## INDIANA UNIVERSITY SCHOOL OF MEDICINE 1100 WEST MICHIGAN STREET • INDIANAPOLIS, INDIANA 46202

DEPARTMENT OF MEDICINE

October 22, 1976

Henry Blackburn, M.D. 2108 Oliver Avenue, South Minneapolis, Minnesota 55405

Dear Henry:

I appreciate your favorable comments on my review article of exercise electrocardiography. I have enclosed reprints as you requested.

I am embarrassed to say that I was not aware combined orthogonal, bipolar and modified 12-lead recording systems were being used in the MRFIT program. I was recently asked to serve on an advisory committee for the Central Exercise Laboratory at the University of Alabama and our first meeting with Tom Sheffield is scheduled for December 10th. I will be most interested in learning more about the program. I hope I am correct in assuming that Tom is involved with the MRFIT program. I will be especially interested to find out if multiple leads are improving the "sensitivity" of the exercise ECG in detecting coronary disease and, if so, whether this occurs without compromising the "specificity" of the test.

I was pleased to hear that you have interpreted my observations about abnormal post-exercise ST segment responses correctly; that is in coronary heart disease patients they are almost always associated with an abnormal ST index during exercise. This has been an observation of mine which has held up in more than 95% of cases but it has been a more or less retrospective analysis. We are currently in the process of setting up a prospective study to confirm this observation. I am forced to do so because so many people have misunderstood or misquoted statements made by me at various meetings. I have always tried to make it clear that the in-exercise ECG may appear normal by visual analysis in coronary patients who have a strongly positive post-exercise ECG. Howeyer, the ST index during exercise almost always confirms slow upsloping ST depression. Still, I have had several angry encounters with physicians asking "how can I make such a statement" since they see coronary patients all the time who have marked post-exercise ST depression with a normal ST response during exercise. In the future I intend to clarify my statements with a slide of the enclosed reproduction (columns 1 and 3). In respect to this problem I think an article in the September issue of Circulation (page 371) from Norway confirms some of my observations. They showed that 1) slow upsloping ST depression is important during

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exercise but not very helpful post-exercise and 2) many patients who have horizontal or downsloping ST depression during exercise show only slow upsloping during exercise.

Thanks again for your interest. I would be delighted to discuss these points with you further and perhaps we can put together some type of editorial note or summary in the future.

Sincerely,

Paul L. McHenry, M.D.

PLM: fms

Enclosures