

VOID SHEET

TO: License Fee Management Branch

FROM: RIII - COLLEEN C. CASEY

SUBJECT: VOIDED APPLICATION

Control Number: 301829

Applicant: V. A. MEDICAL CENTER

License Number: 21-04234-01

Docket Number: 030-02050

Date Voided: 11/21/96

Reason for Void: Licensee is a medical board scope
that evaluates/approves users internally. Reviewer could not "name"
this Doctor to license even if his credentials met regulatory requirements.

Colleen C. Casey
Signature

11/21/96
Date

Attachment:
Official Record Copy of
Voided Action

FOR LFMB USE ONLY

- ☐ Refund Authorized and processed
☐ No Refund Due
☒ Fee Exempt or Fee Not Required

Comments: _____

Log completed ☒
Processed by: PAC

ML 01
30
SD

BETWEEN:

```

: Program Code: 02110
: Status Code: 0
: Fee Category: EX 7B 2B
: Exp. Date: 20011031
: Fee Comments: 170.11(A)(5)
: Decom Fin Assur Req'd: N

```

A. REGION

Applicant/Licensee: V. A. MEDICAL CENTER
Received Date: 960916
Docket No: 3002050
Control No.: 301829
License No.: 21-04234-01
Action Type: Amendment

Amount: 0
Check No.: 8

Signed _____
Date 7-12-96

1. Fee Category and Amount:

	Correct Fee Paid:	Applicable
Amendment	_____	_____
Renewal	_____	_____
License	_____	_____

Signed _____
Date _____

FEE EXEMPT



DEPARTMENT OF VETERANS AFFAIRS

Medical Center
4646 John R
Detroit MI 48201
August 29, 1996

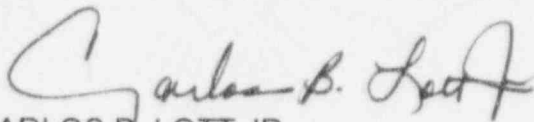
In Reply Refer To: 553/00A3

Department of Veterans Affairs
Health Physics Program (115HP)
915 N. Grand Blvd.
St. Louis, MO 63106

SUBJ: Amendment Application, NRC License No. 21 - 04234 - 01

1. Enclosed are the original and three copies of our proposed amendment request for your review and submission to the NRC.
2. If there are any questions, please call Mr. Steven D. Conatser, Radiation Safety Officer, at (313) 576-1000, ext. 3595/3444.

Sincerely yours,


CARLOS B. LOTT JR.
Director

Enclosures: 4

cc: RD (132/RSP)

FEE EXEMPT

RECEIVED
SEP 16 1996
REGION III

301829

SEP 16 1996



DEPARTMENT OF VETERANS AFFAIRS

Medical Center
4646 John R
Detroit MI 48201

August 29, 1996

In Reply Refer To: 553/00A3

U.S. Nuclear Regulatory Commission
Region III
Materials Licensing Section
801 Warrenville Road
Lisle, IL 60532 - 4351

Dear Sir:

Enclosed are documents to support a proposed amendment to NRC License No. 21 - 04234 - 01, for VA Medical Center, Detroit, Michigan. The proposal is for NRC authorization to allow Dr. Marvin W. Kronenberg the independent use of unsealed byproduct material, for imaging and localization studies, as described in 10 CFR 35.200.

Dr. Kronenberg is the Chief of our Cardiology Section, and is requesting privileges as an authorized clinical user to perform and interpret nuclear cardiology studies. The enclosed documentation of Dr. Kronenberg's training and experience should verify that he meets the training requirements of 10 CFR 35.920 and 35.972.

Questions regarding this proposal may be addressed to Mr. Steven D. Conatser, Radiation Safety Officer, at (313) 576-1000, ext. 3595/3444.

Sincerely yours,

CARLOS B. LOTT JR.
Director

Enclosures

Vanderbilt University Medical Center

Department of Radiology and Radiological Sciences
School of Medicine

Nashville, TN 37232-2675
(615) 322-0999
FAX (615) 322-3764

November 17, 1995

To Whom It May Concern:

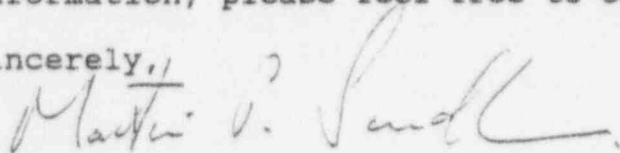
It is a pleasure to write a letter confirming Dr. Marvin W. Kronenberg's qualifications for a limited license for cardiovascular nuclear medicine.

When I joined the Nuclear medicine Department in 1982 Dr. Kronenberg was the Director of Nuclear Cardiology, and was responsible for my training in that discipline. I spent 18 months as a resident with Dr. Kronenberg and following this I was the Co-Director of Nuclear Cardiology until Dr. Kronenberg's department to Galveston in 1987.

Dr. Kronenberg has trained in all aspects of nuclear cardiology including clinical experience, basic sciences, and has an impressive corpus of publications related to nuclear cardiology research. We have provided the standard six-month example (numbers) on the enclosed forms, and this number can be multiplied by the number of years he was here (15).

I have no hesitation what-so-ever in stating that Dr. Kronenberg is fully qualified for this licensure. If you need additional information, please feel free to call me at 615/343-3585.

Sincerely,



Martin P. Sandler, M.D.
Professor and Vice-Chairman
Director of Nuclear Medicine/PET

MPS/vjb

Enclosure

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER Marvin W. Kronenberg, M.D.	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE MI
--	--

3. CERTIFICATION		
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
American Board of Internal Medicine	Internal Medicine	June, 1973
American Board of Internal Medicine	Cardiovascular Disease	October, 1975

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (HOURS) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	HEALTH PHYSICS SERVICES, INC. 1350 PICCARD DRIVE #101 ROCKVILLE, MD 20850	100	
b. RADIATION PROTECTION	HEALTH PHYSICS SERVICES, INC. 1350 PICCARD DRIVE #101 ROCKVILLE, MD 20850	30	
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	HEALTH PHYSICS SERVICES, INC. 1350 PICCARD DRIVE #101 ROCKVILLE, MD 20850	20	
d. RADIATION BIOLOGY	HEALTH PHYSICS SERVICES, INC. 1350 PICCARD DRIVE #101 ROCKVILLE, MD 20850	20	
e. RADIOPHARMACEUTICAL CHEMISTRY	HEALTH PHYSICS SERVICES, INC. 1350 PICCARD DRIVE #101 ROCKVILLE, MD 20850	30	

5. EXPERIENCE WITH RADIATION (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
Tc-99M	20-30 mCi/procedure	Vanderbilt Univ. Medical Center Nashville, TN	15 years	Cardiovascular diagnosis and Research
Tl-201	3-4 mCi/procedure	Same	15 years	Same
Carbonized Microspheres (Ce, Sc, Nb, Sn, Co)	1 mCi Total on hand	Same	15 years	Cardiovascular Research

**EXHIBIT 3
SUPPLEMENT B**

SUPPLEMENT		U. S. NUCLEAR REGULATORY COMMISSION	
PRECEPTOR STATEMENT			
Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.			
1. PROPOSED PHYSICIAN USER'S NAME AND ADDRESS <div style="border: 1px solid black; padding: 5px;"> FULL NAME Marvin William Kronenberg, M.D. STREET ADDRESS Cardiology Section, C-361, Allen Park VA Medical Center, Southfield and Outer <div style="display: flex; justify-content: space-between; font-size: x-small;"> CITY STATE ZIP CODE </div> <div style="display: flex; justify-content: space-between;"> Allen Park MI 48101 </div> </div>		KEY TO COLUMN C PERSONAL PARTICIPATION SHOULD CONSIST OF: 1-Supervised examination of patients to determine the suitability for radiologic diagnosis and/or treatment and recommendation for prescribed dosage. 2-Collaboration in dose calibration and actual administration of dose to the patient including calculation of the radiation dose, related measurements and plotting of dose. 3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment.	
2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN			
ISOTOPE <small>A</small>	CONDITIONS DIAGNOSED OR TREATED <small>B</small>	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION <small>C</small>	COMMENTS <small>(Additional information or comments may be submitted in duplicate on separate sheet.) <small>D</small></small>
	Thyroid scan		
	Thyroid uptake		
	Lung perfusion scan		
	Xenon ventilation study		
	Aerosol ventilation scan		
	Renal flow scan		
	Brain scan		
	Liver/spleen scan		
	Bone scan		
	Gastroesophageal study		
	LeVeen shunt study		
	Cystogram		
	Dacryocystogram		
	Cardiac perfusion scan.	200+	
	Cardiac stress ventriculogram	200+	
Cardiac rest ventriculogram	200+		
Gallium scan			
	Myocardial Infarct Scan	50+	

