



Staff Meeting Bulletin  
Hospitals of the » » »  
University of Minnesota

**Sterile Pyuria**

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William A. O'Brien, M.D.

I.

## UNIVERSITY OF MINNESOTA MEDICAL SCHOOL

CALENDAR OF EVENTS

Feb. 2 - Feb. 8, 1946

Medical Visitors Welcome

No. 100Saturday, Feb. 2

- 9:00 - 9:50 Pediatrics Grand Rounds; I. McQuarrie and Staff; W-205 U. H.
- 9:15 - 10:20 Surgery-Roentgenology Conference; O. H. Wangensteen, L. G. Rigler, and Staff; Todd Amphitheater, U. H.
- 9:00 - 9:50 Medicine Case Presentation; C. J. Watson and Staff; M-515 U. H.
- 10:00 - 11:50 Medicine Ward Rounds; C. J. Watson and Staff; E-221 U. H.
- 11:30 - 12:20 Anatomy Seminar; Structural Contrasts Between Reptilian and Mammalian Hypophyses; J. F. Hartmann; I.A. 226.

Sunday, Feb. 3

- 11:00 - 1:50 Obstetrics and Gynecology Grand Rounds; J. L. McKelvey and Staff; Station 44, U. H.

Monday, Feb. 4

- 9:00 - 9:50 Roentgenology-Medicine Conference; L. G. Rigler, C. J. Watson and Staff; Todd Amphitheater, U. H.
- 9:00 - 10:50 Obstetrics and Gynecology Conference; J. L. McKelvey and Staff; Interns Quarters, U. H.
- 12:15 - 1:15 Pediatrics Seminar; Irvine McQuarrie and Staff; 6th Floor Eustis.
- 12:15 - 1:15 Obstetrics and Gynecology Journal Club; M-435, U. H.
- 12:30 - 1:20 Pathology Seminar; Spontaneous Glomerulonephritis in Mice; Drs. Kirschbaum and Bell; 104 I. A.
- 12:30 - 1:20 Physiology Seminar; The Metabolism of Thiamine; Dr. Olaf Mickelsen; 214 M. H.
- 4:00 - School of Public Health Seminar; Medical Entomologist in the Army; T. A. Olson; 6th Floor Student Health Service Bldg., Women's Lounge.

Tuesday, Feb. 6

- 9:00 - 9:50 Roentgenology-Pediatrics Conference; L. G. Rigler, I. McQuarrie and Staff; Eustis Amphitheater, U. H.
- 12:30 - 1:20 Pathology Conference; Autopsies; Pathology Staff; 102 I. A.
- 3:15 - 4:15 Gynecology Chart Conference; J. L. McKelvey and Staff; Station 54, U.H.

- 4:00 - 4:50 Surgical-Physiology Conference; Rational Use of Whole Blood and Blood Substitutes; Drs. State and Corson; Eustis Amphitheater.
- 4:30 - 5:20 Ophthalmology Ward Rounds; Erling Hansen and Staff; E-534, U. H.
- 5:00 - 5:50 Roentgen Diagnosis Conference; Dr. Solveig Bergh. T. B. Merner, and Stanley Peterson; M-515 U. H.

Wednesday, Feb. 6

- 8:00 - 8:50 Surgery Journal Club; O. H. Wangensteen and Staff; M-515 U. H.
- 9:00 - 10:30 Pediatrics Staff Rounds; W-205 U. H.
- 9:00 - 10:50 Neuropsychiatry Seminar; Staff; Station 60 Lounge, U. H.
- 11:00 - 11:50 Pathology-Medicine-Surgery Conference; Cerebellar Tumor; E. T. Bell, C. J. Watson, O. H. Wangensteen and Staff; Todd Amphitheater, U. H.
- 12:30 - 1:20 Physiology Chemistry Journal Club; Staff; 116 M. H.
- 4:00 - 6:00 Medicine and Pediatrics Infectious Disease Rounds; W-205 U. H.

