

MEDICAL BULLETIN



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The Class of 1931*

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Staff Meeting Report

The Importance of Hemolysis in Transurethral Prostatic Resection: Severe and Fatal Reactions from the Use of Distilled Water*

C. D. Creevy, M.D.† and M. P. Reiser, M.D.‡

*A*s transurethral prostatic resection became increasingly popular, many resectionists commented on the occurrence of postoperative oliguria and uremia, occasionally with fatal outcome. This result has been attributed variously to acute pyelonephritis, obstructive uropathy from injury to the ureteral orifices, prolonged severe hypotension (hemorrhage, surgical shock, anesthesia), sulfonamide toxicity, and the transfusion of incompatible blood. It soon became clear, however, that some of the reactions occurred in the absence of these factors. Typically, a chill would occur, followed by cyanosis and restlessness toward the end of the operation or shortly thereafter; these symptoms were followed in turn by oliguria, uremia, an anemia out of proportion to the blood loss, and in severe cases, mild nonobstructive jaundice and hypertension.



C. D. Creevy

Surgical shock and hemorrhage are widely known to cause virtual cessation of glomerular blood flow in the experimental animal.^{33,39} If prolonged, this leads to tubular degeneration which soon becomes irreversible. In the dog, azotemia may accompany a large, rapid hemorrhage even if lost blood is promptly replaced.⁸ The exciting factor appears to be vasospasm with secondary hypoxia of the renal tubules.²⁸

In 1946, in a casual conversation, Foley¹⁷ stated that he had seen bright red urine spurting from the ureteral orifices at the end of a transurethral resection, and surmised that this represented a hemolytic reaction. Emmett¹³ then said that

*This report was presented at the Staff Meeting of the University of Minnesota Hospitals on April 6, 1962.

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McLaughlin, then a resident under him had hypothesized that transurethral resection might lead to hemoglobinemia.

A few days later, E. A. Webb, at that time an associate of one of us (C.D.C.), removed 45 grams of prostatic tissue from a 68-year-old patient thought to represent a good surgical risk, only to be confronted by the syndrome outlined above.¹¹ That evening the patient's plasma was a deep mahogany red, no transfusion having been given. The patient was given 500 ml. of sodium bicarbonate intravenously, as had been recommended in cases of hemolytic reactions from transfusions.² Next day the patient was observed to be confused, oliguric, and slightly jaundiced. The hemoglobin level had fallen from 87% to 50% (Sahli) with a measured blood loss of 600 ml., and the plasma was still red. Oliguria persisted, and by the seventh postoperative day the urea nitrogen level had risen to 109 mg. %. After peritoneal lavage, the urea nitrogen fell to 67, but signs of auricular fibrillation appeared. Despite digitalization, the patient died on the twelfth postoperative day.

Autopsy disclosed peripheral and pulmonary edema, pleural effusion, and a typical hemoglobinuric nephrosis, with no evidence of hydronephrosis.

These findings led to a review of the causes and effects of hemoglobinemia. This disorder has been observed to accompany blackwater fever,^{3,12} severe burns,³⁶ obstetrical mishaps,³² crush injuries (myoglobin as well as hemoglobin),⁷ and the transfusion of mismatched blood. Other causes of hemoglobinemia occur infrequently and do not often lead to renal dysfunction. The degree of hemoglobinemia required to produce hemoglobinuria varies with circumstances, and is probably greater than 100 mg/100 ml,¹⁷ but the level that inflicts serious damage upon the hitherto normal kidney is much higher—3700-5100 mg/100 ml.^{14,17} In any case, hemoglobin is demonstrable in the plasma for about 72 hours, during which about 1/3 can be recovered from the urine of the experimental animal while 2/3 appeared to be taken up by the reticuloendothelial system.¹⁷

The entrance of any substantial amount of free hemoglobin in the renal circulation of the experimental animal is signaled by an abrupt shrinkage of the kidney,^{3,23,27} doubtless due to vasoconstriction, which also results (as in the case of hemorrhage or shock) in renal hypoxia. Degeneration of the renal tubules follows, with vacuolization, necrosis, and cellular infiltration. In addition, the observation that so many collecting tubules contain pigmented casts (of uncertain composition) suggests to some authors that renal insufficiency results from obstruction of the tubules. However, the same type of renal fail-

ure occurs, in shock and in some cases of chemical poisoning, *without* the pigmented casts. It seems probable that the damaged tubular epithelium permits absorption of the glomerular filtrate by the interstitial tissues and thus causes oliguria.

Since the high levels of plasma hemoglobin necessary to produce experimental renal failure have not been found after transurethral resection, it seems probable that the effect of hemoglobinemia therein is the straw that breaks the camel's back. That is to say, the average patient with prostatism usually has some degree of renal arteriosclerosis and perhaps some hydnephrosis; both of these probably predispose the kidney to the type of damage under discussion,²⁰ and both have been observed to potentiate the renal effects of hemoglobinemia in the dog. Moreover, patients often suffer rapid bleeding and some degree of hypotension, either of which can cause renal vasospasm; there is probably an additive effect.

But it is unlikely that hemoglobinemia alone, unless very severe, can cause much trouble. This is indicated by observations that the intravenous injection of sufficient hemoglobin to cause protracted hemoglobinuria in a normal human being has not produced clinically detectable renal damage.^{31,35}

The mechanism of hemolysis during transurethral prostatic resection is fairly clear: 1) Large veins containing blood at very low pressures are opened during the operation if one seeks to make it complete; 2) the irrigating fluid must come in at a far higher pressure if the blood is to be washed away sufficiently to permit good visualization; 3) blood hemolyzed in the bladder is driven into these veins along with irrigating fluid.

The treatment (or even pretreatment) of hemolytic reactions has failed to correct or prevent the renal lesions both experimentally and clinically.^{15,17,40} Kallner²⁵ has claimed success with heparinization, but this technique is not applicable in the case of an operation which leaves an exposed raw surface.

A clinical investigation of hemolysis in transurethral prostatic resection was carried out at the University Hospitals in 1946 and 1947. The plasma hemoglobin was measured in 78 controls both before and after open operations outside the urinary tract. It was not found to be altered after operation, whether the procedure was performed with a cold knife or surgical diathermy, nor was it altered by the usual solutions (glucose, saline) given intravenously after operation.

Next, plasma hemoglobin and blood sugar levels were measured before and immediately after 106 transurethral prostatic resections in which distilled water had been used for irrigation. The following average values were obtained:

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	<i>Preoperative</i>	<i>Postoperative</i>
Plasma hemoglobin	3 mg/100 ml	45 mg/100 ml (high 490)
Blood sugar	87.1 mg/100 ml	86.9 mg/100 ml

Four per cent glucose was then used as the irrigant, and the two measurements were repeated in 185 cases, yielding the following average values:

	<i>Preoperative</i>	<i>Postoperative</i>
Plasma hemoglobin	7.3 mg/100 ml	3.5 mg/100 ml
Blood sugar	81 mg/100 ml	198 mg/100 ml (high 1079)

No diabetic patients were included, and no glucose was given during operation to those patients whose blood sugars were measured.

Concomitantly, the blood was cultured just before and at the conclusion of instrumentation in 300 cases; all preoperative cultures were sterile; 60 per cent of those drawn at the end of resection were positive.

In addition, Dr. E. T. Bell, then the chairman of the Department of Pathology, kindly reviewed all the autopsies performed up to July 1947 on the patients who had died after transurethral resection; pigmented tubular casts were found in the kidneys of six of them.

These observations demonstrated several things: 1) irrigating solution and hemolyzed blood enter the systemic circulation during operations performed with distilled water; 2) water and glucose but no free hemoglobin enter the circulation when isotonic glucose is used; and 3) bacteria may enter in either case.

These conclusions have since been corroborated by other workers: The free hemoglobin of the plasma has risen after resection with distilled water;^{5,6,19,20,43} the blood sugar rises when glucose is used;^{26,34} the plasma hemoglobin does not rise if isotonic solutions are employed.^{20,30,34} The entrance of irrigating solution into the circulation has also been demonstrated by the following: gain in weight during operation;³⁸ development of hyponatremia in the operative or immediate postoperative period;^{21,22,24} absorption of radioactive chromium and iodine added to the irrigating fluid;¹⁶ and sufficient absorption of contrast agent instilled into the bladder at the end of operation and allowed to remain for a few minutes, to permit visualization of the renal pelvis.⁴² In addition, hemoglobinuric nephrosis has been found by others at necropsy in patients dying after transurethral resection.^{4,19,29,37,41}

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Strongly supporting our assumptions is the reduction in mortality rate for transurethral prostatic resections performed in this hospital since the introduction of isotonic irrigating solutions in July 1947. Between then and December 31, 1961, the writers, together with Doctors W. E. Price, B. A. Smith, and E. A. Webb, have performed 1568 consecutive operations resulting in 10 deaths, a mortality rate of .0063 per cent, or one death for each 156.8 patients. During the same period the residents in Urology at the University Hospitals, while *learning* transurethral resection, operated on 2317 patients, using isotonic irrigating solutions. Thirty-one of these patients died, giving a mortality rate of 1.3 per cent since July of 1947. Prior to the introduction of isotonic irrigating fluid, the mortality rate here and elsewhere under experienced resectionists ranged from three to five per cent, and in many clinics still does. Furthermore, no hemolytic reaction was encountered either clinically or pathologically in the 3879 cases mentioned above.

