

Photographic cholesterol test

August 17 2012

Researchers in India have developed a total cholesterol test that uses a digital camera to take a snapshot of the back of the patient's hand rather than a blood sample. The image obtained is cropped and compared with images in a database for known cholesterol levels.

Writing in the *International Journal of Medical Engineering and Informatics*, N.R. Shanker of the Sree Sastha Institute of Engineering and Technology and colleagues describe how they have developed a non-invasive way to test cholesterol levels in patients at increased risk of heart disease. Their approach is based on the creation of a large database of [cholesterol levels](#) recorded using standard blood tests and linked to a standardized photograph of the hand for each patient; cholesterol is concentrated in the creases of one's fingers. They developed an image-processing computer program that compares the image from a new patient with the thousands of entries in the database and matches it to a specific cholesterol reading.

Measuring the amount and type of cholesterol circulating in the blood is an important risk factor in cardiovascular disease. Excess cholesterol not used by the body in making hormones and building cells is laid down on the inner wall of arteries as a waxy plaque, which can reduce the normal flow of blood potentially causing [heart problems](#) and increasing the risk of cerebral stroke. Total cholesterol is a useful early indicator, although more detailed testing that distinguishes between the HDL (high-density lipoprotein) and LDL (low-density lipoprotein) and triglycerides are needed for a more accurate health assessment of patients found to have high total cholesterol. It is LDL, so-called "bad" cholesterol that

contributes to the formation of arterial plaques, atherosclerosis. The presence of different total levels of cholesterol can be revealed through image analysis of the skin.

A non-invasive and inexpensive method for [cholesterol screening](#) would allow this risk factor be determined in much larger patient populations without the need for costly and inconvenient blood tests. The team will also soon publish details of the extension of this work to classifying cholesterol type using their approach.

More information: *Int. J. Medical Engineering and Informatics*, 2012, 4, 223-230

Provided by Inderscience Publishers

Citation: Photographic cholesterol test (2012, August 17) retrieved 20 March 2024 from <https://medicalxpress.com/news/2012-08-cholesterol.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