Thursday, Feb. 7

- 9:00 - 9:50 Medicine Case Presentation; C. J. Watson and Staff; Todd Amphitheater.
- 12:30 - 1:20 Physiological Chemistry; Cyrus P. Barnum; 116 M. H.
- 4:30 - 5:20 Ophthalmology Ward Rounds; Erling Hansen and Staff; E-534, U. H.
- 4:30 - Bacteriology Seminar; Role of B Vitamins other than Nicotinic Acid, Riboflavin, and Thiamin in Microbial Metabolism; Dr. H. O. Halvorson; 214 M. H.
- 5:00 - 5:50 Roentgenology Seminar; Coccidiomycosis; Robert Leighton; M-515 U. H.

Friday, Feb. 8

- 9:00 - 9:50 Medicine Grand Rounds; C. J. Watson and Staff; Todd Amphitheater, U. H.
- 10:00 - 11:50 Medicine Ward Rounds; C. J. Watson and Staff; E-221 U. H.
- 10:30 - 12:20 Otolaryngology Case Studies; L. R. Boies and Staff; Out-Patient Otolaryngology Department; U. H.
- 11:50 - 1:15 University of Minnesota Hospitals General Staff Meeting; Chronic Brucellosis; Wesley W. Spink, Wendell Hall, and George Aagaard; New Powell Hall Addition Amphitheater.
- 1:00 - 2:00 Dermatologic Allergy; Dr. Stepan Epstein; W-312 U. H.
- 2:00 - 3:20 Dermatology and Syphilology; Presentation of Selected Cases of the Week; H. E. Michelson and Staff; W-312 U. H.
- 1:30 - 2:20 Roentgenology-Neurosurgery Conference; H. O. Peterson, W. T. Peyton, and Staff; Todd Amphitheater, U. H.

## II. STERILE PYURIA

Frank Roach, Jr.

The words "sterile pyuria" to most of us imply the presence of urinary tuberculosis. We have been told that tuberculosis is the underlying disease if a patient has pyuria and the routine cultures and Gram stains of the urinary sediment reveal no organisms. It is true that about 70% of the cases of urinary tuberculosis have sterile urine when it is cultured on routine media; in the other 30% the kidneys or bladder contain urine secondarily infected by the organisms usually seen in urinary tract infections, the Gram-negative bacilli predominating.

There is, however, a definite clinical entity in which the urine contains pus but is sterile on culture and on Gram stain and in addition, contains no tubercle bacilli, though the latter may be sought by use of acid-fast stains, special cultures for tubercle bacilli, or guinea-pig inoculation. This disease is variously called "sterile pyuria", "abacterial pyuria", or "amicrobial pyuria".

In this report I shall discuss the clinical and laboratory features of the disease and shall report several cases seen recently at the University of Minnesota Hospitals. Merely for the sake of completeness, one should mention those short-lived sterile pyurias which are not the result of true infections of the urinary tract. These include the pyurias seen after trauma to the urinary system from stone or instrumentation, or after the excretion through the kidney of irritating medications. Acute sterile pyuria may be caused by the presence of an inflamed structure such as an appendix overlying the ureter or bladder causing infiltration of leucocytes into the urinary tract at that point.

During the stage of resolution of the usual type of urinary infection, the organisms may become so attenuated by the treatment and by the body's defense processes that they do not grow in ordinary culture media. This is a false type of sterile pyuria, as a Gram-stain of the

urinary sediment will reveal the presence of the offending organism.

True abacterial or sterile pyuria is an infectious disease seen chiefly in young men, although it does occur in the older age groups of both sexes. It is characterized by pyuria with increased frequency of urination, urgency, and burning at the end of urination. There may be terminal hematuria. In other words, the symptoms are those of vesical irritation. The patient has no complaints referable to the upper urinary tract, he has no fever and he suffers no weight loss. The onset may be rapid or gradual, extending over a period of days or months. If untreated, it goes on indefinitely.

