

Statement of Dr. Condict Moore
Professor of Surgery
and
Director, Cancer Center
University of Louisville School of Medicine
Prepared For
Presentation At
Department of Labor Hearings On
Vinyl Chloride, Occupational Exposure Standard
July 8, 1974

My name is Dr. Condict Moore. I am a Professor of Surgery and the Director of the Cancer Center at the University of Louisville School of Medicine.

I received my B.A. from Princeton and my M.D. from Columbia University. I served my internship in Methodist Hospital in Brooklyn 1942-1943.

Following service in the United States Navy, 1943-1946, I completed residencies in:

St. Luke Hospital, New York City (Pathology) 1946-1947
Methodist Hospital, Brooklyn (Surgery) 1947-1949
Memorial Hospital, New York (Resident & Fellow in Surgery) 1949-1952

I was certified by the American Board of Surgery in 1952 and, that same year, joined the faculty of the University of Louisville School of Medicine. Following a series of appointments at the Medical School relating to Pathology, Tumors, Cancer, and Surgery, I was made full Professor of Surgery (Oncology) in 1969. In addition, in 1972 I was appointed Director, Cancer Center, University of Louisville Health Science Center. My complete Curriculum Vitae is attached.

For the past two years a group of senior faculty members of the School of Medicine at the University of Louisville has been organizing the Cancer Center as a new interdepartmental, multidisciplinary organizational unit and functional focus of effort within the faculty of the University. This Cancer Center effort has gained much impetus from a historically strong University effort in the cancer field and from considerable consultative and financial support from the Cancer Centers office of the National Cancer Institute. The Cancer Center has begun an effective direction of effort, created a productive unit among the various faculties and schools of the University that has mobilized many different disciplines and enabled them to mount multi-departmental approaches to various specific tasks, both in terms of clinical and research cancer matters.

When, in January and February of this year (1974), it became apparent that the relatively large numbers of cases of angiosarcoma of the liver discovered in Louisville PVC workers of B.F. Goodrich would demand considerable clinical care and consultation and research investigation, the Director of the Cancer Center and the Cancer Center Steering Committee made some

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inquiries of Dr. John Creech, B.F. Goodrich Plant Physician, and Dr. Laszlo Makk, pathologist at St. Anthony Hospital, Louisville, Kentucky, who had been handling the clinical management of the affected workers. These inquiries were aimed at finding whether the University Medical School could be of help in any consultative or investigative way to the medical department of the B.F. Goodrich plant in Louisville. This struck a responsive chord, since Dr. Creech had been exploring with representatives of the Company the various possibilities of obtaining expert consultation and help in pursuing, managing and studying the problem which appeared to be of industry-wide and nationwide importance. Thus the two organizations, simultaneously, mutually sought out each other. The University was seeking to carry out its responsibilities for community health as well as seeking support for much needed research; the B.F. Goodrich Company was looking for clinical assistance and sophisticated scientific and academic guidance in medical surveillance and in medical consultation. Therefore, an agreement was reached within several weeks whereby the B.F. Goodrich Company would supply the University with funds through the Cancer Center organization to carry out a three-point program over a period of one year to eighteen months. The three points of this program consist of the following:

1. A medical surveillance program in which a clinical team from the University would formally screen, with specially designed questionnaires and complete physical examinations, all employees of the B.F. Goodrich plant, under the supervision of a new, unique specialist, a hepatologist, who would be added to the faculty to be the director of the program. With his help a revised protocol of laboratory testing would be instituted on all employees. Medical consultation and help would be provided from a panel of university specialists whenever required.

We are particularly interested in developing an improved protocol, since there has been consensus here and in the medical community that the current protocol is simply not discriminating enough nor sufficiently predictive.

As a further protocol problem, Dr. Johnson has informed us that Goodrich, in applying the SMA 12 to young applicants for employment, the test rejects an abnormally high number of young people who obviously are generally healthy and have had no VCM exposure.

2. The second area of commitment consists in establishing, with the help of a new epidemiologist and staff, a registry for all cases of diagnosed or suspected vinyl chloride-associated disease occurring at the plant in Louisville, a registry designed with the capability of being expanded throughout the industry, and open to participation by other companies.
3. The third part of the agreement was that the University would begin a University-wide, basic research program designed to study the toxic and disease-producing effects of vinyl chloride and related compounds, a program to be monitored by intramural and extramural scientific review committees.

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In short, we are addressing ourselves to finding out what vinyl chloride and related compounds will do to the human body, how we can predict pathological effects, how we can properly take care of people who have already had disease-producing exposures, and how to prevent other workers from getting a dangerous level of exposure.

The agreement was signed within the past month. Progress to date has consisted of the appointment of an outstanding hepatologist who will be on site within two months and who will make periodic visits within the next two months to help organize the program without delay. A team of clinicians has been formed and plans have been made in the medical department of the Louisville plant of the B.F. Goodrich Company to perform physicals and complete medical histories, and special questionnaires on all employees beginning July 1. This special clinical study should be completed by the middle of August. Input into the design of the questionnaire and the physical examination has been secured from numerous individuals in a variety of disciplines both within the institution and from the outside. Contact has been made with the several national and federal agencies interested in this problem, including the National Cancer Institute, NIOSH, and EPA. Representatives of these organizations have visited Louisville and been apprised of our plans. The long-range aspect of this program is periodic re-examination, re-study and careful follow-up on all previous, present and future employees. In the area of registry establishment, a person accomplished in epidemiology and biostatistics has been employed to begin work by the end of July in the design of various studies. In this regard we plan to draw upon the talents of Dr. E. Cuyler Hammond, Vice President and epidemiologist-statistician of the American Cancer Society in New York City, who has agreed to be consultant to our program. He has visited Louisville and consulted at length with company statisticians and with our multidisciplinary groups at the University.

In the area of basic research, 17 research proposals have been received and reviewed by special survey and review committees within the University. After a series of critical analyses, seven proposals have been funded at relatively low levels of funding to stimulate small pilot studies in the approved areas of research. We hope these will lead to larger studies with funding from other sources within the next year. These projects include the study of the value of electron spin resonance variations in detecting angiosarcoma and other changes in tissues exposed to vinyl chloride; the possible interaction between vinyl chloride and viral RNA or reverse transcriptase; electron microscopic studies of diseased liver tissue available to the University research group; measurements of sinus blood flow and Kupffer cell function as a possible guide to early liver damage and malignant transformation; liver-specific studies looking for these as indicators of chronic vinyl chloride exposure; and the use of mutagenicity experiments to indicate carcinogenicity of vinyl chloride and its related compounds or their metabolites.

We expect to have most aspects of this three-part program fully under way within the next year; that is, thorough, formal medical screening of all of the employees of the B.F. Goodrich plant in Louisville, a skeleton registry of vinyl chloride-exposed individuals begun so that it can be expanded and added to, and some indication of which pilot studies in basic research are worthy of further larger funding and more intensive pursuit in the laboratory.

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