Despite this rather impressive evidence, some urologists continue to use distilled water, claiming either that they cannot see unless the blood is hemolyzed, or that there is plenty of time to use isotonic solutions *after* the veins have been opened; in making this last point they are overlooking the fact that, because of low venous pressures in the pelvis, the entrance of

TABLE 1

Patient No.	Age	Preoperative		Post-operative Day	Admission		
		BP	BUN		BUN	K ⁺	AB Titer
1	63	$\frac{110}{80}$	30	6	140	5.8	0
2	70	?	21	8	204	7.5	Negative
3	55	$\frac{120}{70}$	15	10	172	6.1	Negative
4	69	$\frac{170}{90}$	19	11	157	4.8	0
5	69	$\frac{120}{90}$	NU*	4	120	5.6	Negative
6	74	$\frac{160}{90}$	NU*	0	213	—	—

*Normal urogram

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water into the open prostatic veins may go unnoticed for some time, thus causing hemolysis.

The interest of the junior author (M.P.R.) in the artificial kidney has led to the hospitalization here of many patients with oliguria from diverse causes. Among these were five whose renal failure followed transurethral resection performed elsewhere with distilled water as the irrigating agent. A sixth patient seen by him in consultation was moribund and was not admitted, but clinical and autopsy data are included in the accompanying table.

The incompleteness of some of the information available from the hospitals of origin suggests that some resectionists either ignore or are unaware of the various types of reactions which may follow transurethral prostatic resection, even though the occurrence of such reactions has been thoroughly documented.

Thus, for example, we have noted records that were incomplete with regard to: fluid intake and output, daily variations in weight, and hematocrit readings and sodium determinations. All these data are valuable aids when things go wrong after such operations. Furthermore, only one patient had had his plasma hemoglobin measured in the immediate postoperative period. Blood losses were not measured; this simple measure yields essential information more readily than does measurement of the hemoglobin or hematocrit levels.

Postoperative— BP	Transfusion	Number of Dialyses	Result	Days Lived	Autopsy
80 ?	0	1	Died	11	Hemoglobinuric nephrosis
180 80	1000	3	Alive	—	—
140 95	500	1	Alive	—	—
170 80	0	1	Alive	—	—
160 70	3500	4	Died	44	Hemoglobinuric nephrosis
200 100	900	Not admitted	Died	5	Tubular nephrosis

Other factors predisposing to renal failure were present in several cases. Thus, one patient required norepinephrine for 24 hours postoperatively for hypotension. However, he was observed at autopsy to have had hemoglobinuric nephrosis, although he had received no transfusion. Three of the remaining four patients admitted had received transfusions (300 to 3500 ml.), but all had negative antibody titers, suggesting that incompatible blood had not been a factor in their untoward reactions. Two of the total five had some elevation of the blood urea nitrogen preoperatively, indicating pre-existing renal disease as a factor predisposing to a hemolytic reaction. No evidence of injury to the ureteral orifices existed in any of the five. The other one of the five who died was observed at autopsy to have the typical renal lesions.

The sixth patient, who was moribund when seen in consultation and was not admitted, had received 3500 ml. of blood, and therefore had other important factors operating against his kidneys. His antibody titer was not determined, but he had no heme casts in his renal tubules, so that this absence of casts may represent the vasospasm of severe and rapid hemorrhage, perhaps with hypotension.

SUMMARY AND CONCLUSIONS

1. The factors which may cause renal failure after transurethral prostatic resection include: rapid, severe hemorrhage, surgical shock with prolonged hypotension, acute pyelonephritis, injury to the ureteral orifices, and the entrance of distilled water containing hemolyzed blood, into open prostatic veins.

2. The occurrence of the last named factor has been proved by a rise in the free hemoglobin of the plasma during operation; an increase in blood sugar when glucose is added to the irrigating fluid; the occurrence of dilutional hyponatremia; a gain in weight during operation; and the absorption of radioactive isotopes and of contrast agents added to the irrigating fluid.

3. One of the noxious factors—hemolysis—is easily avoided by using an isotonic, nonelectrolytic irrigating fluid. This procedure has apparently caused a striking reduction in surgical mortality.

4. Hemolytic reactions continue to cause deaths when these facts are ignored.

5. The cases of five patients seen by the artificial kidney team are briefly reviewed. Two who died had hemoglobinuric nephrosis without evidence of reaction to the transfusion of incompatible blood. One other patient seen had these reactions in the absence of transfusion, as did another moribund patient who was not admitted to the University Hospitals.

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Staff Meeting Report

Carcinoma of the Larynx: Lesions Originating on the Glottis*

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and Patrick Griffin, M.D.‡

A decade or more ago, carcinoma of the larynx was generally classified as *intrinsic* or *extrinsic*. Intrinsic lesions were limited to the glottis; extrinsic lesions were on the periphery. Contemporary opinion divides laryngeal carcinoma according to anatomical location into three groups: glottic, supraglottic, and infraglottic.

THE GLOTTIS

The glottis is a complex physiological unit. It is commonly thought of as a phonatory mechanism which developed rather late in the evolutionary scale and must be considered a relatively recent phylogenetic adaptation. The larynx has developed from a sphincteric unit in the respiratory system of the primitive lungfish into an organ with diverse functions.

There are three functions of the glottis: sphincteric, respiratory, and phonetic. The anatomic structures involved in the sphincteric action are the vocal (true) cords, the ventricular bands (false cords), and the aryepiglottic folds. The coordinated activity of these functions protects the lower respiratory tract. Chevalier Jackson, the father of American broncho-esophagology described the larynx as the "watchdog of the lungs" because the glottic closure during swallowing and emesis obviously comprises a protective mechanism, as does the cough reflex.

Respiratory function is influenced by partial closure of the glottis during expiration. This enhances the absorption of alveo-



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lar oxygen. The partial resistance thus formed momentarily increases the intrabronchial and the intra-alveolar pressure, causing a rather rapid diffusion of oxygen through the alveolar wall and into the bloodstream.

The phonatory action, which is one of the functions of the glottis in man, is most frequently and noticeably impaired when disease develops in the glottic area, particularly in one location. We speak with the anterior half of the glottis; we respire with the posterior half. Thus a small lesion situated on the anterior end of a vocal cord will cause a considerable impairment of voice, while a larger lesion located posteriorly in the glottis will produce less noticeable vocal impairment.

GLOTTIC CARCINOMA

Since the site of predilection for glottic carcinoma is the membranous portion of the true vocal cord, hoarseness is an early symptom of the disorder.

Carcinoma arising in the glottis is more amenable to cure than is carcinoma developing at any other site in the larynx, for two reasons:^{1,2} 1) it is discovered earlier because of the presence of hoarseness as an early warning, and 2) the lymphatic drainage from the epithelial margin of the true vocal cord is less abundant than from other sites within the laryngeal lumen; therefore, a lesion remains localized longer at this site.

Incidence

A survey is currently in progress on end-results of therapy for laryngeal carcinoma seen on the services related to the residency training in otolaryngology at Minnesota. In addition to the University Hospitals, these include services at the Minneapolis General Hospital, the Veterans Administration Hospital in Minneapolis, and the Ancker Hospital in St. Paul. This study presents statistics from the first five years of the survey period, beginning in November 1952.

During this five year period the breakdown of cases was as follows:

Supraglottic lesions	46
Glottic lesions	108
	<hr/>
	154

These figures would indicate that glottic lesions occur nearly two and one-half times as frequently as supraglottic lesions. No

lesions were classified as infraglottic, i.e., apparently originating below the glottis and extending upward.*

Age range

Approximately 50 per cent of these patients were between 55 and 65 years of age. (The youngest patient was 24; the oldest, 87.)

Symptoms

The records indicate that hoarseness is the one symptom that is present in all patients with cancer originating on the margin of the true vocal cord. Hoarseness has been defined by Jackson⁹ as a rough harsh quality of voice which is lower in pitch than is normal for the individual. As indicated previously, the degree of hoarseness is more pronounced early in the course of the cancer's development when the lesion is on the anterior half of the vocal cord than when the lesion lies on the posterior half (the "respiratory" portion of the glottis).

As a lesion enlarges and the hoarseness becomes more severe, a slight to moderate degree of respiratory embarrassment may develop along with increased secretion, causing the victim to clear his glottis frequently. These are practically the only manifestations as long as the lesion is on the margin of the vocal cord. When pain occurs, it is a late manifestation of glottic carcinoma indicating an extension of the lesion, and is usually experienced as a reflex otalgia through the superior laryngeal nerve.

Diagnosis

Inspection for glottic carcinoma can be almost as simple as inspection for lesions on the external surface of the body. The principal requirement is facility with the use of the laryngeal mirror, with good illumination. This maneuver can be performed easily by every practitioner of medicine.

