Virtual Tumor Offers High-Tech Look at Cancer

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your body. Imagine using a digital avatar to fly through the body's cells, looking closely at how cancer develops inside them and spreads.

That's just what scientists in Cambridge, England, have just finished developing: a three-dimensional, virtual reality model of cancer that's providing researchers with an entirely new way of l looking at the disease, the BBC reports.

Researchers say the new high-tech tool will help increase our understanding of cancer and potentially help in the search for new treatments. In recent reports about the technology, researchers have also said, "No one has examined the geography of a tumor in this level of detail before."

To build the model, scientists at the Cancer Research UK Cambridge Institute (CRUK) began with a biopsied 1 millimeter cubed piece of breast cancer tissue that contained 100,000 cells. After cutting the mass into wafer-thin slices, they scanned and stained them with markers to reveal their molecular makeup and DNA characteristics. Finally, the tumor was rebuilt using computers and 3D virtual reality (VR) technology to allow researchers to literally venture inside the tumor and explore.

Researchers can use digital avatars to survey the landscape, walking or flying through the tumor wearing VR headsets. Users can rotate the model and zoom in and focus on cells that appear to have spread to surrounding tissue.

"Understanding how cancer cells interact with each other and with healthy tissue is critical if we are going to develop new therapies," said Karen Vousden, PhD, CRUK's chief scientist. "Looking at tumors using this new system is so much more dynamic than the static 2D versions we're used to."

Developed as part of the University's Grand Challenge Awards, the tool allows multiple users anywhere in the world to examine the tumor. For more information, click here.