EXHIBIT 3 (Continued)

PROPOSED PHYSICIAN USER Marvin William Kronenberg, M.D.			
PRECEPTOR STATEMENT (Continued)			
2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)			
ISOTOPE	CONDITIONS DIAGNOSED OR TREATED	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION	COMMENTS <small>(Additional information or comments may be submitted in duplicate on separate sheets.)</small>
A	B	C	D
P-32 <small>(Continued)</small>	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES		
P-32 <small>(Continued)</small>	INTRACAVITARY TREATMENT		
I-131	TREATMENT OF THYROID CARCINOMA		
	TREATMENT OF HYPERTHYROIDISM		
Au-198	INTRACAVITARY TREATMENT		
Co-60 or Co-137	INTERSTITIAL TREATMENT		
	INTRACAVITARY TREATMENT		
I-125 or Ir-192	INTERSTITIAL TREATMENT		
	TELETHERAPY TREATMENT		
Co-60 or Co-137	TELETHERAPY TREATMENT		
Sr-90	TREATMENT OF EYE DISEASE		
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	1097	
Sr-113/ In-113m	GENERATOR		
Tc-99m	REAGENT KITS	485	
Other			
Tl-201	Cardiac Imaging The above figures Represent a 6 month period	250	

3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING			
Vanderbilt	LOCATION	1975 - 1990	DATES
Dr. Kronenberg was at Vanderbilt in the Dept. of Medicine/Cardiology from 1975 to 1990. He continuously trained/taught in the basic science and radioisotope handling during this time.			
		CLOCK HOURS OF EXPERIENCE	

4. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:	5. PRECEPTOR'S SIGNATURE
a. NAME OF SUPERVISOR Martin P. Sandler, M.D.	7. PRECEPTOR'S NAME (Please type or print) Martin P. Sandler, M.D.
b. NAME OF INSTITUTION Vanderbilt University Medical Center	
c. MAILING ADDRESS Radiology CCC-1108 MCN, 21st Ave & Garland	
d. CITY Nashville, TN 37232-2675	
e. MATERIALS LICENSE NUMBER(S) R-19021-E00	8. DATE 11/17/95

PRECEPTOR STATEMENT

Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

1. APPLICANT PHYSICIAN'S NAME AND ADDRESS

FULL NAME

Marvin W. Kronenberg, M.D.

STREET ADDRESS

14 Vaughan Ridge

CITY

Bloomfield Hills

STATE

MI

ZIP CODE

48304

KEY TO COLUMN C

PERSONAL PARTICIPATION SHOULD CONSIST OF:

1-Supervised examination of patients to determine the suitability for radioisotope diagnosis and/or treatment and recommendation for prescribed dosage.

2-Collaboration in dose calibration and actual administration of dose to the patient including calculation of the radiation dose, related measurements and plotting of data.

3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment.

2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN

ISOTOPE	CONDITIONS DIAGNOSED OR TREATED	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.)
A	B	C	D
I-131 or I-125	DIAGNOSIS OF THYROID FUNCTION	*****	
	DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME	*****	
	LIVER FUNCTION STUDIES	*****	
	FAT ABSORPTION STUDIES	*****	
	KIDNEY FUNCTION STUDIES	*****	
	IN VITRO STUDIES	*****	
OTHER		*****	
I-125	DETECTION OF THROMBOSIS	*****	
I-131	THYROID IMAGING	*****	
P-32	EYE TUMOR LOCALIZATION	*****	
Se-75	PANCREAS IMAGING	*****	
Yb-169	CISTERNOGRAPHY	*****	
Xe-133	BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES	*****	
OTHER		*****	
Tc-99m	BRAIN IMAGING	*****	
	CARDIAC IMAGING	*****	
	THYROID IMAGING	*****	
	SALIVARY GLAND IMAGING	*****	
	BLOOD POOL IMAGING	*****	
	PLACENTA LOCALIZATION	*****	
	LIVER AND SPLEEN IMAGING	*****	
	LUNG IMAGING	*****	
	BONE IMAGING	*****	
OTHER		*****	

PRECEPTOR STATEMENT (Continued)

2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)

ISOTOPE	CONDITIONS DIAGNOSED OR TREATED	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.)
A	B	C	D
P-32 (Soluble)	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES	*****	
P-32 (Colloidal)	INTRACAVITARY TREATMENT	*****	
I-131	TREATMENT OF THYROID CARCINOMA	*****	
	TREATMENT OF HYPERTHYROIDISM	*****	
Au-198	INTRACAVITARY TREATMENT	*****	
Co-60 or Cs-137	INTERSTITIAL TREATMENT	*****	
	INTRACAVITARY TREATMENT	*****	
I-125 or Ir-192	INTERSTITIAL TREATMENT	*****	
	TELETHERAPY TREATMENT	*****	
Sr-90	TREATMENT OF EYE DISEASE	*****	
	RADIOPHARMACEUTICAL PREPARATION	*****	
Mo-99/ Tc-99m	GENERATOR	5	
Sn-113/ In-113m	GENERATOR	*****	
Tc-99m	REAGENT KITS	*****	
Other	***** ***** ***** ***** ***** ***** ***** ***** ***** *****	***** ***** ***** ***** ***** ***** ***** ***** ***** *****	

3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING

4. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:

6. PRECEPTOR'S SIGNATURE

a. NAME OF SUPERVISOR

Jasper W. Watkins, III, RPH

a. NAME OF INSTITUTION

Health Physics Services, Inc.

c. MAILING ADDRESS

1350 Piccard Drive, Suite 101

d. CITY

Rockville, MD 20850

e. MATERIALS LICENSE NUMBER(S)

MD-31-035-01

7. PRECEPTOR'S NAME (Please type or print)

Jasper W. Watkins, III RPH

8. DATE

4 Feb 86

Health Physics Services, Inc.

Hereby certifies that

Marvin W. Kronenberg, M.D.

has successfully completed the 200 Hour Physician Training
Program in Basic Radioisotope Handling conducted
in accordance with the requirements of the
U.S. Nuclear Regulatory Commission (10 CFR 35).

COURSE OUTLINE

Radiation Physics and Instrumentation - 100 hours
Mathematics pertaining to the use and measurement of radioactivity - 20 hours
Radiopharmaceutical Chemistry - 30 hours
Radiation Biology - 20 hours
Radiation Protection - 30 hours

Scott Benjamin

Scott Benjamin
Course Coordinator

May 6, 1996

Date

Joseph F. Mount

Joseph F. Mount, Ph.D.
President

October, 1995

MARVIN W. KRONENBERG, M.D.

Social Security No.: 294-36-3934

OFFICE ADDRESS

Cardiology Section
C-361
Allen Park Veterans Administration
Medical Center
Southfield and Outer Drive
Allen Park, MI 48101

Telephone (313) 562-6000, ext. 3712
Fax (313) 562-6152

HOME ADDRESS

14 Vaughan Ridge
Bloomfield Hills, MI 48304

Telephone (810) 646-0577

PERSONAL DATA

Date of Birth: July 17, 1943
Place of Birth: Cleveland, Ohio

EDUCATION

1965 B.A., Zoology, Miami University, Oxford, Ohio
1969 M.D., The Ohio State University College of Medicine, Columbus, Ohio

TRAINING

1969 - 1970 Intern in Medicine, The Ohio State University Hospitals, Columbus, Ohio
1970 - 1972 Resident in Medicine, The Ohio State University Hospitals, Columbus, Ohio
1972 - 1975 USPHS Trainee in Cardiology, University of Rochester School of Medicine, Rochester, New York
1974 - 1975 Recipient, NIH Research Training Fellowship, University of Rochester Medical Center, Rochester, New York

