

The History of Nephrology by John J. Schubert, MD

CHRONOLOGICAL EVENTS LEADING TO THE SPECIALTY OF CLINICAL NEPHROLOGY

1913 -1915	Drs. Able, Roundtree, & Haas developed an early model of an artificial kidney (AK), but was never used clinically.
Early 40s	Dr. Wilhelm Koltt, in the Netherlands, Nils Allwell in Sweden, and Gordon Murray in Toronto, Canada, independently developed crude artificial kidneys, but none of them were clinically successful.
1946	Dr. Kolff came to Mt. Sinai Hospital in NYC with his rotating drum kidney in which a cellophane tube which contained blood, rotated around a large drum in a large bath of saline. Toxins in the blood passed through the semipermeable membrane from the blood into the saline.
1/26/48	The initial successful use of this device was in a person with mercury poisoning.
1948	Dr. Kolff took his AK to the Peter Bent Brigham Hospital in Boston where Dr. Carl Walter added a blood pump and the Kolff-Brigham AK was born. Dr. John Merrill was in attendance at its first successful use on 6-11-48.
1949	Drs. Skeggs and Leonard, at Case Western Hospital devised a different form of AK, in which they stacked several layers of cellophane envelopes separated by layers of screen through which blood and dialysate could be pumped. This form of kidney competed with the drum kidney for the next 10 years.
Early 50s	The Koltt-Brigham AK was successfully used by the US Army in Korea. Dr. George Shreiner, went to Korea to observe the use of the AK and recognized how this could be used in the treatment of acute drug intoxication and renal failure. He returned to Georgetown Medical School in Washington, DC, where he reported his successful use in a variety of drug intoxications. This helped popularize the use of the AK.

Early 50s con't.	Dr. Shreiner became a very influential ally with members of congress to eventually get medicare to cover hemodialysis in 1972.
1955	Dr. Jean Hamburger, Paris, developed an AK.
1955	Dr. Kolff, after visiting the Hospital of the University of PA, and seeing a more practical form for his large drum machine, went to Cleveland Clinic and devised the first disposable dialyzer and "Twin Coil" by wrapping 2 cellophane tubes around a much smaller drum and separating layers of this tubing by a fiberglass screen.
1955	A milestone meeting occurred in Atlantic City, NJ, when a group of physicians formed the American Society of Artificial Organs, (ASAIO), which then began to meet annually, and released transactions of all these meetings. This organization provided multiple groups involved with devising new equipment including the artificial kidney, heart and lung, to meet and discuss mutual problems and advancement.
1956	The Twin Coil Kidney, which included coil with attached lines was then produced commercially by the Travenol Company, and was sold for \$59. They also sold a large machine which incorporated blood and dialysate pumps, for \$1200.00.
1956 -59	In this period the Travenol company distributed 123 of these machines to hospitals around the country, but few were ever used because of a lack of physicians trained to use them. When these machines were being used, they were limited to acute situations because of lack of any permanent access to the arterial circulation.
1960	Dr. Belding Scribner of University of Washington, Seattle, devised vascular access connecting an artery to a vein by the Quinton- Scribner AV Shunt. Teflon tubes were placed in both the artery and a vein and then connected by a flexible plastic Tube which could be separated and attached to tubes from the artificial kidney without any further vessel punctures.

1960	Dr. Scribner began outpatient hemodialysis on patients with chronic renal failure. By 1964 he began to train people to perform dialysis at home.
1966	Dr. James Cimino developed a direct artery to vein fistula which permitted a direct flow from an artery to a vein. This gradually enlarged the vein and permitted repetitive insertion of needles in the venous limb of the fistula. This Cimino AV Fistula became the gold standard for vascular access.
1968	Travenol developed the "RSP" machine which made home dialysis more practical with all equipment in a single machine.
1968	Crozier- Chester Hospital, in Chester, PA, became the first community hospital in Eastern PA, to offer home dialysis training.
1970	The Gortex graft was introduced for use in patients with inadequate veins.
1970s	Multiple corporations entered the dialysis equipment business, including Travenol, Cobe, Gambro, et al. Dialysis machinery and dialysis cartridges rapidly evolved. A major development was the introduction of the Hollow Fiber Kidney. This configuration permitted the surface area of the membrane to be enlarged as needed in a device with a blood volume under 100cc, which significantly limited blood loss with each treatment.
In 1964	1,000 patients were on dialysis.
In 1967	5,000 patients were on dialysis.
In 1990	100,000 patients were on dialysis.

INTRODUCTION:

In 1968 a group of “Nephrologists” representing the 5 medical schools and several regional hospitals in Philadelphia, all of whom were interested in the treatment of renal failure, began to plan for the need of the Greater Delaware Valley for hemodialysis and renal transplantation.

Dr. Charles Swartz, Hahnemann Hospital, Chairman

Dr. Martin Goldberg, University of Pennsylvania, Chairman for Transplantation

Dr. Lawrence Wesson, Jefferson University, Chairman for Funding

Dr. Peter Hillyer, Temple University

Dr. Paul Kovnat, Women’s Medical

Four Members at Large:

Dr. James Clark, Crozier-Chester Hospital

Dr. Jerry Rosenbaum, Albert Einstein Hospital

Dr. Robert Flynn, Wilmington Medical Center

Dr. John Schubert, Philadelphia General Hospital, Chairman of the Facility for Hemodialysis

The original plan visualized one large center for training patients for home dialysis at the Philadelphia General Hospital for all patients from the Greater Delaware Valley. This plan quickly changed with the advent of several hemodialysis units in Seattle, Boston, and Chicago, focusing on hemodialysis for a rapidly growing population of uremic patients. In December 1969, this committee became the Greater Delaware Valley Kidney Advisory Committee. It was agreed that home dialysis was the most cost effective method to treat patients, and they in turn would best be served by scattered regional centers serving patients within a maximum driving time of 1 hour to each center. An Administrative Center for education and training of personnel for new units, recording keeping, and tissue typing would best be centered at the Philadelphia General Hospital. That hospital would be responsible for its creation. (The city budget rejected any such expense.)

It was agreed that funding for dialysis would require state and/or federal funding. In 1969, New Jersey agreed to provide \$250,000 for hemodialysis for patient care and Pennsylvania 1 million dollars. A Central Tissue Typing lab was not approved.

Above efforts led to activation of the National Kidney Foundation with the expectation that they would provide some financial support.

The planning committee agreed it was impossible to determine the number of patients requiring hemodialysis in the future, but used the Dr. Gottschalk formula in 1967 of 60 patients per million people, ages 15 to 54. This was reduced to 30 patients per million people ages 15 to 54, who are without any other systemic conditions: for example, malignancy, diabetes, SLE, and CHF, and who were psychologically capable of conforming to a long term treatment and strict diet (these guidelines became the bases of acceptance of new patients for chronic hemodialysis, especially for home training candidates). The population of Greater Delaware Valley, (Eastern PA, South Jersey, and all of Delaware) in 1969 was 8.4 million people. The estimate with the above restrictive acceptance rate was 30 times 8.4 equaling 252 new patients a year.

In 1969, there were 24 hemodialysis beds in the greater Philadelphia area and 32 total beds in the entire Greater Delaware Valley. An additional 13 beds were planned for 1970, making up a total of 45 beds available.

- If 2 out of 3 patients could be successfully trained to go home in approximately 10 weeks, 25 beds could handle 250 home training patients per year and 10 beds could handle 20 maintenance patients per year. This suggests that 35 beds could handle the existing population of patients in the Greater Delaware Valley.

NB: Dauphin, York and Lancaster County are not part of the above planning for the Delaware Valley. They are part of the Susquehanna Valley. Obviously, Lancaster County, for a population of 300,000 in 1969, would require a minimum of nine beds. In fact, there were 6 patients on hemodialysis from Lancaster prior to 1972.

In 1970, I developed a 6 bed dialysis unit at PGH. It was understood that with its indigent population, very few patients would be eligible or capable of providing a setting for home dialysis and the majority of them would be on maintenance hemodialysis. With the arrival

of Medicare in 1972, PGH had a progressive decrease in census as many elderly indigent patients were now sought as admissions by the private hospitals.

I began to explore areas of the state in need of a Nephrologist. The Reading area had been identified as such an area. I therefore investigated a position at the West Reading Hospital. The medical director welcomed me, but thought it unlikely that the hospital had any interest in a hemodialysis unit since “their patients could be dialyzed at the Chester–Crozier Hospital which was only a 75 minute drive from Reading.” I was certainly dismayed by his attitude and looked elsewhere. Lancaster General was a growing hospital over one hour from Philadelphia and worthy of exploration. I was interviewed by the Administrator Paul Wedel; Dr. John Esbenshade, Director of Medical Education; and Dr. Ward O’Donnell, President of the Medical Staff. Since I had functioned the previous 7 years as a salaried employee of 2 hospitals, I was very comfortable in such a position and desired a salaried position. Paul was most accommodating, offering a full time salary with 2 functions – one half time to establish a Nephrology Practice and develop a Dialysis Unit; and the other half to be assistant to the Director of Family Practice Residency Program under Dr. Nikitas Zervanos, teaching family practice residents on medical rounds and conferences. I accepted his offer on August 1, 1972. I had no knowledge that there already was a small 2 bed unit at the Lancaster Osteopathic Hospital under Dr. David Silverstein, or that a couple patients were already on hemodialysis in other areas. Within 6 months, 5 of those 6 patients transferred to my practice.

