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Three patients were found to have effusions of between 200 and 300 cc, and in two of these three patients the diagnostic criteria for pericardial effusion were not completely satisfied. Thus in the presence of cardiomegaly, a 200-cc effusion may not widen the x-ray silhouette enough to satisfy all the criteria for effusion which we have established.

It is apparent, therefore, that in patients with effusions of 200–300 cc, a diagnosis of pericardial effusion by radioisotope scanning will depend upon the size of the heart.

The results of this study indicated that pericardial effusions of more than 300 cc can be diagnosed accurately by radioisotope scanning, and notably in those patients without cardiomegaly, as little as 200 cc may be detected.The lateral border of the heart is never sharp for a variety of reasons: constant motion of the heart; respiration; collimator resolution. One important factor contributing to this problem is scatter from the high-energy gammas produced by I^{131} in its decay. Better cardiac scans could be attained by use of monoenergetic, lower-energy radioisotopes.

In 23 patients undergoing open-heart surgery in whom the pericardial contents were accurately measured, and in 11 additional patients examined at autopsy or by pericardiocentesis, isotopic photoscans of the heart were made and the results were correlated.

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Condensed from *15 Years Ago:*

"Circumferential Profiles:" A New Method for Computer Analysis of Thallium-201 Myocardial Perfusion Images

Robert D. Burow, Malcolm Pond, A. William Schafer and Lewis Becker

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A method for computer analysis of thallium-201 scintigrams is described, in which the left ventricular activity is measured along radii constructed from the center of the left ventricle (LV) to each point on the LV circumference. Data are then displayed graphically as a "circumferential profile" of normalized activity against radial location. Thallium defects are identified and scored by comparison of the profile curve with empirically determined normal limits. In patients with coronary artery disease, defect scores were found to be quantitative and reproducible, and to agree generally with subjective visual analysis.

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