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IN THIS ISSUE

The Class of 1932

Social Service

Nursing Services

Plasma Insulin

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May 1963

NUMBER 9

CONTENTS

ALUMNI SURVEY

- THE CLASS OF 1932 314

STAFF MEETING REPORTS

- Fifty Years of Social Service at University Hospitals*

ANNIE LAURIE BAKER, M.A. 334

- Nursing Services in a University Setting*

FLORENCE R. JULIAN, R.N. 338

- A Rapid Urine Test for Phenothiazines*

LLOYD L. LEIDER, JR., B.S., AND FLOYD K. GARETZ,
M.D. 342

- Ionic Movements in Heart Muscle During the Cardiac Cycle*

VICTOR LORBER, M.D., PH.D., JOHN L. WALKER,
PH.D., ERNEST A. GREENE, B.S., AND MOON JAE PAK,
M.D. 344

- Damage-Risk Criteria for Hearing Loss from Noise*

W. DIXON WARD, PH.D. 346

- Plasma Insulin Levels in Normal Late Pregnancy*

WILLIAM N. SPELLACY, M.D., AND FREDERICK C.
GOETZ, M.D. 349

- Measurement of Amylase Activity*

R. H. KOOIKER, M.D., JEAN HYSLOP, B.S., Y. K.
CHAN, M.S., LEONARD M. SCHUMAN, M.D., AND EDMOND J. YUNIS, M.D. 352

- Use of the Massie Nail*

RUSSELL H. HARRIS, M.D., GILBERT F. MUELLER,
M.D., JOSEPH C. KISER, M.D., AND THEODORE A. PETERSON, M.D. 355

MEDICAL SCHOOL NEWS 358

MEDICAL FOUNDATION NEWS 361

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Alumni Survey



THE CLASS OF 1932

Thirty years have elapsed since the Class of 1932 packed up their diplomas and began the practice of medicine. Internships were even more pauperish in the Depression Era, and the graduates were doubly happy to receive their MD degrees a year later from the Medical School. (A system in effect 1918 through 1952 at Minnesota.)

One hundred fourteen of the original 124-member graduating class survive. A recent survey by the MEDICAL BULLETIN drew 92 responses, and indicates that much of the collective careers of the class has been invested in general practice. No trend toward any particular specialty was noted. Six classmembers are retired; ten are deceased.

Forty-eight of those answering said they have remained in Minnesota. The West Coast has been, as usual, a popular place to settle in practice. There was clearly a heavy contribution made to military medicine by the class during World War II.

Those responding:

Dean H. Affleck lives and practices general surgery and general medicine in Twin Falls, Ida., his location for the past 26 years. After internship, he took advanced training at Tulane and Johns Hopkins, and was a major in the U. S. Army Medical Corps during World War II. His wife (Zella) is from Bismarck, N. D. Their children are John, 22; and Janice, 25. The family home is at 231 4th Ave. N.

Nels H. Anderson resides at 2955 Pleasure Point Dr., Santa Cruz, Calif., where he has practiced general medicine for 16 of his 30 years since graduation. He was in military service 1942-46, and married Marcelle Donovan, Le Sueur, Minn. Their children are Richard, 19; and Jeanne, 17.

Frank C. Andrus is deceased.

THOMAS ANGLAND

Thomas A. Angland is an orthopedic surgeon. He has spent his entire professional career in Yakima, Wash., where he lives at 1 No. 65th Ave. He served in the U. S. Army in Europe during World War II, and has a son, Thomas, Jr., 25, and a daughter, Elizabeth, 22.



C. T. BEECHAM

Clayton T. Beecham likes to fly to Maine to fish for trout and salmon, when he can take time from his obstetrics and gynecology practice in Philadelphia, Pa., his location for the past 26 years. He's also a clinical professor at Temple Univ. Medical Center, and chief of the gynecologic tumor service, and lives at 3911 Vaux St. His wife, Nina, is a Pennsylvanian, and is active in civic and hospital work. Their children are Richard, 26; Jackson, 20; and Nina, 17.

Clifton E. Benson moved to Bremerton Wash., in 1937 and has practiced ophthalmology there ever since, except for U. S. Navy duty 1941-45. His address is Rte. 4, Box 2471. The family consists of his wife, Edith, and Sandra, 20; Roger, 16; and Philip, 13.

Charles T. Bergen is in general practice in Northwood, Ia. He moved there ten years ago, after suffering a myocardial infarction. "It's more controllable this way," he writes, adding that he has a "rewarding low-tension life in a fine, small community." His family includes Joseph, 24; Richard, 21; Ann, 18; Susan, 16; and his wife, Mary. The family home is at 206 N. 7th St.

George S. Bergh is a surgeon in suburban Richfield, Minn., and is a clinical associate professor at the Medical School, where he received a Ph.D. in surgery in 1940. He lives at 1324 W. Minnehaha Pkwy., Minneapolis 19, with his wife, Patricia. Their children are George, Jr., 21; Margaret, 16; and Nancy, 11.

THE MEDICAL BULLETIN

Reuben Berman is an internist, specializing in cardiology. He lives and practices in Minneapolis, and is a clinical associate professor at the Medical School. A son, Dr. David Berman, was a member of the Class of 1958, and another son, Sam, is a member of the present Junior Class. A daughter, Elizabeth, is the wife of Dr. Bradley Appelbaum, Chicago, Ill., Class of 1959. Also in the family are Ruth, 21; Ted, 14; Jean, 12, and their mother, Isabel. They live at 5620 Edgewater Blvd. Reuben's activities include the Minnesota Heart Association and photography. He has practiced in Minneapolis for 25 years.

Clarence H. Buckley and his wife, Margaret, traveled to Hawaii in 1961 to enjoy a 20-year reunion with the U. S. Army's 442nd Japanese Combat Team, which distinguished itself in the European Theater during World War II. He was with it as a regimental surgeon 1942-46, and has been in general practice in Menomonie, Wis., since entering practice except for the time spent in military service. The Buckleys enjoy hunting and fishing. They live at 1304 10th Ave.

Bevan W. Bunker has practiced general medicine in Anoka, Minn. for 26 years. He lives at 630 Benton, with his wife, Alyce, who is from Pennsylvania. A daughter, Bevallyn, 26, earned Phi Beta Kappa honors in gaining an M.S. degree in physics, and now works in a radiation laboratory in Berkeley, Calif. A son, William, 20, is a pre-medical student, and another daughter, Coralee, 16, is in high school.

Robert J. Cairns is a surgeon and operates the Cairns Clinic in association with two other physicians in Redwood Falls, Minn. He practiced at Sanborn, Minn. 1937-42, after which he settled in his present location, where he has also served on the City Council and School Board. A son, Scott, is a junior in the Medical School, while his brother, James, was an outstanding halfback on the 1961 and 1962 University of Minnesota football team. There are three daughters, Barbara, Norma, and Lynn. Mrs. Cairns (Florence) is a nurse, and was from Hendricks, Minn.

George E. Cardle is in general practice in Brainerd, Minn., where he has lived since 1936. His wife, Lucille, and son, James, 12, are at home with him at 1603 S. Sixth St. Dr. Cardle served in the Air Force during World War II.

William H. Carroll is deceased.

Theodore J. Catlin began general practice in July, 1934 in Buffalo, Minn., and has remained there, although he now is in partnership. He and his wife, Shirley, are the parents of three daughters: Collette, 26; Carol, 20, and Connie, 13. "I am busy building a new office, and enjoy skiing, fishing, and civic duties," he writes.

George W. Clifford is associated in general practice and surgery with the Alexandria Clinic, Alexandria, Minn. He has been there 22 years, and lives at 923 Lake St., with his wife, Elsie. Their children are Tom, 26; John, 22; Mary, 20; George, 18; and Jim, 15. Dr. Clifford likes golf, hunting, and fishing. He's a fellow of the International College of Surgeons.

Elizabeth Conforth Jackson, retired and living at 456 4th Ave., Chula Vista, Calif., says she can "recommend pathology highly as a specialty providing stimulation and a great source of satisfaction." She had 24 years of practice as a pathologist at Women's Medical College and the University of Arkansas Medical School. She was also a contract surgeon with the U. S. Army in Germany, while her husband, Harry G. Jackson, was in military service.

Horace DeLien has spent his medical career with the U. S. Public Health Service, and is now on assignment with the American Consulate General, Hong Kong. His address is c/o Box 100, Navy 850, FPO, San Francisco, Calif. He returned to the Medical School in 1961 to receive the University of Minnesota's Outstanding Achievement Award, and is holder of a Certificate of Appreciation from the President of the Philippines "for outstanding service to the Republic of the Philippines." His wife, Maxima, is from the Philippines, where he spent an extended tour of duty. "I plan to continue my PHS assignment in Asia, and to stay with PHS until retirement," he writes.

Kenneth D. Dickinson retired in 1957 following a coronary occlusion and cerebral thrombosis. He lived and practiced in Raleigh, N. C., specializing in obstetrics and gynecology, and resides now at 1316 Canterbury Road, with his wife, Jean. They have a son, Kenneth, Jr., 23.



HORACE DE LIEN



DELL F. DULLUM

Dell F. Dullum spent 25 years in the U. S. Army Medical Corps, retiring in 1958 to join a group as staff radiologist at St. Mary's Hospital, San Francisco, Calif., which has developed into a full time job. "I plan to re-retire in ten or twelve years," he writes, praising San Francisco as an "ideal place to live." His home is at 500 Arballo Dr. His wife, Verna, is from Waconia, Minn. Their children are Karen, 23; Jane, 20; and Neil 14.

Ralph J. Eckman practices general medicine in Duluth, Minn., in association with his brother Dr. Philip F. Eckman (Med. 22). He has two sons, Matthew and Mark, in the Medical School this year, and has practiced in Duluth ever since graduation. His wife is Irene Kennebrook, "a former Duluth schoolmarm," and they also have a daughter, Margaret, 18. The family home is at 1301 Lincoln Park Dr.



CARL EKLUND

Carl M. Eklund has been engaged in virus research for the past 26 years. Since 1946 he has been associated with the Rocky Mountain Laboratory, Hamilton, Mont. He is also a lecturer at the University of Montana, and lives at 900 So. 4th St. in Hamilton.

Earl W. Ellis practices general medicine in Elgin, Minn., where he handles ENT work with a group clinic, as well as clinic hospital practice at Wabasha, Minn. He has been located in this area for 30 years. His daughter, Carol, is "an accomplished pianist." Another daughter, Charlotte, is a drama major at Northwestern University. A third, Claire, is in high school. "Our practice is unusual," he writes, "in that we have four doctors at our central office and three doctors in single offices in surrounding towns, working as one clinic."

David M. Flett says he has "no plans to retire as I enjoy practice in this wonderful country." He lives and practices in Cheyenne, Wyo., where he has been an internist since 1946. He and his wife, Marie, have three grandchildren, as

THE MEDICAL BULLETIN

well as their immediate family including Janice, 26; Judith, 23; and David, 20. The family home is at 118 W. Fifth Avenue.

