

# US hospital boffins demo cancer-busting smartphone kit

## Doing diagnostics with science instead of snake-oil

America's FTC might be chasing after snake-oilers offering “detect cancer” smartphone apps, but that doesn't mean your mobe can't play a genuine diagnostic role.

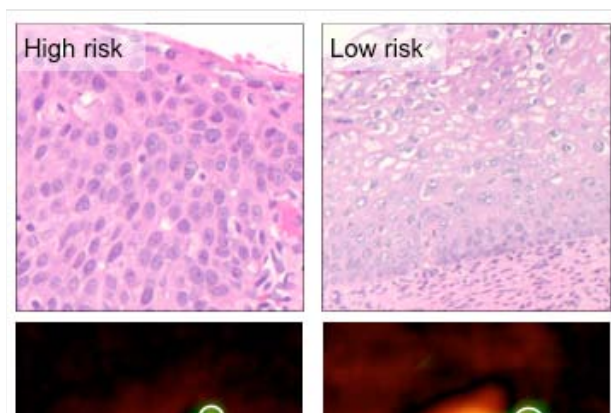
Researchers from the Massachusetts General Hospital reckon with a bit of cloudy goodness, custom-made add-on optics and the right reagent kit, smartphones can gather data that helps with cancer diagnoses.

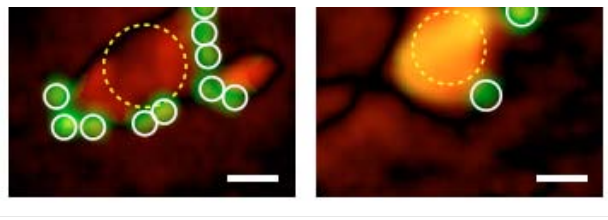
The hospital boffins probably have a better claim to respectability than [Health Discovery](#), since the hospital isn't selling anything, but has merely published findings in PNAS.

The setup, [here](#), doesn't do the analysis on the smartphone, nor does it solely rely on the smartphone as the diagnostic tool.

Rather, their “digital diffraction diagnosis” system uses a separate imaging module to capture a hologram of the sample, then sends the image upstream to a cloud computing environment to conduct the analysis.

The samples are marked with “microbeads” before image capture. These “bind to known cancer-related molecules”, the hospital's [release states](#). The group also developed image processing software it claims can process 10 Mbytes of data in “less than nine hundredths of a second”.





### **The microbeads bind to abnormal cells. Image: Massachusetts General**

Working with PAP smear data, the researchers say their system matched conventional pathology in identifying samples as high risk, low risk, or benign.

Similar results were observed for lymph node biopsies and in human papilloma virus detection, the hospital reckons.

Among other things, the hospital hopes to improve the system by integrating bigger databases into its back-end in the future.

At a current \$1.80 per assay, the hospital says the technology would be particularly useful in regions with poor access to the kind of pathology infrastructure typically associated with cancer diagnostics. ®

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