Gram-stains and cultures of the urine are repeatedly negative, and the usual diagnosis is tuberculosis of the urinary tract. Special studies for tuberculosis are all negative, however, however, intravenous urography usually shows nothing abnormal; the kidneys function well, and their collecting systems are normal. Occasionally the ureters are slightly dilated, and, of course, the bladder shadow is smaller than normal.

At cystoscopic examination, the bladder mucosa is severely inflamed and bleeds readily. It may be ulcerated. The ureteral orifices are normal and do not resemble those seen in urinary tuberculosis, where they are dilated, retracted, or surrounded by an inflamed areola. The urine from either kidney may be normal or may contain pus. In either case, it is sterile, and no bacteria can be isolated from it.

To date, the sulfonamides have proved ineffective in this disease. Acidification of the urine, mandelic acid, irrigation and lavage of the bladder, etc. (all these forms of treatment) have been useless. I know of no reports as to the efficiency of penicillin, but in the several cases seen recently, at the University of Minnesota Hospitals, it was worthless.

Fortunately, there is one effective treatment. This is the intravenous in-

jection of neoarsphenamine. Frequently the patient notes relief from the distressing symptoms after the first injection. Usually a series is given, 0.15 to 0.30 Grams being given once or twice a week for a total of 6 doses. No more injections need be given if the symptoms and pyuria have disappeared before the completion of the series. Reactions from this medication do occur and consist usually of gastrointestinal upsets or dermatitis. A small amount (0.15 Gm.) should be given initially, when the sensitivity of the patient to the drug is not known.

Although no deaths have resulted from the disease, a considerable number of kidneys have become available for gross and microscopic study after nephrectomy for what was thought to be tuberculosis of the kidney. The kidneys in this disease show no gross or microscopic evidence of tuberculosis. No tubercle bacilli can be cultured or stained. The disease is confined to the pelvis, calyces, and ureters although Runeberg, who performed the largest series of nephrectomies for sterile pyuria, found Gram-positive cocci in the cortices of several such kidneys. The mucosa is thickened and edematous, but there is no evidence of gross suppuration. The submucosa is infiltrated with plasma cells, eosinophiles, and lymphocytes, sometimes in a follicular arrangement.

Faltin, (1902) was the first to note cases of sterile pyuria in which tubercle bacilli could not be demonstrated. Between 1919 and 1922 Runeberg performed 10 nephrectomies in cases of sterile pyuria, and he was unable to demonstrate tuberculosis or tubercle bacilli in any, although sections showed occasional staphylococci imprisoned in the cortices. Söderland in 1921 reported 3 cases of abacterial pyuria and suggested that it might be a clinical entity other than tuberculosis. Wildbolz (1933) first suggested the use of intravenous neoarsphenamine in treatment.

The etiology of abacterial pyuria is not known. Some favor a bacterium as the agent, since the disease responds nicely to neoarsphenamine therapy, just as do

many cases of staphylococcal urinary infection. In addition, Runeberg, as mentioned above, found staphylococci in the cortices of several kidneys which he had removed for this disease. On the other hand, the usual staphylococcal infection causes marked systemic symptoms, whereas sterile pyuria does not.

The toxin theory is supported by Cook, who noted relapse in some patients after neoarsphenamine therapy. These patients were permanently cured when treatment was directed to the tonsils, prostate, or cervix; apparently the toxins arising from these chronically infected structures caused a pyelitis when they were excreted in the urine.

The negative Wasserman reaction and the absence of spirochetes in the urine or kidneys make it unlikely that syphilis is a factor in this disease.

The most popular view is that it is a virus disease. Support of this theory seems to be based more on a process of elimination of other possible causes than real proof of its virus nature. The disease has been given to dogs by injection of infected human urine into their renal pelvis, but some investigators have then recovered streptococci from the urine of these dogs. The cause of abacterial pyuria, it can be seen, is still obscure.