Louis L. Friedman is deceased.

Muriel V. Clark Gaffney is not in practice. She lives at 5009 Tilden St. NW, Washington 16, D. C., with her husband Dr. Leo B. Gaffney, a surgeon. She is the mother of eight sons and two daughters, and finds time to assist her husband at the office, also. Their family includes James, 29; Richard, 27; Thomas, 24; Leo, Jr., 23; Joseph, 21; David, 19; John, 18; Allen, 16; Kathy, 14; and Jill, 10.

Robert T. Gammell says he has banded 43,000 birds since 1957 as part of his 25 years of ornithology study. He has practiced general medicine since 1934 in Kenmare, North Dakota, where he still lives with his wife, Ann. He operates the Kenmare Clinic.



HAROLD GILLESPIE

Capt. Harold E. Gillespie has been a Navy medical officer for 30 years, and has served around the world during this period. He's now chief of professional services at Scott Air Force Base, Illinois, where he is attached to the Military Air Transport Command Headquarters. Dr. Gillespie will retire July 1, 1963, and expects to be with the USPHS or in a college health post. He is married to the former Mary Kress of Philadelphia. Their children are Angus, 20; Mary, 17;

and Cameron, 13.



STEWART GINSBERG

Stewart T. Ginsberg is Commissioner of Mental Health for the State of Indiana, a post he took May 1, 1957, continuing a career in psychiatric medicine which has included lengthy service with the Veterans Administration. He is also a professor of psychiatry at Indiana University School of Medicine, and lives at 7222 Stevens Lane, Indianapolis 60, Ind. His wife is the former Ada Leach of Minneapolis. Their children are Barbara, 27 (married, 2 children); Janet, 25

THE MEDICAL BULLETIN

(married), and Mark, 18. Dr. Ginsberg holds the rank of Colonel in the U. S. Army Medical Corps Reserve.

Philip E. Gordon is married to Eva Shaperman Gordon (Med. '31) and they practice general medicine together at the Gordon Clinic, 2215 Plymouth Ave. N., Minneapolis, their location for the past 28 years. Their Gordon Foundation has given scholarships to students at the Medical School for many years. A married daughter, Dr. Harriet Fremland, graduated from the Medical School in 1962, and is now completing her internship at Miller Hospital, St. Paul, along with her husband, Dr. Alan Fremland, also of the Class of 1962.



HAROLD GREENBERG

Harold A. Greenberg is in the private practice of psychiatry, with offices in both Chicago and Highland Park, Ill. He lives in the latter city at 162 Roger Williams Ave., with his wife, Esther, and daughter, Judy, 14. Dr. Greenberg has been active in administrative psychiatry at the state level, and with the Cook County Juvenile Court. He plans to do more research and less private practice in the future. "Since becoming a homeowner here nine years

ago, I have enjoyed learning to repair everything about the house," he writes.

William T. Greenfield has always practiced general medicine, and has been located in Cokato, Minn. for the past eleven years. His wife, Gudrun, and he are parents of four children. The oldest, Susan, is married to a minister. Two sons, Ted, 24, and Steven, 22, are seminary students. Another daughter, Betsy, 17, is a high school senior.

Burton P. Grimes is superintendent of the St. Peter State Hospital, St. Peter, Minn., and has been a psychiatrist since 1935. His career at St. Peter spans 26 years. He and his wife, Ruth, have a 15-year-old daughter, Sally.

Margit H. Grytbak retired in June, 1962, and now grows miniature trees for a hobby. She is married to Dr. Robert K. Plant, and lives at 1221 41st Ave. E., Seattle Wash. She formerly taught at the University of Washington Medical

School, and did research at the Clinic for Child Study, both in the field of pediatrics. She and her husband, an obstetrician-gynecologist, have a daughter, Julie, 21, a student at Stanford University.

Helen Robertson Haberer has practiced obstetrics and gynecology for the past 14 years, and four years ago joined the medical staff at the University of Minnesota Health Service. She is married to Mr. Herman Haberer, and lives at Rte. 1, Box 123, Stacy, Minn.



W. C. HARRISON

William C. Harrison returned to take a master's degree in public health from the University of Minnesota in 1947, and thereafter specialized in public health and preventive medicine. He joined the Minnesota Department of Health in May, 1956 after nine years of practice in Michigan. He was with the Air Force from 1936 to 1946, and is married to Catherine Ann McKenna of Minneapolis. Their children are William, 25; Catherine, 23; and Thomas, 21. They live at 1938 Benjamin St. N.E., Minneapolis 18.

Elmer H. Hartung began general practice in Claremont, Minn. in 1933, and is still there. He married Beth C. Proper of Mantorville, Minn. (a few miles away). Their children are Brian, 10; and Donald, 7.

Albert T. Hays is a general and industrial surgeon, with offices in the Medical Arts Building, Minneapolis, for the past 25 years. He took his surgery residency (1934-38) at Minneapolis General Hospital, and served in the U. S. Army during World War II. He lives at 5520 Halifax Lane, Minneapolis 24, with his wife, Genevieve. Two of their three children are married, and there are four grandchildren.

Robert Hebbel is a professor of pathology at the University of Minnesota, where he joined the staff in 1945 after U. S. Army service in Europe and Africa during World War II. (Editor's note: His interpretative skill with slides is legendary among medical students!) Dr. Hebbel received the M.S. degree in 1939 and the Ph.D. in 1942, both in pathology. He and his wife, Beulah, live at 1510 Grantham St., St. Paul, Minn. They have a son, Robert, 16; and a daughter, Elizabeth, 14.

THE MEDICAL BULLETIN

Caroline E. Helmick is retired, and lives at 5413 Third Ave. S., Minneapolis. She practiced at the Student Health Services at Carleton College, Northfield, Minn. (1935-42) and at Duke University (1949-62). From 1943 to 1949 she served with the American Red Cross in the Eastern U. S. area. She now enjoys travel and reading.

Richard F. Herbst is deceased.

Herbert O. Hoff plays the violin in the Doctors' Orchestra, Duluth, Minn., where he has practiced general medicine for the past 28 years. He lives at 1002 Berwick Ct., with his wife, Eleanor. They have a son, Herby, 29. "We vacation annually in Mexico City and Acapulco," he writes, "and plan to continue to work and pay taxes, while enjoying recreation as much as possible."

Henry E. Hoffert is a surgeon of 30 years' practice, and has been located in Minneapolis since 1943. He took a residency at Minneapolis General Hospital, and now lives at 4624 Wooddale Ave., Minneapolis 24. He and his wife, Ruth, are parents of Mary Jo, 27 (married) and Emily, 22.

Robert W. Holmen practices otolaryngology in St. Paul, Minn., and lives at 441 S. Lake Ave., White Bear Lake, Minn. He is married to the former Ingeborg Thorene of Minneapolis. Their two sons and one daughter are all graduates of Gustavus Adolphus College. One son, Douglas, is a sophomore at the Medical School. Dr. Holmen is active in the Lutheran Church of America, and spent two months in 1962 as a guest medical missionary in Tanganyika.

George W. Hopkins has been a staff psychiatrist at the Minneapolis V.A. Hospital for the past 11 years, and is an assistant professor in the Medical School. He and his wife, Adeline, live at 1163 Englewood Ave., St. Paul 4, Minn. His hobbies are electronics, fishing, and archery.

Ludolf J. Hoyer has practiced general medicine in Windom, Minn. since 1938, and practiced in Howard Lake, Minn. for five years previously, except for three years in the Army during World War II. He and his wife, Inez, have three sons. One is Dr. Leon Hoyer, graduate of the Class of 1962. Another is John, 25, a junior in the Harvard Medical School. Robert, 16, is in high school. The family lives at 661 River Rd., Windom.

Hugo V. Hullerman is executive vice president of the new Children's Hospital, Detroit, Mich., which is being built as a pediatric teaching facility in affiliation with the Detroit Medical Center and Wayne State College of Medicine. He was appointed to the post in 1957. He received a master's degree in public health administration from the University of Michigan in 1939. He and his wife, Maurine, have two daughters, Marcia, 27, and Laurel, 22. Home address is 152 Cloverly Rd., Grosse Pointe Farms 36, Mich.



R. R. KIERLAND

Robert R. Kierland is head of a section of dermatology at the Mayo Clinic, where he has been a staff member since 1937. He is presently serving as president of the American Academy of Dermatology, and is a professor in the Mayo Foundation, Graduate School, University of Minnesota. He served 3½ years during World War II, and is married to the former Margaret Lytle of Ashland, Wis. Their children are Marcia, 26 (married) and Peter, 22. The Kierlands live on

Route 72, Rochester, Minn.

Arthur A. H. Koepsell lives at 601 Lilac Lane, Sacramento, Calif., and practices obstetrics and gynecology with a group in that city. He and his wife, Irmgard, are parents of Paul, 23; Kathryn, 21; Charlotte, 18; and Barbara, 16. He has been located in Sacramento for the past 12 years.

Carl W. Krause is in general practice at Fairmont, Minn., and lives and has offices at 225 E. Second St. He has been in Fairmont 30 years, except for military service 1942-46 in Europe. He and his wife, May, are parents of Carl, Jr., 17; Robert, 15; and Mary Kay, 12.

Carl G. Kroning is deceased.

Herbert P. Lenton has been an internist since completing a residency at the Mayo Clinic in 1938. He practices alone in Carlisle, Pa., and lives at 420 Walnut, with his wife, Martha, and son, Michael, 21. Dr. Lenton served in the Air Force during World War II.

George L. Loomis has specialized in otolaryngology for the past 25 years in Winona, Minn., where he lives at 720 Main St. His wife is the former Virginia Berglund of Minneapolis. A son, Michael, 23, is at the University of Minne-

sota, and a daughter, Ginny, 21, is a member of the St. Olaf College Choir. George likes travel and boating on the Mississippi River, and is a director of the First National Bank of Winona.



ROBERT C. LOWE



THOMAS LUM

Robert C. Lowe is engaged in teaching and research at the University of Oklahoma Medical Center, and lives at 1705 Kings Rd., Edmond, Okla., with his wife, Jeannette, and Richard, 13; and Marcia, 11. He has taught at the Oklahoma Medical School since 1946.

Thomas K. Lum joined the Ross Loos Medical Group, 947 W. 8th St., Los Angeles, Calif., in the practice of otolaryngology earlier this year, having retired from the U. S. Army in August, 1960, with the rank of lieutenant colonel. His wife, Fuli, was born in Peking, China. Their children are Caliann, 15; and Diane, 12. They live at 3609 San Marino St.

Carl J. Lund has practiced general medicine for the past 24 years and is associated with the Park Region Medical Center, Fergus Falls, Minn. He has been coroner of Ottertail county for 15 years, a member of the school board; and is

active in the Lutheran Church of America. He and his wife, Anna, have three married daughters, and two sons, Neil, 17; and Michael, 16. Home address is 903 W. Summit.