From 1972 to 1977, I was in solo practice of Nephrology. I cross covered on nights and weekends with Dr. William Porter, a pulmonologist. In 1978, I partnered with Dr. Laurence Carroll in Nephrology. In 1980, Dr. Carroll went into private practice. I joined his practice in 1982 and remained as Director of the Dialysis unit. I resigned as Director in 1993 and retired in 1995.

BIOGRAPHY of John Schubert, MD:

In 1959, when I graduated from Jefferson Medical College in Philadelphia, the medical specialty of Nephrology simply did not exist. In fact there was no Renal Section at Jefferson, until Dr. Lawrence Wesson, arrived in 1962. As medical students in the late 50's, most references to kidney care came from Urologists, who provided surgical treatment of kidney and bladder stones, tumors, and obstruction. Pediatricians treated children with renal disease that had acute glomerulonephritis – then called “Bright’s Disease” – and nephritic syndrome. Acute renal failure was treated with fluid and protein restriction and frequently responded in time. Chronic renal failure was a “death sentence”. We knew a primitive form of kidney machine was in development, but not successful clinically. Kidney transplants were attempted in Boston in the mid 50's but were not successful.

In 1955 a group of 10 physicians, including Willem Kolff, Columbia Hospital, NY; John Merrill, Boston; William Blumel, Hospital of the University of PA.; and John Gibbon, Jefferson; formed the American Society of Artificial Internal Organs (ASAIO), to share their successes and failures in developing an artificial kidney machine. I believe this was a critical step in the development of the artificial kidney. The ASAIO has met annually since then and published their findings in the “Transactions of the ASAIO”.

In summary, The 50s - the conception of the artificial kidney

 The 60s - the birth of the artificial kidney

 The 70s – the early development and arrival in Lancaster

After graduation, I had a year of rotating internship and a year of medical residency at Hartford Hospital. I was deferred from the draft for these 2 years of training by the Berry Plan, which gave me a choice of which years of training I wished to defer. I elected to enter the USAF after these 2 years. On leaving the service in 1963, I returned to Philadelphia as a second year medical resident at Misericordia Hospital where I was fortunate to have a weekly electrolyte conference from Dr. Martin Goldberg. I was given the opportunity to take the first 6 months of my 3rd year in the renal section of Hospital of U of PA. After completing my residency, I spent 2

years as assistant to the medical director of the residency program at Misericordia Hospital where I was able to focus my attention on kidney problems.

I then transferred to Philadelphia General Hospital where Dr. Truman Schnabel offered me the position of “the kidney man”, of the University of PA division. There I became involved with new diuretics and kidney failure and cirrhotics. In 1970, I established a small 5 bed unit for dialysis and became involved with the Greater Delaware Valley Kidney Advisory Council.

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Jefferson Medical College
1025 Walnut St. Phila. Pa.
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U of P Medical School
34 & Spruce St. Phila Pa.
382-4600

Phila Gen Hospital
34 & Civic Center Blvd. Phila Pa.
222 – 1836

Dr. George Clammer

September 19, 1969

Executive Director

G.D.V.R.M.P.

300 East Lancaster Ave.

Wynnewood PA 19096

Dear Dr. Clammer,

The following letter of intent is hereby submitted prior to a grant proposal for the operation of a Greater Delaware Valley Regional Dialysis Training Program.

Title of Project:

Greater Delaware Valley Regional Dialysis Training Program

Description and Purpose:

The Scientific Advisory Council of the Greater Delaware Valley Regional Kidney Program has recommended that a unit be established for the training of paramedical personnel, registered nurses, licensed practical nurses, and dialysis technicians to provide a continuing source of expert personnel to staff community dialysis centers within the region. The council has also

recommended that such a training unit be established at the Philadelphia General Hospital as a cooperative venture among the three participating medical schools, namely Hahnemann Med. Col., Jefferson Med. Col., and the U of P Medical School. This program is primarily designed to provide education and training for paramedical dialysis personnel, but has a secondary aim of research and delivery of dialyses services and demonstration of the feasibility of newer methods of dialysis teaching. An operational grant for such a unit will be submitted.

Goals:

Immediate: to establish an eight week training program for ten paramedical dialysis personnel quarterly, so that a total of forty persons will be trained each year: thirty nurses and ten technicians. It is estimated that this approximates the number of personnel needed to initiate new units and to maintain existing units with trained replacements.

Intermediate Goals: To educate practicing physicians in the current status of dialysis and medical management of uremic patients by means of seminars and intensive short term courses given twice annually.

Long Term Goals: To improve teaching techniques in the area of dialysis training and to contribute to the improvement of actual dialysis methodology and patient care.

Potential Resources Available:

Staff – This project has the advantage that it can call upon the teaching staff of no less than three medical schools each with an active ongoing dialysis program with a total of ten full time Nephrologists on their combined staffs. Hahnemann, Jefferson, and University of PA. , conduct NIH supported training programs for post-doctoral fellows and have had in depth experience in the training of physician and paramedical personnel in the techniques of hemodialysis.

Space – Will be provided by the Philadelphia General Hospital and will include actual patient care areas for dialysis, a laboratory and conference room.

Equipment – Implicit in this request is that the Philadelphia General Hospital will support a fully equipped three bed dialysis unit for the direct delivery of patient care.

Other Facilities – In support of the core unit of PGH, our dialysis units at cooperating medical schools.

Other Financial Support – Direct patient hospitalization costs will be provided by the Philadelphia General Hospital.

Administration – John J Schubert, MD a Nephrologist at the Philadelphia General Hospital is recommended for the position of project director.

This project is sponsored by the Greater Delaware Valley Regional Kidney Program and has the cooperative support of the sections of Nephrology of the three cooperating medical schools.

Charles Swartz, MD – Head of the Section of Nephrology

Hahnemann Medical College and Hospital

Lawrence Wesson, MD – Head of the Section of Nephrology

Jefferson Medical College and Hospital

Martin Goldberg, MD - Head of the Section of Nephrology

University of PA Medical School and Hospital

Respectfully Submitted,

John J. Schubert, MD

Department of Medicine

University of PA Division

Philadelphia General Hospital

THE ARRIVAL OF NEPHROLOGY IN LANCASTER:

When Dr. Nikitas Zervanos , the President of the Edward Hand Medical Heritage Foundation of Lancaster, asked me to write a short book on the arrival of Nephrology in Lancaster, I thought this would be easy . I, as the first Nephrologist to practice in Lancaster, arrived at Lancaster General Hospital on August 1, 1972. However as I began to write I realized that “Nephrology” had begun to affect Lancastrians at least 9 years prior to my arrival.

Perhaps it is best I define Nephrology which strictly is the study of the kidney, its anatomy, physiology and pathophysiology. As such many have studied the kidneys for years. However, few have applied that knowledge to affect the lives of those whose kidney function is declining or failed. Hence the Nephrologist - a physician whose focus is the care of individuals with kidney problems – is a specialty of more recent origin. To be recognized as a specialist, individual physicians must undergo training in a specialty and then pass a Board examination in that specialty. The first Board exam in Nephrology was offered by the Board of Internal Medicine in 1972. However, physicians who were eligible to take the Board exam were already practicing Nephrology in major nearby health centers.

Persons with recognized kidney failure began to find Nephrologists and returned to Lancaster under their treatment protocols. As a result, some Lancastrians benefited by Nephrologists in nearby centers as early as 1968. Their experience and problems paved the way for my arrival as the first Nephrologist in 1972.

PATIENTS:

Mrs. Joanne M, RN, was a diabetic since age 12. At Age 30 in March of 1968, she presented herself to her family physician, Dr. Robert Kemp, with gross edema of her legs. He admitted her to Saint Joseph’s Hospital, Lancaster, with a diagnosis of renal failure. Dr. Fred Young, a local internist, instituted acute peritoneal dialysis. Her diabetologist, in Reading, PA, suggested she be transferred to Hahnemann Hospital in Philadelphia for hemodialysis, where Dr. Charles Swartz,

a Nephrologist, continued peritoneal dialysis and presented her to a multi-disciplinary committee to decide if she was a candidate for chronic hemodialysis. At the time diabetics were routinely rejected for hemodialysis. This was an exception for her because she was a nurse who had graduated from their nursing program, and her husband had agreed to train to perform home hemodialysis. An external arterio-venous shunt was placed in her forearm to facilitate connection to the dialysis machine.

