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DynaPulse Info190811

## **CT Heart Scan (EBCT/EBT) and Noninvasive Hemodynamic Profiling (DynaPulse)...**

Re. **Screening CT heart scan (EBCT/EBT) patients with DynaPulse non-invasive hemodynamic (cardiovascular) profiling – Offering low risk, low cost solutions for patients.**

[Reuters](#) reports that researchers have found "a significant amount of radiation with these CT scans..." and "scans done in 2007 will cause 29,000 cancers" and "there will be 15,000 excess deaths" concluding that "efforts need to be taken to minimize CT radiation exposure, including reducing the number of unnecessary tests..."

**DynaPulse non-invasive hemodynamic cardiovascular profiling, particularly the brachial artery distensibility value, can be an effective screening tool for CT-scan testing, and improve the overall management of patients with hypertension and cardiovascular diseases.** According to the Bogalusa Heart Study<sup>1</sup> and other recent clinical studies<sup>2-3</sup> published in the past 15 years, the brachial artery distensibility value was shown to represent risk factor for cardiovascular diseases (CVD).

DynaPulse brachial distensibility, blood pressures and other hemodynamic parameters were compared to the Electron Beam Tomography, or EBT Heart Scan, in a study conducted by Dr. Matthew J. Budoff, et.al. at Harbor-UCLA Research and Education Center. The DynaPulse brachial distensibility value is an arterial stiffness index and CVD risk factor, while the EBT Heart Scan is used to determine the coronary artery calcification (CAC) level. [Measures of Brachial Artery Distensibility in Relation to Coronary Calcification](#)<sup>4</sup>, published in the 2003 American Journal of Hypertension, concluded,

*"... noninvasive measures of distensibility are useful in measuring subclinical vascular changes related to arteriosclerosis."*

Specifically,

*"...There was a trend toward higher BA distensibilities for those without CAC as compared with those with CAC present." "...DynaPulse could provide a safe, inexpensive method to identify patients with significant atherosclerotic burden."*

DynaPulse is a newly available technology, FDA registered, cleared and backed by more than 15 years of clinical studies. Based on the physics of Pulse Dynamics, an invention of Dr. Shiu-Shin Chio, only a standard cuff sphygmomanometer with computer and Internet connection are required. The technology provides easy-to-use, effective and complete cardiovascular information, non-invasively, and safely with zero radiation emission. The minimal \$10.00 charge per test and report, make for low cost screening of large cohort population. It is an ideal tool for the screening of the millions of CT scans performed in the US annually.

We welcome medical professionals and researchers to evaluate the DynaPulse 5200A/Pathway and DynaPulse Analysis Center (DAC) online Non-invasive Hemodynamic Profiling methodology. Please contact us for more information or discussion of specific needs and application details in the screening of CVD and CT-scan patients.

### **Clinical Research Division**

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**Link to the "Reuters" report: <http://www.reuters.com/article/2009/12/14/us-cancer-radiation-idU5TRE5BD4VD20091214>**

**References:**

1. [Impact of Multiple Cardiovascular Risk Factors on Brachial Artery Distensibility in Young Adults - The Bogalusa Heart Study](#) - Elaine M. Urbina, Lyn Kieltyka, Jeffrey Tsai, Sathanur R. Srinivasan, and Gerald S. Berenson; Am J Hypertens 2005;18:767–771, and many other studies summarized in the **Pulse Dynamics**: <http://www.dynapulse.com/DAC/ClinicalStudies.pdf>, <http://www.dynapulse.com/DAC/2009ClinicalStudiesUpdate.pdf>.
  2. [Gender differences in the relationships among obesity, adiponectin and brachial artery distensibility in adolescents and young adults](#), Elaine M. Urbina, M.D. of the Cincinnati Children’s Hospital Medical Center, **International Journal of Obesity**.
  3. [Noninvasive Assessment of Subclinical Atherosclerosis in Children and Adolescents - Recommendations for Standard Assessment for Clinical Research: A Scientific Statement From the American Heart Association](#), Elaine M. Urbina, M.D. of the Cincinnati Children’s Hospital Medical Center, **Hypertension**.
  4. [Measures of Brachial Artery Distensibility in Relation to Coronary Calcification](#) - MJ Budoff, F Flores, J Tsai, T Frandsen, H Yamamoto and J Takasu; Harbor-UCLA Research and Education Institute, USA; **American Journal of Hypertension** 2003; 16:350–355
- Other News and Information on CT-scan, Radiation and Cancer:**
5. <http://online.wsj.com/article/SB126082398582691047.html>
  6. [http://www.yalemedicalgroup.org/brink\\_12282009](http://www.yalemedicalgroup.org/brink_12282009)