When an abnormal tumefaction or ulceration of a vocal cord has been noted, more definitive measures are employed using the direct laryngoscope and biopsy techniques when indicated. In more extensive lesions, planigrams³ and laryngograms⁴ may be employed.

*Some figures on the incidence of carcinoma occurring at other sites in the area commonly designated as the "throat" are interesting for comparison. During the same five year period, 158 patients were seen with these lesions: pyriform sinus (pharynx), 62; tonsil, 62; nasopharynx, 64. The total incidence of lesions in these sites is about equal to the total incidence of lesions on the laryngeal structures.

Group Classification and Type of Treatment

In the past decade, a tendency has developed to classify glottic carcinoma into three groups:

Group I includes lesions confined to one vocal cord with no impairment of the mobility of the cord.

Group II includes the lesions characterized by cord fixation, a subglottic extension, or spread to the opposite cord.

Group III includes the lesions that have extended beyond the limits of the glottis. This situation practically places the lesion in the supraglottic or infraglottic category.

In Group I, the treatment may consist of: 1) irradiation alone; 2) excision of a very limited lesion through the laryngoscope supplemented with limited destruction of the base with surgical diathermy plus irradiation; or 3) wide excision of the vocal cord through a thyrotomy (laryngo-fissure) approach.⁴⁻⁶

In Group II total laryngectomy, with or without cervical node dissection, is the usual procedure.⁷⁻⁹

In Group III a wide field laryngectomy is indicated, usually with cervical node dissection.

Treatment and Results by Group

The records indicate that three of the 108 patients refused treatment. The statistics on the other 105 patients are as follows:

Group I—39 patients

- 8 were treated with irradiation only, of whom 5 are surviving.
- 31 were treated surgically with thyrotomy (laryngo-fissure) and surgical removal of *one vocal cord* (29 survivors).
- 34 (87%) now survive. Only one death actually resulted from the laryngeal carcinoma (metastases). (Three patients died from coronary disease, two months to three years following treatment for the carcinoma; one patient died from the rupture of an abdominal aneurysm.)

Group II—46 patients (six with cervical metastases).

- 37 underwent laryngectomy (25 survivors)
- 4 had laryngectomy and neck dissection (3 survivors)
- 5 had *irradiation* alone (1 survivor)
- (1 postoperative death)
- 29 (63%) now survive.

Group III—20 patients (13 with cervical metastases)

- 2 had laryngectomy (1 survivor)
- 14 had laryngectomy and neck dissection (5 survivors)
- 4 had *irradiation* alone (no survivors)
- (2 postoperative deaths)
- 6 (30%) now survive.

COMMENT

This group of patients seen in the five year period between 1952 and 1957 probably represents a realistic cross section of the redundant cancer problem as it exists today in lesions originating in the glottis.

Survival, with presumed freedom from malignant disease, is reported for a period of from four and one-half to nine years following therapy.

It seems obvious from this study that early recognition of a carcinoma limited to the glottic area of the larynx carries the potential of a high cure rate. Since a single easily recognized symptom, *hoarseness*, warns of the possible existence of such a lesion, early diagnosis can frequently be made. The additional fact that the lesion is almost on the exterior of the body and visible by the simple maneuver of mirror laryngoscopy, should make early recognition a practical certainty. Early recognition, in turn should mean that adequate treatment can conserve function in the form of a useful voice by natural means.

Despite the feasibility of early diagnosis, this study indicates that a relatively early diagnosis was made in less than one-third of these patients (39 in Group 1). In the other 66, nine were irradiated presumably because surgical treatment seemed inadvisable, and 57 had laryngectomy, which was combined with cervical node dissection in 18 instances.

Vocal rehabilitation after laryngectomy has improved in the past decade. The "artificial voice box" has been replaced in many patients who acquire the ability to produce "esophageal-pharyngeal" speech.

Other laryngeal lesions, principally those originating in the supraglottic area have not been included in this survey. Recent studies by several investigators related to the dissemination of carcinoma within the larynx have advocated subtotal laryngectomy in patients in whom the glottis is not involved.

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Alumni Survey



THE CLASS OF 1931

Members of the Class of 1931, University of Minnesota Medical School, are enjoying a harvest of happiness, comfort, security, and a sense of personal achievement earned during thirty years of medical practice. These are the general feelings described by 86 of their number who were located in a class survey conducted by the MEDICAL BULLETIN.

Sixteen of the original 119 graduates are deceased. Seventeen others could not be contacted. Forty-two of the 86 who responded (49 per cent) are still practicing or living in Minnesota. The majority of those outside Minnesota are living in western states.

Forty-three per cent of those responding have remained in general practice. Fifty-seven per cent are specialists, with surgery, ENT, and internal medicine the prevalent specialties followed. Leisure time is becoming more abundant, and the most popular hobbies are golf, fishing, and travel. Six graduates are now retired from practice.

Twenty-four graduates hold teaching assignments, mostly of the clinical type, and one is a career medical missionary. Two are married to other doctors, but no class marriages occurred. The 86 graduates are the parents of 172 children, and mentioned 23 grandchildren. (By contrast, the Class of 1941, with 92 members reporting, listed 240 children.

Arvid E. Carlson of Warren, Minn., takes family honors with a total of seven children. This is exactly the same number possessed by a 1961 Medical School graduate at the time he received his diploma!

Fourteen of the 1931 graduates have sons in the medical school or now practicing medicine. Six of these 14 chose the University of Minnesota Medical School for their training.

Here is the data on all who could be traced:

Ercell A. Addington has a partnership practice with three other radiologists in Seattle, Wash., and is an assistant clinical professor at the University of Washington Medical School. The family home is at 3326 78th Pl., Bellevue, Wash. His wife is the former Maryalice Keirstead and they have a son and daughter. Dr. Addington took his residency training at the Mayo Foundation. "I'm still very interested in sports but have quit skiing because I'm 'too old.' The Pacific Northwest is great country for recreation," he says.

Willard M. Akins has been engaged in general practice with the Medical Block Clinic, Red Wing, Minn., since 1946. For 14 previous years he practiced at the More Clinic, Eveleth, Minn. Dr. Akins and his wife, Lila, have two sons. Carlton, 21, graduates from Harvard University this year and will enter Harvard Medical School next fall. Cary, 17, graduates from high school this year. The family home is at 1401 East Avenue, Red Wing, Minn.



Hugo C. Andre

Hugo C. Andre lives at 216 Forest Ave., Vermillion, S. D., where he practices internal medicine and is a clinical professor of medicine at the University of South Dakota Medical School. His son, Carl, is a second year medical student there. Dr. Andre has taught physical diagnosis since 1937 except for four years of Army duty during World War II. He was 1961 president of the Yankton (S. D.) District Medical Society. His family includes wife, Nelle, and two children.

Stuart Lane Arey is a Minneapolis pediatrician in group practice with three other physicians at 1801 Lyndale Ave. S. He teaches as a clinical assistant professor at the University of Minnesota, and is married to the former Evelyn Baker. They have four children and five grandchildren. Dr. Arey has a private flying license, and likes golf and skiing. His self-description: "Like most, I'm older, grayer, and balder, but not fatter!" He was in general practice for eight years, served in the Navy during World War II and then switched to pediatrics and pediatric allergy.

Earl E. Barrett lives at 2531 E. 4th Street, Duluth, Minn., where he is engaged in the practice of pediatrics. He has four children. Married to the former Mary Margaret O'Leary, Dr. Barrett says his hobby is "shooting a shotgun at anything that flies past." He is active in the Minnesota Heart Association.

Wallace G. Beckman is a psychiatrist at the Veterans Administration Hospital, Palo Alto, Calif., and also teaches at Stanford University School of Medicine. He took graduate training in California, and is "interested in rocks, minerals, trips, golf, and the stock market."



Meyer S. Belzer

Meyer S. Belzer is senior partner in the six-man Belzer Clinic, 3809 42nd Ave. S., Minneapolis, Minn. His associates are all Minnesota graduates, and he's on the staff at Fairview (Minneapolis) Hospital. He and his wife, Kathleen, are parents of three children, two of whom are of college age. Dr. Belzer says his hobbies are golf and Indians.

Col. Albert A. Biederman retired this year after serving in the U.S. Army since 1934. He now lives with his wife, Marguerite, on Woodland Road Extension, Puyallup, Wash. Dr. Biederman's last assignment was as Commanding Officer of Walson Army Hospital and Post Surgeon at Fort Dix, N. J. His major career activity has been the training of residents and interns in internal medicine. The Biedermans have two daughters. Marguerite Ann is working on a Ph.D. in neurophysiology at U.C.L.A., and Alene graduated from Reed College, Portland, Ore., this year. "My retirement plans are indefinite," he says, "but they include hunting, fishing, photography, and music."



A. A. Biederman

Verl G. Borland is a surgeon practicing in association with the Fargo Clinic, Fargo, N. D. He lives at 1514 Ninth St. S. in that city, and is married to the former Muriel Ehrenberg. They have two children of college age.