The disease is showing an increase in incidence as urologists are becoming more aware of the presence of such an entity. Two cases have been seen at University of Minnesota Hospitals in the past 6 months. Their case reports follow:

#### Case 1.

, a 35-year old married janitor, first noted burning and itching along the urethra associated with a mild urethral discharge in August, 1945. During a period of several days he had developed quite marked symptoms of vesical irritation, urinating hourly in the daytime and 4 to 8 times at night. The urine at times was grossly bloody, with clots, and at other times, purulent. His physician found no bacterial in his urethral discharge and gave him sulfadiazine for

nearly a month. Penicillin was tried, and then he was referred to the University of Minnesota Hospitals in October, 1945.

When seen here, his urethral discharge had ceased, but he had left flank and suprapubic pain. His past medical history was not pertinent to his present disease, and only the positive physical findings will be described. He had mild tenderness in the left costovertebral angle, moderate in the suprapubic area. There was no urethral discharge, the genitalis were normal, and rectal examination revealed a normal prostate. Prostatic secretion contained 10 white cells per high power field, which is within the limits of normal. There was no residual urine in the bladder. Urinalysis showed 2 to 4 plus red cells and occasional to 2 plus white cells on several examinations. The urine culture was sterile. Hematologic studies were normal, and the blood Wasserman was negative. The blood urea nitrogen was 21 mg.%, and an intravenous urogram revealed normal kidneys and a small bladder.

Cystoscopy was performed under spinal anesthesia. The bladder contained clots and was diffusely inflamed, as was also the prostatic urethra. Urine from either kidney contained no tubercle bacilli, and culture for tubercle bacilli revealed no growth. Unfortunately routine culture of the urine from each kidney was not performed. Retrograde left pyelogram was normal.

He was given 0.15 Gm. of neoarsphenamine intravenously every other day for a total of 6 injections. When seen at University of Minnesota Hospitals one month later, he was symptomless, and his urine was sterile and negative microscopically.

#### Case 2.

a 16-year old farmboy had had sexual intercourse in November, 1945. A week later he noted dysuria, and a week after that, increasing frequency, terminal hematuria, and tenesmus. He did not know whether there had been an urethral discharge. On physical examination he was seen to have subconjunctival hemorrhage

in the right eye. There was no exudate, but the structure smarted somewhat. There was suprapubic pain and tenderness, and the prostate was tender. There was a mild herpes proiesitalis but no urethral discharge. Leucocytosis was present although his temperature remained normal throughout his hospital stay. The urine contained 2 plus red cells and white cells on half a dozen occasions. Repeated smears and cultures for gonococcus, tubercle bacilli, and the usual pathogens were all negative. The conjunctival fluid was sterile. Detailed blood studies showed no cause for the conjunctival hemorrhage. An intravenous urogram showed only a contracted bladder. The Wasserman reaction was negative, and cultures, smears, and dark-field examination of the genital lesion revealed no pathogenic organisms.

He was given 0.15 Gm. neoarsphenamine every 2 days for a total of 6 injections. After the second injection his symptoms began to recede, and when seen 1 week ago, he was asymptomatic, and his urine was sterile and negative microscopically.

One might suggest that the latter case is one of Reiter's disease which is a disease with a triad of symptoms consisting of urethritis, conjunctivitis, and arthritis. In the case reported, however, no urethral discharge was noted during the 2 weeks of hospitalization, and the eye displayed hemorrhage rather than an exudative process. Thirdly, the case here reported cleared up nicely on neoarsphenamine therapy, and such is not the story in Reiter's disease.

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III.