Joseph J. Mack is associated with the Veterans Administration Regional Office in Little Rock, Ark., and lives at 6720 Brentwood Rd. He has been with the V.A. since 1946, following military service during World War II. He and his wife, Marguerite, have five grandchildren "just a few hours drive away in Dallas, Tex." They have two daughters living there.

Kenneth P. Malvey is a physician with the University of Minnesota Health Service, a full-time post he took three years ago. He and his wife, Adeline, live at 4716 Highland Rd., Hopkins, Minn. They have two married daughters, and two sons, Kenneth, 22; and Peter, 18.

Walter P. Manning is deceased.

Alfred M. McCausland is a clinical professor of obstetrics and gynecology at the University of Southern California, and has been in private practice in Los Angeles for 27 years. He lives at 1982 Micheltorena St., Los Angeles 39, with his wife, the former Frances Holmes, M.D., of North Carolina. They have a married daughter, Alice, 24; and a son, Arthur, 22, who is a medical freshman at George Washington U.

Catherine G. McGregor is retired, and lives with her husband George W. Anderson, professor emeritus of history, University of Minnesota. Their address in June will become 4012 W. 48th St., Minneapolis 24, Minn. Catherine served with the U.S. Army Medical Corps during World War II. She writes that since retirement they have "less spare time than ever." Among their new and multiplying interests, she says, is travel. They make an annual visit to Scotland, and are planning to drive all the way around the Mediterranean Sea on a future outing.

Wallace A. Merritt had four years of general practice in Albert Lea, Minn., then moved to the Mayo Clinic in 1938 to take a residency in internal medicine and later to join the staff. He has remained there except for World War II service. He met his wife, Thelma, while an intern at Ancker Hospital, St. Paul. They have a son, Edward, 20, and live at 705 13th Ave. S.W., Rochester, Minn.



RONALD MERSHON

Ronald B. Mershon returned to live where he was born—Fairhope, Ala.—and has practiced psychiatry in nearby Mobile since 1950. His address is Sea Cliff, where he lives with his wife, Florence. They have a daughter, Mary, 26. Ron practiced general medicine for three years, then took a residency at the School of Neuropsychiatry, Veterans Administration Facility, Little Rock, Ark., and later at Henry Ford Hospital, Detroit, Mich. He is an elder, as well as choir director and organist, at the Fairhope Christian Church, and likes golfing and gardening as hobbies.

Richard P. Neary is in general practice alone in northeast Minneapolis, and lives at 2305 Taft St. N.E., Minneapolis 18. He has been in this field for 30 years, and is married to Winifred O'Reilly of Minneapolis. Their children are Michael, 25; Richard, 22; Kathleen, 24; Timothy, 21; Eileen, 19; and Mary, 14.



ROY NYQUIST

Roy H. Nyquist is chief of the physical medicine and rehabilitation section, Spinal Cord Injury service, V.A. Hospital, Long Beach, Calif., and lives at 5120 El Roble St. in that city. He teaches at the UCLA Medical School, and won the 1961 John E. Davis Award for distinguished leadership and service from the Association for Physical and Mental Rehabilitation. He and his wife, Lucille, are parents of a married son, John, 27.

Grant E. Olson has practiced general medicine in West Concord, Minn. for the last 29 years, exclusive of military service during World War II. He is married and has three children. His wife, Charlotte, was from Canada.

Kenneth L. Olson practices radiology in South Bend, Ind., where he moved in 1942 after a residency at the University of Minnesota. He was president of the Indiana State Medical Association in 1958-59, and is active in YMCA and other civic and health groups. He likes golf and fishing, and is a director of the National Bank and Trust Co. of South Bend. With his wife, Valborg, he lives at 1228 E. Woodside. They have three daughters: Karen, 25 (married); Edith, 23; and Christine, 19.

George E. Penn settled to live and practice obstetrics and gynecology 29 years ago in Mankato, Minn. He is married to the former LuVern Steinke, an Iowan, and they have a daughter, Carolyn, 16; and a son, Jack, 12. The family home at 128 W. Glencrest Dr. houses George's collection of American pressed glass, antique furniture, American coins, and semi-precious stones. Other hobbies are astronomy and photography.

Donald L. Peterson "loves Florida with its casual living," as well as his general practice of medicine and surgery,

THE MEDICAL BULLETIN

but misses Minnesota's four seasons, "especially the snow." He moved to Hollywood, Fla., about ten years ago, and lives there now at 3230 Grant St. His wife, Pearl, is from Kentucky. Their two sons and one daughter are Robert, 26; Emily, 24; and Bill, 23. "Please send greetings to all the Phi Chi's and faculty from 'Fargo Pete,'" he writes.

John H. Peterson has practiced ophthalmology with a group in Duluth, Minn., for 14 years. He and his wife, Barbara, have a daughter, Linda, 15. They live at 440 Kennilworth Ave. John received an M. S. degree in ophthalmology from the University of Minnesota in 1947.

Karen A. Petri took a residency in pediatrics after graduation, and has been in private practice since 1938 in Houston, Tex. She lives at 2054 Timber Lane, and is an associate clinical professor at Baylor University College of Medicine. Her children are Burt, 20; and Gary, 18.

W. J. L. Forcher is deceased.

Carl J. Potthoff is professor and full time chairman of the Department of Preventive Medicine and Public Health at the University of Nebraska College of Medicine, Omaha, Neb. He has been there nine years, having earned a master's degree from the University of Minnesota School of Public Health in 1941. Unmarried, he lives at 418 S. 38th Ave., Omaha 31, Neb.

Leo R. Prins, Jr. has been a urologist for 29 years, practicing until September, 1961 in Albert Lea, Minn., then moving to 22637 Wildwood Ave., Hayward, Calif. He now practices in nearby San Leandro. During World War II, he served in the south Pacific, and was later chief of urology at the U. S. Naval Hospital, Oakland, Calif. His wife, Dorothy, is from Albert Lea. They have a son, Jack, 24, and "2½ grandchildren." Regarding California living: "Year-round golf – it's wonderful!", he writes.

Owen F. Robbins says his avocation is banking, and he has practiced obstetrics and gynecology in Minneapolis for 26 years since completing a residency at Minneapolis General Hospital. He teaches at the Medical School, and lives at 5521 Dundee Rd., Minneapolis 26, with his wife, Marjorie. Their children are Sandra, 26; Thomas, 24; and Mary, 17.



ALBERT E. RITT

ford, Minn. They have two daughters, one son, and four grandchildren.



WYMAN ROBERTS

three daughters.

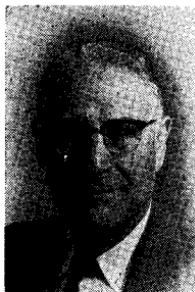
Joseph M. Rom is engaged in the private practice of psychiatry in Washington, D.C. He spent 12 years in the U. S. Army medical corps until retiring in 1945 due to disability. He lives at 3300 Brooklawn Ct., Chevy Chase 15, Md., with his wife, Betty, and their children, Betsy, 13; and Daniel, 12. "I enjoy my practice and my chief hobby is study of the Civil War," he writes, mentioning also that he is a cat fancier.

Russell O. Sather is an internist with the Northwestern Clinic, Crookston, Minn. He has been active in the Minnesota State Board of Medical Examiners, is a trustee of the Minnesota Medical Foundation, and member of the local school board. Russ won a Bronze Star during 46 months of southwest Pacific Army duty during World War II. He and his wife, Inez, live at 602 Locken Blvd., Crookston. They are parents of Alan, 28; and Karen, 25, both married.

Albert E. Ritt has been in general practice for 30 years, and specialized in industrial medicine for the last three years. He lives at 2164 Lower St. Dennis Rd., St. Paul, Minn., and practices in that city. Al was installed in April as president of the American Academy of General Practice, and is one of the founders of the organization. He is president of the Midway National Bank of St. Paul and has other business associations. Al's wife, Ange, is from Holding-

THE MEDICAL BULLETIN

Herbert W. Schmidt has been at the Mayo Clinic for 29 years, and is a professor of medicine in the Mayo Foundation. He served three years in the Army Medical Corps during World War II, and is married to Kathleen Campbell, a Canadian. Their children are William, 15; Jean, 13; and Judy, 12. Their address is Rte. 2, Rochester, Minn. Dr. Schmidt is a regent of St. Olaf College, and past president of the Mayo Clinic staff.



R. L. SCHMIDTKE

Reinhardt L. Schmidtke practices ophthalmology in association with the Earl Clinic, St. Paul, Minn., and lives at 1377 Edgcumbe Rd. in that city with his wife, Ruth. He trained in ophthalmology at the University of Minnesota following Army service in World War II. His hobby is photography.

R. T. Seashore is deceased.

William C. Siegmann has practiced general medicine for 30 years at 1523 E. Lake St., Minneapolis, and lives at 2651 13th Ave S. His wife, Berndena, is deceased. Their sons are William, 20; and Arthur, 16. Dr. Siegmann's hobby is stamp collecting.



ELMER SORENSEN

Elmer M. Sorensen lives in Red Oak, Ia., where he has practiced ophthalmology and otolaryngology for the past 25 years with time out for Army service during the war. He trained at the New York Eye and Ear Infirmary. His wife, Harriet, is from Tyler, Minn. They have a married daughter and a son, Robert, who is 24.

Eliot Sorsky likes tennis, woodcarving, and hunting, when time permits from his practice of internal medicine and cardiology. He has been in Fresno, Calif., since 1936, following advanced training at the National Heart Hospital, London, England. He and his wife, Reeva, are parents of Michael, 17; and Peter, 14. They live at 4667 N. Wilson Ave., Fresno.

Russell O. Spittler is deceased.

Harve A. Stanchfield is deceased.



LINCOLN STEFFENS

"especially the good fishing the year around."

Charles D. Stewart has practiced dermatology since 1939 at the same location in Corpus Christi, Tex. He lives at 202 Rosebud with his wife, Eleanor (of Minneapolis). Their children are Charles, Jr., 23; and Judith, 13.

Jesse A. Stocker is a chest physician who lives and practices in Springfield, Ill., his location since 1944. He and his wife, Corrine, live at 20 Hickory Pt., and have three children ranging in age from 26 to 19.

Roy G. Swenson is in general practice in North Branch, Minn., where he has practiced alone since 1937. He is married to the former Virginia Michalka of Duluth, Minn., and has a married daughter, Mary, 28, and a married son, David, 24, who is graduating from the University's College of Pharmacy this year. Dr. Swenson's hobbies are hunting and rose gardening.



JAN TILLISCH

and Jan, 22.