Chauncey N. Borman is chief of radiology at St. Mary's Hospital, Minneapolis, and practices with three other radiologists in Minneapolis. He has contributed several articles to the radiologic literature, and is a clinical assistant professor at the University of Minnesota. His home address is 2024 Kenwood Parkway, Minneapolis. He and his wife, Clara, are the parents of Susan, 24, and Betty, 22.

Theodore J. Bulinski is a surgeon in full time private practice in St. Paul, Minn. He lives with his wife, the former Mildred E. Kannar, at 1481 Edgecumbe Road.

Desmond H. Callaghan is an associate in internal medicine at the four-man Hayward Medical Clinic, Hayward, Wis. He has a daughter in the U.S. Public Health Service in Berkeley, Calif., and a son in the U.S. Army, as well as another daughter in high school. Mrs. Callaghan is the former Martha Elliott. Dr. Callaghan's spare time is devoted to civic activities and golf.

Arvid E. Carlson is in general practice alone in Warren, Minn., a northwestern Minnesota community of 2,000 people. He and his wife, Lillian, have seven children, including five sons, ranging in age from 10 to 25 years. "Mine is a very commonplace general practice," he says, "trying to serve our people's needs as well as I can and raising our children to be good citizens." Dr. Carlson says he considers this the basis of success rather than monetary accumulation.

Orville Kelsey Chancellor is an industrial physician with the American Stock Exchange, New York City. He has been an industrial physician since finishing U. S. Navy service in 1945. He received advanced training at Bellevue Hospital, and now lives at 351 E. 58th Street, New York 22, New York.

John Gordon Cole is a specialist in ophthalmic surgery and ophthalmic plastic surgery, and shares a practice at 780 Park Avenue, New York 21, N. Y., with his wife, the former Helen Grady, who is also an ophthalmologist. They have a son, Gordon, 7. The family enjoys hunting, skiing, and tennis. John is also an assistant clinical professor at New York University, and an instructor in plastic surgery at the New York Eye and Ear Infirmary.



Elmer R. Conrad

Elmer R. Conrad practices internal medicine and cardiology at his home and office, 920 N. E. Third Street, Ft. Lauderdale, Fla. He teaches at Broward County General Hospital there, and is active in the local Heart Association. Hobbies include metal work and cameo collecting. Mrs. Conrad is the former Agatha Cavanaugh. A son, Richard, is at St. Louis University Medical School, and a daughter, Kay, is graduating this year from Barry College.

William M. Copenhaver is deceased.

Donald E. Clarke practices in Longview, Wash., and lives at 1252 Kessler Blvd. in that city. His wife is the former Marie A. Rodgers. A son, Donald R., 24, is in the U. S. Navy, and a daughter, Ann, 21, lives with her husband in Honolulu, Haw.

Dwight E. Curry retired from private practice two years ago, and toured Europe, U. S. A., Canada, and Mexico with his wife, Maudlyne, before accepting a post with the U. S. Public Health Service in Port Arthur, Tex. Since April, 1961, he has practiced at an outpatient clinic. Dr. Curry is a ham radio operator, likes fishing, hunting, and color photography. The Curry home is at 3210 Eugenia Dr., Groves, Texas.

Carlos W. del Plaine is retired. He lives at 1555 E. River Terrace, Minneapolis. A native of Mexico, he was raised in Canada. He was decorated with the British Military Medal during World War I. Following the war, he earned two degrees in civil engineering at the University, and later returned to obtain his medical degree. He was a practicing physician and surgeon in Minneapolis, and his wife, who is deceased, was a University of Minnesota faculty member. Dr. del Plaine is the author of two novels.

George D. Doroshov is a pediatrician. He lives at 7538 E. 4th Pl., Downey, Calif., where he practices and teaches at the Loma Linda School of Medicine. He and his wife, Tobette, have two daughters and one son.

Paul L. Eneboe is deceased.

Paul T. Erickson retired from the U. S. Public Health Service on January 31, 1962, and now practices with the Georgia Department of Health in Atlanta, Ga. He lives with his wife, Doris, at 109 Parkwood Lane, Decatur, Ga. They have three daughters (two to be married in 1962 and the other a 13-year-old junior girls golf champion). Dr. Erickson formerly taught at Tulane University and L. S. U. and did research in leprosy which helped develop the present treatment of choice, sulfone drugs. He was co-winner of an A.M.A. Silver Medal in 1947 for his exhibit on original investigations in leprosy.



Paul T. Erickson

Robert P. Ewald died October 14, 1961, of a heart condition.



O. J. Farness

O. J. Farness is practicing in Tucson, Ariz. With his wife, the former Kathleen Flynn, he lives at 4623 E. Grant Road. Dr. Farness says living and working in a "new" state has been interesting and rewarding. "I hope to continue being productive because there are still many places in the world I'd like to explore," he writes.

Irving J. Farsht limits his practice to urology. He lives in Los Angeles, Calif., at 11262 Cashmere St., with his wife, Florence. Their 19-year-old daughter, Grace, attends U. C. L. A. The Farsht family is active in communal welfare and veterans organizations in Los Angeles.



Irving J. Farsht

Clarence G. Faue lives at 537 Granville St., Newark, Ohio. He practices alone, and treats diseases of the eye, ear, nose, and throat only. His office address is 63 N. 4th Street.

Benjamin A. Fine, 1355 Green Lane, LaCanada, Calif., retired from the general practice of medicine on July 1, 1961, but now practices three days a week as school physician at El Monte, Calif. "I enjoy a good game of contract bridge," he writes, "and have been enticed into golf lessons by my sons." Son Lawrence, 28, received his M.D. from the University of California in 1959, and is now a resident in ophthalmology in San Francisco, and married to Irene Fink of Wadena, Minn. Another son, Stuart, is a school teacher, and a daughter, Arlene, is a freshman at U.C.L.A. Dr. Fine's wife is the former Rose D. Avrick.



Benjamin A. Fine

Alice Harrison Fuller retired from the practice of pediatrics in January, 1959, but still conducts two well-child clinics each week for the Minneapolis Department of Health. She lives at 4500 Colfax Ave. S., Minneapolis, and likes reading, travel, music, language study, visiting, and gardening.



Alice H. Fuller



Joseph B. Gaida

Joseph B. Gaida lives at 511 9th Ave. S., St. Cloud, Minn., where he limits his practice to diseases of the eye, ear, nose, and throat. His wife, Naomi, is also a graduate of the University of Minnesota. They have a son, Joseph, 15, who attends St. John's Prep School. In 1960 the family journeyed to Europe, where Dr. Gaida attended a meeting of the International College of Surgeons in Rome, Italy. He is a member of the College, and is also a Consultant to the Minnesota State Reformatory at St. Cloud.

Kenneth E. Gamm is a general surgeon. He lives and practices in Grand Rapids, Minn., where he is on the staffs of Blodgett, St. Mary's, and Butterworth hospitals. Ken describes his practice as "30-hour-a-day-solo-type." He and wife Rosemary have three children. Ken says he tries hard to "play golf, fish, and raise his family."



Joseph Garten

Joseph Garten practices ophthalmology and otolaryngology in Minneapolis, and teaches in the University of Minnesota training program at General Hospital. His home address is 4006 Zenith Ave. S. Mrs. Garten is the former Julia Miller. They have a daughter and a son.

Byron Lee Gifford is chief of ophthalmology at the Sansum Medical Clinic, 317 W. Pueblo St., Santa Barbara, Calif. He lives on his own ranch nearby with wife, Hallie, who was a nurse at Northwestern (Minneapolis) Hospital when they married in 1933. Dr. Gifford served in the Air Force during World War II, and has been at his present post since 1948. He enjoys avocado ranching and fishing, and has a daughter, Gail, 17, who he describes as an "excellent horsewoman."

Daniel R. Goldish practices general medicine in Duluth, Minn., and lives with his wife, Janice, at 3621 E. Superior Street in that city. They have a son, Peter, 26.



Clifford A. Grand

Clifford A. Grand is in general practice in Ashland, Wis. He and his wife, Shirley, have a son, Clifford, 11, and a daughter, Karen, 7. The home-and-office address is 206 Sixth Ave. W. Dr. Grand is active in the Red Cross, Cancer Society, Wisconsin Academy of General Practice, the Masonic Lodge, and hasn't missed a Rotary Club meeting in the past ten years. He is also city health officer. "Mrs. Grand works hard for the Red Cross Blood Bank program, and the entire family enjoys skiing," he writes.

Milton Greengard is an orthopedic surgeon. He lives at 1915 Tassajara, Richmond, Calif., with his wife, Jessica. He devotes his spare time to hunting, hunting dogs, and golf. His office is located at 207 Broadway, Richmond.

Ralph D. Hanover is associated with two other physicians in general practice at International Falls, Minn. He is also an industrial physician for the Minnesota and Ontario Paper Co., and enjoys flying, boating, fishing, and travel. His wife is the former Effie Maland. A son, Russell, and daughter, Helen, both attend the University of Minnesota.



Ralph D. Hanover

Myron F. Hassett is deceased.