FACULTY APPOINTMENTS

- 1972 - 1975 Instructor in Medicine, University of Rochester School of Medicine, Rochester, New York
- 1975 - 1982 Assistant Professor of Medicine, Division of Cardiology, Vanderbilt University School of Medicine, Nashville, Tennessee
- 1979 - 1985 Assistant Professor of Radiology, Vanderbilt University School of Medicine, Nashville, Tennessee
- 1982 - 1990 Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee
- 1983 Visiting Associate Professor of Biomedical Engineering, The Johns Hopkins University School of Medicine, Baltimore, Maryland
- 1985 - 1990 Associate Professor of Radiology, Vanderbilt University School of Medicine, Nashville, Tennessee
- 1990 - 1995 Professor of Medicine and Radiology, University of Texas Medical Branch at Galveston, Galveston, Texas
- 1995- Present Professor of Medicine, Wayne State University, Detroit, Michigan

HOSPITAL OR OTHER PROFESSIONAL APPOINTMENTS

- 1975 - 1987 Director, Nuclear Cardiology Research Laboratory, Vanderbilt University Hospital, Nashville, Tennessee
- 1975 - 1990 Director, Nuclear Cardiology, Vanderbilt University Hospital, Nashville, Tennessee
- 1982 - 1990 Director, Cardiac Care Unit, Vanderbilt University Hospital, Nashville, Tennessee
- 1990 - 1993 Co-Director, Nuclear Cardiology, University of Texas Medical Branch at Galveston, Galveston, Texas
- 1990 - 1993 Director, Division of Cardiology, University of Texas Medical Branch at Galveston, Galveston, Texas
- 1990 - 1994 John Sealy Centennial Chair in Cardiology, University of Texas Medical Branch at Galveston, Galveston, Texas
- 1995 - Present Chief, Section of Cardiology, Allen Park Veterans Administration Medical Center, Allen Park, Michigan

HOSPITAL OR OTHER PROFESSIONAL APPOINTMENTS, Cont'd.

- 1995 - Present Director, Nuclear Cardiology, Allen Park Veterans Administration Medical Center,
 Allen Park, Michigan
- 1995 - Present Director, Ambulatory Operations, Division of Cardiology, Wayne State University,
 Detroit, Michigan

MAJOR PROFESSIONAL SOCIETIES

- American Heart Association, 1972-Present
 Member, Councils on Clinical Cardiology and Circulation
- American Federation for Clinical Research, 1976-Present
- Fellow, American College of Cardiology, 1978-Present
- Society of Nuclear Medicine, 1979-Present
 Member, Cardiovascular Council
- Nashville Cardiovascular Society, 1980-1990
- Southern Society for Clinical Investigation, 1981-Present
- Galveston Academy of Medicine, 1991-1995
- American Society of Nuclear Cardiology, Founding Member, 1993-Present

LICENSURE AND BOARD CERTIFICATION

- #C-035948 State of California
- #4301066829 State of Michigan
- #031825 State of Ohio
- #009343 State of Tennessee
- #J0743 State of Texas
- 1973 Diplomate, American Board of Internal Medicine
- 1975 Diplomate, American Board of Internal Medicine (Cardiovascular Disease)

HONORS/AWARDS

- 1978 - 1981 NIH Young Investigator Research Grant
- 1981 Southern Society for Clinical Investigation
- 1982 - 1987 NIH Research Career Development Award

SERVICE

Editorial Consultant

American Journal of Cardiology
American Journal of Medicine
American Journal of Physiology
Annals of Internal Medicine
Circulation
Journal of the American College of Cardiology
Journal of Clinical Investigation
New England Journal of Medicine,

Boards and Committees

1979 - 1982	Head, Research Committee, Middle Tennessee Chapter, AHA
1982 - 1986	Member, Research Committee, Tennessee Affiliate, AHA
1982 - 1990	Co-Chairman, Vanderbilt CCU/MICU Committee
1984	Ad Hoc Site Visitor, Massachusetts General Hospital, SCOR in Ischemic Heart Disease, NHLBI
1985 - 1986	President, Middle Tennessee Chapter, AHA
1987	Ad Hoc Site Visitor, Boston University, GCRC
1988 - 1990	Board Member, Tennessee Affiliate, AHA
1988 - 1990	Chairman, Vanderbilt Cardiology Fellowship Selection Committee
1989 - 1990	Vice-President, Nashville Cardiovascular Society
1990	President, Heart Gala, Inc.
1990 - 1991	Chairman, Cardiac Care Unit Committee, UTMB
1990 - 1993	Member, Intensive Care Unit Committee, UTMB
1990 - 1993	Member, Molecular Cardiology Search Committee, UTMB
1992 - 1993	Member, Radiology Search Committee, UTMB
1992 - 1994	Member, Quality of Stay Committee, UTMB
1995 - Present	Health Care Policy Committee, American Society of Nuclear Cardiology
1995 - Present	Member, Executive Committee, Division of Cardiology, WSU
1995 - Present	Member, Clinical Operations Committee, Harper Hospital, WSU

TEACHING

1995 - Present	Wayne State University
1990 - 1995	University of Texas Medical Branch
1975 - 1990	Vanderbilt University School of Medicine

Courses Taught at Vanderbilt University School of Medicine

1975 - 1990 Preceptor, Cardiology Physical Diagnosis Course
1975 - 1990 Lecturer, Ventricular Function Cardiology Elective Course
1975 - 1990 Coordinator, Cardiology Saturday Morning Research Seminar Series

Courses Taught at University of Texas Medical Branch

1990 - 1995 Lecturer, Introduction to Clinical Medicine
1990 - 1995 Preceptor, Introduction to Clinical Medicine

GRANT SUPPORT

12/85 - 11/91 SOLVD: Studies of Left Ventricular Dysfunction, (Principal Investigator, Vanderbilt), NHLBI, \$938,390.

1/88 - 11/91 SOLVD Substudy: Radionuclide-Derived Biventricular Function, (Principal Investigator, Vanderbilt), NHLBI, \$88,905.

7/86 - 6/89 Functional Consequences of LV Hypertrophy/Regression, (Principal Investigator), AHA, \$90,000.

1991 - 1993 TIMI 3B: Thrombolysis in Myocardial Ischemia, (Principal Investigator, UTMB), NHLBI, Incremental Funding.

1991 - 1993 TIMI 3R: Thrombolysis in Myocardial Ischemia Registry, (Principal Investigator, UTMB), NHLBI, Incremental Funding.

1992 - 1994 In vitro Evaluation of OmniCath for Atherectomy, (Principal Investigator), American BioMed, Inc., \$30,855.

1993 - Present Use of Externally Applied Magnetic Fields to Limit Free-Radical Injury during Myocardial Reperfusion, (Co-Investigator), Texas Advanced Research Program/Advanced Technology Program, \$117,500.

Principal Research Interests

1. Nuclear Cardiology (Cardiovascular Nuclear Medicine)
2. Ischemic Heart Disease - Acute and Chronic
3. Ventricular Function/Heart Failure
4. Doxorubicin (Adriamycin) Cardiotoxicity

PUBLICATIONS

Original Observations in Refereed Journals

1. Kilman JW, Kronenberg MW, O'Neill JA Jr., Klassen KP: Surgical resection for pulmonary metastases in children. *Arch Surg* 1969; 99:158-165.
2. Stafford RW, Kronenberg MW, Dunbar JD, Wooley CF: Continuous precordial murmurs due to internal mammary artery fistulas, including internal mammary to pulmonary artery fistulas. *Am J Cardiol* 1969; 24:414-419.
3. Hodges M, Akiyama T, Clarke WB, Roberts DL, Kronenberg MW: Continuous recording of the vectorcardiogram in acutely ill patients. *Am Heart J* 1974; 88:593-595.
4. Kronenberg MW, Hodges M, Akiyama T, Roberts DL, Ehrich DA, Biddle TL, Yu PN: ST-segment variations after acute myocardial infarction. Relationship to clinical status. *Circulation* 1976; 54:756-761.
5. Biddle TL, Yu PN, Akiyama T, Hodges M, Roberts DL, Kronenberg MW: Ventricular arrhythmias and cardiac hemodynamics in patients with myocardial infarction. Comparison of the acute and post-hospitalization phases. *J Electrocardiology* 1976; 9:297-302.
6. Biddle TL, Yu PN, Hodges M, Chance JR, Ehrich DA, Kronenberg MW, Roberts DL: Hypoxemia and lung water in acute myocardial infarction. *Am Heart J* 1976; 92:692-699.
7. Ehrich DA, Biddle TL, Kronenberg MW, Yu PN: The hemodynamic response to intra-aortic balloon counterpulsation in patients with cardiogenic shock complicating acute myocardial infarction. *Am Heart J* 1977; 93:274-279.
8. Kronenberg MW, Ettinger UR, Wilson GA, Schenk EA, Cohen J: A comparison of radiotracer and biochemical methods for the quantitation of experimental myocardial infarct weight. In vitro relationships. *J Nucl Med* 1979; 20:224-231.
9. Kronenberg MW, Wooten NE, Friesinger GC, Page DL, Higgins SB, Collins JC, O'Connor JL, Price RR, Brill AB: Scintigraphic characteristics of experimental myocardial infarct extension. *Circulation* 1979; 60:1130-1140.
10. Erickson JJ, Price RR, Touya JJ, Kronenberg MW, Pederson RW, Rollo FD: Quality control of software in dissimilar systems using a common clinical data base. *IAEA, Medical Radionuclide Imaging* 1981; Vol II:47-55.
11. Kronenberg MW, O'Connor JL, Higgins SB, Pederson RW, Friesinger GC: Analysis of variables affecting calculation of left ventricular ejection fraction using a new technique for border definition. Proceedings of Computers in Cardiology. Institute of Electrical and Electronic Engineers, Inc., New York, 1981, pp 107-112.

