Myths and Facts About Personalized Medicine

Below are some common myths about personalized medicine.

1. **MYTH: All tumors are the same**

   **FACT:** We once thought that cancer was one disease. Now we know that there are many types of cancer. Advances in science have shown that a tumor’s makeup (including genes) can vary greatly. Even tumors from the same part of the body, such as the breast, are not all the same. For example, there is thought to be as many as five different kinds of female breast cancer, depending on the genetic makeup of the tumor. This may explain why a treatment might work for one person but not another.

2. **MYTH: Personalized medicine means there will be a treatment made specifically for me**

   **FACT:** Personalized medicine aims to find the right treatment for the right patient, but does not mean that treatments are created for each patient. In many cases, doctors can use information about a person’s or a tumor’s genes and proteins to prevent, diagnose, and treat disease. Some cancer tumors have special cells, genes, or proteins called biomarkers. These biomarkers can give doctors information used to determine what treatment options may be more or less likely to work for the specific type of cancer the patient has.

3. **MYTH: Personalized medicine will only be helpful in the future**

   **FACT:** Biomarkers have already been identified for many types of cancers. These include breast, colorectal, lung, and prostate cancers, among other tumor types. Today, they are being used to show a person’s risk for developing cancer, to diagnose the disease or to guide treatment decisions. The information in these biomarkers may help the doctor know if a treatment may be more or less likely to work, or if the cancer might come back, or recur. Researchers continue to find more biomarkers, making personalized medicine a reality in more cancers.
MYTH: Biomarker testing is only done at the time of a diagnosis

FACT: Biomarker testing can happen at any time during your diagnosis or treatment. A doctor may say the right time is after you have been diagnosed, but before you start treatment. That way, the test may help the doctor find a treatment that may be best suited for your type of tumor. If you have already begun treatment, then your doctor might test the original tumor sample. This might inform treatment decisions in the next round of therapy. In some cases, doctors may need to take another sample of your tumor tissue.

MYTH: If my test results don’t show I have a biomarker, then personalized medicine is not an option for me

FACT: If test results do not show a biomarker, your doctor may be able to narrow down treatment options. The result may still help a doctor know if a certain treatment is likely to work and whether it should be used. In some cases, the doctor may try testing for a different biomarker.

Keep in mind that, in some cases, while biomarker testing can help guide treatment, it is not the only way. And it may not always be the right approach for every patient. Your doctor can determine if biomarker testing is right for you.

MYTH: If I am a candidate for personalized medicine and targeted therapy, then only my cancer cells will be touched and I won’t feel any side effects

FACT: The goal of targeted therapy is to target tumor-specific pathways and try to stop cancer cells from growing. But that doesn’t mean that healthy cells will never be touched. There are side effects to any medication, and every person reacts differently to treatment. The goal of personalized medicine is to help doctors choose a treatment that is more likely to benefit the patient.

MYTH: Doctors make all the decisions related to cancer treatment

FACT: There are many people involved in making treatment decisions. As a patient, you play a key role. You should learn all you can about your cancer and tumor type. That way, you can be better informed when you work with your doctors to create a plan that is best for you.
REFERENCES