Robert W. Hatch is deceased.

Samuel M. Herman now lives at 16749 N. E. 14th Court, N. Miami Beach, Fla. He retired in November, 1961, because of illness. Dr. Herman and his wife, Frances, have two daughters, one son, and four grandchildren. He was in general practice in St. Paul for seventeen years, and served in the U. S. Navy during World War II. "Happy and proud to have been a G.P. and would do it all over again," he declares.

Elmer M. Hill practices dermatology in Minneapolis, and lives at 5524 Glengarry Parkway, Minneapolis 24. He is a clinical assistant professor at the University of Minnesota. His wife is the former Elizabeth Tagland. Their son, Elmer, Jr., and daughter, Jean, are both married. Hobbies and special interests include four grandchildren, baseball, football, fishing, music, and yard work.

Malcolm Hoffman is deceased.

John E. Hynes is a "very ardent golfer," a Lt. Col. in the U. S. Army Reserve, has two grandchildren, and is an obstetrician-gynecologist at the Women's Clinic, Billings, Mont. He was one of the founders of the American College of Obstetrics and Gynecology, and is a diplomate of the American Board of Obstetrics and Gynecology. He lives at 943 Rimrock Road, Billings. His wife is the former Virginia Miller. They have four children.

Karl F. Johnson died February 26, 1960 of a pulmonary embolism. His wife, Mrs. Karl Johnson, lives at 2927 Labore Road, St. Paul 9, Minn.

Leonard F. Johnston is associated with the Winona Clinic, Winona, Minn., and lives at 1297 Lakeview in that city. He and his wife, Rose, have a 17-year-old daughter, Mari.



George C. Kelso

Walter C. Jump says his classmates will be interested to know that "I still have a little hair." He lives at 2605 Poli St., Ventura, Calif., and practices general medicine there by himself. His wife is the former Jean McKenny. They have three sons, all in their 20s, "none are in medicine, but the youngest is looking to a career in biologic science."

George C. Kelso is in general practice in Pittsburg, Calif. He lives at 163 Pueblo Dr., with his wife, Mary, and daughter Jennifer, 17, and son George, 15.

Ralph B. Kettlewell is deceased.

Ross M. Kilgard is deceased.

Emil R. Krueger went to Hayward, Wis., immediately after obtaining his medical degree and has practiced general medicine there ever since. He founded the Hayward Medical Clinic. (A classmate, Desmond Callaghan, is one of his present three associates), and led the successful effort to establish a hospital in Hayward. Dr. Krueger and his wife, Sophie, have two sons and one daughter. The eldest, Robert, 23, is working on his Ph.D. in Bacteriology.

Alex A. Kugler practices general medicine in St. Paul, Minn., and lives at 1368 Edgcombe Road. He is married to the former Catherine McIntosh, and they have three daughters.

Frank W. Larsen says he manages to mix the fun of golf, Shrine, Naval Reserve, and a new electric organ with a heavy work schedule in general medicine. He practices alone at 1518 E. Lake Street, Minneapolis, and lives at 4537 28th Ave. S. with his wife, Elinor. They have four children, two of whom are married.



Wilbur (Bill) Light

Wilbur (Bill) Light is a partner in a dermatology practice in Lima, Ohio, and likes to waterski at his cottage in Michigan as well as travel to foreign countries. His 22-year-old son, William, enters the University of Michigan Medical School next fall. Dr. Light and his wife, Pauline, also have a married daughter, Joan, who teaches in Philadelphia. The Light home address is 2850 Amanda Road, Lima, Ohio.

Russell C. Lindgren, a Minneapolis internist, says his family "runs on musical notes." His wife, Audrey, and daughters, Ann, 15, and Ginger, 10, all like to play the family piano and other instruments, while son Peter, 19, "tunes up his hot rod between college study sessions." The family home is at 4613 Edina Blvd., Minneapolis 24. Russ teaches at the Minneapolis General Hospital and Swedish-St. Barnabas hospital training programs. His practice (mostly cardiology, he says) is supplemented by golf, tennis, boating, fishing, and going to medical meetings.

Gunnar Linner has a general practice of medicine in Richfield, Minn., and lives at 7900 Scenic Heights Road, Hopkins. He practices industrial medicine as well as ophthalmology. Dr. Linner is an enthusiastic horseman (with the Shriners) and calls his daughter, Linda, 16, "an expert horsewoman." She performs tricks at horse shows and parades. A son, John, is a pre-medical student and varsity football player at Macalester College. Dr. Linner is staff physician at the Minnesota Masonic Home, and is married to the former Dorothy Hoffman.

James E. Lofstrom is professor and chairman of the Division of Radiology at Wayne State University College of Medicine in Detroit, Mich. He lives at 265 Williams, Grosse Pointe Farms 36, Mich., with his wife, Virginia, a graduate of the University of Minnesota. They have a daughter, Mari, 23, who graduates this year from the University of Michigan. "My clinical practice is at Detroit Receiving Hospital and Detroit Memorial Hospital," he writes. The Lofstroms are active supporters of the Detroit Institute of Arts.

Donald C. MacKinnon is a surgeon in practice by himself in Minneapolis. He likes golfing, hunting, and fishing, and lives on Rt. 1, Willow Creek Road, Hopkins, Minn. His wife, Aileen, and he are parents of two sons and one daughter.

William N. Makaroff expected to be in Santiago, Chile after June 1, 1962, as program officer for the U. S. Food for Peace Project. He retired from general practice last December, took three months of orientation work in Washington, D. C., and studied Spanish full time to prepare for his new assignment. "My family will be with me in Chile," he writes. The three daughters and their mother, Rhoda, formerly kept house for their Dad in Gurneville, Calif. (Present address: c/o U. S. Embassy, Santiago, Chile).

George F. Malin "retired from practice in good health at the age of 55 in 1958." He was formerly a urologist at the Kankakee Clinic, Kankakee, Ill., and now lives at 2624 Van Loon Road, LaCrosse, Wis., with his wife Hazel. His son, Frank, will enroll at the University of Minnesota next fall in a pre-medical course. Dr. Malin reports he keeps busy with "multiple hobbies, mostly connected with the out-of-doors."

Satoru Matsuyama practices general medicine in Honolulu, Hawaii, living at 2602 Liliha Street. He is married to the former Harriet Matsuura, and they have a daughter and two sons. The eldest son, Eugene, 22, is a member of the Freshman Class, University of Minnesota Medical School.

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Burtis J. Mears practices as an internist in St. Paul, Minn., and lives at 2262 Youngman Ave. He is a clinical assistant professor at the Medical School, and has a son, Tom, 22, who is a Medical School freshman. His wife is named Ann, and they have another son, John, 23, and a daughter, Ann, 17. Hobbies are golf and skiing.

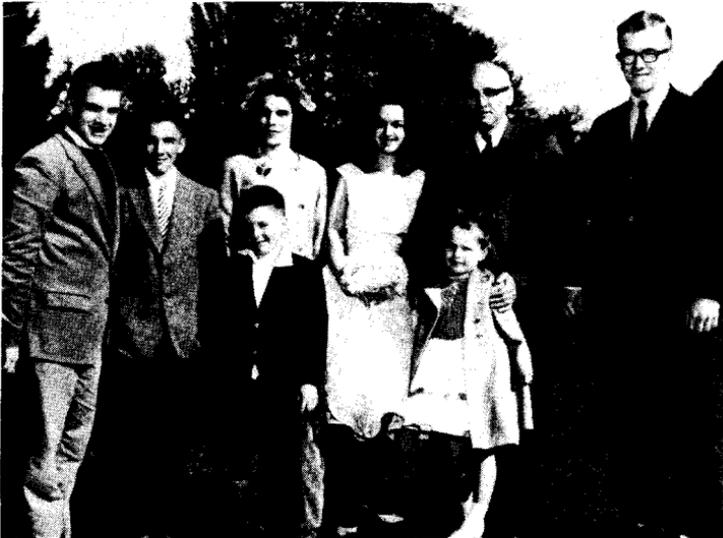
E. W. Miller is deceased.



M. K. Mookerjee

M. Kellogg Mookerjee is an internist and allergist in Milwaukee, Wis. He and his wife, the former Marie Borchardt, have two college-age daughters. Dr. Mookerjee's favorite sport is fishing.

When **H. H. Minthorn**, Longview, Wash., sent the family portrait (below) he said "it probably tells more about me than anything I could write." The family home is at 1608 25th Avenue. Three of the six Minthorn children attend school in Longview. The others are away in school. His wife is the former Anne Brittain. Dr. Minthorn is a general practitioner.



The Minthorns—(left to right) Peter, Mark, Mom, Kent (in front), Betsy, Dad, Anne (in front), and David.

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Stanley W. Moris is director of the Iambi Leprosarium, Singida, Tanganyika, East Africa, an institution supported by the Augustana Lutheran Church and American Leprosy Missions.