PUBLICATIONS, Cont'd.

12. Kronenberg MW, Born ML, Smith CW, Collins JC, Brorson L, Vaughn WK, Higgins SB, Rollo FD, Friesinger GC: Comparison of radionuclide and contrast ventriculography for detection and quantitation of regions of myocardial ischemia in dogs. *J Clin Invest* 1981; 67:1370-1382.
13. Roden DM, Duff HJ, Primm RK, Kronenberg MW, Woosley RL: The control of ventricular pre-excitation and associated arrhythmias by encainide. *Am Heart J* 1981; 102:794-797.
14. Steckley RA, Kronenberg MW, Born ML, Rhea TC, Bateman JM, Rollo FD, Friesinger GC: Radionuclide ventriculography: Evaluation of automated and visual regional wall motion analysis. *Radiology* 1982; 142:179-185.
15. Kronenberg MW, Robertson RM, Born ML, Steckley RA, Robertson D, Friesinger GC: Thallium uptake in variant angina: Probable demonstration of myocardial reactive hyperemia in man. *Circulation* 1982; 66:1332-1338.
16. Kronenberg MW, Rubin SA, Atkins F, Fenster PE, Marsh JD, Pine MB: Career development of the academic cardiologist. Proceedings, Issues and Challenges for Academic Cardiology. *Chest* 1982; 81:138.
17. Kronenberg MW, Price RR, Smith CW, Robertson RM, Perry JM, Pickens DR, Domanski MJ, Partain CL, Friesinger GC: Evaluation of left ventricular performance using digital subtraction angiography. *Am J Cardiol* 1983; 51:837-842.
18. Forman MB, Sandler MP, Sacks GA, Kronenberg MW, Powers TA: Radionuclide imaging in myocardial sarcoidosis. Demonstration of myocardial uptake of technetium-99m pyrophosphate and gallium. *Chest* 1983; 83:578-580.
19. Kronenberg MW, Pederson RW, Harston WE, Born ML, Bender HW Jr., Friesinger GC: Left ventricular performance after coronary-artery bypass surgery: Prediction of functional benefit. *Ann Intern Med* 1983; 99:305-313.
20. Sandler MP, Kronenberg MW, Forman MB, Wolfe OH, Clanton JC, Partain CL: Dynamic fluctuations in blood and spleen radioactivity: Splenic contraction and relationship to radionuclide volume calculations. *J Am Coll Cardiol* 1984; 3:1205-1211.
21. Kronenberg MW, Parrish MD, Jenkins DW, Sandler MP, Friesinger GC: Accuracy of radionuclide ventriculography for estimation of left ventricular volume changes and end-systolic pressure-volume relations. *J Am Coll Cardiol* 1985; 6:1064-1072.
22. Ellis WW, Baer AN, Robertson RM, Pincus T, Kronenberg MW: Left ventricular dysfunction induced by cold exposure in patients with systemic sclerosis. *Am J Med* 1986; 80:385-392.

PUBLICATIONS, Cont'd.

23. Burkhoff D, Kronenberg MW, Yue DT, Maughan WL, Hunter WC, Sagawa K: Quantitative comparison of canine right and left ventricular isovolumic pressure waves. *Am J Physiol* 1987; 253:H475-H479.
24. Kronenberg MW, Uetrecht JP, Dupont WD, Davis MH, Phelan BK, Friesinger GC: Intrinsic left ventricular contractility in normal subjects. *Am J Cardiol* 1988; 61:621-627.
25. Cates CU, Kronenberg MW, Collins HW, Sandler MP: Dipyridamole radionuclide ventriculography: A test with high specificity for severe coronary artery disease. *J Am Coll Cardiol* 1989; 13:841-851.
26. Antman EM, Dupont WD, Bonalsky J, Califf RM, Corwin S, Fink L, Hansen DE, Kawanishi DT, Kronenberg MW, McKay CR, Robertson GC, Tenzer ML, Touchon R, Willerson JT: Early treatment with intravenous metoprolol for suspected acute myocardial infarction. A phase IV United States trial. *Intl J Cardiol* 1989; 23:185-197.
27. Collins HW, Kronenberg MW, Byrd BF III: Reproducibility of left ventricular mass measurements by two-dimensional and M-Mode echocardiography. *J Am Coll Cardiol* 1989; 14:672-676.
28. Kronenberg MW, McCain RW, Boucek RJ Jr., Grambow DW, Sagawa K, Friesinger GC: Effects of methoxamine and phenylephrine on left ventricular contractility in rabbits. *J Am Coll Cardiol* 1989; 14:1350-1358.
29. Konstam MA, Kronenberg MW, Udelson JE, Metherall J, Dolan N, Edens TR, Howe DM, Yusuf S, Youngblood M, Toltsis H: Effect of acute angiotensin converting enzyme inhibition on left ventricular filling in patients with heart failure. *Circulation* 1990; 81(Suppl III):III-115-III-122.
30. Kronenberg MW, Forman MB, Onrot J, Robertson D: Enhanced left ventricular contractility in autonomic failure: Assessment using pressure-volume relations. *J Am Coll Cardiol* 1990; 15:1334-1342.
31. Kronenberg MW, Beard JT, Stein SM, Sandler MP: Effects of beta-adrenergic blockade in acute myocardial infarction: Evaluation by radionuclide ventriculography. *J Nucl Med* 1990; 31:557-566.
32. SOLVD Investigators: Effect of enalapril on survival in patients with reduced left ventricular ejection fractions and congestive heart failure. *N Engl J Med* 1991; 325:293-302.
33. Cohn JN, Johnson G, Ziesche S, et al: A comparison of enalapril with hydralazine-isosorbide dinitrate in the treatment of chronic congestive heart failure. *N Engl J Med* 1991; 325:303-310.
34. Ware DL, Kronenberg MW: Recent advances in clinical electrophysiology. *Texas Medicine* 1991; 87:76-80.

PUBLICATIONS, Cont'd.