In 2 weeks, she was stable enough to go home and to return three times a week for a six hour dialysis treatment. After six weeks of training, they were able to perform hemodialysis at home in June 1968. Fortunately, her husband had excellent health insurance through RCA which paid \$3000 for a Travenol RSP dialysis machine which just came to market that year. This new machine incorporated the components of several machines, which simplified the dialysis process at home. Blood and dialysate pumps, temperature control and pressure monitors were readily accessible and organized for safety and convenience. His insurance also covered the dialysis supplies at \$500 per month. He was able to return to work full time and his wife part time, since they could now do dialysis at home in the evening for five to six hours, three times a week. Chronic loss of blood at the end of each treatment aggravated the anemia of chronic renal failure and required transfusions at least once a month. These were administered during her treatment. In January, 1969, nine months after her diagnosis, she died during a complication of her diabetes, strongly suggestive of diabetic coma.

After her death, her husband was approached by a doctor at Lancaster Osteopathic Hospital (LOH) and questioned if he might consider donating the machine and supplies to the hospital. He agreed under certain conditions: they must send a doctor and nurses to the Hahnemann Hospital to learn how to use the machine so that they can safely provide treatment to another patient with renal failure. Dr. David Silverstein, DO, a family physician, and three nurses volunteered and went to Hahnemann one day a week for six weeks until they were comfortable using this machine. The transfer of the kidney machine and supplies were completed in June 1969. Fortunately they were prepared when a new patient, HM, arrived in renal failure in January 1970.

Harry M was a forty three year old bakery salesman in Millersville, PA. In Oct. 1969, he developed acute renal failure after a strep throat. He was seen by Dr. Richard Weber in the LGH

ER and transferred to the University of PA on 11/23/69, where he was placed on peritoneal dialysis in the ICU until 1/20/70. He was then considered to be in chronic renal failure with no chance of recovery and was transferred back to Lancaster where Dr. David Silverstein, at LOH, continued peritoneal dialysis. He was then sent to Hahnemann Hospital for an A-V shunt so that he could be dialyzed on a machine that was recently donated to the hospital. LOH sent Joanne Miller, RN, to Hahnemann to learn how to perform dialysis. She, in turn trained HM's sister, Joanna Bailes, RN, to perform home hemodialysis.

Mrs. Bailes was working 48 hours a week at the state teacher's college in Millersville, PA, (which became Millersville University). She then dialyzed HM two to three times a week at her own home for about a year-- (March 70 to February 71).

"The Harry Fund" was established to help cover the cost of dialysis. All local organizations, Kiwanas, JC, etc, helped buy Harry a Travenol Dialysis Machine for about \$3500, as well as disposable supplies for about \$50 a treatment.

The community formed the Lancaster County Kidney Foundation in Millersville under William Morgan, President and William Hellman, Vice president. They quickly recognized that others would follow and need dialysis. They could maximize the use of the dialysis machine by placing it in a center where several persons with renal failure could benefit. On 2/13/71, the machine was placed in the basement of the Millersville firehouse where Harry continued his treatment until his sudden death at home in Oct. This occurred 71 hours before his scheduled treatment. By 1972 the community unit had increased to three dialysis machines.

In 1960, at age 7, **Howard B** was diagnosed as having congenital cystinosis, by Ophthalmologist, Dr. Paul Ripple, who found cystine crystals in his cornea. Strangely, he never lost his vision during his lifetime. Three years later, his Pediatrician, Dr. Joseph Besecker, noted that he developed proteinuria and referred him to Johns Hopkins Hospital, who then referred him to the NIH, where he was hospitalized and treated for 3 months. This consisted of Penicillamine for his cystinosis. In 1967, at age 14, he was readmitted to Johns Hopkins with nausea and lassitude, and found to be in renal failure with a creatinine of 13 milligrams percent, BUN of 134, and hemoglobin of 6.2 Grams. He was small for his age, weighing 68 pounds and 58 inches tall, (He remained this height the rest of his life). After 2 units of packed cells, his hemoglobin

rose to 11 grams. On a 30 gram protein diet for one week, his BUN fell to 110 and he felt better. It was decided that dialysis was not necessary as long as his protein intake was controlled.

Within one month he was referred to a Dr. David Levin, at Polyclinic Hospital in Harrisburg, who began him on hemodialysis in Oct. 1968. His mother transported him back and forth to Harrisburg for his 6 hour dialysis twice a week. Dr. Levin referred him to Medical College of Virginia in Richmond for a potential kidney transplant. In Nov. 1969, he had a transplant by Dr. David Hume and Dr. H M Lee, and did well. He was discharged on Prednisone, Imuran, Isoniazid and diuretics. In 1974 his creatinine was 1.4 milligrams percent. He then developed lytic lesions secondary to hyperparathyroidism which led to a parathyroidectomy. He was followed annually at Johns Hopkins and by 1980, his creatinine was up to 3.1mg%, and in 1982 his creatinine was 4.1. He developed a brain tumor – an eosinophilic granuloma - from which he died on 6/3/82.

NB: Howard was discharged 1967 from Johns Hopkins with a creatinine of 13 mg% and a creatinine clearance of 6 ml per minute. This was surprising.

Jeffery B, like his brother, Howard, developed chronic renal failure secondary to cystinosis at age 14. He arrived at the LGH ER on 10/7/72 with severe hypertension (200/150) and a creatinine of 13.4 mg %, HCT of 14.6 % and uremic encephalopathy with severe headache, lethargy and vomiting. He was treated with phlebotomy and transfusions of packed cells until his HCT reached 21 %, and he was transferred to Dr. Levin in Harrisburg for hemodialysis. He was then transferred to the Medical College of VA for a cadaver transplant on 1/6/73, followed by a bilateral nephrectomy on 11/21/73. Renal failure recurred secondary to renal artery stenosis with subsequent nephrectomy of the transplanted kidney. The patient was placed back on hemodialysis. On 12/77, a repeat successful transplant was performed. On 10/79 he suffered trauma to his right knee with a subsequent staph infection which responded to Nafcillin. In 1998, he ruptured his spleen in an auto accident. His kidney failed in 2002 and he returned to chronic hemodialysis for 2 years at LGH. Two years later, in 2004, he had another transplant by Dr. Yang at the Hershey Medical Center.

NB: The second transplant lasted 25 years from 1977 to 2002. The third transplant has lasted 10 years and Jeffrey is still going strong 41 years after his first transplant.

Eric R, a 29 year old truck dispatcher, was admitted on 5/19/67, to Dr. Smith with consults to Drs. Richard Mann and Henry Huffnagle. With hematuria and 4+ albuminuria, a diagnosis of acute glomerulonephritis was made. He was treated with Penicillin for 10 days with 2 months of rest. He was readmitted in August of 1972 with a creatinine of 15mg% and a hemoglobin of 4.4mg%. Severe hypertension was controlled with Propanolol 40mg qid, Aldomet 500 mg qid, Hydralazine 75 mg qid, and Lasix 80 mg od. Acute peritoneal dialysis lowered his creatinine to 8 mg% and he was transferred to University of PA Hospital for a bilateral nephrectomy and a cadaver transplant. In 1979, he had a pericardial window placed and was treated for recurrent pneumonia and a perforated diverticulum. In 1981, he went on chronic hemodialysis 3 times a week and required a transfusion every 3 months to maintain a Hct over 20%.

On January 29, 1983, he developed chest pain and pericarditis. On 2/7/83, 750 cc's of blood was aspirated from his pericardial sac. On 8/85 he developed atrial flutter with secondary heart block and was successfully cardioverted. In May 1987, a liver biopsy documented hemosiderosis. This was complicated by the development of an AV fistula at the site of the biopsy. This was treated with partial embolectomy of a branch of the hepatic artery. He was discharged in 8/87. He died later that year.

Harry N, a farmer, was diagnosed with chronic glomerulonephritis in Feb. 1970 at age 38, with 4 + protein, a BUN of 154 mg%, creatinine 10.4 mg%, calcium 8.3 mg%, and phosphorus 6.3 mg%. He was treated with diet and started on hemodialysis at the Poly Clinic Hospital in Harrisburg in January 1971 by Dr. Levine. He was placed on home hemodialysis in July 1971. Transfer was made to the LGH program in October 1976, when he was found to have osteodystrophy and hyperparathyroidism. This was treated with vitamin D and increased calcium in the dialysate and aluminum hydroxate orally. He also suffered a fractured left hip which was treated with a Richardson nail. In January 1979, a Girdlestone removal of the head of the left femur was performed. In Nov. 1980, his PTH level was 58.5 and in 11/81 it was down to 20. His bones improved on x-ray. He lost 6 inches of height due to demineralization of spine and loss of his hip joint. He was treated with dialume 3 tablets after each meal, and calciferal 50,000units 3

times a week to control hyperparathyroidism. In 1983 he had a cataract removed from the left eye. On Nov. 11, 1996, he was switched to CAPD and returned home for maintenance peritoneal dialysis. On 7/9/98 he went back on maintenance hemodialysis and died later that year.

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Dialysis is his way of life

After 20 years
of treatment,
patient honored

Jeff Hawkes
Intelligencer Journal Staff

For most of us personal maintenance consists of flossing and brushing, a daily shower and an occasional haircut.

But for Harry H. Noll of Manheim, it also requires being connected 12 hours a week to a machine that cleanses his blood.

Because of chronic kidney failure, the retired farmer must regularly undergo hemodialysis, which filters unwanted substances from the blood with a machine that acts as an artificial kidney.

