

# Local Hospital Working on Quicker Cancer Diagnosis Through Technology

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BOSTON (FOX 25 / MyFoxBoston.com) - What's being done in the Weissleder Lab at Massachusetts General Hospital may revolutionize the way cancer is diagnosed. And it's all being done, with the help of some of the hottest tech toys. It is a little machine the size of a tissue box, that is a mini version of a nuclear magnetic resonance, or NMR machine.

"It's a scaled down version of an MRI machine, so what it does is use magnetic fields to scan tissues for particular cancer markers or proteins, which are essentially the calling cards of particular tumors," says Dr. Cesar Castro, of the MGH Cancer Center. Not only is the size smaller, but the cost is \$200. What it can do not only for the medical community, but for the patient is a game changer.

Traditionally, if someone has a lump or mass, a surgical biopsy is done. The information would be analyzed in a lab by a pathologist, which the patient wait for results can be up to a week. It's a system, that Dr. Castro says isn't ideal for several reasons. "Where we are in today's society and in terms of state of the art, in terms of pathology in the year 2011, basically it's not perfect. It requires some highly expertise, with respects to analyzing material.

There's some subjectivity as well inherent in it. It takes days to yield results," Dr. Castro says. Since surgical biopsies pose some risk, and not everyone is a candidate, the micro NMR just requires a small needle be inserted to extract cells from the tumor, and the sample is interested into the machine. A pathologist would then get a numerical readout, on either an iphone, or ipad with specific protein levels. "What it does, is rather than days, we've seen that we can yield results in 60 minutes. So rather fast turnaround, and you get a numerical output so there's no wiggle room for subjectivity," Dr. Castro says.

The information can be downloaded, and the use of the smartphone and table makes the technology portable, though this isn't going to be available in your app store.

So far, the results are impressive. In a clinical study, patients had their tumors screened through traditional biopsy and pathology, as well as by the micro NMR machine. The new technology correctly identified all of the malignant tumors. Beyond cutting the waiting time for diagnosis, Dr. Castro believes this machine could also impact the treatment of cancer as well. "Now, through kind of serial biopsies in a minimally invasive manner, we can look and see how a tumor responds to treatment. We really haven't had that kind of privilege before," Dr. Castro says.

There are larger clinical trials to be done, but Dr. Castro tells us that the Micro NMR could be widely used in about five years.

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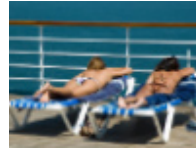
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