35. Konstam MA, Kronenberg MW, Udelson JE, Kinan D, Metherall J, Dolan N, Edens T, Howe D, Kilcoyne L, Benedict C, Youngblood M, Barrett J, Yusuf S: Effectiveness of preload reserve as a determinant of clinical status in patients with left ventricular systolic dysfunction. *Am J Cardiol* 1992; 69:1591-1595.
36. Konstam MA, Rousseau MF, Kronenberg MW, Udelson JE, Melin J, Stewart D, Nolan N, Edens TR, Ahn S, Kinan D, Howe DM, Kilcoyne L, Metherall J, Yusuf S, Pouleur H for the SOLVD Investigators: Effects of the angiotensin converting enzyme inhibitor, enalapril, on the long-term progression of left ventricular dysfunction in patients with heart failure. *Circulation* 1992; 86:431-438.
37. SOLVD Investigators: Effect of enalapril on mortality and the development of heart failure in asymptomatic patients with reduced left ventricular ejection fractions. *N Engl J Med* 1992; 327:685-691.
38. Conti VR, Kronenberg MW: Exercise testing after coronary bypass surgery. Questions and Answers. *JAMA* 1992; 267:568-569.
39. Bittner V, Weiner DH, Yusuf S, Rogers WJ, McIntyre KM, Bangdiwala SI, Kronenberg MW, Kostis JB, Kohn RM, Guillothe M, Greenberg B, Woods PA, Bourassa MG for the SOLVD Investigators: Prediction of mortality and morbidity with a 6-minute walk test in patients with left ventricular dysfunction. *JAMA* 1993; 270:1702-1707.
40. Konstam MA, Kronenberg MW, Rousseau MF, Udelson JE, Melin J, Stewart D, Dolan N, Edens TR, Ahn S, Kinan D, Howe DM, Kilcoyne L, Metherall J, Benedict C, Yusuf S, Pouleur H for the SOLVD Investigators: Effects of the angiotensin converting enzyme inhibitor, enalapril, on the long-term progression of left ventricular dilatation in patients with asymptomatic systolic dysfunction. *Circulation* 1993; 88:2277-2283.
41. Hoff SJ, Stewart JR, Frist WH, Atkinson JB, Kronenberg MW, Votaw J, Kessler RM, Sandler MP: Noninvasive detection of acute rejection in a new experimental model of heart transplantation. *Ann Thorac Surg* 1993; 56:1074-1077.
42. The TIMI III B Investigators: Effects of tissue plasminogen activator and a comparison of early invasive and conservative strategies in unstable angina and non-Q-wave myocardial infarction: Results of the TIMI III B trial. *Circulation* 1994; 89:1545-1546.
43. Gowda A, Gojer B, Motamedi M, Miller G, Davis MJ, Farrell RW, Kronenberg M: Automated correlation of intravascular ultrasound images with angiography. *J Echocardiography* 1995; 12:61-69.

PUBLICATIONS, Cont'd.

44. Stone PH, Thompson B, Anderson HV, Kronenberg MW, Gibson RS, Rogers WJ, Diver DJ, Theroux P, Warnica JW, Nasmith JB, Kells C, Kleiman N, McCabe CH, Schactman M, Knatterud GL, Braunwald E for the TIMI III Registry Study Group: The influence of race, gender and age on the natural history and management of patients with unstable angina and non-Q-wave myocardial infarction. The TIMI III Registry. Submitted for publication.
45. Kronenberg MW, Konstam MA, Edens TR, Howe DM, Dolan N, Udelson JE, Stewart D, Yusuf S for the SOLVD Investigators: Factors influencing ventricular performance in patients with left ventricular dysfunction. Submitted for publication.
46. Patten RD, Konstam MA, Kronenberg MW, Benedict CR, Udelson JE, Kinan D, Stewart D, Yusuf S, Smith JJ, Kilcoyne L, Dolan N, Edens TR, Howe DM, Metherall J for the SOLVD Investigators: Acute and chronic effects of the angiotensin converting enzyme inhibitor, enalapril, on adrenergic activity and sensitivity during exercise in patients with left ventricular systolic dysfunction. Submitted for publication.
47. Newman SD, Kronenberg MW, Nusynowitz ML: Thallium-201 rest-redistribution and coronary anatomy. Submitted for publication.
48. Ibrahim MA, Kronenberg MW, Boor PJ, Gojer B, Ahmad M, Motamedi M: Comparison of the effects of atherectomy and angioplasty on the biomechanical properties of iliac arteries. An in vitro ultrasound study. Submitted for publication.
49. Cannon CP, Stone PH, Rogers WJ, McCabe C, Schactman M, Diver DJ, Kells CM, Williams M, Feldman T, Kronenberg MW, Pearce DJ, Gibson RS, Willerson JT, Braunwald E: The ECG as a predictor of outcome in acute coronary syndromes. Results of the TIMI Registry ECG Ancillary Study. In Preparation
50. Byrd BF III, Collins HW, Hartness WO, Island DP, Kronenberg MW: Effects of bed rest and ambulation on echocardiographic estimates of left ventricular contractility. In preparation.
51. Byrd BF III, Hartness WO, Collins HW, Phelan BK, Kronenberg MW: Intrinsic variability of left ventricular contractility and relaxation parameters. In preparation.
52. Kronenberg MW, Lorenz CH, Cates CU, Collins HW, Sandler MP: Combined dipyridamole thallium perfusion and radionuclide ventriculography for detecting coronary atherosclerosis. In preparation.
53. Panayiotou H, Kronenberg MW, Byrd BF III: Effects of regression of left ventricular hypertrophy on ventricular performance in patients with essential hypertension. In preparation.

BOOKS AND CHAPTERS

1. Smith, CW and Kronenberg MW: Cardiac Digital Radiography. In: Digital Radiography. Price RR, Rollo FD, Monahan WG, James AE Jr., editors, Grune and Stratton, New York, 1982.
2. Robertson D, Friesinger GC, Kronenberg MW, Hollister AS, Robertson RM: ST-segment alterations in normal subjects and in patients with vasotonic angina. In: Monitoring Techniques. Hombach V, editor, Schattner, Berlin, 1984, pp 203-210..
3. Kronenberg MW: Physiologic principles of ventricular function and exercise physiology, especially applied to radionuclide ventriculography. In: Cardiovascular Imaging, Proceedings from the 26th Annual Meeting, Southeastern Chapter, Society of Nuclear Medicine, 1985, XI-1-XI-16.
4. Kronenberg MW, Becker LC: General concepts of ventricular function, myocardial perfusion and exercise physiology relevant to Nuclear Cardiology. In: Diagnostic Nuclear Medicine. Gottschalk A, Hoffer PB, Potchen EJ, editors Edition 2, Williams and Wilkins, 1988, pp 224-236.
5. Kronenberg MW, Becker LC: General concepts of ventricular function, myocardial perfusion and exercise physiology relevant to Nuclear Cardiology. In: Diagnostic Nuclear Medicine. Sandler MP, Coleman ER, Wackers FJT, Patton JA, Gottschalk A, Hoffer PR, editors 3rd Edition, Williams and Wilkins, 1995.

Book Reviews

1. Kronenberg MW: Non-invasive cardiovascular diagnosis In: Current Concepts in Medical Physics 1980; 7:79-80.

Course Materials

1. Audio Tape. Kronenberg, MW, Sandler, MP: Nuclear Cardiology. Medical Portfolio for Internists. November, 1985.
2. Video Tape. Kronenberg, MW: Unstable Angina. Pathophysiology and Treatment. University of Texas Medical Branch at Galveston, 1991.

PUBLISHED ABSTRACTS

1. Biddle TL, Hodges M, Yu PN, Chance JR, Kronenberg MW, Roberts DL: Lung water, and hypoxemia in acute myocardial infarction. *Circulation* 1974; 49, 50(Suppl III):III:151.
2. Wilson GA, Kronenberg MW, Weber DA: Optimization of ^{43}K myocardial imaging techniques. Presented, Radiological Society of North America, 12/74.

PUBLISHED ABSTRACTS, Cont'd.

3. Kronenberg MW, Hodges M, Akiyama T, Roberts DL, Ehrich DA, Zawrotny B, Murch C, Sampson L, Biddle TL, Yu PN: Increase in ST-segment vector magnitude preceding death due to myocardial infarction. *Clin Res* 1975; 23:191A.
4. Ettinger U, Kronenberg MW, Wilson G, Schenk E, Cohen J: Localization of ^{89m}Tc-pyrophosphate in acutely infarcted dog hearts: A function of variable tissue pathology. *Circulation* 1975; 51, 52(Suppl II):II-179.
5. Kronenberg MW, Wilson GA, Biddle TL, Yu PN: Radionuclear estimation of myocardial infarct size in survivors of cardiogenic shock. *Clin Res* 1977; 25:231A.
6. Kronenberg MW, Wooten NE, Friesinger GC, Page DL, Higgins SB, Brill AB, Price RR: Scintigraphic characteristics of experimental myocardial infarct extension. *Circulation* 1977; 55, 56(Suppl III):III-62.
7. Higgins SB, Kronenberg MW, Collins JW, Brorson L, Harris TR: An off-line-system for processing radionuclear ventriculograms. *Proceedings 31st ACEMB* 243, 1978.
8. Pederson RW, Kronenberg MW, Higgins SB, O'Connor JL, Collins JC, Bowen RD, Friesinger GC, Grove RD, Rollo FD: Radionuclide ventriculographic ejection fractions: The influence of background selection and method of calculation. Presented, Computer Council, Society of Nuclear medicine, Phoenix, 1/22/79.
9. Kronenberg MW, Brorson L, Smith CW, Born ML, Collins JC, Higgins SB, Rollo FD, Friesinger GC: Radionuclide ventriculography: Quantitative relationship to experimental myocardial ischemia. *Am J Cardiol* 1979; 43:355.
10. Steckley RA, Kronenberg MW, Born ML, Rhea TC, Bateman JM, Rollo FD, Friesinger GC: Radionuclide ventriculography: Validation of automated and visual regional wall motion analysis. *J Nucl Med* 1979; 29:641.
11. O'Connor JL, Kronenberg MW, Higgins SB, Pederson RW, Rhea TC: A new method for count-based border definition which emulates visual function-application to radionuclide ventriculography. *J Nucl Med* 1979; 20:642.
12. Kronenberg MW, Born M, Pederson RW, Steckley RA, Rollo FD, Friesinger GC: A comparison of electrocardiography and radionuclide ventriculography in exercise-induced ischemia. *Clin Res* 1979; 27:771A.
13. Kronenberg MW, Robertson RM, Steckley RA, Born ML, Robertson DH, Friesinger GC, Rollo FD: Reactive hyperemia in man-probable demonstration by thallium scintigraphy during variant angina. *Clin Res* 1980; 28:188A.