It's a three-times-a-week ritual Noll has endured for 20 years.

The Lancaster Area Kidney Association recently recognized Noll's persistence by presenting him with a plaque.

"The plaque doesn't belong to Harry," the 58-year-old grandfather six times over said in an interview. "It belongs to my God, my family, the doctors and nurses. Those are the people who have put up with me."

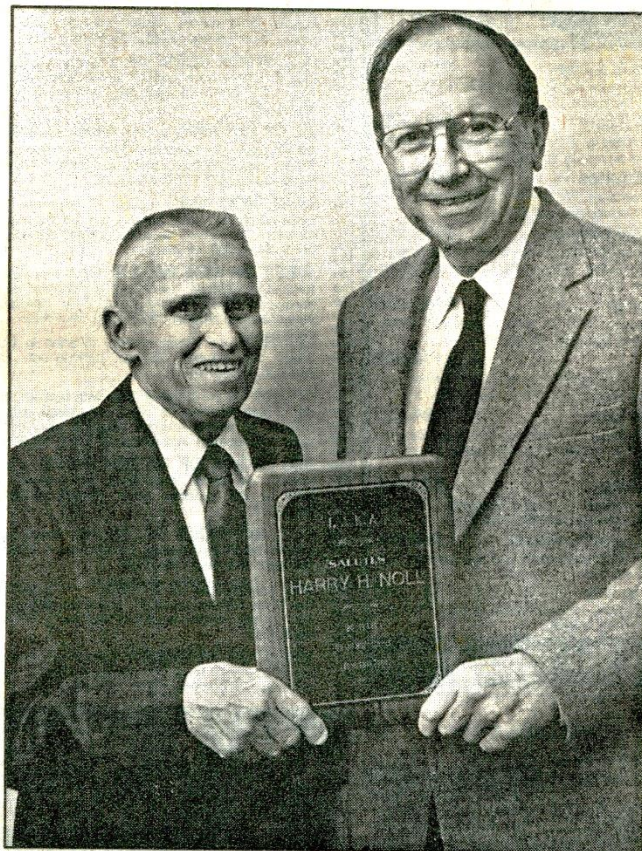
Dr. John J. Schubert, Noll's physician, said Noll is probably the only person in Lancaster County to have been on dialysis 20 years.

"When he started in 1971, (dialysis) was not that common," the kidney specialist said. "There were about 3,000 dialysis patients in the whole country back then. Now there are over 100,000."

Noll ticks off the date he began dialysis — Jan. 11, 1971 — like it was his birthday or wedding anniversary.

While a chore, the start of dialysis ended a year of bed rest that was prescribed in hopes his kidneys would heal.

They didn't, and he began dialysis at home. It was a family affair. His eldest son, Harry E.,



Intelligencer Journal photo by Dan Marschka

Harry H. Noll, left, receives a plaque from Dr. John J. Schubert recognizing Noll's 20th year on kidney dialysis.

who was then 14, pushed the needles into his blood vessels twice a week, and his wife, Alvera, ran the machine and cleaned the tubing.

The treatment was a financial hardship, but that was eased after July 1973 when the federal government began paying for 80 percent of dialysis costs.

In the winter of 1977-78, Noll started going to Lancaster General Hospital three evenings a week for dialysis.

For various reasons he felt he had to turn down the option of a kidney transplant.

"I have enjoyed my life," the father of three said. He keeps active, getting regular exercise, tinkering with antique tractors and playing with his grandchildren.

"He's a survivor," Dr. Schubert observed. "He's very encouraging to other patients. He's always had a positive attitude. He couldn't have survived without that."

Mary R. was diagnosed with polycystic kidney disease in 1965 at age 45. She began on home hemodialysis, at age 50, at Chester Crozier Hospital. In Nov, 1973 she had a bilateral nephrectomy and an unsuccessful transplant at Johns Hopkins. In 1974 she had a successful transplant. In 1978 her creatinine was 1.2 mg%, and calcium 11.7 mg%. On June 23, 1978, she was admitted with abdominal and leg pain and an ileofemoral vein thrombosis. Ca was 12.8 mg%. With increased sodium intake her calcium fell to 11.1 and creatinine stayed 1.2. She was temporarily placed on heparin and maintenance Coumadin.

Anne M. in June 1972, at age 22, graduated from college and developed a sore throat and a rash and was treated with Declomycin, a form of tetracycline. She then developed progressive fatigue, anorexia and weight loss. When first seen in Oct. of 1972, her creatinine was 18 mg%, her BUN 115 mg%, and her Ca, bicarbonate and phosphorus were down. Her blood pressure was 190/90. Acute peritoneal dialysis was performed and on 1/16/73. She was transferred to HUP for a related donor transplant. In 1977, secondary to her steroid treatment and weight gain, she developed diabetes and required low dose insulin. In 4/19/79 her creatinine was 6 mg% and a Gortex A-V fistula was placed in her left upper arm. This clotted and was replaced. Her creatinine clearance on 5/30/80 was 15ml per minute. In Feb 1981, she was placed on CAPD. In 4/82, her catheter migrated out of the abdominal cavity and had to be replaced. She then developed recurrent peritonitis and bleeding from the spleen which required splenectomy on 9/19/82. She then was switched to hemodialysis via a temporary subclavian catheter and then was transferred to Hershey Medical Hospital in Jan. 1985. In April 1987, she had an abdominal ulcer drained and was then placed back on CAPD on 10/14/88.

Anthony K. a 41 year white male, with a history of proteinuria for a year, was admitted to LGH on 12/27/72. He had a history of a duodenal ulcer 5 years prior to admission which was still active on x-ray. He had a small, 7cm right kidney on IVP. The left kidney was not seen. His urine showed granular and waxy casts, but no RBC's. He had 3.9 gm of proteinuria. He received hemodialysis from 2/4 1973 until he was transferred to HUP where a cadaver kidney was transplanted on 2/4/1975. This transplant survived until 7/23/1985. On 5/84, he developed headache, esophagitis and pancytopenia. His creatinine was 4/7 mg%, his spinal fluid showed

protein and many white cells and culture revealed cryptococcal meningitis. His Imuran was discontinued and he was placed on Amphotericin.

He did well for a year. In July 1, 1985, he came in with papilledema, severe hypertension and spinal fluid showing recurrent cryptococcal meningitis. He died on 7/23/1985. Fungal meningitis is not an uncommon complication of a transplant patient on immunosuppressions.

Jean L had a history of proteinuria her whole life. This may have been inherited from her mother who died at age 51. In Dec. 1972, at age 47, she developed progressive edema and severe hypertension. Her creatinine was 6.6 mg% with a creatinine clearance of 7.5 ml/min. In Feb. 1973, she had an A-V fistula created. She had congestive heart failure and a pleural effusion and was treated with a thoracentesis and Lasix. She was treated with hemodialysis every 2 days for 2 weeks to overcome the heart failure. In Dec. 1977, she had a pericardial rub and pericardial fluid was present. She was treated with Indocin for her pericarditis and had a pericardiocentesis. The catheter was left in the sac to drain fluid and to install steroids. Regional heparization was performed during dialysis to limit the extravasation of the blood into the pericardium. In Jan. 1981, she found to have a very high parathormone level and a parathyroidectomy of 3.5 glands was performed. Her calcium dropped from 11 to 7.5 mg% five days after surgery. On 7/1/1982, she was on Prednisone for recurrent pleuritic and pericardial pain. In Dec. 1982, she had an acute abdomen and peritoneal hemorrhage from the left kidney which was removed. In 11/1984 she had leg pain with weakness. Biopsy revealed myopathy and questioned vasculitis. In March 1986, she had trouble swallowing with spontaneous dislocation of her cervical spine. This was reduced with traction and a cervical collar. Respiratory arrest occurred when the patient removed her collar to scratch her neck.

Lee S, in January, 1968, at age 10, presented with anemia, fatigue with BUN in the 70's. In June 1968 at Children's Hospital in Philadelphia his creatinine clearance was 8.5 ml per minute and the renal biopsy showed chronic glomerulonephritis. In 1970, he presented with renal rickets and was treated with calcium and Vitamin D. He had pain in his legs and marked genu valgum and marked quadriceps weakness and ricketic rosary on his ribs. The creatinine was 6.3 and creatinine clearance was 7.2 ml per minute. In Dec. 1973, he was sent to the Hospital of the University of Pennsylvania for evaluation of renal transplant from his mother. In July 1974, he had bilateral femoral osteotomies to control severe genu valgum. His creatinine was 13.2 mg.

On 9/20 he was begun on hemodialysis. On 8/4/1975, at age 18, he had a related donor kidney transplant at the Hospital of the University of Pennsylvania. He died in septic shock 7 years later in March 1982.

Herta E, at age 60 in 1972, had her first hemodialysis at Lancaster Osteopathic Hospital on 7/11/72. On 1/4/73, she was transferred to LGH and on 3/12/73 she began home hemodialysis. Her dialysis was performed by Phyllis Eshelman, RN. On 5/1/79 she was transferred to maintenance hemodialysis at LGH and she died 2.5 years later at age 69.