His staff (see photo—Dr. Moris is right, rear) looks after 450 resident patients living on 5,000 acres, of whom about 90 are hospital inpatients. There are eight outpatient clinics treating 500 more. "We have held three one-week leprosy training courses for medical personnel," Dr. Moris reports. He will be on furlough at the V.A. Hospital, Vancouver, Wash., for one-year starting in July, 1962, after many years in Africa. Mrs. Moris (Edith) is with him. His two daughters have careers in nursing, and his two sons are studying at American universities.

Maynard C. Nelson is a general surgeon. He practices with a partner in Minneapolis, and teaches at Minneapolis General Hospital under the Medical School training program. He is a past president of the Hennepin (Minneapolis) County Medical Society. Dr. Nelson is married to the former Cora C. Bennett, and they have three sons and one grandson. The family home is at 6608 Parkwood Road, Edina.

O. L. Norman Nelson is also a past president of Hennepin County Medical Society. He's an internist and partner in practice with **Dr. A. C. Kerkhof (Med. '28)** in Minneapolis. Norm teaches at the Medical School. He and his wife, Helen, have raised two sons, Tom, 25, and John, 20. The family home is at 4916 Dale Drive.



Claire M. Ness

Claire M. Ness is director of the Cleveland (Ohio) Guidance Center, a child psychiatry facility. She has been at her present post for the past 15 years, is a member of the Cleveland Academy of Medicine, and is affiliated with many professional societies in the field of psychiatry. "I have many nieces, nephews, grandnieces, and grandnephews in many parts of the country," she writes, "but Minneapolis is still 'home.'" She likes photography and travel. Her address is 31691 Cedar Road, Cleveland 24, Ohio.

Erwin W. Newman limits his practice to ophthalmology. He lives at 301 E. 21st St., Cheyenne, Wyo., and practices in partnership with Dr. Louis J. Stadnik. The Newman family includes his wife, Harriet, and two daughters. Linda, 20, is a senior at Smith College, and Judy, 16, is a high school senior.

Helmer J. Nilson is deceased.

Paul H. Noth is a specialist in internal medicine with the Los Alamos Medical Center, Los Alamos, New Mex. He is president-elect of the New Mexico Heart Association and secretary-treasurer of the New Mexico Society of Internal Medicine. Paul says his practice is "interesting," and that the 15,000 residents of Los Alamos include about 800 Ph.D's. He "still likes to play the piano." Mrs. Noth was formerly Dorothy-Ann Erchart. They have a married daughter, Rachel, and a son, Robert, who is a chemistry major at Stanford U. The family home address is 3580 Arizona Ave.



Paul H. Noth

Arthur W. Nuetzman is alone in general practice at Fari-bault, Minn. He lives with his wife, Clara, at 826 Sixth Ave. S.W. They have a son, William, 25.

Siegfried C. G. Oeljen is an ophthalmologist in Waseca, Minn. He likes photography, has served on the Board of Education for many years, and is a lay leader in St. John's Lutheran Church of Waseca. His wife, Adele, is also active in church work. Their sons, Carl, 19, and Richard, 15, are students at the University of Chicago and Waseca High School, respectively.

I. J. Pass is deceased.

Bror F. Pearson has been in general practice in Shakopee, Minn. for the past 28 years. He is married to the former Elizabeth B. Stephens. They have two married daughters ("two grandchildren up to press time") and a daughter at Radcliffe. A son, John, is a high school junior.

Leonard T. Peterson is an orthopedic surgeon practicing with a partner in Washington, D. C. He also teaches at George Washington University School of Medicine, and lives at 5320 Kenwood Ave., Chevy Chase 15, Md. He and Mrs. Peterson (Gretchen) have two married daughters, and one son, Kent, 28, who is a practicing physician.

Richard H. Picha is in general practice in Hopkins, Minn., a Minneapolis suburb. He likes golf and enjoys his summer home at Bay Lake, Minn. He's on the faculty of *Minnesota Mediclinics*, and is a consultant to the Hennepin County Home for Boys. Mrs. Picha is the former Helen M. Bren. They live at 337 11th Ave., Hopkins, and have a son, Richard, who is presently enrolled at the Ohio School of Podiatry. A daughter, Meredith, graduates from the University of Minnesota this Spring.

Robert Edward Priest is a full time specialist in otorhinolaryngology, and teaches as a clinical professor at the University of Minnesota. His private practice in Minneapolis is in association with two other physicians. His home address is 2323 Irving Ave. S., and he is married to the former Gertrude Patterson. Their children are Robert, 25; James, 23; and John, 19.

G. Harland Purves practices general medicine with a medical group in Buffalo, Minn. He and his wife, Evelyn, have two children.

Virgil E. Quanstrom is deceased.



Ruth F. Rasmussen

Ruth F. Rasmussen is a clinical pathologist at the South Bend Medical Clinic, South Bend, Ind. She is married to Mr. M. Rudolph Campbell, and they live at 18301 Douglas Road. Their daughter, Judy, is a free lance illustrator in New York City, and was the designer of the 1963 Tuberculosis Christmas Seal. Their son, James, 25, is receiving his M.D. degree from Columbia University in June, 1962. Ruth says her hobbies are woodworking and "laboratory gadgets."



W. W. Rieke

Wellington W. Rieke is in general practice with **Dr. David Feigal (Med. '47)** and **Dr. Charles W. Zinn (Med. '55)** in Wayzata, Minn. Dr. Rieke and his wife, Merle, live at 185 Gleason's Lake Road, Wayzata. They have two sons. Another son is deceased. Dr. Rieke has practiced in this Minneapolis suburb since 1933. He's active in the county medical society, Minnesota Academy of General Practice, and numerous service and church organizations. His hobbies: "Boating, fishing, hunting, and a poor game of golf."

Sydney F. Rogers is deceased.

Simon G. Sax practices internal medicine in partnership with his brother, Dr. Milton H. Sax, in Duluth, Minn. He lives at 2502 Greysolon Road, and has published several articles on internal medicine in scientific journals. In addition, he has travelled abroad, likes photography, and has "dabbled in the Lively Arts" by writing radio and stage dramas for the Duluth Playhouse and University amateur theatrical groups.

Dean Schamber is retired from a career in military medicine, but has now become affiliated with the Pennsylvania State Health Department, Harrisburg, Pa. He writes that his work is exclusively concerned with "preparations for serious disaster situations" including treatment of mass casualties and the teaching of medical and health disciplines. His son, Dr. Dean T. Schamber, 30, graduated from the University of Minnesota Medical School in 1959. There are two other sons, and his wife, Mary, in the family. Dr. Schamber was formerly a colonel in the U. S. Army Medical Corps. He lists his home address as 535 Teresita Blvd., San Francisco, Calif.



Dean Schamber

Paul G. Schmidt, Jr., is senior member of a group practicing general medicine at the Granite Medical Center, Granite Falls, Minn. He has three sons and one daughter, all married. Paul, III, is a geologist who has made two trips to the Antarctic. A favorite family activity is over-the-road vacation trips. Dr. Schmidt drove his car and house trailer over the Alcan Highway to Alaska in 1960. He likes hunting, fishing, and golf. Mrs. Schmidt's name is Astri. They live at 370 9th Ave., Granite Falls, Minn.

Peter J. Schultz is a general surgeon with offices in the Southdale Medical Bldg., Minneapolis. He lives at 7063 Oak Grove Blvd., Minneapolis 23, and is married to the former Luella E. Schultz, a graduate in home economics at the University of Minnesota, and an active member of the Women's Auxiliary of the Hennepin County Medical Society. Dr. Schultz is a charter member of the American Geriatric Society. His hobbies are hunting, fishing, and swimming.



Peter J. Schultz

L. J. Seibel is deceased.

Eva P. Shaperman is married to **Dr. Philip E. Gordon (Med. '32)** and they practice at the Gordon Clinic, which also houses their residence at 2215 Plymouth Ave. N., Minneapolis 11. She is a clinical instructor in pediatrics at the Medical School, and is the mother of Harriet Fremland, who will graduate from the Medical School in June, 1962, along with her husband, Alan D. Fremland. The Gordon Clinic has been the donor of scholarship funds to the Medical School for many years.

David V. Sharp is retired from practice, and now lives at 1532 W. McGraw St., Seattle, Wash.

Merrill Shaw is deceased.

S. W. Simonson is in general practice at the Gunderson Clinic, LaCrosse, Wis., and is "about ready to retire." He is married to the former Viola Ashley, and enjoys hunting, fishing, and golf.

Harold M. Skaug is the lone physician in Chatfield, Minn., where he has a general practice of medicine. His wife is the former Anyanetta Wells, and they have a daughter, Barbara Ann, who is married to Dr. Ames Filippone, a surgeon, in New York City.

Sibyl H. Smeby is deceased.

Nels N. Sonnesyn is engaged in a "very busy and rewarding general practice" in LeSueur, Minn. He and his wife, Florence, have raised a son, David, and a daughter, Mary, who is a nurse. Both are married, and there are three small grandchildren.

E. D. Sorteberg is deceased.

Ernest R. Sterner is a full time radiologist at Bethesda Hospital, St. Paul, Minn., and lives at 1809 Asbury Ave. He and his wife, Virginia, have a daughter, Lois, 24.