Jan H. Tillisch has been a consultant in internal medicine for 26 years at the Mayo Clinic, and is an associate professor in the Mayo Foundation. He also taught at the Army's Aviation School of Medicine in Texas 1943-45 while in military service. He earned the M. S. degree in medicine from the University in 1938, and has been active in alumni affairs. He and his wife, Marjorie, live at 1069 Plummer Lane, Rochester, Minn. Their children are Blair, 25 (married);

Fred O. Trotter retired as a surgeon in Hendersonville, N. C. three years ago, and has since been associated with the Veterans Hospital in Shreveport, La. He and his wife, Georgia, live at 7115 Creswell Rd., and have a son and three grandchildren. "I live in one of the better freshwater fishing regions," he writes, "and also play a mean game of bridge when the cards are right!"



CHARLES UHLEY

Charles G. Uhley has been the urologist at the Northwestern Clinic, Crookston, Minn., since completing a residency at the University Hospitals in 1954. He also completed a residency in general surgery at Minneapolis General Hospital before joining the Northwestern Clinic staff in 1937. He lives with his wife, Flossie, at 429 S. Ash, Crookston, and enjoys travel and golf.

Ulfert R. Ulferts is a radiologist practicing in Louisville, Ky. He has been there 17 years, and lives with his wife, Mary, at 526 Ridgewood Rd. They have three children and two grandchildren. Dr. Ulferts' hobbies are golf and photography.

Daniel J. Waligora is an internist practicing with a three-man group in Monterey, Calif. He lives at 888 Del Monte Blvd., in nearby Pacific Grove, and teaches at Monterey County Hospital in Salinas, and the U. S. Army Hospital at Fort Ord, Calif. He and his wife, Delores, are parents of two daughters, and a son, Daniel, who is a physician.

Thomas G. Walker has been in general practice in Riceville, Ia. since 1933, except for four years of Navy duty during World War II. His wife, Lucille, is from Idaho. They have a son, J. Thomas, who is a naval aviator, and a daughter, Susan, in high school.

Martin O. Wallace is president of the St. Louis County Medical Society, and has practiced in Duluth, Minn. for the past 30 years. He has three daughters and six grandsons. His wife is the former Dorothy Gordon of Minneapolis. They live at 601 Ridgewood Rd., Duluth. Dr. Wallace has specialized in obstetrics and gynecology since 1938. He is a past president of the Minnesota State Society of Obstetrics and Gynecology, and is president-elect of the Duluth Rotary Club.

Sidney W. Watson practices general medicine at the Medical Center, Little Falls, Minn., and lives ten miles away in Royalton, Minn. He joined the Medical Center staff late in 1962 after many years of rural general practice in Illinois and Minnesota. His wife, Marguerite, is from Chokio, Minn.

Lloyd A. Whitesell has been a general surgeon in Minneapolis since 1938. He teaches at Minneapolis General Hospital, where he also received his own surgery training. He lives at 6632 Lynnwood Blvd., Minneapolis, with his wife, Charlotte. A son, Capt. Lloyd A. Whitesell, Jr. (Med. '60) is on army medical corps duty in Korea. Albert, 26, and Jean, 22, complete the family circle. "My hobbies are flying, fishing, and hunting," he writes, adding that he recently killed a record-size boar on a hunting trip in Hawaii.

Hyman J. Wolkoff practices general medicine in St. Paul, Minn., and lives at 111 Wildwood Beach Rd., Mahtomedi, Minn. His wife died in 1961. He has a son, Dennis, 17, and spends his spare time on fishing, golf, and upkeep of his lakeshore home. He served in the Armed Forces during World War II.



MARJORIE WULFF

Marjorie Wulff Rountree is a physician with the county health department and lives at 70 Valley Road, Louisville 4, Ky. Her husband, Dr. Gradie R. Rountree, is a professor of occupational medicine at the University of Louisville School of Medicine, where he also teaches as an assistant professor of community health. She received a master's degree in public health in 1936 from Johns Hopkins University, and has practiced in Louisville for the past 15 years.

Both she and her husband are diplomates of the American Board of Preventive Medicine.

THE MEDICAL BULLETIN

The following members of the Class of 1932 did not respond to the survey:

<i>Edward R. Addy</i>	<i>Mary Karp</i>
<i>Milton M. Balcome</i>	<i>Ruth I. Lundberg</i>
<i>Abraham H. Baskin</i>	<i>David M. Parker</i>
<i>Clifford A. Boline</i>	<i>John H. Raymond</i>
<i>Clark L. Cain</i>	<i>Francis I. Sabo</i>
<i>Joseph Emond</i>	<i>W. C. Scott</i>
<i>Cyrus C. Erickson</i>	<i>Raymond T. Shima</i>
<i>George T. Erickson</i>	<i>John D. Silver</i>
<i>C. G. Hanson</i>	<i>Kenneth E. Stein</i>
<i>Clarence J. Henry</i>	<i>Harry Weiner</i>
<i>Phillip E. Karleen</i>	<i>Harry A. Wheeler</i>

Staff Meeting Report

"Fifty Years of Social Service" at University Hospitals*

ANNIE LAURIE BAKER†

1913 - 1929

The Social Service Department has had a long and distinguished lifetime of services to patients, hospital staff, and social agencies in Minnesota. For convenience, the history of the Social Service Department will be divided into three parts corresponding to the directors who served as follows: Miss Marion Tebbets, Miss Frances Money, and Miss Annie Laurie Baker.

Dean Elias Lyon of the Medical School appointed a committee in 1911 to consider the establishment of a Social Service Department. This was a progressive move as the first department in the country had been started at the Massachusetts General in 1905. The "crowds of sick poor" who were unable to follow medical recommendations and lacked the basic essentials of life were of great concern to the doctors.

The wife of Dr. Baldwin, Director of the Hospitals, was the roommate of Antoinette Cannon, the first Director at Massachusetts General Hospital Department when they were student nurses at Ancker Hospital. Thus, the medical staff was well acquainted with the services. Dean Lyon employed Miss Marion Tebbets from the Associated Charities to direct and develop the Social Service Department.

Dr. Jennings Litzenberg, Department of Obstetrics, requested the first social worker, Miss Caroline Manger. The second social worker, Miss Lydia Christ, was assigned to work in the Venereal Disease Clinics.

*Presented at the Staff Meeting of University Hospitals on April 18, 1963.

†Professor and Director, Department of Social Service.

THE MEDICAL BULLETIN

Dr. Olga Hansen, an instructor in the Medical Clinic, wanted a social worker to assist her in the Heart Clinic. Miss Mary Cynthia Smith who had just completed her graduate degree at Smith School of Social Work, came to take that position. Dr. Archibald Beard, who was also in the Medical Clinic working with diabetic patients, asked Miss Smith to work with these patients too. She initiated the plan of having nutrition students from the St. Paul Campus participate in the diabetic clinic. This was before the discovery of insulin, and diet was the method of treatment.

Dr. Sedgwick, Director of Pediatrics, was so concerned at finding so many children with rickets that Miss Marie Watson was brought to work in his department.

Miss Isabelle Gibson was employed to work in the Neurology Service when Dr. Hamilton, director of that Service, requested assistance.

The staff was expected to assist in the teaching programs for doctors and nurses and diligently discussed the social and environmental factors in illness. It also engaged in an educational program with patients.

The Department was well established on a sound professional basis by 1918, was well organized and had a staff of a director and five social workers.

1929 - 1948

When the Out-Patient Department was opened in 1929, the Social Service Department was reorganized and Miss Frances Money became the new director. The services were extended to all medical departments. Social casework had made considerable progress and by 1930 all the staff had Master's degrees in Social Work.

These were the depression years and social work in the Hospitals required ingenuity as resources were limited and problems tragic. There were no centralized state or local organizations to assist people. The staff had to work with 435 County Commissioners, so in one instance 86 individuals were contacted to make discharge plans for one patient. The Social Service staff made a magnificent contribution to medical care, as it interpreted diligently the effects of illness, the physicians' recommendations and the

THE MEDICAL BULLETIN

needs of patients to Child Welfare Board members, County Commissioners, and later to the new county welfare staffs. Patient by patient, they provided a knowledge of disease and the needs of ill people which had considerable influence in making the Minnesota Public Assistance program liberal.

Resources for the chronically ill in rural areas were limited. Patients were placed in Minneapolis nursing homes. The staff was aware of poor standards and lack of proper facilities. On the basis of this experience, Mr. Ray Amberg, Director of the Hospitals, requested the State Legislature to pass a bill requiring all nursing homes to be licensed by the State Board of Health.

Miss Lydia Christ and Dr. Frank Burch in the Eye Clinic were concerned about children who were blinded through preventable accidents. They initiated the organization of the Minnesota Society for the Prevention of Blindness.

The Hospital Auxiliary, organized in 1930, has donated money, clothing and services through the years and made an appreciated contribution to patients.

The war period was a trying time for the Department. With the shifting wartime population, including dependents of military personnel, much was learned about meeting emergencies. Miss Frances Money died in 1946 and Miss Lydia Christ became the Acting Director, and later, Supervisor of Student Education.

1948 - 1963

The first accomplishment was combining the Psychiatric and the Medical Social Work Departments into one Social Service Department. The staff was increased to meet the needs of new services and facilities. A program to assist patients in solving problems through the use of groups was added.

Modern scientific medical practice modified the focus and functions of social work. The emphasis on the total life situation of the patient broadened the contribution and gave the social worker a consultative role. The team approach offered advantages and required greater professional skill. As medicine became more scientific, the protection of the care given was more complex. The staff con-

THE MEDICAL BULLETIN

tributed by sound social planning to prevent unnecessary recurrences of illness and by assisting the patients to achieve the maximum benefits of treatment. The Department has continued to re-evaluate its function to meet the changes in medical care, the community welfare structure, and the new developments in social work practice.

One of the greatest problems of this period was recruitment of staff. The Department maintained the requirement of a Master's degree in Social Work.

The Department sought to establish a working partnership with community agencies in order to provide better services to patients. This process required communication on a policy level as well as on case-by-case interpretation. The agencies were provided with written directives on pertinent administrative policies and on new services in the Hospitals. Planned programs were held for county commissioners, judges, social workers, County Board members and other interested groups. A committee of representatives from the State Department of Welfare and the Administration of the Hospitals was organized to consider plans and problems of mutual concern.

The Social Service Department cooperated with the Administrations of the Hospitals, and medical services in developing avenues of interpretation to community, co-ordinating hospital and community services to patients, programs and social action efforts to enhance the use of health and social services.

The Department initiated two organizations in this period: The Minnesota Epilepsy League and the Nursing Home Volunteer Program.

The teaching program was augmented to meet the requests of other departments.

The Department has built upon the sound foundation started by Miss Tebbets and has continued the effective integration of social work and medical services so evident in Miss Money's period. It has developed its own program identified with the field of Social Work. Through the years the staffs have been dedicated to working with their medical and para-medical colleagues to provide the best possible care for the patients who come to the University Hospitals.