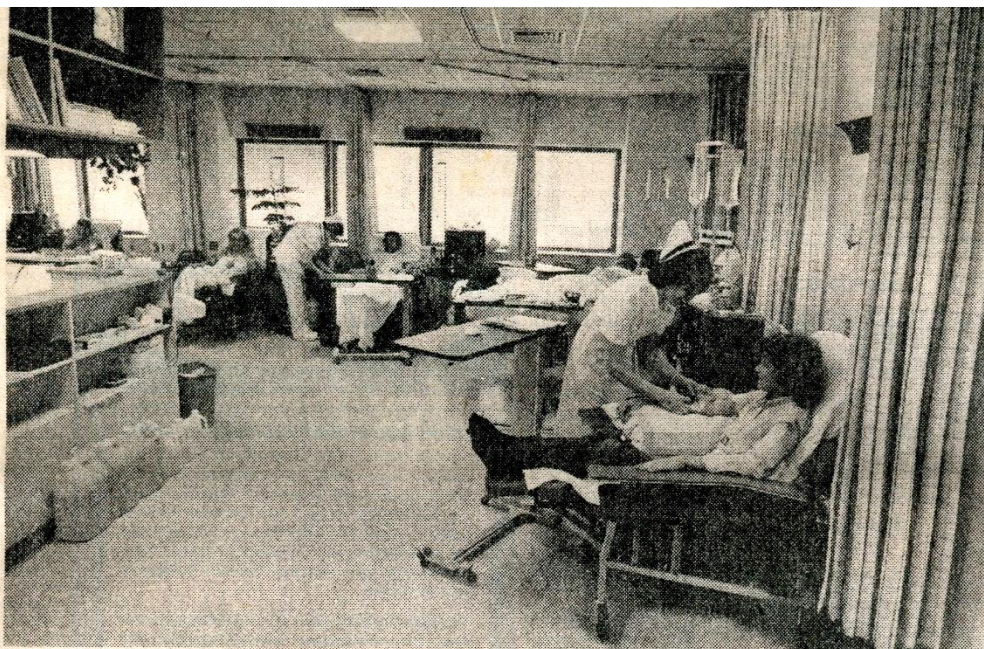
Mrs. Joanne L developed acute post streptococcal GN at age 19 in 1944. She recovered from that illness and was married at age 22. She had 2 children at age 26 and 28 without any problems. At age 30 she developed severe hypertension during her pregnancy and it had to be terminated. The hypertension persisted. She received a degree in elementary education and taught at the Landisville Elementary School. Renal failure developed in 1970. Her brother in law, Dr. Fred Young, referred her to Johns Hopkins.

There she had a bilateral nephrectomy. An AV shunt was placed in her arm for dialysis at the Good Samaritan Hospital in Baltimore. She had 6 hour dialysis treatments twice a week. This required a 90 minute drive to and from Baltimore. A regular rotation schedule of some 40 volunteers was established to provide transportation. Hemodialysis was not covered by insurance. With an estimated cost of \$22,000 a year, the community established the JOANNE L FUND with all local organizations, (Lions, JC's, Optimists, Key Club, Women's Club, Hempfield High School {where her husband was a teacher}) helping to raise \$12,000 to help with their expenses. After being on hemodialysis for one year, she received a cadaver kidney on 11/12/71 at age 45. This surgery was paid for by insurance. This was so successful she returned to teaching for another 20 years.

Hypercalcinosis caused cataracts, subcutaneous calcifications and decreased circulation in her legs. She died 20 years later at age 65. She was one of the first successful transplants in Lancaster. In that era, success for a cadaveric renal transplant was 50% for ONE year. She had a 20 year success with a cadaveric transplant. This was considered a miracle.

Julie M. as a student nurse, presented at age 19 with renal failure secondary to chronic glomerulonephritis. She was begun on hemodialysis on 8/7/78, and 5 months later had a transplant at Johns Hopkins which was promptly rejected. She went back on hemodialysis until 8/15/84 and again rejected a transplant. Had third transplant was on 7/4/86, this was a SUCCESS for 24 years! In 9/15/87 she had a baby girl. From 1988 she worked as a nurse, the first 7 years in the hospital, and the next 15 as an office nurse for a dermatology physician. She had knees replaced in 2003 and 2004 for chronic arthritis. She had an undiagnosed chronic illness the last 2 years of her life. She was diagnosed 6 months before her death with histoplasmosis. She died on 5/22/11. She lived a total of 33 years on dialysis and transplantation.

Julie was a fighter til the end.



New Era Photo by James Gerberich

Nurses assist patients in Lancaster General Hospital's new and enlarged kidney dialysis unit, which recently opened with additional di-

alysis stations, consolidated services and more pleasant surroundings. The project had a \$150,000 pricetag.

\$150,000 Project Adds Flexibility in Scheduling

Kidney Patient Unit Enlarged, Improved at General Hospital

By GREG VELLNER
New Era Staff Writer

When Julie Moore was in her second year at Chester County Hospital School of Nursing, she suffered kidney failure and was told she would need dialysis treatment three times a week.

But with no dialysis unit available nearby, it was impossible for Mrs. Moore to attend class and at the same time receive her needed treatments. She was forced to drop out of school.

Not to be deterred, Mrs. Moore, 25, of Paradise, transferred the following year to Lancaster General Hospital, where both a dialysis unit and a nursing school were available.

Today, she is a registered nurse.

Mrs. Moore, then, is perhaps as appreciative as anyone of Lancaster General's new and enlarged renal dialysis unit, which she uses three times a week.

"It's nice to come to a new place that's bright," she said.

Lancaster General recently completed a \$150,000 project to en-



Dr. John J. Schubert discusses the renal dialysis unit he heads at Lancaster General Hospital.

large its dialysis unit by 20 percent, create more pleasant surroundings, and provide three additional dialysis stations.

The new stations, which give the unit a total of 12, will allow greater schedule flexibility for patients, says the unit's director, Dr. John J. Schubert.

Patients also will benefit, he said, because all unit facilities are now consolidated.

"The old one was really piecemeal," Schubert said of the former unit. "There was one large room with offices down this hall, that hall and all over the place.

"Now, we have everything in one place," he said.

And in that one place, which totals 3,280 square feet, are 12 dialysis stations, a centrally located nurses' station, five color television sets to help patients pass the time, a small kitchen and a waiting room.

Off the main room are offices for the unit's director, head nurse, dietitian and social service staff, which meets with new patients and their families to discuss dialysis and other treatment alternatives.

And the unit contains an isolation room for renal dialysis patients who have hepatitis or some other contagious blood disorder.

Because of failed kidneys — it

—See KIDNEY—Page 22

Kidney Patient

(Continued from Back Page)

might be the result of disease or diabetes — patients must undergo dialysis treatments for about four hours, three times a week.

Kidney dialysis, medically known as hemodialysis, is the method of filtering unwanted substances from the blood using a machine that acts as an artificial kidney.

While a patient sits in a reclining chair, his blood filters through a tube in the arm and through the machine.

The three new dialysis machines in the unit cost about \$9,000 each, Schubert said. Each dialysis treatment costs the patient \$131, of which 80 percent is paid by Medicare, the remainder by a second insurance.

A total of 73 renal dialysis patients are treated by Lancaster General's renal dialysis unit, or a total of about 9,000 procedures annually, said director Schubert.

Of the 73, a total of 23 are treated at home either with at-home dialysis machines or through Continuous Ambulatory Peritoneal Dialysis, which is a portable method that involves the patient wearing a disposal bag attached to an implanted tube. The bag is changed by the patient.

The former unit was at 110 percent capacity, which made it difficult for a patient to juggle his or her scheduled time for hospital appointments, Schubert said. But the expanded unit, he said, will allow schedule flexibility and enable the hospital to treat additional patients.

The hospital established its first dialysis unit in November 1972, with two stations. The number of stations increased in subsequent years, and earlier this year the unit was moved from the hospital's second floor to the first.

Amy Jo W was admitted to LGH on 10/13/66 at the age of 14 months to Dr. Joseph Besecker. She was transferred to Philadelphia Children's Hospital under the care of Dr. Cornfeld with hemolytic uremic syndrome. Her BUN was 176, HB 6 gm, and K 6.5. A peritoneal dialysis was performed and she was given one unit of packed cells. In Oct. 1976, she was begun on hemodialysis through an AV fistula. She was transferred to LGH in January of 1977 for renal failure and severe hypertension. On 8/17/79 a new AV fistula was created in the right arm and removed one month later due to an aneurysm. In 11/85 she had a total parathyroidectomy with a transplant of a very small portion of her parathyroid to her arm. PTH was 6 times the upper limit of normal. Bones showed significant periosteal absorption. In 8/18/87 she had severe hypertension of 230/120, with low renin and normal epinephrine and norepinephrine. Severe hypertension recurred by 10/14/87 and she was treated with minoxidil 2.5 mg daily, cardizem 60 mg qid, and inderal 10 mg qid.

