

SMUEA-RMP(1)

Evaluation Report of Research Contract No. DA18-108-AMC-193(A).

Director, Research Laboratories

Physiology Dept.  
Med Rsch Lab

Dr. Craig/njm/4142

1. Title: Cardiovascular Assessment Kit  
Contractor: St. Louis University  
Duration: 26 months  
Amount Obligated: \$99,400.00  
Amount Expended: \$82,824.00  
Project: 1C622401A09701

2. Problem: Evaluation in man of chemical compounds for use in certain offensive and defensive aspects of chemical warfare has sometimes been incomplete with regard to assessment of cardiovascular effects. Existing methods require the facilities of the surgical ward of a large hospital and a highly trained surgical team. The object of the contract was to provide the laboratory with equipment and procedures that would permit an adequate cardiovascular assessment by the available personnel.

3. Approach and Summary of Accomplishments: The contractor devoted most of the effort to the most important part of the problem, the determination of cardiac output. The contractor selected a method that had been described by several other workers. It was a dilution method consisting of the injection of a radioactive material into a vein and the recording of the radioactivity over the heart. This method has the advantage of not requiring an arterial puncture. The main technical contribution of the contractor was to demonstrate the utility of the method with a considerable reduction in the dose of radiation received by the subject.

4. Evaluation: The scope of the contract included the measurement of regional blood flow and the application of the cardiac output method to conditions of exercise. This scope presented problems difficult enough to challenge the best investigators in the field. The clarity of the report was adequate. The personnel selected by the principal investigator were of adequate quality. The workmanship and the equipment delivered to the Government under the terms of the contract were of good quality. The principal investigator was considered to be highly competent in this field. The approach was accepted by the contract project officer at the beginning of the contract. As the work developed and difficulties arose, the contractor displayed less initiative than one could wish for in overcoming them. Consequently, not enough time was left for adequate treatment of all the items in the scope. Some responsibility for the distribution of effort rests with the contract project officer but it was impractical to provide detailed supervision of the work. The contractor did succeed in testing the method and delivery to the Government the equipment for measuring cardiac output in the resting subject with a minimum of risk to the subject. In view of the effort put forth by the contractor and the funds expended by the Government, greater returns might have been expected.

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SUBJECT: Evaluation Report of Research Contract No. DA18-108-AMC-193(A)

5. Rating: Satisfactory

APPROVED BY:

N. G. BOTTIGLIERI, LTC, MC  
Chief, Medical Research Laboratory

FRANCIS N. CRAIG, Ph.D.  
Contract Project Officer  
Physiology Department

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