Staff Meeting Report

Nursing Services in a University Setting*

FLORENCE J. JULIAN, R.N.†

"What has happened to nursing?" "Where is the good old nurse?"

These are questions we frequently hear. Nursing has changed, as has our entire world, as has the medical profession. In the "good old days" nursing service departments in hospitals were staffed primarily by nursing students under a few head nurses or supervisors. Physicians' orders were comparatively few. Many of the related departments in hospitals today did not exist; comparable work was performed by nurses. As new departments were added to hospitals, their employees were usually assigned to days hours Monday through Friday. Nursing Services, however, provides a continuous service today, as in the past, and nursing personnel are still expected to carry out the work of other departments during the evening and night hours and on weekends.

Many changes have taken place which have affected the nursing services in hospitals:

1. Technological advances have resulted in an increasing number of complicated treatments, medications, and equipment. Physicians have given more and more tasks to the nurse. In turn, the nurse has assigned some of her tasks to practical nurses and auxiliary workers.
2. Increase in the numbers of hospitals, public health agencies, doctors' clinics, health services in industry have all increased the need for nurses.
3. Expansion of federal services has reduced the numbers of nurses available for hospital services.

*Presented at the Staff Meeting of the University Hospitals on May 31, 1963.

†Professor and Director, Department of Nursing Services, University of Minnesota Hospitals.

THE MEDICAL BULLETIN

4. Social and economic changes have resulted in a shortened work week, increased salaries and fringe benefits and more career opportunities for women.
5. Changes in nursing education have made nursing programs more comparable to other educational programs and have increased the need for more nursing personnel to care for patients.

In an effort to cope with these changes, more nurses have been trained in the United States each year. In 1950 there were 350,000 nurses; in 1962 there were 550,000. The minimal projected need for 1970 is 680,000. Minnesota ranks 18th in population and 8th in the number of nurses prepared. There has also been a tremendous increase in the number of auxiliary personnel utilized in hospitals. These personnel require training and supervision by nurses.

The Department of Nursing Services at the University of Minnesota Hospitals has 755 full-time budgeted positions, and a budget of over \$2.5 million a year as compared to \$111,000 in 1930. Professional nurses make up 47 percent of the staff and practical nurses 12 percent. The remaining 41 percent are trained auxiliary personnel. No longer is the majority of our nursing services provided by nursing students.

What do these figures mean when applied to one hospital station? The large number of personnel assigned on one station seems to dwindle as they care for patients 24 hours a day, seven days a week. A 24 to 30 bed station may have as many as 17 to 20 budgeted positions. During the week, this may mean the station would have a charge nurse, a station assistant, one or two staff nurses, a practical nurse and one or two aides during the day. In the evening one staff nurse, one practical nurse and one aide may be assigned, and at night one staff nurse and one aide. The week-end staffing on the day tour would be less. The impact of illness, vacations and unfilled positions on all this is a real problem. One might ask, "Why not get more positions?" The Hospital Administrative staff has gradually added to our number of positions. This increases the cost to patients. The problem could be eased if some positions for nursing services are included in budget requests for medi-

THE MEDICAL BULLETIN

cal research projects. Several medical departments have contributed to the budget of the Department of Nursing Services because of the amount of research being done. We feel more departments should contribute.

One of the acute problems of our Department is the high turnover of nurses. This is also a problem in other teaching and research hospitals. How long do nurses stay at our Hospitals? According to a study made of 443 staff nurses who resigned between July, 1958 and April, 1961, 28 percent left after fewer than six months of employment and only 8 percent remained three years or longer.

Why do nurses leave the University of Minnesota Hospitals? Studies have been made of the stated reasons for leaving. About 60 percent resign because they are leaving the State, taking other positions or have home responsibilities. In interviews with nurses before they leave, we find some have other reasons than those stated on the resignation papers. Many feel the work is too demanding, especially because of the many requests made by the medical staff. They say they learn a great deal by working at the University Hospitals but feel they would like to work in a hospital where they have greater opportunities of giving nursing care to patients.

What are some of the demands on nurses? On April 4, 1963, a study was made of one of our 24 bed stations. On this day, 14 different diets were given; 99 medications were prescribed with an additional 29 PRN medications. Five medical services were represented. Totaling the number of students, interns, residents, and staff men on these five services would mean that 50 medical personnel might well come and go within any single day. In addition there are personnel from other departments, nursing students, and visitors to be accommodated.

The Department of Nursing Services has done several things to meet the needs for nursing care at the University Hospitals:

1. We spend approximately \$6,000 a year in a recruitment program for professional and practical nurses.
2. We provide orientation and in-service programs and encourage our staff to attend nursing meetings outside of the Hospital.

THE MEDICAL BULLETIN

3. We offer Regents' Scholarships to personnel.
4. We are trying to utilize our personnel more effectively. Station assistants are employed to relieve the head nurse of secretarial work; practical nurses are utilized in the Out-Patient Department as well as in the in-patient areas; technicians are trained for use in the Operating Rooms. We are also studying the functions of our Department to see whether some services could be more appropriately carried by other departments in the Hospital.

Physicians can help retain nurses at the University Hospitals in several ways.

1. Evidence interest in the nursing personnel by praising good work as well as criticizing mistakes.
2. Consider the work load of the nurses in making plans for care of patients.
3. Recognize the need for adequate time for reporting in order to provide continuity of care for patients.
4. Inform the nursing staff of research in which staff doctors are participating.
5. Include nursing positions in research project requests which will require appreciable nursing service time.

Nursing services in a teaching and research hospital need the support, assistance, and understanding of the medical staff and other departments. We appreciate the help that has been given and hope this report increases understanding of some of the factors affecting nursing services.

Staff Meeting Report

A Rapid Urine Test for Phenothiazines*

LLOYD LEIDER, JR., B.S.†

FLOYD K. GARETZ, M.D.‡

Since the mid-1950's the phenothiazine group of drugs has been used on an increasingly large scale. This is particularly true in the field of psychiatry, but has spread to include almost all branches of medicine. The increased use of the phenothiazine derivatives has stimulated much investigation on the metabolism of these compounds. In 1958, Fred M. and Irene S. Forrest developed a urine test which corresponded semi-quantitatively with the amount of phenothiazine drug ingested. This is a visual colorimetric test based on the fact that the highly reactive drug intermediate metabolites excreted in the urine yield colored products when mixed with a reagent of acid plus a metallic salt. This test was reported to be simple, rapid, inexpensive and to produce "virtually no false negatives." The initial purpose of this study was to define the practical applications of this test.

Twenty-two psychiatric inpatients were put on a six day "wash-out" period during which they received no medications. They were then started on phenothiazine drugs as clinically indicated. Flashlight and tongue blade supervision was used by the nursing staff to insure that all medications were actually being ingested. All patients in this group had positive urine tests on daily samples collected over a three week period. The term "a positive test" as used here and in the remainder of this paper indicates the presence of drug in the urine but without regard to quantity. The term "a negative urine test" indicates no detectable drug in the urine. The absence of negative tests was felt to be in confirmation of the fact reported that there are "virtually no false negatives" with this test. Next we tested four

*Presented at the Staff Meeting of the University Hospitals on May 10, 1963.

†Member, Class of 1963, University of Minnesota Medical School.

‡Instructor, Division of Psychiatry.

THE MEDICAL BULLETIN

groups of psychiatric patients classified according to inpatient or outpatient status, and whether the facility at which they were being treated was predominantly for acute or chronic patients. Single urine samples were collected from one hundred and forty-three patients; approximately thirty patients in each group. In evaluating these data we noticed a rather high proportion of equivocal results on the urine tests of those patients on total daily drug doses of twenty milligrams or less. In correspondence with the Forrests we found that they had also observed this and felt the test to be unreliable when applied to patients taking less than twenty milligrams of drug per day. Eliminating such patients from consideration we obtained a total of one hundred and twenty-four urine tests. All patients tested reported they had taken their medications regularly. There was a total of twenty-seven (21%) negative tests. Considered separately there were 6.2% negative tests in the chronic inpatient group, 16.6% in the acute inpatient group, 37.7% in the chronic outpatient group, and 33.3% negative tests in the acute outpatient group. The patients with negative tests in the chronic inpatient group were given crushed pills and subsequently had positive urine tests.

We feel certain that a negative urine test in a patient on a total daily dose of more than twenty milligrams of phenothiazine drug indicates that the patient is not taking the drug. Such a high percentage of patients apparently not taking their medications suggests the need to verify whether the patient is taking the drug before increasing the dosage or changing to another medication when confronted with a seemingly non-responding patient. The Forrest test gives such objective information. It is simple, rapid, inexpensive and gives virtually no false negatives. It can be performed easily in the laboratory, office or on the ward. We recommend that this test be available in all hospital laboratories, and that it form part of the routine procedure in the management of patients on phenothiazine medications, and whenever toxic ingestion of such a drug is suspected.

Staff Meeting Report

Ionic Movements in Heart Muscle During the Cardiac Cycle *

VICTOR LORBER, M.D., PH.D.†

JOHN L. WALKER, PH.D.‡

ERNEST A. GREENE, B.S.◊

MOON JAE PAK, M.D.††

A study of the one-way movement of various radio-active ions from frog heart muscle reveals a phasic pattern synchronous with the electrical events of the cardiac cycle. By further development of the present methods it is hoped to achieve eventually a complete and detailed description of the transmembrane movements of the ions during the cardiac cycle. Such information should aid materially in understanding the relationships between electrical and mechanical events in heart muscle, and the mechanism of normal and disordered cardiac automaticity.

A small fibre of frog ventricle or atrium is mounted in a microperfusion chamber in which it is first equilibrated with Ringer's solution containing the radioactive ion under study. Following this, it is stimulated to contract at a fixed frequency, and perfused with nonisotopic Ringer's flowing at a constant rate. The perfusate is spread evenly on a continuous strip of filter paper which passes the perfusion chamber at a known speed. The stimulus to the muscle is recorded on the same paper by a direct writing oscilloscope. The paper is dried and the distribution of radioactivity is determined by various radioassay procedures, including radioautography. The delay and distortion imposed by the perfusion system is determined by a calibration technique employing a radioactive iron wire electrode.

* Presented at the Staff Meeting of the University Hospitals on June 7, 1963.

† Professor, Department of Physiology, and Career Investigator, American Heart Association.

‡ Instructor, Department of Physiology.

◊ Assistant Scientist, Department of Physiology.

†† Research Fellow, Department of Physiology.

THE MEDICAL BULLETIN

of the same dimensions as the tissue preparations. The electrode is mounted in the chamber in the same position normally occupied by the tissue, and functions as the anode in an electrical circuit through which square pulses of known duration are passed. The radioiron ions thus liberated are collected and their distribution on the paper determined under circumstances identical with those prevailing in the tissue experiments. With the aid of the information provided by this model system, the radioactive efflux from the heart muscle can be analyzed and related to the electrical events that occur during the cardiac cycle. The action potentials characteristic of the preparations used in the present experiments are measured by means of an intracellular capillary microelectrode.