On 10/29/88, she had a transplant which rejected on the table. She went back on hemodialysis 3 times a week. In the 90's calciphylaxis caused pain in her arms and legs and she

could no longer quilt after 1/1/01. She developed sores over her legs which responded briefly to hyperbaric oxygen 3 days a week for a total of 20 months over the last 5 years. When she was told her legs needed to be amputated she accepted death instead of removal of her legs. She decided to discontinue dialysis and died on 11/6/07 at age 41.

She was considered a Profile in Courage!



Kidney Assn. Provides LGH With Dialysis Chair Scale

The Lancaster area Kidney Association recently presented the Lancaster General Hospital with equipment that will benefit patients with kidney disease. The equipment, a chair scale, which monitors the changing weight of a patient during dialysis, actually provides a digital read-out of the varying weight in kilograms as the dialysis machines remove excess fluids that have built up because of kidney malfunction.

Ann Muehleisen, 713 Garnet Ave., president of the local organization which provided the gift to the hospital, is shown above, with one of the renal dialysis unit patients, Amy Woerth, 12, daughter of Mr. and Mrs. John Woerth, Christiana R2, and Dr. John J. Schubert, director of the unit.

The chair scale is particularly significant for certain types of patients who use the unit such as new patients who must go through a period of adjustment to dialysis, and also those who are acutely ill and cannot

have their weight monitored by other means.

Renal dialysis was established at the General Hospital in November, 1972, to provide care for patients afflicted with acute and chronic kidney disease. The program has been under the direction of Dr. Schubert, nephrologist, since its inception. The unit has six machines, providing service to 42 patients, 23 of whom currently dialyze themselves at home.

According to Dr. Schubert, 60 persons per million population will develop renal failure and therefore, require renal dialysis or transplantation annually. According to the Lancaster population figures, a total of 20 new patients per year would reflect the national statistics. "We see an average of 14 to 16 new dialysis patients and refer four to five for renal transplants annually, so it is pretty clear that Lancaster General bears out the national averages," said Dr. Schubert.

THE INSTITUTION OF DIALYSIS AT LGH---1972:

Plans were made to place the initial dialysis unit on 2 West in rooms 280 and 283 with 2 machines in room 280 and office and supplies in 283. Within 2 to 3 weeks of my arrival in August, Dr. Peter Pranckun consulted me on a post op cholecystectomy patient, who had acute renal failure secondary to peritonitis and sepsis. Because of the peritonitis, peritoneal dialysis could not be performed. Hemodialysis was required.

I knew there were several patients on hemodialysis at the Millersville Fire Hall and there were several machines there, owned by the Kidney Foundation of Lancaster County. We asked if we could borrow one and they graciously brought us a machine which was placed in the ICU. Fortunately we did have the tubings to create a Scribner A-V shunt. I went with to the OR with Dr. Robert Witmer, a thoracic surgeon and we placed the first Scribner A-V shunt at LGH. This enabled me to perform the first hemodialysis in LGH's ICU. This was also the first patient I dialyzed totally alone, (the dialysis treatment is primarily managed by a trained dialysis nurse under a physician's direction). This went so well the Lancaster County Kidney Foundation gave us a second dialysis machine in October. This enabled us to open the unit in November and they could close their unit in the fire house.

The unit was officially approved in November, 1972 by Dr. J Thomas Millington, Director of the Bureau of Special Health Services of the State Health Department; Dr. George Jones, the State Hemodialysis Director, along with William Helman, the Vice President of the Lancaster County Kidney Foundation.

Kidney Patients Trained In Self-Care

Every week — twice a week — the Robert Stoners of Sinking Spring R1 spend at least seven hours in the Lancaster General Hospital.

But according to the Stoners — the time is worth it — as they become part of a new program in kidney disease treatment that is finally letting the patient break loose from the hospital's life-line.

Since early November, the General Hospital has been operating a hemodialysis program that is bent on training kidney patients to take care of themselves — and the Stoners are one-half of that initial effort.

Anna Stoner, at 41, first had her kidney problem diagnosed last June. After that, there were about three Philadelphia hospital stays for stomach dialysis before the Stoners heard of the Lancaster program.

The General provides one of 27 hemodialysis centers across the state that have received state government approval to train patients and their families how to run dialysis machines themselves

and allow for state-funded financial assistance to those families.

The Lancaster center is the only facility between Harrisburg and Philadelphia, Allentown and Wilmington, Del., that trains patients so they can eventually have a machine in their own home and run it themselves.

So the Stoners come to Lancaster — making the trip twice a week from their Sinking spring address — to use and learn about dialysis.

NEED ADJUSTMENTS

There are adjustments necessary. Their only son, David, age 11, spends the previous night at his aunt's. "So he doesn't have to get up so early," noted his mother, midway through her six-hour treatment on the machine that cleanses her blood because her kidneys cannot do it.

Robert Stoner comes along — learning how to set up, operate and finally clean the machine that can mean life or death for his wife.

"It's a lot to remember," he notes, looking at the tubing and dials of the machine,

"But it will be a lot more convenient."

Right now, it means an odd work schedule for Robert Stoner, who puts a full week's work into three days so that he can come to the hospital. A truck driver for Roadway Express, he says his company has been very good about arranging his hours — hours that can extend to 15 a day.

COST IS LOWER

Besides the convenience of eventually having a dialysis machine in the home, there's the lower cost figure too.

As Dr. John Schubert, a nephrologist at the hospital who set up the program, explained, "If a patient had to come to the hospital three times a week for one year, the cost could run \$20,000. With a machine in their home, that cost can be reduced to about \$6,000."

The machines are rented to the patients by the state — after the patient and a member of the family have undergone two to three months of training in the use and care of the machine.

Besides renting the machines, the state provides financial assistance to pay for them on an ability-to-pay basis.

"Anyone can afford dialysis today," noted Dr. Schubert, who explained that kidney disease can strike anyone, often centering on persons in their 40's.

TRAIN PATIENTS

The philosophy of the General Hospital center is to train patients and then let them on their own. "Our principle is that most patients with average intelligence can learn to do it, and then can do it at home," said Dr. Schubert.

"Then they can do it whenever they feel like it within a degree and this makes them less dependent on an institution."

"There is tremendous importance in the case of the person with chronic illness to keep a normal routine, to have independence, flexibility," added the doctor, who headed the kidney dialysis unit at the Philadelphia General Hospital before coming to Lancaster.

Besides Mrs. Stoner, the hospital has one other patient — Mrs. Della Weaver, of Reinholds — who with her husband is learning the machine's use. Dr. Schubert expects that number to increase,

with the unit handling about 15 persons a year.

Of course, all kidney cases are not like Mrs. Stoner's. Some patients do not travel back and forth to the hospital, but stay there.

AN ALTERNATIVE

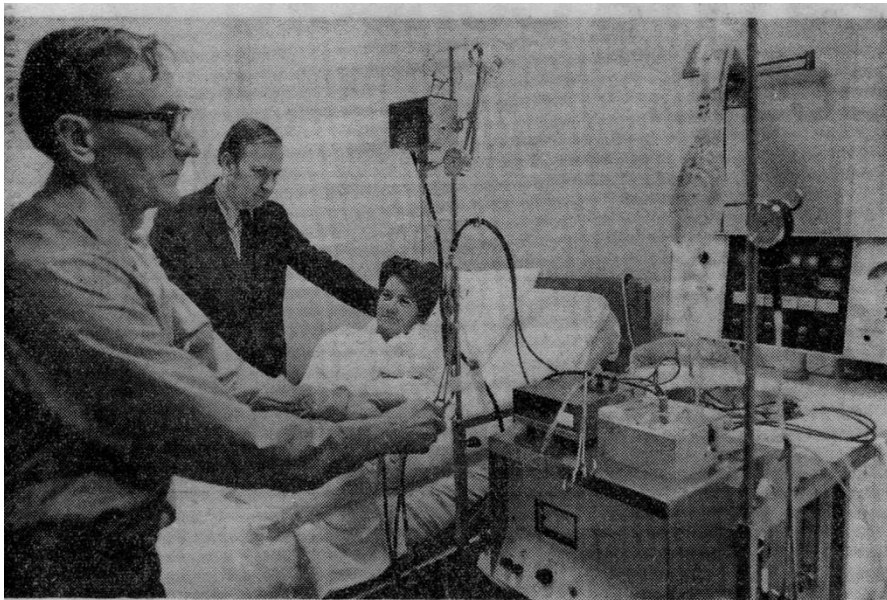
Then, too, there is the alternative to dialysis — a kidney transplant.

"Since I've been here," said the doctor, "I've sent three patients away for transplants. But there are problems here. You must have a suitable donor and the state still does not support transplant operations, which can cost about \$20,000."

The ideal goal is a kidney

transplant, but often patients do not have relatives who can donate a kidney, and waiting for a cadaver can take one to two years.

Plus that, there's the cost, and some insurance policies don't cover it.



Dr. John Schubert, center, instructs the husband-wife team, Mr. and Mrs. Robert Stoner, in use of the

dialysis machine at General Hospital.

On the other hand, dialysis is there, and right now, the General Hospital is making that more accessible to kidney patients.