PUBLISHED ABSTRACTS, Cont'd.

14. Steckley RA, Robertson RM, Kronenberg MW, Born ML, Robertson DH, Friesinger GC, Rollo FD: Excess regional thallium uptake: Possible demonstration of reactive hyperemia in man. *J Nucl Med* 1980; 21:P64.
15. Born ML, Kronenberg MW, Smith CW, Brorson L, Collins JC, Steckley RA, Friesinger GC, Rollo FD: Radionuclide and contrast ventriculography in the detection of regional wall motion abnormalities caused by known quantities of ischemic myocardium. *J Nucl Med* 1980; 21:P74.
16. Kronenberg MW, Harston W, Pederson R, Born M, Bender H, Rollo FD, Friesinger GC: Preservation of ventricular performance after coronary bypass surgery. *Circulation* 1980; 62(Suppl III):III-249.
17. Kronenberg MW, Harston WE, Pederson RW, Born ML, Bender HW, Rollo RD, Friesinger GC: Improved perfusion but functional limitation after coronary bypass surgery. *Clin Res* 1980; 28:879A.
18. Kronenberg MW, Price RR, Domanski MJ, Smith CW, Pickens DR, Partain CL, Friesinger GC: Digital subtraction angiography for measuring left ventricular performance-early results in man. *Circulation* 1981; 64(Suppl IV):IV-219.
19. Privette DC, Kronenberg MW, Born ML, Sikes JG, Friesinger GC: Clinical strategy for evaluation of patients after first myocardial infarction. *Clin Res* 1982; 30:214A.
20. Kronenberg M, Sandler M, Wolfe O, Horton P, Forman M, Bauman D, Clanton J, Partain L: Dynamic fluctuations in blood and spleen radioactivity identify potential sources for error in radionuclide volume calculations. *Circulation* 1982; 66(Suppl II):II-125.
21. Horton PD, Jennings HS, Kronenberg MW, Privette DC, Friesinger GC: The effect of myocardial infarct size on left ventricular exercise performance. *Circulation* 1982; 66(Suppl II):II-264.
22. Kronenberg MW, Born ML, Pederson RW, Friesinger GC: The degree of ST-segment depression is unrelated to left ventricular performance on exercise. *J Am Coll Cardiol* 1(1983; 2):650.
23. Kronenberg MW, Parrish MD, Jenkins DW, Friesinger GC: Radionuclide ventriculography accurately measures changes in end-systolic volume. *Circulation* 1983; 68(Suppl III):III-3.
24. Kronenberg MW, Friesinger GC: Exercise-induced abnormalities in ventricular function: Relationship to ST-segment shifts and symptoms. In: Proceedings: Silent Myocardial Ischemia. Rutishauser W, Roskamm H, editors, Springer-Verlag, Berlin, 1984, p 78.
25. Robertson RM, Kronenberg MW, Friesinger CG, Robertson D: Silent myocardial ischemia in vasotonic angina. In: Proceedings: Silent Myocardial Ischemia. Rutishauser W, Roskamm H, editors, Springer-Verlag, Berlin, 1984, p 111.

PUBLISHED ABSTRACTS, Cont'd

26. Friesinger GC, Davis MH, Kronenberg MW, Uetrecht JP, Nadeau JH: Systolic pressure-volume relationship and autonomic tone. Proceedings 23rd Annual Meeting. Association of University Cardiologists. 1/26/84.
27. Baer AN, Ellis WW, Kronenberg MW, Robertson RM, Pincus T, Johnson JW, Sergeant JW, Friesinger GC: Cold induces regional left ventricular wall motion abnormalities in scleroderma and CREST syndrome. Proceedings, Southeastern Region, *Am Rheum Assoc* p 16, 1984.
28. Kronenberg MW, Brenner DE, Uetrecht JP, Phelan BK, Davis MH, Friesinger GC: Abnormal left ventricular performance in patients with metastatic neoplasia but no known cardiac disease. *Clin Res* 1985; 33:202A.
29. Dickinson CZ, Forman MB, Vaughn WK, Sandler MP, Kronenberg MW: Receiver operating characteristic analysis improves diagnosis by radionuclide ventriculography. *J Nucl Med* 1985; 26:P42.
30. Byrd BF III, Hartness WO, Collins HW, Phelan BK, Kronenberg MW: Intrinsic variability of left ventricular contractility and relaxation parameters. *Circulation* 1985; 72(Suppl III):III-368.
31. Kronenberg MW, Grambow DW, McCain RW, Boucek RL, Moreau GA, Sagawa K, Friesinger GC: Both phenylephrine and methoxamine affect left ventricular contractile performance. *J Am Coll Cardiol* 1986; 7:122A.
32. Forman MB, Onrot J, Robertson D, Kronenberg MW: Hemodynamic responses to tilt in autonomic failure. *Clin Res* 1986; 34:299A.
33. Forman MB, Onrot J, Phelan BK, Davis MH, Robertson D, Kronenberg MW: Intrinsic myocardial contractility in human autonomic failure: Assessment using pressure-volume relations. *Clin Res* 1986; 34:299A.
34. Forman MB, Onrot J, Phelan BK, Davis MH, Robertson D, Kronenberg MW: Intrinsic myocardial contractility in human autonomic failure: Assessment using pressure-volume relations. *Circulation* 1986; 74(Suppl II):II-168.
35. Kronenberg MW, Stein SM, Beard JT, Rodeheffer RJ, Sandler MP: The left ventricular pressure/volume ratio quantitates the effects of beta-adrenergic blockade in acute myocardial infarction. *Clin Res* 1987; 35:293A.
36. Kronenberg MW, Uetrecht JP, Dupont WD, Davis MH, Phelan BK, Friesinger GC: Systolic pressure-volume relations in normal subjects are reproducible and are not altered by autonomic blockade. *Circulation* 1987; 76(Suppl IV):IV-545.

PUBLISHED ABSTRACTS, Cont'd.