The method has been used thus far to study the efflux of K^{42} , Na^{24} , Ca^{45} , and Br^{82} . The latter has been used in tracer amounts as a tag for Cl, the radioisotope of which is not available in high enough specific activity for the present work. In each case an appreciable resting efflux is found, and superimposed on this, in all cases but one, occurs a well-defined peak which begins synchronously with depolarization. With K, the efflux accompanying activity remains elevated to the end of the electrical event, whereas that of the other ions returns to the resting level somewhat sooner. These observations are consistent with the idea that the outward movement of K plays an important part in repolarization of the cell membrane. The exception to the foregoing is the behavior of Na efflux from atrial tissue. Here, depolarization is accompanied by an abrupt decrease in the outward movement of this ion. This observation indicates that there is an important difference in the way in which ventricle and atrium deal with the extrusion of Na, a factor which may underlie some of the physiological differences between the two tissues.

Staff Meeting Report

Damage-Risk Criteria for Hearing Loss from Noise*

W. DIXON WARD, PH.D.†

The establishment of damage-risk criteria (DRC) for exposure to environmental hearing hazards involves three successive steps. First, "damage" must be defined. Next, since a given exposure will not produce the same effects in all people, we must arbitrarily decide what percentage of the exposed population is to be protected against this damage. Finally, we must determine the characteristics of exposures that either have produced damage of this degree in the past or are found to produce this effect in experimental subjects.

In the case of loss of hearing from noise exposure, "damage" is by convention defined as appreciable impairment of the ability to understand ordinary speech. This occurs when the hearing in the so-called "speech range" of 500 to 2,000 cycles per second (cps) becomes about 25 decibels (db) worse than that possessed by normal young adults. However, the lower frequencies are more important than higher ones, so that a given hearing loss at 2,000 cps will cause less interference with perception of ordinary speech than will the same degree of loss at 1,000 cps.

On the basis of these underlying considerations, the most recent proposal for DRC is that a noise exposure be considered damaging if it produces, on the average, over a period of 10 years, permanent losses of 10 db or more at and below 1,000 cps, 15 db or more at 2,000 cps, or 20 db or more at and above 4,000 cps. This proposal weights low frequencies more heavily than high frequencies, and the use of a 10-db or 15-db criterion loss in the speech range means that only about 5% of the most susceptible ears will reach the 25-db impairment range.

*Presented at the Staff Meeting of the University Hospitals on May 24, 1963.

†Associate Professor, Department of Otolaryngology.

We must now accumulate, from measurements of actual industrial noises and the hearing losses that result from them, enough reliable data to enable us to specify the noises that will just produce the criterion loss. Compilation of such data is in progress elsewhere. However, for purposes of establishing a provisional DRC, some shortcut approximation is needed. Such an approximation exists in the recent demonstration that, on the average, there is a high correlation between the *permanent* hearing losses produced by years of exposure to a given noise and the *temporary* threshold shifts (TTS) measured in normal ears immediately after the first day of exposure. In fact, if the TTS (also called auditory fatigue) is measured just two minutes after the new workers leave the noise, the magnitude of the TTS is numerically equal to the permanent loss after 10 years of habitual exposure.

This result allows us to move into the laboratory to establish DRC. While we cannot deafen men deliberately, we can determine safely just what noises will produce an average TTS_2 (TTS measured two minutes after cessation of the noise) of 10 db at 1,000 cps and lower frequencies, 15 db at 2,000 cps, or 20 db at and above 4,000 cps. The task therefore assumes manageable though still Herculean proportions. The difficulty is that TTS (and so, presumably, permanent loss) depends on many parameters: exposure duration, intensity, spectral composition, peak factor if the noise is continuous, and the temporal pattern if intermittent.

The present experiment involves determination of criterion intensity levels for 3-minute exposures, data which can be combined with previously-measured criteria for longer exposures in order to produce a set of DRC curves relating permissible levels and durations of continuous exposure to noises of certain spectral characteristics.

A listening panel of 12 normal-hearing young adults was given 3-minute exposures to pure tones and bands of noise at various high intensities. Auditory thresholds at the frequencies most affected by the particular stimulus were measured before and after the exposure in order to determine TTS_2 . All testing was done in a soundproof double-walled booth. The frequency range covered was from 300

THE MEDICAL BULLETIN

to 4,800 cps (octave bands of noise, and pure tones one octave apart), and the intensities were chosen, on the basis of a pilot study, to bracket the criterion TTS₂ if possible. That is, two exposure levels of a given band of noise were used; if the first level produced less than criterion TTS₂, the next level was made high enough that the criterion TTS₂ would probably be exceeded, and vice versa.

The DRC as so determined for the various stimuli are shown in the following table ("SPL" indicates a reference sound pressure of 0.0002 dynes per square centimeter).

Table 1

Type of Noise	Permitted Intensity Level of 3-minute Exposure
300- 600 cps noise band	128 db SPL
600-1,200 cps noise band	122 db SPL
1,200-2,400 cps noise band	111 db SPL
2,400-4,800 cps noise band	106 db SPL
600 cps pure tone	111 db SPL
1,200 cps pure tone	108 db SPL
2,400 cps pure tone	107 db SPL
4,800 cps pure tone	102 db SPL

These points are in good agreement with scattered data from other research, and are consistent with criteria for longer exposures in that the higher the frequency of the noise or tone, the lower the permissible intensity. This situation represents the joint action of two factors. First of all, the traumatizing power at the cochlea of a sound increases with frequency at a rate of about 6 db per octave. Superimposed on this is the effect of the auditory reflex. When the ear is exposed to noise, the stapedius contracts, thereby tightening the ossicular chain and reducing the flow of energy to the cochlea. However, this reduction is frequency-dependent; low frequencies are attenuated much more than high frequencies. Thus there is a sharp break in permissible levels of exposure to octave-band noise as the frequency of the noise rises above 1,200 cps.

In the case of pure-tone exposure, the auditory reflex has little effect. This comes about because although the stapedius contracts at the onset of the tone, it quickly relaxes, thus providing only a slight protection, in contrast to the

situation with noise, where the moment-to-moment fluctuations of intensity that are inherent in noise seem to re-arouse the reflex continuously and thereby produce a sustained contraction of the stapedius.

Staff Meeting Report

Plasma Insulin Levels in Normal Late Pregnancy*

WILLIAM N. SPELLACY, M.D.†
FREDERICK C. GOETZ, M.D.‡

Using an immunoassay technique to measure plasma insulin, it was found that higher levels were present in pregnant patients in a fasting state and after an intravenous glucose stimulus. This may explain why many patients with diabetes mellitus who are totally dependent upon exogenous insulin need an increased daily supply during pregnancy. Although pathologic studies of the pancreas and the interpretation of glucose tolerance tests indicated excess circulating insulin during pregnancy, previous insulin assay experiments were unable to confirm this.

Twenty volunteer patients from the University of Minnesota prenatal clinic population were studied. The patients were tested twice in the study, once between the 36th to the 40th week of a normal gestation as calculated by the last menstrual period, and a second time at least 40 days after delivery. Thus each pregnant patient served as her own non-pregnant control.

Procedure

All patients had an adequate dietary history and were fasting at least 12 hours before the test began. All tests were started between 7:30 and 9:00 A.M. to control diurnal

*Presented at the staff meeting of the University Hospitals on April 26, 1963.

†Medical Fellow, Department of Obstetrics and Gynecology.

‡Assistant Professor, Department of Medicine.

variations in endocrine gland secretions. Each patient had a venous blood sample drawn in the fasting state. She was then given 50 cubic centimeters of 50 percent glucose intravenously over a period of two to four minutes. Venous blood samples were then taken on a time schedule of 0.25, 0.5, 1, 2 and 3 hours.

All blood samples were analyzed for glucose and insulin content. The blood samples for plasma insulin determination were placed in tubes containing powdered heparin. These were mixed well and immediately centrifuged at 2,000 revolutions per minute. The plasma was then removed and frozen at -20° C . until the assay was performed.

MEAN VALUES OF PLASMA INSULIN AND
ONE STANDARD ERROR AT EACH TIME

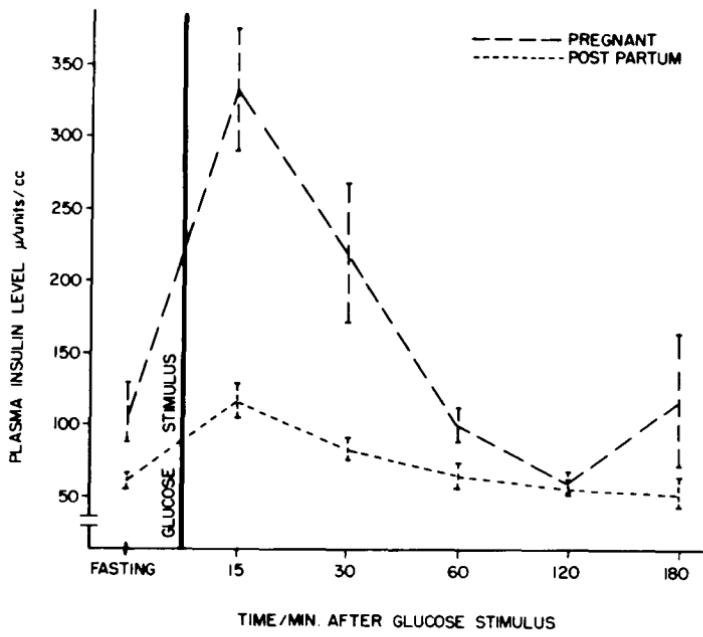


Fig. 1

The mean plasma insulin values for the pregnant and control group of patients.

All samples from a given patient were assayed simultaneously. Measurements were performed in duplicate using the *in vitro* radio-immunoassay method as described by Goetz.

Results

(1) **Blood Glucose.** All of the fasting blood sugars and all of the two hour blood sugars were less than 90 mg. per cent. These values are well within the normal range and indicate normal carbohydrate metabolism. The blood sugar values were lower when the patients were pregnant.

(2) **Plasma insulin.** The plasma insulin curve for each patient was higher during pregnancy. The mean of each group of values at the specified time intervals and the standard error of each mean is plotted in Figure 1. The fasting plasma insulin was significantly higher during pregnancy. Immediately after the glucose stimulus the p value was the smallest while the insulin differences were the greatest.

Discussion

There are several possible sources for this excess insulin during pregnancy: (a) the pancreas of pregnant patients may be hypersecreting insulin; (b) the fetus may be supplying some insulin to the mother; (c) the placenta may be supplying some insulin to the mother; (d) the assayability of insulin may be different during pregnancy.

These findings apply only to normal late pregnancy. A comparable study of plasma insulin in other periods of gestation is now underway.