Harold W. Thatcher is a dermatologist practicing in Chicago, Ill., and is an instructor at Loyola University College of Medicine. His son, Harold, Jr., 15, attends St. Thomas Academy in St. Paul, Minn. Dr. Thatcher spent 4½ years in the Army during World War II, and received the Legion of Merit. He and seven other doctors are joint owners of a recently completed medical center. The Thatcher home is 4924 S. Ellis, Chicago. His wife's name is Faye.

Ellsworth Thayer is associated with two other physicians in the general practice of medicine in Fairmont, Minn. With his wife, Helen, he has two sons, (one a teacher-coach and the other a farmer) and a daughter. There are four grandchildren. Dr. Thayer is active in the American Academy of General Practice and is a director of Project NUHOPE. He is also president of the Interlaken Golf Club of Fairmont.

Floyd A. Thompson has been on the clinical teaching staff at Ancker Hospital, St. Paul, for 29 years. He practices general and industrial medicine, and cardiology, and lives at 2040 Grand Ave., St. Paul. Married to the former Ruemah H. Mitchell, he spent five years in military service during World War II, and is active in Christ Episcopal Church. His unusual hobby is collecting pocket watches.

James M. Thomson was certified in 1946 as a specialist in obstetrics and gynecology, and has "adhered to the specialty practice ever since." He's in Austin, Minn., where the family home is located at 1106 Second Drive S.W. His wife is the former Nora M. Flom. He took his specialty training at the University of Chicago Lying-In Hospital and Cook County Memorial Hospital, where his son, James M. Thomson, III, is now interning after receiving a medical degree from the University of Minnesota in June, 1961.

Lawrence E. Ulvestad is a surgeon. He lives at 6 Chaucer Rd., Short Hills, N. J., with his wife, Hannah. They have a daughter, Karen, 19, who attends Bryn Mawr College. Dr. Ulvestad has offices in East Orange, N. J., and is an associate professor at Seton Hall College of Medicine.

THE MEDICAL BULLETIN

Laurence A. Van Hale is a former chief of staff at St. Francis Hospital, Lynwood, Calif. He practices general surgery in Huntington Park, Calif., and lives at 1407 Cambridge Rd., San Marino, with his wife, Winnifred. His family includes Philip, 13; Pamela, 12; and Gregory, 10.

Walter B. Wells practices with a four-man medical group at the Jackson Medical Center, Jackson, Minn. He and his wife, Helen, have four daughters ranging in age from 15 to 25 years. Dr. Wells has been Second District Councilor for the Minnesota State Medical Association since 1956. His hobbies are golf and hunting.

The following graduates did not respond to the survey:

Waldo Paul Anderson
Alex G. Berger
Perfecto M. Biason
Leonard P. Burke
Edward M. Fitzgerald
Phillip E. Griffin
William H. Haines
Ellis H. Harris
Walter K. Haven
Walter B. Kaufman
Emmett L. Kehoe
Willard Peterson.
George E. Ribble
Edward W. Roberts
Walter G. L. Tanglin
Clarence E. Watz
Carl G. Wingquist

The editors express their thanks to all who contributed information and photos for this article. Next: the Class of 1921.

Medical School News

DR. WARD O. GRIFFEN, JR.

APPOINTED MARKLE SCHOLAR

Dr. Ward O. Griffen, Jr., resident in the Department of Surgery, University of Minnesota Medical School, was one of 25 young medical scientists who were recently named 1962 recipients of John and Mary R. Markle Scholarships. All are engaged in research and teaching at U.S. and Canadian medical schools.

Dr. Griffen's award consists of a \$30,000 grant to the University, which will be used at the rate of \$6,000 annually in support of his research and his faculty salary. The program, sponsored by the Markle Foundation, is intended to help relieve the faculty shortage in medical schools by providing young teachers and investigators with academic security and financial assistance early in their careers.



Ward O. Griffen

Dr. Griffen is a native of New Orleans, La. He is 33 years old, and holds an A.B. degree from Princeton University, as well as an M.D. (1953) from Cornell University Medical College. He interned at Bellevue Hospital, New York, and the University of Minnesota Hospitals, and served two years in the Navy before becoming a surgery resident at Minnesota in February, 1957.

His research has been predominantly in gastrointestinal problems, with emphasis on peptic ulcer, including the use of gastric hypothermia for massive gastrointestinal hemorrhage. He is currently working under the tutelage of Dr. Nathan Lifson, professor of physiology, on the estimation of intrahepatic blood flow.

Dr. Griffen is the 13th Minnesotan to receive the Markle Award. Others who were honored while at this institution were: Drs. Leonard Peltier, Gilbert Campbell, Lloyd MacLean, Mitchell Spellman, Richard Egdahl, George E. Moore, Russell Nelson, William Scherer, Robert Ulstrom, Robert A. Good, Richard C. Lillehei, and Paul G. Quie.

THE MEDICAL BULLETIN

APPOINTMENTS AND AWARDS

Dr. Lloyd D. MacLean, chief of surgery at Ancker Hospital, St. Paul and associate professor of surgery at the University of Minnesota Medical School, has received the appointment of professor of surgery at McGill University Faculty of Medicine, Montreal, Canada. Dr. MacLean's new post, which he assumed June 1, 1962, includes a dual appointment as surgeon-in-chief at Montreal's Royal Victoria Hospital.



Lloyd D. MacLean

The 38-year-old surgeon returned to his native Canada after 12 years at the University of Minnesota. During this period he served an internship at University Hospitals, trained as a resident in the Department of Surgery, receiving his Ph.D. in surgery in 1957, and became head of surgery that year at Ancker Hospital under the Medical School's teaching program.

He also met and married a Minnesotan, **Dr. Eleanor Colle (Med. '49)**, who is a practicing pediatrician and assistant professor at the Medical School. The MacLeans have four children. The family will join Dr. MacLean this summer in Montreal.

Dr. MacLean received his medical degree from the University of Alberta Faculty of Medicine in 1949 and is now a Fellow of the American College of Surgeons. His research at Minnesota has been chiefly concerned with organ blood flow and shock. Under his direction, the open cardiac surgery technique has been established and is now available to patients at Ancker Hospital.

Dr. William F. Scherer, professor of microbiology, has been named professor and chairman of the Department of Microbiology and Immunology at the Medical College of Cornell University. He will take his new post in July, 1962, after completing 12 years on the faculty of the University of Minnesota Medical School.

The 36-year-old medical educator received the 1959 Theobald Smith Award of the American Association for the Advancement of Science, for "demonstrated research in the field of medical sciences, taking into consideration independence of thought and originality. He is noted for his accomplishments in the study of the relationships of viruses and cells, and in the investigation of the epidemiological sequence of Japanese encephalitis.

Dr. Robert A. Good, professor of pediatrics, was recently awarded the American Society for Experimental Pathology prize of \$1,000.00 for his research in immunology and other basic mechanisms underlying disease. Parke, Davis and Co. provides the citation and award annually to a researcher under 40 years of age.



Robert A. Good

Dr. Good, a native of Crosby, Minn. who received his medical and doctor of philosophy degrees from the University of Minnesota, was cited for contributions to the understanding of childhood diseases, organ transplants, kidney function and disease, and skin diseases, as well as rheumatic fever and congenital agammaglobulinemia.

His observations of body reactions to organ transplants are considered fundamental to future advancement of knowledge in this area.

Dr. Lee W. Wattenberg, associate professor of pathology, was among six University of Minnesota faculty members who won 1962 Guggenheim Fellowship awards. He was cited for studies in the biochemistry of ribonuclease.

Guggenheim Fellowships are granted "to persons of the highest capacity for scholarly and scientific research, as demonstrated by their previous contributions to knowledge," and are "awarded to assist the Fellows to further accomplishments in their fields through carrying on studies which they themselves have proposed."

The John Simon Guggenheim Foundation, New York City, named 270 scholars, scientists and artists for 1962 awards totaling \$1,410,000.



Lee Wattenberg

Dr. John L. McKelvey, professor and head of the Department of Obstetrics and Gynecology, is among 25 University of Minnesota faculty members who will be living abroad during the 1962-63 academic year on various educational assignments. Dr. McKelvey will be located at the University of Malaya Medical School, Singapore, where he will help establish a department of obstetrics and gynecology.

Dr. Paul G. Quie, Markle Scholar and assistant professor of pediatrics, will begin a two year appointment as Guest Investigator at the Rockefeller Institute, New York City, on July 1, 1962. He will investigate "Host Factors in Response to Bacterial Disease" in association with Dr. James C. Hirsch of that institution. Dr. Quie's family will reside with him in New York City during the next two years.



Paul G. Quie

SCHOOL OF NURSING REVISES TRAINING PROGRAM

The School of Nursing of the University of Minnesota this Fall will institute a significant revision of its training program leading to the degree of bachelor of science in nursing.