37. Byrd BF III, Collins HW, Hartness WO, Kronenberg MW: Superior reproducibility of serial left ventricular mass measurements by two-dimensional vs. M-mode echocardiography. *J Am Coll Cardiol* 1988; 11:146A.
38. Cates CU, Collins HW, Sandler MP, Kronenberg MW: Dipyridamole radionuclide ventriculography has high sensitivity for detecting severe multi-vessel coronary atherosclerosis. *J Am Coll Cardiol* 1988; 11:216A.
39. Kronenberg MW, Cates CU, Collins HW, Sandler MP: Dipyridamole-induced malperfusion may not indicate ischemic ventricular dysfunction. *J Am Coll Cardiol* 1989; 13:126A.
40. Konstam MA, Kronenberg MW, Udelson JE, Metherall J, Dolan N, Edens T, Howe D, Yusuf S, Youngblood M, Toltsis H: Effect of angiotensin converting enzyme inhibition on left ventricular diastolic filling in patients with congestive heart failure: Relation to right ventricular volumes. *J Am Coll Cardiol* 1990; 15:210A.
41. Byrd BF III, Kronenberg MW: M-mode echo overestimates changes in left ventricular mass compared to 2-D echo. *J Am Soc Echocardiography* 1990; 3:288.
42. Belt HC, Cobben L, Frist WH, Eastburn T, Stewart JR, Kronenberg MW, Luce PA, Federspiel CF, Kessler RM, Sandler MP: Monitoring coronary perfusion in transplant patients: A comparison of PET with conventional methods. Submitted for presentation. Radiological Society of North American, 1990.
43. Konstam MA, Kronenberg MW, Udelson JE, Kinan D, Metherall J, Dolan N, Edens T, Howe D, Yusuf S, Youngblood M, Barrett JF: Preload reserve: A determinant of clinical status in patients with left ventricular systolic dysfunction. *J Am Coll Cardiol* 1991; 17:89A.
44. Panayiotou H, Byrd BF III, Kronenberg MW: Regression of hypertrophy causes no change in ventricular function in patients with essential hypertension. *J Am Coll Cardiol* 1991; 17:177A.
45. Konstam M, Rousseau MF, Kronenberg MW, Udelson JE, Melin J, Stewart D, Dolan N, Edens TR, Ahn S, Pouleur H, Yusuf S: Effects of enalapril on the progression of left ventricular dysfunction in heart failure. *Circulation* 1991; 84(Suppl II):II-310.
46. Bittner V, Rogers WJ, Weiner DH, Schroeder E, Kostis JB, Kronenberg MW, Woods P, Gregory JJ, Kohn RM, Bangdiwala S, Gosselin G, Yusuf S: The six minute walk test predicts morbidity and mortality in patients with left ventricular dysfunction. *Circulation* 1991; 84(Suppl II):II-6.
47. Hoff SJ, Stewart JR, Frist WH, Atkinson J, Kronenberg M, Sandler M: Noninvasive detection of acute rejection in a new experimental model of heterotopic heart transplantation. Association for Academic Surgery, 29th Meeting, 1991.

PUBLISHED ABSTRACTS, Cont'd

48. Udelson JE, Konstam MA, Kronenberg MW, Pouleur H, Rousseau M, Kilcoyne L, Edens TR, Ahn S, Stewart D, Yusuf S. Effects of enalapril on right ventricular performance in patients with heart failure and left ventricular dysfunction. *Circulation* 1991; 84(Suppl II):II-311.
49. Konstam MA, Kronenberg MW, Udelson JE, Dolan N, Howe D, Kilcoyne L, Edens TR, Kinan D, Stewart D, Salem DN, Yusuf S for the SOLVD Investigators: Short-term effects following withdrawal from enalapril in patients with heart failure. *J Am Coll Cardiol* 1992; 19:216A.
50. Konstam MA, Kronenberg MW, Rousseau MF, Udelson JE, Melin J, Stewart D, Dolan N, Howe D, Kilcoyne L, Kinan D, Ahn S, Yusuf S, Pouleur F for the SOLVD Investigators: Long-term effects of enalapril on left ventricular dilatation in asymptomatic patients with reduced ejection fraction: Comparison with symptomatic patients. *Circulation* 1992; 86(Suppl I):I-251.
51. Udelson JE, Kronenberg MW, Rousseau MF, Stewart D, Pouleur H, Edens TR, Kilcoyne L, Kinan D, Ahn S, Konstam MA for the SOLVD Investigators: Determinants of progressive left ventricular dilatation in patients with left ventricular systolic dysfunction. *Circulation* 1992; 86(Suppl I):I-251.
52. Stone P, Kleiman N, Kronenberg M, Willerson J, Williams D, Prior MJ, Thompson B, Braunwald E for the TIMI-3R Study Group: Effect of gender, race, and age on the natural history of unstable angina and non-Q-wave MI: The T3 Registry. *J Am Coll Cardiol* 1993; 21:453A.
53. Konstam MA, Kronenberg MW, Rousseau MF, Udelson JE, Melin J, Metherall J, Kilcoyne L, Kinan D, Stewart D, Edens TR, Dolan N, Ahn S, Yusuf S, Pouleur H for SOLVD Investigators: Comparison of left ventricular remodeling and effects of enalapril in patients with ischemic versus non-ischemic etiology for systolic dysfunction. *J Am Coll Cardiol* 1993; 21:131A.
54. Ghali JK, Kronenberg MW, Udelson JE, Stewart D, Konstam MA for SOLVD Investigators: Prognostic significance of right ventricular volumes in patients with left ventricular systolic dysfunction. *Circulation* 1993; 88:I-603.
55. Patten RD, Benedict CR, Kronenberg MW, Udelson JE, Stewart D, Kilcoyne L, Dolan N, Yusuf S, Konstam MA for the SOLVD Investigators: Effects of long-term enalapril on adrenergic activity and sensitivity during exercise in patients with left ventricular systolic dysfunction. *Circulation* 1993; 88:I-293.
56. Benedict CR, Rousseau MF, Pouleur H, Stewart D, Kronenberg MW, Yusuf S, Konstam MA for SOLVD Investigators: In asymptomatic patients with left ventricular dysfunction, not on enalapril, the progression of ventricular dilation correlates with plasma norepinephrine levels. *Circulation* 1993; 88:I-107.
57. Kronenberg MW, Konstam MA, Edens TR, Howe DM, Dolan N, Udelson JE, Stewart D, Yusuf S for the SOLVD Investigators: Heart rate, contractility and peripheral resistance influence exercise performance in patients with left ventricular dysfunction. *AHA* submitted, 1993.

PUBLISHED ABSTRACTS, Cont'd

58. Gowda A, Gojer B, Motamedi M, Johnston AL, Davis MJ, Farrell RW, Miller G, Kronenberg MW: Automated correlation of intravascular ultrasound images with angiography: An alternative to 3-dimensional reconstructions. *Circulation* 1993; 88:I-339.
59. Conway LA, Smith JJ, Udelson JE, Kinan D, Turbett A, Kilcoyne L, Kronenberg MW, Konstam MA: Exercise capacity and cardiac performance after heart transplant: Importance of chronotropic incompetence. *J Am Coll Cardiol* 1994; 417A.
60. Conway LA, Pouleur H, Kronenberg MW, Rousseau MF, Udelson JE, Stewart D, Yusuf S, Kinan D, Konstam MA for the SOLVD Investigators: Left ventricular volumes predict development of heart failure and potential clinical utility of ACE inhibitors in patients with asymptomatic systolic dysfunction. *J Am Coll Cardiol* 1994; 382A.
61. Cannon CP, Stone PH, Rogers WJ, McCabe C, Schactman M, Diver DJ, Kells CM, Williams M, Feldman T, Kronenberg M, Pearce DJ, Gibson RS, Willerson JT, Braunwald E: The ECG as a predictor of outcome in acute coronary syndromes. Results of the TIMI III Registry ECG Ancillary Study. *J Am Coll Cardiol* 1994; 196A.
62. Stone P, Kleiman N, Kronenberg MW, Anderson HV, Williams M, Knatterud G, Thompson B, Braunwald E for the TIMI Registry Study group: The influence of race and age on the management and outcome of patients with unstable angina and non-Q-wave MI. *Circulation* 1994; 90:I-663.
63. Ibrahim MA, Kronenberg MW, Boor PJ, Gojer B, Ahmad M, Motamedi M: Atherectomy and angioplasty improve compliance and reduce thickness of iliac arteries - an in vitro ultrasound study. *Circulation* 1994; 90:I-534.
64. Kronenberg MW, Lorenz CH, Cates CU, Collins HW, Sandler MP: Combined dipyridamole thallium perfusion and radionuclide ventriculography detect coronary disease better than either test alone. Second International Conference of Nuclear Cardiology. Cannes, 1995. *J Nucl Card* 1995; 2:S12.
65. Newman SD, Kronenberg MW, Freeman DH Jr., Nusynowitz ML: Thallium-201 rest reversibility and coronary anatomy. Second International Conference of Nuclear Cardiology. Cannes, 1995. *J Nucl Card* 1995; 2:S37.
66. Kronenberg MW, Wang L-F, Boor PJ, Bhatnagar A: Collagen disruption produces ischemia-like effects on the isovolumic end-systolic pressure-volume relationship. Submitted for presentation, ACC, 1996.