Summary

An immunoassay was used to measure plasma insulin in 20 normal women in late pregnancy and again greater than 40 days postpartum. In this sample it was found that the fasting level of plasma insulin is higher in late pregnancy than in the post-partum period. In response to an intravenous glucose stimulus there is a greater release of immunoassay-measurable insulin in the pregnant state. Several possible explanations for these differences are presented.

Staff Meeting Report

Measurement of Amylase Activity*

R. H. KOOIKER, M.D.†

JEAN HYSLOP, B.S.‡

YICK-KWONG CHAN, M.S.◊

L. M. SCHUMAN, M.D.††

EDMOND J. YUNIS, M.D.††

A simple and rapid method for determination of amylase activity is reported which, with proper reagent concentrations, is independent of any unusual condition of the specimen to be analyzed. Use of amylose as the enzymatic substrate instead of starch, and employing the enzyme inactivated unknown as its own standard, results in a procedure which is precise and reproducible. It can be utilized for determination of amylase activity in serum, urine, or other biological fluid.

Five 100 milliliter volumetric flasks are labelled blank, standard three, standard five, standard seven, and test. A solution of 0.01 percent amylose is delivered in zero, three, five, seven and seven milliliter amounts into the respective flasks. Four milliliters of 1/15 Molar phosphate buffer are delivered into each flask. One milliliter of ten percent hydrochloric acid is then delivered to all but the test flask, and all five flasks are then placed in a shallow 37 degree Centigrade constant temperature water bath. Five minutes are allowed for temperature equilibration and then one milliliter of a one to ten dilution of serum or, if using urine, a one to twenty-five dilution, is blown into each flask. After exactly six minutes incubation, the enzymatic hydrolysis of the substrate is stopped by blowing into the test

* Presented at the Staff Meeting of University Hospitals on May 3, 1963.

† Assistant Professor, School of Public Health.

‡ Teaching and Research Assistant, Department of Microbiology.

◊ Research Fellow, School of Public Health.

†† Professor of Epidemiology, School of Public Health.

†† Instructor, Department of Laboratory Medicine.

flask one milliliter of ten percent hydrochloric acid. All flasks are removed, allowed to cool and diluted to approximately 95 milliliters with deionized water. Three milliliters of 0.01 Normal iodine-iodide solution are added to each flask and the volume made up to the mark with deionized water. The color intensity of each solution is read in a colorimeter at 620 micra, after setting the scale with the blank. The optical density readings of the three, five, and seven milligram standards are plotted against amount of amylose present on a graph. The optical density value for the test is then located on this line, and the amount of amylose hydrolyzed is read directly from the abscissa. If the amylase activity of the test solution consumes more than four milligrams of amylose, it cannot be plotted on the line, making mandatory a greater dilution of serum or other unknown. In practice, if the one to ten dilution is not sufficient, a one to fifty dilution will allow estimation of very high amylase activity. The results are reported in milligrams of amylose hydrolyzed, rather than in units of activity.

The method was used in a series of replicates, each in duplicate with multiple determinations being performed at each level of standard and test (unknown). A statistical analysis of these data shows that the test results are actually parallel to the standard line and that the starting point for the hydrolysis does not alter the rate of hydrolysis. The standard deviation at all levels is similar, being approximately 0.08 milligram of amylose.

The precision and reproducibility of the new method was then compared with the Somogyi amyloclastic procedure. Sera from 23 patients with normal and abnormal amylase values were randomly assigned by code number to be performed twice by each method. Statistical analysis of these data indicates equal precision when both procedures are performed by a highly skilled technologist. The error is approximately eight percent for the normal range. This statistical analysis also allows comparison of Somogyi units to milligrams of amylose hydrolyzed; one milligram of amylose hydrolyzed is equivalent to 114 Somogyi units with lower and upper 95 percent confidence limits of 106 and 120.

THE MEDICAL BULLETIN

Normal values for apparently normal subjects of several ages and both sexes have been determined and have been found to be independent of either. The male and female groups were then combined and a Kolmogorov-Smirnov 95 percent confidence band indicates that 97 percent of this normal group hydrolyze one milligram or less of amylose.

The variability in the results achieved in the two methods when performed by a highly skilled technologist or by a technologist skilled by the usual standards is of interest. The variability in results between the two types of operators is significantly different when the Somogyi amyloclastic method is used, but is not significantly different for the amylase substrate method.

This new method is one of the shorter methods available and requires only routine laboratory skills. It has the advantage of a built-in standard line. The necessity of further dilution is not a question left up to the individual's judgment. All features make it possible to use the method to determine accurately the amylase content of lipemic, icteric, or other discolored sera.

The correlation of milligrams of amylose hydrolyzed with Somogyi units is noted to be excellent in the lower ranges. Above a few hundred Somogyi units, the new amylose method is more sensitive. One dilution is satisfactory for normal and rather greatly elevated levels, reducing the necessity for repetitions. Amylase activity is reported in terms of milligrams of amylose hydrolyzed rather than units of activity which relate to formation of products resulting from hydrolysis of the nonhomogeneous substrate, and whose definition may not be available to recall.

Staff Meeting Report

Use of the Massie Nail *

RUSSELL H. HARRIS, M.D.†
GILBERT F. MUELLER, M.D.†
JOSEPH C. KISER, M.D.†
THEODORE A. PETERSON, M.D.†

The sliding nail is a valuable and workable adjunct in the treatment of hip fractures, especially those of the femoral neck. The experience at the Minneapolis General Hospital using the Massie sliding nail indicates that the rate of aseptic necrosis and/or non-union following femoral neck fractures is less than can be expected using other methods of fixation.

The theoretical advantages of this nail are: 1) Angle of the nail—150°. 2) The telescoping device permits impaction of the fracture. 3) Maximum purchase in femoral head. 4) Early ambulation. 5) Single nail size.

Accurate reduction is of great importance for the proper utilization of the Massie nail. The head must be in slight valgus position with the medial trabeculae at an angle between 160° and 180° with the medial femoral cortex in the antero-posterior plane. This fracture is then subjected essentially to a compression force. This eliminates to some degree the shearing force that occurs with an anatomical reduction. The nail is driven over a guide wire and its position accurately assessed by antero-posterior and lateral x-rays. The fracture site is then impacted and the Massie nail collapses to some degree in the majority of cases. This collapsing feature eliminates penetration into the acetabulum as impaction at the fracture site continues.

Dr. Massie reported 90 percent healing using this nail in the treatment of femoral neck fractures. The greatest test of any new form of treatment is its efficiency in the hands

*Presented at the Staff Meeting of the University Hospitals on May 17, 1963.

†Medical Fellow, Department of Surgery.

THE MEDICAL BULLETIN

of others. We, therefore, have analyzed our series of Massie nail fixations done at Minneapolis General Hospital. The operative procedure in these cases has been done by residents and in some cases by internes under resident supervision. We began using the Massie nail in 1959 and have used it in more than 160 cases. This report centers on 132 patients in which the followup is one to 3½ years. Of these cases, 84 were intertrochanteric fractures and 48 were femoral neck fractures.

The patients ranged in age from 34 to 101. The median age was 79 years. In the 48 cases of femoral neck fractures, three (7 percent) developed avascular necrosis with bony union one to two years after their injury. One was a failure of fixation in which the nail retracted from the head and required insertion of a Minneapolis prosthesis. On examining the head after its removal, there was no evidence that the nail had ever been in it although the x-rays clearly showed the nail to be in excellent position. One patient had a non-union at ten months which was felt to be caused by a poorly placed nail. Another patient was lost to followup. There was one postoperative mortality and two patients died of unrelated causes before healing had taken place. Thirty-nine of the patients are considered to have excellent results at this time. (Excluding the patient lost to followup and the two patients who died of unrelated causes this represents 87 percent of the patients in this series.)

We recognize that the avascular necrosis rate is incomplete since only 80 percent of our cases have been followed two or more years and none for longer than 3½ years. A more critical analysis of this problem must await a longer followup period but results to date have been very encouraging.

In the 84 patients with intertrochanteric fractures, one patient broke his nail just below the flange sometime between four and six months post-fixation. Pain increased and by one year post-fracture, a non-union was present. A Minneapolis prosthesis was implanted. Another patient with a comminuted fracture fully collapsed his nail by the second postoperative day and it penetrated through the acetabulum one inch. The fracture healed and the patient

THE MEDICAL BULLETIN

enjoys painless weight-bearing. One patient developed a wound infection which healed and the patient recovered uneventfully. There were five postoperative deaths and three patients died of unrelated causes prior to complete healing. Seventy-four of the patients are considered to have excellent results. Excluding the last three patients above this represents 91 percent of the patients in this series.

In eight of our cases of fractured femoral neck and in 15 of our cases of intertrochanteric fracture, measurements made throughout the period of healing have pointed out the advantage of the telescoping principle. In these cases impaction at the fracture site was sufficient so that had rigid fixation been used the nail would have penetrated the acetabulum. We feel that this rate of impaction is partially due to the somewhat earlier ambulation allowed. We feel this may be important in a number of cases of fractured hip in the poor risk group.



Medical School News



HAROLD HOFSTRAND
—Mpls. Star photo

Harold J. Hofstrand, Medical School sophomore from St. Louis Park, Minn., is the recipient of a 1963 Medical Scientist Fellowship award from the Life Insurance Medical Research Fund. He has won a stipend of \$30,600, payable over the next six years, to support his educational and living expenses while pursuing a program of combined medical school and graduate school studies.

Hofstrand, 23, is enrolled under the Medical School's combined M.D.-Ph.D. curriculum, which prepares candidates for careers in the field of academic medicine. His graduate work is in the field of Anatomy, and he will continue his studies through 1969.

President of the sophomore class, Hofstrand is the second Medical School student to receive a Medical Scientist Fellowship. In 1962, Ronald E. Blackmore, Biwabik, Minn., now a junior, was among the first of a small group of U. S. medical students to be named Fellows. The Life Insurance Medical Research Fund, supported by 150 insurance companies, has supported medical research for many years. At the suggestion of Dr. Maurice B. Visscher, professor of physiology at Minnesota, and other medical educators, the Fund has launched a permanent new program of direct stipends for medical students of great promise who commit themselves to careers in medical research and teaching.

MEDICAL SCHOOL RECEIVES AMA-ERF GIFT OF \$21,400

The University of Minnesota Medical School received \$21,400.47 as its share of funds contributed to the American Medical Association Education and Research Foundation in 1962. A record total of \$1,461,810.92 was contributed by the nation's physicians. Thirty percent of the total was undesignated, and was apportioned equally among the nation's 87 medical schools.

Minnesota's share of the undesignated funds was \$5,260.32. In addition, \$16,140.15 was earmarked by contributors for use by the University of Minnesota.

Dr. Robert B. Howard, Dean of the College of Medical Sciences, accepted a check covering the joint contribution in ceremonies at the annual convention of the Minnesota State Medical Association in Duluth May 20th.