HEMODIALYSIS UNIT RECEIVES STATE APPROVAL

The General's Hemodialysis Program is now approved by the Pennsylvania Department of Health, with state financial aid available for most of the patients being trained for home treatment. Hemodialysis Patient Mrs. Della M. Weaver had some visitors when this was recently announced. At her bedside, from left, are Dr. John J. Schubert, Director of the Hemodialysis Unit; Staff Nurse Jacqueline Muth; Dr. J. Thomas Millington, Director of the Bureau of Special Health Services of the State Health Department; Dr. George A. Jones, State Hemodialysis Director and William C. Helman, Vice President of the Lancaster County Kidney Foundation.

Jackie Muth, RN:

Ms. Muth spent August to September at my former hemodialysis unit at PGH. She returned in October 1972, as Head Nurse, to help set up the unit. A second nurse, Faye Rossi, RN, was then trained by Ms. Muth. The unit grew to 3 beds in 1973 and in mid-1974 we moved to a new 6 bed unit in the new Stauffer Wing of 2 North. In Feb. 1978, we moved to a new 3,200 square ft. unit on the first floor of the new Lime Street building which contained 12 stations: ten for hemodialysis training, one for peritoneal dialysis training and one for isolation for acute hemodialysis.

There were also rooms for social workers, dieticians, head nurse, director and secretary. At the time of this move there were 23 patients being treated at home on home hemodialysis or CAPD and 48 patients in the unit. Twenty transplants had been done by 1982.

Medicare initially began payment in the third month following the initiation of maintenance dialysis, or immediately if you were in a self-dialysis (home) program or had a kidney transplant. By 1992, there were 118 patients in the program, 103 on maintenance hemodialysis, 2 on home dialysis and 16 on CAPD or CCPD. It was amazing how rapidly the home program declined. The stress of the home hemodialysis was too much for the caregiver and was less for the CAPD family.

It was donations from the following organizations that supported the unit and enabled it to grow:

The Lancaster County Foundation donated 2 dialysis machines in 1972. The Nursing School Class of 1973 gave \$500 to help purchase a dialysis machine. The Needlecraft Club of Wyeth Labs in Marietta donated \$1,180 in 1974. The APA Transport Corporation, a New Jersey Trucking Firm donated a dialysis machine, valued at \$6,000, in memory of its Vice President who lost his life in a helicopter accident in 3/75. The Millersville University donated \$1,899 from a residual fund from a Millersville Student who received a successful transplant. LAKA presented a chair scale to the dialysis unit in September 1977.

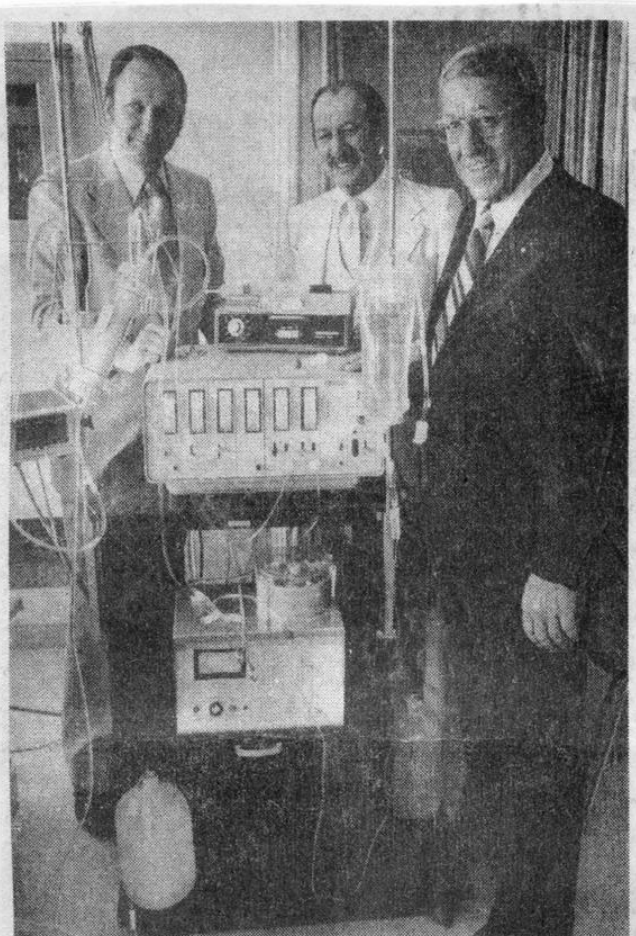
NURSING SCHOOL SENIORS GIVE DIALYSIS \$500

"We wanted to give something to the Hospital and we wanted to pick an area where we knew it was really needed," according to Ginger Horst, senior student nurse and president of the Class of 1973. "So we examined the needs of the Hospital closely and determined the money could best be used in kidney dialysis."

The senior class donated \$500 for use in the dialysis unit. The funds will be used to assist in offsetting the cost of an additional dialysis machine. Begun just seven months ago under the direction of Dr. John Schubert, the program has exceeded initial expectations and is presently providing fifty dialysis training treatments per month.



LGH PRESIDENT, Paul G. Wedel, accepts the gift of the School of Nursing's Class of 1973 from Ginger Horst, class president. Cheryl Sload, class treasurer, and Dr. John Schubert, director of the dialysis program, look on.



Sunday News Photo

Hospital Gets Kidney Machine

Lancaster General Hospital recently received a new kidney dialysis machine from A-P-A Transport Corp., a New Jersey-based trucking firm with a Lancaster terminal located at 1350 Loop Road.

Shown visiting the Hospital's Renal Dialysis Department are A-P-A Vice President, George E. Imperatore, right, and Lancaster Terminal Manager, Ken Landis, center, with Dr. John Schubert, director of the unit.

The machine is one of two donated by A-P-A to hospitals in memory of the company's Vice President, Arnold D. Imperatore, who lost his life in a helicopter accident in March, 1975. The firm operates 11 terminals, and has chosen Lancaster General to receive the equipment because the hospital serves a community where A-P-A employees and associates live and work. The machine, which cleanses the blood of patients suffering from acute or chronic kidney disease, is valued at \$6,100. The donation was made possible through contributions from A-P-A employees.

Dr. Schubert said that the gift brings to six the number of kidney machines at the

hospital. A total of 46 patients utilize the hospital's dialysis unit, and 24 of those have been trained to dialyze themselves at home. Dr. Schubert said his associate, Dr. Lawrence Carroll, are nephrologists, specialists in kidney disease.

The General's unit was established in 1972, and has experienced a growth rate which reflects the national statistics for the occurrence of renal failure. According to Dr. Schubert, 60 persons per million population develop kidney disease requiring renal dialysis or kidney transplant.

The General Hospital's patient load increases an average of 15 people annually. Since its inception, the unit has referred 28 patients for kidney transplants.



MSC Students Present Gift To Kidney Assn.

Money left over from a campaign to help a Millersville State College student pay for a kidney transplant was presented Tuesday evening to the Lancaster Area Kidney Association.

The student, Terry Smith, received a transplant in the Fall of 1973. The fund

raising was so successful that \$1,899 was not needed.

At presentation ceremonies, Norman Mertens, left, receives the gift from David Hildebrand, second from left, president of the MSC student senate, and Dennis Duncan, student head of the Terry Smith Fund.

Looking on are, second from right, Dr. F. W. McLaughlin, college doctor, and Dr. John Schubert, director of renal dialysis at the Lancaster General Hospital.

Terry Smith, who graduated from MSC in 1974, is currently working at the University of Richmond in kidney rehabilitation.

Renal Dialysis:

A Lifeline for Kidney Patients

Harry Noll sits comfortably in a chair resembling a large recliner. He is conveniently positioned in front of a television. A cup of coffee cools on the stand next to him. He sits in this chair for four hours, three days each week. His arm, extended and resting on the chair, has an intravenous line attached. The line is his link between life and the machine that cleanses his system.

A nurse takes his blood pressure on a routine basis. It's second nature to him by now. He is not alone. There are 17 other dialysis patients in the unit going through the same routine. These actions don't interrupt him. He tells his story.

"When I became diagnosed with kidney failure, I was a 38-year-old self-employed farmer with a family. When I heard the news it was like going down the road at 90 miles an hour and coming to a dead stop. I was always a workaholic, I loved my work. I was told I would have to stop working. That news hit me like a ton of bricks." He pauses and lowers his head.