Edna L. Fritz, professor and director of the School, announced that student nurses will henceforth earn all requirements for the B.S. degree in nursing in four years, eliminating nine extra months required under the present curriculum. And the blue-uniformed student nurses will no longer supply 30 hours of nursing service per week to the University of Minnesota Hospitals, in return for room, board, and laundry service, discontinuing an arrangement of many years duration.



Edna L. Fritz

Under the new curriculum, Miss Fritz said, the amount of clinical laboratory practice (working with patients) for nursing students "will be determined by the amount of time needed to apply the theory, principles, and skills taught in the classroom."

Student nurses will hereafter continue their liberal education throughout their entire undergraduate years, Miss Fritz pointed out, since the new curriculum will devote approximately 50 per cent of the credits to non-nursing or non-professionally related courses.

The first class of students under the new plan will be admitted in September, 1962, along with one final class to be admitted under the old program. Students in the latter category are already enrolled in college and taking prerequisite courses for that program.

Medical Foundation News

FIRST ENDOWMENT SCHOLARSHIP HONORS DR. CHARLES N. HENSEL

The Minnesota Medical Foundation has received a major endowment gift which will provide for a permanent annual scholarship award in memory of the late Dr. Charles N. Hensel, a graduate of the University of Minnesota Medical School.

The endowment gift, contributed by Dr. Hensel's family, establishes the "Charles Norton Hensel Memorial Scholarship" as a permanent part of the Foundation's scholarship aid program, and represents the first endowed scholarship in the history of the Foundation. It will be worth \$750.00 each year to a medical student who demonstrates unusual academic achievement and financial need.

Dr. Hensel died April 6, 1959 at the age of 77 years. He was a prominent physician in St. Paul for more than 50 years, and is remembered as an eloquent spokesman with great devotion to his fellow men and to his chosen professional fields. Dr. Hensel received his medical degree from the University of Minnesota in 1908, and rose to become one of the state's best known internists and cardiologists. He was a founder and past president of the Minnesota Society of Internal Medicine, the Minnesota Academy of Medicine, and the Minnesota Heart Association. A scholarship in his name was first awarded in 1961 through gifts to the Foundation.

Dr. Arnold Lazarow, president of the Foundation, praised the endowment gift of the Hensel family for its "great and lasting value to the Medical School, the University, and to medical education." Endowment funds represent the backbone of strength on which much of American higher education subsists, he declared, adding that the Minnesota Medical Foundation hopes to convert more of its present scholarship aid program to an endowed status.

The Foundation, he said, joins with the Hensel family in inviting friends, former colleagues and other acquaintances of Dr. Hensel to honor his memory by adding to the new endowment fund. Gifts may be sent to:

*Minnesota Medical Foundation—C. N. Hensel Fund
Box 193—University of Minnesota Hospitals
Minneapolis 14, Minnesota*



Charles N. Hensel

MEDICAL FOUNDATION ANNOUNCES FIRST STUDENT RESEARCH AWARDS



Four undergraduate medical students at the University of Minnesota have been named recipients of the first student research grants ever awarded by the Minnesota Medical Foundation. The funds were made available under a \$200,000 bequest for heart disease and cancer research given to the Foundation in 1961 from the estate of the late Arvid Olson, New Town, North Dakota.

Sharing in an initial allocation of \$3,750 issued for these purposes are:

- **Jackie M. Cooper**, sophomore, Detroit Lakes, Minn., who received \$1,200.00 to study "Retinal Vascular Changes in Diabetes Mellitus."
- **Clayton A. Johnson**, junior, Chisholm, Minn., who received \$450.00 for a study of the direct myocardial depression caused in dogs by inspired concentrations of certain anesthetics.
- **Richard C. Baker**, junior, Fergus Falls, Minn., who received \$1,200.00 for "An Investigation of the Cause of Acute Myocardial Infarction."
- **William M. Hagen**, sophomore, Hopkins, Minn., who was granted \$900.00 to measure the activities of serum enzymes after experimental pulmonary embolism and myocardial infarction in dogs.

The student researchers will conduct their studies during 1962 and 1963 under the guidance of experienced faculty members of the Medical School. Earlier in 1962, the Medical Foundation distributed \$4,000.00 in research grants from the same endowment fund to three members of the Medical School faculty for various research projects in the fields of heart disease and cancer.

The Medical Foundation now has a permanent medical research fund which is intended for the use of younger faculty members and medical students who have meritorious projects needing local financing. Applications are received and evaluated periodically by the Research Grants Committee of the Foundation, headed by Dr. Paul D. Boyer, professor of physiological chemistry.

Dr. Arnold Lazarow, professor and head of the Department of Anatomy, is president of the 2,000 member Medical Foundation.

G. E. FAHR SCHOLARSHIP ENDOWMENT FUND ESTABLISHED BY MEDICAL FOUNDATION

The George E. Fahr Scholarship Endowment Fund has been adopted as a permanent program of the Minnesota Medical Foundation. Proceeds of nearly \$1,000.00 have accrued from the recent celebration noting Dr. Fahr's 80th birthday, and this sum has provided the initial gift toward an endowment goal of \$15,000.00. Dr. Arthur C. Kerkhof is chairman of the project.

The purpose of the endowment will be to make an annual George E. Fahr Scholarship available to a worthy medical student at the University of Minnesota, and to perpetuate the honor of one of the University's famous medical educators. Gifts and pledges to the endowment fund are now being received from his former students, colleagues, and friends. The Minnesota Medical Foundation is trustee of the fund and is the principal source of scholarship monies available at the Medical School.



George E. Fahr

Dr. Fahr was a former professor of medicine, and served on the Medical School faculty for 40 years. He is especially remembered for his contributions to the field of electrocardiography. His portrait now hangs in the Medical School.

The 98-page George E. Fahr Festschrift, published January 28, 1962 on the occasion of his 80th Birthday observance, is available on order from the Minnesota Medical Foundation. It contains 21 scientific papers written by his former students, and a full color reproduction of his portrait. You can add this hard-cover volume to your personal medical library by sending \$5.00 for each postpaid copy you desire to:

Minnesota Medical Foundation
1342 Mayo Bldg., University of Minnesota
Minneapolis 14, Minnesota

Contributions or pledges of \$30.00 or more to the Endowment Fund will bring the donor a free copy of the Festschrift. Proceeds from sale of Festschrift also accrue to the Endowment Fund.

ALUMNI DEATHS

◆ 1893

Dr. Byron F. Van Valkenburg, retired physician at Long Prairie, Minn., died December 6, 1961. He was 97 years old. Death was caused by bronchopneumonia.

◆ 1905

Dr. Charles H. Weishaar, Aberdeen, S. D., died December 23, 1962 at the age of 81. Death was caused by cancer. He was affiliated with St. Luke's Hospital, Aberdeen.

◆ 1927

Dr. Abner Zehm, retired U. S. Army surgeon, died September 27, 1961 in San Francisco, Calif. He was 61 years old. Death was caused by cancer. Dr. Zehm retired from the Army on November 1, 1957 with the rank of colonel. His career spanned 30 years. His final duty assignment was commanding officer of the William Beaumont General Hospital, El Paso, Tex. He was born in Wheatland, N. D., and had lived in retirement in Carmel, Calif.

Memorial Gifts

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

Mr. Joseph Gordon
Minneapolis, Minn.

Mr. Ivan Wagner
International Falls, Minn.

Miss Ruth Ann Rice
Minneapolis, Minn.

Mr. Walter E. Von Korff
Davenport, Iowa

Mrs. Herbert H. Hodgson
Minneapolis, Minn.

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. Appropriate acknowledgements are promptly sent to both donor and family of the deceased.

Coming Events

University of Minnesota Medical School

List of Continuation Courses for Physicians

University of Minnesota
Center for Continuation Study

1962

- May 7-9 Ophthalmology for Specialists
May 12 Closed Chest Resuscitation for Physicians
May 14-18 Proctology for General Physicians
May 31-June 2 Psychiatry for Psychiatrists and General Physicians
Sept. 10-12 Coroners and Medical Examiners
Oct. 2-4 Pediatrics
Oct. 11-13 Dermatology
Oct. 29-Nov. 2 Radiology
Nov. 5-7 Physical Medicine
Nov. 14-16 Ophthalmology (Refraction)
Nov. 15-17 Orthopedics
Nov. 29-Dec. 1 Cardiovascular Diseases
All Year Cancer Detection for General Physicians

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 \$30 for a two-day course, \$50 for a three-day course, and \$75 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
DEPT. OF CONTINUATION MEDICAL EDUCATION
THE MEDICAL CENTER
UNIVERSITY OF MINNESOTA
MINNEAPOLIS 14, MINNESOTA

Memorial Gifts

Memorial gifts are popular means of paying thoughtful tribute to the memory of a relative, friend, or colleague.

Your Minnesota Medical Foundation welcomes memorial gifts, and makes immediate acknowledgment to the family of the deceased, and to the donor.

Contributions are used to help finance the programs of medical education and research conducted by the Minnesota Medical Foundation in behalf of the University of Minnesota Medical School.

Gifts may be sent to:

**Minnesota Medical Foundation
1342 Mayo Memorial Building
University of Minnesota
Minneapolis 14, Minnesota**



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