian, gastrointestinal, pancreatic, melanoma and prostate.

Germline testing is a relatively simple procedure that sometimes can be performed on a saliva sample collected by a patient at home. By factoring in other risk factors such as ethnicity or a family history of cancer, physicians can better determine which of their patients should have germline testing.

Knowing the odds of developing certain kinds of cancer gives patients and their physicians a heightened awareness of monitoring needs as well as greater insight into the advisability of prophylactic treatment measures. Each patient whose germline testing indicates an increased risk of developing cancers is referred to a genetic counselor who can interpret the test results and help develop a plan for further care.

These options are a result of Mercy's emphasis on precision medicine: health care tailored to the specific conditions and needs of each patient that translates to the right treatment, to the right patient, at the right time.