PRESENTATIONS

Invited/Refereed International or National Presentations

Exercise-induced abnormalities in ventricular function: Relationship to ST-segment shifts and symptoms. International Symposium on Silent Myocardial Ischemia. Geneva, 5/27-5/28/83

Silent myocardial ischemia in vasotonic angina. International Symposium on Silent Myocardial Ischemia, Geneva, 5/27-5/28/83

Nuclear Cardiology: Experience with myocardial perfusion imaging and radionuclide angiography. Core Curriculum. 35th Annual Meeting of the American College of Cardiology. Atlanta, GA, 3/86

Effects of metoprolol on left ventricular contractility during acute myocardial infarction. Symposium: Lopressor in Myocardial Infarction Trial. Maui, 9/86

Evaluation of cardiac contractility in man. Symposium: European and American Cardiology at the Hammersmith. London, 6/87

Invited/Refereed Local or Regional Presentations

ST-segment vector magnitude after acute myocardial infarction. Cardiology Division, Hennepin County Hospital, Minneapolis, MN, 8/76

Comparison of radionuclide and contrast ventriculography for detection and quantitation of myocardial ischemia. Cardiology Division, Washington University, 10/79

Effects of coronary bypass surgery on left ventricular performance. Cleveland Clinic, 10/83

Effects of coronary bypass surgery on left ventricular performance. Guthrie Clinic, Sayre, PA, 4/84

Radionuclide ventriculography: Application to timing of valve replacement in mitral regurgitation. Medical College of Ohio, 5/85

Physiologic principles of ventricular function and exercise physiology, especially applied to radionuclide ventriculography. Southeastern Chapter, Society of Nuclear Medicine, Hollywood, FL, 10/85

Coordinating Chairperson (Cardiology), Southern Society for Clinical Investigation, New Orleans, LA, 2/86

Evaluation of cardiac contractility in man. Cardiology Division, The Ohio State University, Columbus, OH, 9/87

Dipyridamole radionuclide ventriculography: Evaluation of a new diagnostic test for myocardial ischemia. Paul N. Yu Symposium, Rochester, 6/89

PRESENTATIONS, Cont'd

New trends in cardiac isotopic imaging. Issues in Medicine for the Primary Care Physician: Current Trends, Future Needs. Houston, TX, 11/90

Chronic congestive heart failure in the elderly. A centennial celebration in aging. University of Texas Medical Branch, Galveston, TX, 3/91

Congestive Heart Failure: Background and current trends in therapy. University of South Alabama, Mobile, AL, 9/91

Neurohumoral activation in congestive heart failure: Innovative pharmacological approaches. Symposium: Congestive Heart Failure: Evolving concepts and newer therapeutic approaches. Vanderbilt University, Nashville, TN, 11/91

Vasodilator scintigraphy: Dipyridamole radionuclide ventriculography and thallium perfusion imaging. Section of Adult Cardiology, Texas Heart Institute, Houston, TX, 1/92

Congestive heart failure: Ventricular function, neuroendocrine adaptations and lessons from SOLVD. Grand Rounds, Texas Heart Institute, Houston, TX, 1/92

VHEFT, SOLVD and SAVE: Lessons from vasodilator trials and the SOLVD RVG Substudy. Grand Rounds, Cardiology Division, West Roxbury, 10/93

LV Dysfunction: Lessons from SOLVD. Division of Cardiovascular Disease. University of Alabama at Birmingham, 11/93.

LV Dysfunction: Highlights from the RVG Substudy of SOLVD. Division of Cardiology, Wayne State University, Detroit, MI, 5/94.

THE
AMERICAN BOARD OF INTERNAL MEDICINE
INCORPORATED 1936

ORGANIZED
THROUGH THE CO-OPERATION OF THE
AMERICAN COLLEGE OF PHYSICIANS
AND THE SECTION ON THE PRACTICE OF MEDICINE
OF THE
AMERICAN MEDICAL ASSOCIATION

ATTESTS THAT

Marvin William Kronenberg

HAS MET THE REQUIREMENTS OF THIS BOARD AND IS
HEREBY DESIGNATED A DIPLOMATE CERTIFIED TO
PRACTICE THE SUBSPECIALTY OF
CARDIOVASCULAR DISEASE



Saul J. Fisher
CHIEF OF STAFF

Robert J. O'Leary
CHIEF OF STAFF

John R. Kistner
CHIEF OF STAFF

IN WITNESS WHEREOF, THE BOARD HAS HEREUNTO SET ITS HANDS AND SEAL AT WASHINGTON, D.C., THIS 21st DAY OF OCTOBER, 1975

Charles M. Kessler
CHIEF OF STAFF

J. M. Hughes
CHIEF OF STAFF

Robert J. O'Leary
CHIEF OF STAFF

Thomas M. Jones
CHIEF OF STAFF

Robert J. O'Leary
CHIEF OF STAFF

J. M. Hughes
CHIEF OF STAFF

Thomas M. Jones
CHIEF OF STAFF

Lawrence I. Cohen
CHIEF OF STAFF

Dean T. Meacham
CHIEF OF STAFF

Arthur Selzer
CHIEF OF STAFF

39330

OCTOBER 21, 1975



DEPARTMENT OF VETERANS AFFAIRS
Medical Center
St Louis MO 63125

September 10, 1996

In Reply Refer To:

U.S. Nuclear Regulatory Commission
Region III
801 Warrenville Road
Lisle, IL 60532-4351

SUBJECT: NRC License No. 21-04234-01

The enclosed correspondence from the Detroit, Michigan VA Medical Center has been received and is forwarded to your office for processing. If there are questions, please contact the facility.

Please provide a copy of any correspondence relative to licensing actions for this Medical Center to:

Department of Veterans Affairs
Health Physics Programs (115HP)
915 North Grand Blvd.
St. Louis, MO 63106

Sincerely,

Cindy Butowsky

for

Francis K. Herbig
Health Physics Programs

RECEIVED
SEP 16 1996
REGION III

SEP 16 1996



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

September 18, 1996

Steven D. Conatser
Radiation Safety Officer (00A3)
V. A. Medical Center
4646 John R.
Detroit, MI 48201

SUBJECT: ACKNOWLEDGEMENT OF
(Letter Dated)

Dear Licensee:

In response to your request, we
an administrative review of your

☐ New License ☒ Amendment
☐ Termination ☐ Auth
☐ Other _____

No administrative deficiencies
However, it should be noted that a
submitted information.

It appears that your request is re

1. New and amendment actions are
find major deficiencies, or p
assistance.
2. Renewal actions are normally
timely filing (before expirat
existing license.
3. Termination actions are nor
confirmatory surveys following
are involved.

A copy of your correspondence
Debt Collection Branch (301/415
amount, if required.

If you have a compelling safety
expedited review, please contact
829-9887. We will try to compl
Any correspondence about this reg

Nuclear Material

Mail Control No. 301829
License No. 21-04234-01

FORM 271 (12-76)
DEPT OF DEFENSE

CONVERSATION RECORD

TIME

DATE

2:45-2:55 PM 11/18/96

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☐ INCOMING

☒ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

ORGANIZATION (Office, dept., bureau, etc.)

TELEPHONE NO.

SUBJECT

ROUTING

NAME/SYMBOL

INT

Steve Lonatzer, RSO

V.A. Allen Park, ME

313-576-1000
Ext. 3595

C/N 301829 4/N 21-04234-01

SUMMARY

Re: Ltr dtd 8/29/96 to add Marvin Kronenberg, M.D. as auth. user for nuclear cardiology in 35, 200 (10CFR).
Dr. Kronenberg's training and experience as documented do not appear to qualify him at this time. Steve wants to try to find documentation, if any exists, that Dr. Kronenberg has had the 1000 hours of training in 10CFR 35. 920(b) and/or that he has been an auth. user on another NRC or Agreement St. License or broad scope license. We also need to know what Dr. K. has been doing between 1990 (when he left Vanderbilt) and 1996 + where he did it (for 10CFR 35. 972). Steve will let me know in 15 days if additional info. is forthcoming. If not, I will call him + void action out.

ACTION REQUIRED

15 day response or void.

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Colleen C. Casey

Nov. 18, 1996

ACTION TAKEN

SIGNATURE

TITLE

DATE

50271-101

U.S. G.P.O. 1983-381-526/8346

CONVERSATION RECORD

OPTIONAL FORM 271 (12-76)
DEPARTMENT OF DEFENSE



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

September 18, 1996

Steven D. Conatser
Radiation Safety Officer (00A3)
V. A. Medical Center
4646 John R.
Detroit, MI 48201

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE
(Letter Dated 08/29/96)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

☐ New License ☒ Amendment ☐ Renewal
☐ Termination ☐ Auth User (Amendment not required)
☐ Other _____

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is routine (see 1-3 below, as applicable).

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.
2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.
3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 301829
License No. 21-04234-01