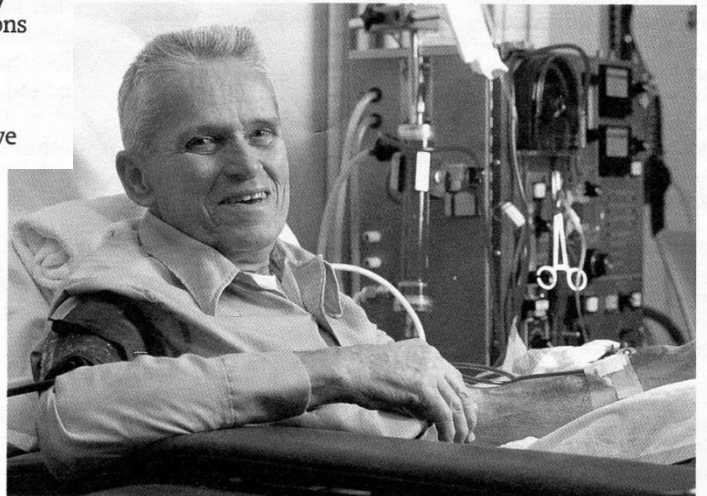
After a brief moment he continues, "With the help of my wife and son, my dialysis treatments were done in our home. At that time they were

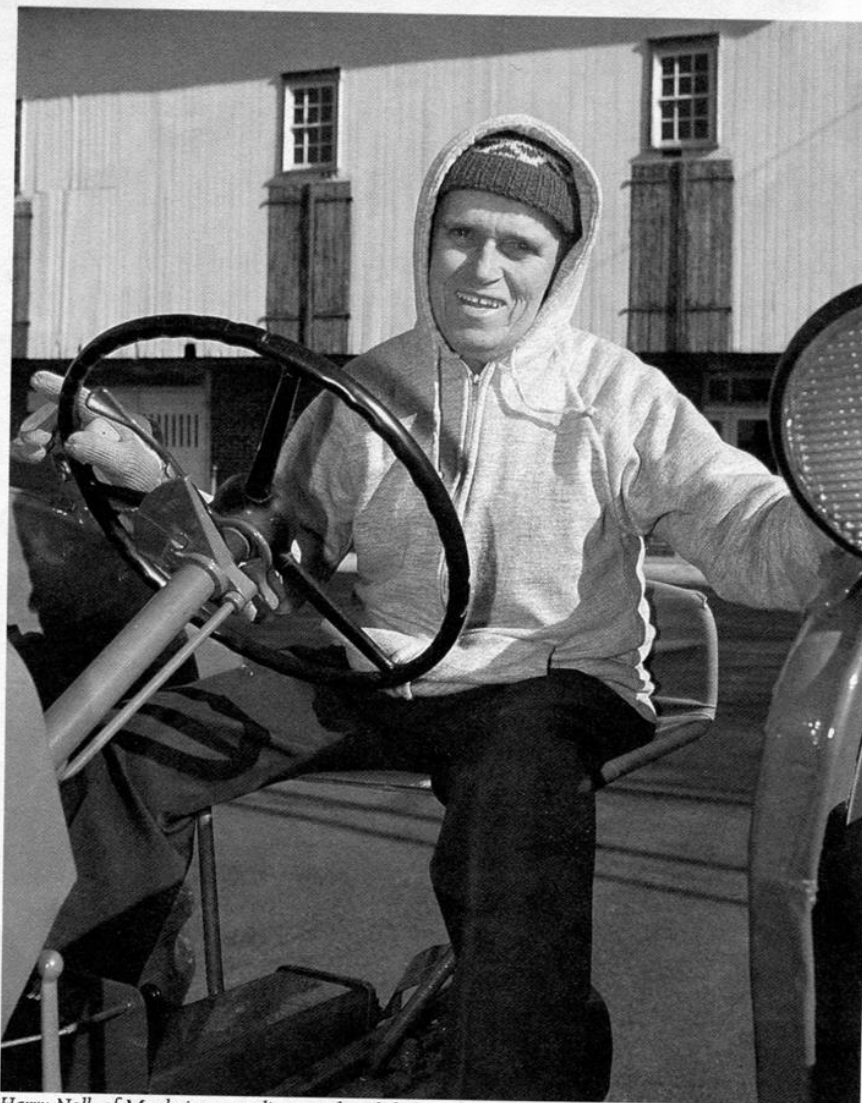
not performed on a regular basis in the hospital. The strain of home treatment was hard on my wife, but my son volunteered to do the job. I feel it has been an asset, a real lesson on life for him. Then in 1976 I began treatment at Lancaster General Hospital."

John J. Schubert, M.D., Director of Renal Dialysis at Lancaster General Hospital says, "Dialysis grew up with Harry. When he started dialysis it was still experimental. Today, with the help of higher technology and the availability of information, the quality of life for the dialysis patient has improved."

"Years ago, dialysis was only a choice for patients with natural kidney failure, like Harry," explains Dr. Schubert. "Now patients who have kidney failure due to hypertension, diabetes, and some other illnesses can have dialysis. There used to be a strict criteria for candidates of dialysis. For example, the patient had to be within a certain age bracket and could not have any other existing medical conditions or diseases other than kidney failure."

"My only medical condition was kidney failure. I would have





Harry Noll, of Manheim, was diagnosed with kidney failure more than 20 years ago. With dialysis treatments, a strict diet and medication plan, and a positive attitude he has been able to do the things he likes the most, like driving his antique tractor.

been eligible for a kidney transplant, but they were very new and the risk was high," Harry says.

According to Dr. Schubert, the average age of people on dialysis is 58 years old. People who are younger and healthier often choose to have a kidney transplant, but there are limitations. These candidates can have no other existing medical problems or diseases, and can be no older than 65 years of age.

"Age itself is not so much the barrier as the patient's state of health is. Organ donation has not grown in proportion with the number of kidneys needed. The waiting list has lengthened,

there's always a need for kidneys," Dr. Schubert explains.

"But for others, like Harry, dialysis has increased their life span. Harry has a very positive approach to life. He is a good patient. He follows his diet and medication plan. His motivation definitely contributes to his quality of life," he adds.

Harry has taken great strides with dialysis treatment. He has adapted to this style of living. He even helps friends and relatives on the farm. Even though he has certain health limitations, he lives life to the fullest.

"In 1992, I will be married 40 years. Twenty of those years have been on dialysis. This may

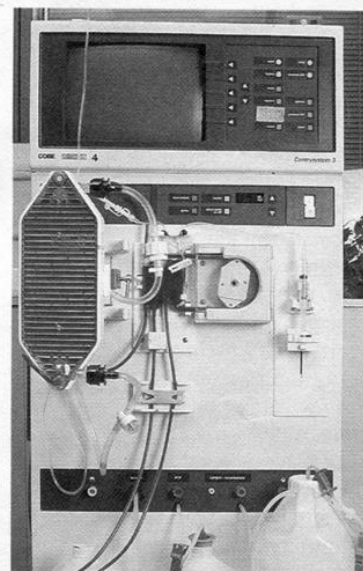
seem strange to some, but the past 20 years have been the best years of my life. I have traveled the fine line between life and death for quite some time. I have come to realize the importance of family and faith, and I have lived to see six grandchildren come into my life," Harry says as his face brightens with a smile.

Life is an ongoing learning process. For Harry, self-realization was a hard road to tow, but he was determined to be happy.

"I am the content person I am today because of my strength.

My inner strength, not my physical strength, gave me the courage to go on. My family and friends have been my motivation, and my physician and nurses my guides. I've been blessed with love," Harry says.

He continues, "Because I accept the time and place I'm in, make use of what I can to the best of my ability, stay wise to common sense, and take to heart what is good for me, I am where I am today. I want to stay active as long as I can. I'm grateful for what I have." ■

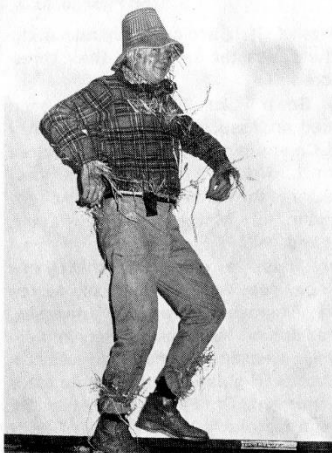


With the help of higher technology dialysis, the quality of life for dialysis patients has improved since Harry Noll first started dialysis treatments over 20 years ago.

John J. Schubert, M.D., Director of Renal Dialysis at Lancaster General Hospital (left) joined Lawrence E. Carroll, M.D., and other representatives of the Lancaster Area Kidney Association at a meeting in March to present Harry Noll with a special plaque commemorating his 20th anniversary on dialysis. The Lancaster Area Kidney Association provides support to patients with kidney failure, their relatives and friends, and staff members of dialysis units.



RENAL DIALYSIS STAFF STAGES FUN NIGHT



Members of the Lancaster Area Kidney Association (LAKA) had a special treat at their September meeting with the debut of "The First Annual New High Fashion Show" written, produced, directed and starring Lancaster General's Renal Dialysis staff.

Pictured above taking their curtain calls are John J. Schubert, M.D., Faye E. Rossi, R.N., Laurence E. Carroll, M.D., Linda S. Hampton, R.N., Elaine Caldwell, D.T., Jill R. Riganati, secretary, Phyllis L. Eshleman, R.N., Kathy Simmers, pianist, Karen R. Lehman, R.N., Margaretta A. Beiler, D.T., Janet B. Smith, R.N., and Lorraine M. Stopper, R.N. Also participating were Alice D. Geib, R.N., Roberta L. Frey, secretary, and Karen L. Pryce, R.N.

Following their show-stopping FonDersmith appearance, the troupe performed an encore for patients in the Renal Dialysis Department.



1981 Fun Night with Dr. John Schubert as the Scarecrow