He thanked the donors and described the funds as "extremely valuable and useful because of the lack of restriction as to their use." He said AMA-ERF gifts help replace and modernize teaching equipment in the basic science departments; support temporary teaching positions in both basic and clinical departments; and have helped equip the University's new Diehl Hall bio-medical library.

DR. FANSLER DIES

Dr. Walter A. Fansler, professor emeritus and founder of the Division of Proctology, died May 30, 1963, at the age of 74 years. He was appointed head of the division in 1916. A native of Missouri and graduate of Johns Hopkins Medical School, he twice was president of the American Proctological Society, and was a member of the Board of Governors of the American College of Surgeons. Survivors include his widow, Marion; a son, John; a daughter, Mrs. Richard McCarthy; six grandchildren and a great grandchild, all of Wayzata, Minn.

A Walter A. Fansler Memorial Fund has been established with the Minnesota Medical Foundation, Box 193, University Hospitals, Minneapolis 14, Minn.

MEDICINE

Dr. Wesley Spink, professor, was awarded an Honorary Fellowship in the Royal Australasian College of Physicians at the Jubilee Meeting of the College in Sydney, Australia, on June 3, 1963. Dr. and Mrs. Spink represented the American College of Physicians, of which he is president.

OTOLARYNGOLOGY

Dr. Arndt J. Duvall, III, will join the department in September, 1963, having received a grant from NIH to study "Fluid Barriers Within the Cochlea." Dr. Duvall is currently at the Karolinska Institute, Sweden. He completed residency training in otolaryngology at the University of Minnesota in 1961.

Dr. Albert Hohmann, clinical assistant professor, presented his film, "Surgical Techniques for Otological and Auditory Research," before the German Otolaryngological Society May 27th in Germany, and was to present it at a Congress on Audiology in Padua, Italy, June 8th.

Dr. Melvin E. Sigel, senior resident, has won a special fellowship from NIH to do research on the larynx at the University of Zurich, Switzerland, upon the completion of his residency training at Minnesota on June 30, 1963.

SURGERY

Dr. C. Walton Lillehei, professor, gave the Phi Delta Epsilon Lecture March 12, 1963 at the University of Maryland School of Medicine. His topic was "Surgical Aspects of Acquired Heart Disease."

Dr. W. Albert Sullivan, associate professor, was one of 17 University of Minnesota staff and faculty members cited for outstanding achievement by the Minnesota Student Association at a Recognition Banquet May 28th.

PHYSIOLOGY

Dr. John A. Johnson, professor, has won a 1963 Guggenheim Fellowship and will take a leave during the winter quarter, 1963-64, to conduct research in Israel. His field of study will be the transport of materials across the capillary and cell membranes of heart tissue.

Medical Foundation News

MEDICAL FOUNDATION AWARDS \$9,000 FOR RESEARCH



The Minnesota Medical Foundation has recently awarded \$9,000.00 in research grants and stipends to faculty members and medical students at the University of Minnesota Medical School. Nine researchers will share in the 1963 awards, offered annually for work in the fields of heart disease and cancer, and endowed permanently by a bequest of the late Arvid Olson, New Town, N. D. The occasional gifts of others interested in research are also devoted to the fund.

Dr. Corrin Hodgson, president of the Foundation, said the purpose of the program, begun in 1962, is to provide a local source of research funds for younger faculty members and students who conceive promising projects and who demonstrate research capabilities worthy of support. A total of \$16,750.00 has now been awarded. Twenty-seven individuals applied to this year's program for assistance.

Named recipients were:

FACULTY: Dr. Jack H. Bloch, Dept. of Surgery, "*Hemodynamic Effects of Drugs on Coronary Shock in the Closed Chest Dog.*" \$1,500.00

Dr. Paul Strandjord, Dept. of Laboratory Medicine, "*Studies of the Inhibition of the Glycolysis of Malignant Cells by Lactic Dehydrogenase Inhibitors.*" \$1,500.00

Dr. Lorraine M. Gonyea, Dept. of Laboratory Medicine, "*Activation Studies of Prothrombin.*" \$1,000.00

Dr. Theodore B. Grage, Dept. of Surgery, "*The Relation of Volume Sensitive Receptors in the Left Atrium to Diuresis and Antidiuresis.*" \$900.00

Dr. H. David Root, Dept. of Surgery, Ancker Hospital, "*Experimental Revascularization of the Ischemic Limb.*" \$1,500.00

THE MEDICAL BULLETIN

STUDENTS: Richard T. Olson, Senior, "Development of a Practical Clinical Laboratory Method for Determining Serum Ornithine Carbamoyl Transferase." \$500.00
William M. Hagen, Junior, "Continuance of Study of Myocardial Infarction and Pulmonary Embolism." \$300.00
Avrin M. Overbach, Freshman, "The Regulation and Production of Aldosterone in Heart Disease." \$900.00
Bernard T. Statland, Freshman, "Biochemical Analysis of the Relaxing Factor System in Heart Muscle." \$900.00

Students will conduct their studies under the supervision of experienced investigators.

**"MATCHING GIFT" RECEIVED
BY MEDICAL FOUNDATION**

A modest but historic kind of gift was received recently by the Minnesota Medical Foundation. The Norton Company of Worcester, Mass., has "matched" a gift of \$25.00 sent to the Foundation by Dr. Roberta F. Bergstrom, (Med. '46) Cleveland, O. Her husband is an employe of the company. It was the first such gift ever received by the Foundation.

The Matching Gift plan, now offered by more than 200 U. S. corporations, guarantees that the company will duplicate a personal gift to educational institutions made by company employees or their families. The program has been developed by the American Alumni Council in behalf of the nation's colleges and universities.

Alumni of the University of Minnesota Medical School and other friends of the Minnesota Medical Foundation are asked to be alert to possible "matching gifts" on the part of corporations with which they may be affiliated. Such gifts can double the value of a personal contribution. All funds contributed to the Minnesota Medical Foundation are devoted to support of the Medical School, and are fully deductible for tax purposes.

MEDICAL ALUMNI EXCHANGE

PHYSICIAN WANTED for general practice, Kerkhoven, Minn. Contact Karl Helwig, M.D., Kerkhoven, Minn.

LOCUM TENENS wanted during all or parts of July and August. Contact Drs. St. Cyr and Williams, 4084 W. Broadway, Robbinsdale 22, Minn.

LOCUM TENENS OR ASSOCIATE wanted by Hendricks Clinic, Hendricks, Minn. Contact Dr. C. O. Thompson.

PEDIATRICIAN, board eligible or certified, wanted for permanent association in suburban Minneapolis practice. Write Dr. Wallace Lueck, 2220 Lowry Ave. N., Minneapolis 11, Minn.

GENERAL PRACTICE ASSOCIATE wanted by Dr. B. T. Bottolfsen, 320 Center Avenue, Moorhead, Minn.

PEDIATRICIAN WANTED, board certified or eligible, at Worthington Clinic, Worthington, Minn. Contact Mr. Woodrow Glad, Mgr.

GENERAL PRACTICE, well established, available at Kenyon, Minn. Contact Mr. Franklin D. Peterson, Atty.

PHYSICIAN to take over general practice in Elmore, Minn., succeeding doctor who left May 1. Contact Mr. Dennis N. Fischer.

ALUMNI DEATHS

▲ 1903

Dr. William F. Coon, Caney, Kansas. Died March 29, 1963.

▲ 1905

Dr. Jay I. Durand, Victoria, B. C. Died March 21, 1963 at the age of 85. A pediatrician, he practiced 40 years in Seattle, Wash., and for 28 years was chief of medical services at Children's Orthopedic Hospital, retiring in 1954. He was a charter member of the American Academy of Pediatrics. Survivors include his wife, Gertrude, one daughter and one son.

▲ 1925

Dr. Paul C. Swenson, Columbia, S. C. Died December 15, 1962, of coronary thrombosis at the age of 61. Born in Duluth, Minn., he was chief of radiology at the V. A. Hospital, Columbia, S. C., and formerly taught at the Columbia University College of Physicians and Surgeons, New York City, and Jefferson Medical College, Philadelphia, Pa.

▲ 1949

Dr. Alloys Harold Tallakson, Phoenix, Ariz. Died December 4, 1962 at the age of 40. He interned at Minneapolis General Hospital, and was active in the American Academy of General Practice.

Memorial Gifts

Memorial gifts to the Minnesota Medical Foundation have been received recently in memory of:

Dr. Walter A. Fansler **Mrs. Barbara Stackpole**
Minneapolis, Minn. New York, N. Y.

Mrs. Louise Hinckley **Judge James E. Montague**
Minneapolis, Minn. Crookston, Minn.

Mr. Samuel N. Schultz **Mr. Thomas Shefchik**
Los Angeles, Calif. Duluth, Minn.

Mrs. Margaret Skogland **Mr. J. Theodore Wolfe**
Hastings, Minn. Baltimore, Md.

Memorial contributions are a practical means of honoring the memory of a friend or loved one, while helping the Minnesota Medical Foundation in the advancement of medical education and research.

Coming Events

University of Minnesota Medical School

CONTINUATION COURSES FOR PHYSICIANS

1963

University of Minnesota
Center for Continuation Study

May 16-18	Surgery
May 27-29	Psychiatry
June 3-5	Anesthesiology
June 11-14	Human Chromosome Techniques

(Tentative)

Sept. 16-18	Child Psychiatry
Sept. 30 - Oct. 2	Pediatrics
Oct. 10-12	Dermatology
Oct. 21-23	Pediatric Neurology
Nov. 4-8	Radiology
Nov. 20-22	Ophthalmology
Nov. 21-23	Cardiovascular Diseases
Nov. 21-23	Orthopedic Surgery
Dec. 6-7	Neurosurgery

The University of Minnesota reserves the right to change this schedule without notification.

Courses are held at the Center for Continuation Study or the Mayo Memorial Auditorium on the campus of the University of Minnesota. Usual tuition fees are \$45 for a two-day course, \$65 for a three-day course, and \$80 for a one-week course.

Specific announcements are sent out about two months prior to each course to all members of the Minnesota State Medical Association and to any physicians who request information for a specific course. For further information write to:

DIRECTOR
DEPARTMENT OF CONTINUATION MEDICAL EDUCATION
THE MEDICAL CENTER (Box 193)
UNIVERSITY OF MINNESOTA
MINNEAPOLIS 14, MINNESOTA

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*For Memorial Gifts,
choose your
Minnesota Medical Foundation*

Your memorial gift to the Minnesota Medical Foundation expresses dignified respect to the memory of a relative, friend, colleague, former teacher, or fellow alumnus. It also provides thoughtful aid to the medical education and research at the University of Minnesota Medical School.

Memorial gifts are acknowledged promptly to donor and family of the deceased. Group donations also accommodated.

When you choose a memorial gift, your contribution, with appropriate details, may be sent to:

MINNESOTA MEDICAL FOUNDATION
Box 193 — University Hospitals
Minneapolis 14, Minnesota