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16 June 1964

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Dr. Theodore Cooper
Director, Center for Cardiovascular Research
Saint Louis University School of Medicine
1325 South Grand Boulevard
Saint Louis 4, Missouri

Dear Dr. Cooper:

The abstract of your paper "Measurement of Cardiac Output in Man from Precordial Dilution Curves of RISA¹³¹" has been cleared for release as unclassified information by the CRDL Publication Review Board. The action was dated 9 June 1964. The number C-1352 (a) was assigned to this abstract. A copy of the abstract as cleared is inclosed. The full paper should be submitted for clearance six weeks before you need to use it.

Sincerely yours,

1 Incl
Abstract

F. N. CRAIG
Contract Project Officer
Directorate of Medical Research

1324-14 (St Louis University)

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MEASUREMENT OF CARDIAC OUTPUT IN MAN FROM PRECORDIAL DILUTION
CURVES OF RISA¹³¹.

Theodore Cooper, M.D., F.C.C.P., Horst Zekert, M.D. and
Francis Herbig, M.S.

The measurement of cardiac output in man is often avoided because of the necessity of arterial puncture and central venous catheterization. In 60 subjects we have simultaneously inscribed the dilution curves obtained from a rate meter centered over the ascending aorta and a densitometer through which brachial arterial blood was being drawn after a bolus of cardiogreen dye mixed with RISA¹³¹ was injected into the antecubital vein. These determinations were made under a variety of conditions and in various states in order to compare the methods over a wide range of cardiac outputs. Significant correlation was obtained between outputs calculated by the two methods. However, in subjects with enlarged hearts and congestive failure, precordial dilution curves were difficult to interpret. It was difficult to consistently obtain useful precordial dilution curves after three injections of indicator even though the initial doses were as small as 4 and 8 microcuries. Despite several limitations the simplified radioisotope dilution method may be safely applied for selected studies of cardiac output in man.

From the Center for Cardiovascular Research, St. Louis University,
St. Louis, Missouri

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