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
and  
CONTINUATION COURSE IN BASIC SCIENCES

Friday, January 4

- 7:30 - 8:30 Breakfast. Center dining room.  
9:00 - 11:00 Registration. Dormitory Desk, Main Lobby, Center for  
Continuation Study ..... Staff  
11:00 Convocation (Chapel) .....  
J. M. Nolte, Director of University Extension  
William A. O'Brien, Director, Postgraduate Medical  
Education  
1:00 Luncheon. Center dining room.  
2:00 Orientation: BASIC SCIENCES (Room 231-33)  
W. D. Armstrong, Professor of Physiological Chemistry  
E. A. Boyden, Professor of Anatomy  
H. S. Wells, Professor of Biophysics  
2:00 Orientation: MEDICINE (Room 235)  
W. A. O'Brien, Director, Postgraduate Medical  
Education  
6:00 Dinner. Center dining room.

Saturday, January 5 (Chapel)

- 7:30 Breakfast. Center dining room.  
8:30 Social Change and the Practice of Medicine .....  
W. A. O'Brien, Director, Postgraduate Medical  
Education  
9:00 Medical and Vocational Rehabilitation (Civilian) .....  
Ben R. Brainerd, Acting Director, Division of  
Vocational Rehabilitation, State of Minnesota  
9:30 Organization and Objectives of the Division of Social Welfare ...  
Jarle Lierfallon, Acting Director, Department of  
Social Security, State of Minnesota  
10:00 Pre-payment Plans for Hospital Service .....  
Lambert Schulz, Representative, Minnesota Hospital  
Service Association  
10:30 Hospital Inspection and Licensing .....  
Viktor O. Wilson, Director, Division of Child  
Hygiene, Minnesota Department of Health  
11:00 Prepayment Medical Plans .....  
Myron M. Weaver, Acting Assistant Dean,  
Medical School  
11:30 Discussion ..... Staff  
12:00 Luncheon. Center dining room.

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(First Week)

Monday, January 7, 1946

7:30 Breakfast. Center dining room.  
8:30 Introduction to Infectious Diseases ..... Wesley W. Spink  
9:30 Respiratory Diseases ..... Wesley W. Spink  
10:30 Antibacterial Defense Mechanisms of the Respiratory  
Tract ..... W. Barry Wood, Jr.  
11:30 Radiologic Manifestations of Respiratory Diseases  
..... L. G. Rigler  
12:30 Luncheon. Center dining room.  
2:30-5:00 Medical Clinic .....  
Group A -- Minneapolis General Hospital  
G. E. Fahr  
H. T. Koschnitzke  
R. C. Lindgren  
and associates  
Group B -- Ancker Hospital, St. Paul  
E. B. Flink  
David M. Craig  
and associates  
6:00 Dinner. Center dining room.

Tuesday, January 8

7:30 Breakfast. Center dining room.  
8:30 Radiologic Manifestations of Respiratory Diseases  
(concluded) ..... L. G. Rigler  
9:30 The Pneumonias ..... Wesley W. Spink  
10:30 Mechanism of Recovery in Pneumococcal Pneumonia .....  
..... W. Barry Wood, Jr.  
11:30 Round Table -- The Pneumonias  
W. Barry Wood, Jr.  
Wesley W. Spink  
L. G. Rigler  
and associates  
12:30 Luncheon. Center dining room.  
6:00 Dinner. Center dining room.

Wednesday, January 9

7:30 Breakfast. Center dining room.  
8:30 Introduction to Streptococcal Diseases ..... Wesley W. Spink  
Classification  
Disease Manifestations  
9:30 Epidemiology of Hemolytic Streptococcal Infections .....  
..... T. Duckett Jones  
10:30 Clinical Manifestations of Rheumatic Fever .... T. Duckett Jones  
11:30 End Results of Rheumatic Fever ..... M. J. Shapiro  
12:30 Luncheon. Center dining room.

Wednesday, January 9 (continued)

- 2:30-5:00 Medical Clinic .....
- Group A -- Minneapolis General Hospital  
G. E. Fahr  
H. T. Koschnitzke  
R. C. Lindgren  
and associates
- Group B -- Ancker Hospital, St. Paul  
E. B. Flink  
David M. Craig  
and associates
- 6:00 Dinner. Center dining room.
- 8:15 Clarence M. Jackson Lecture -- Rheumatic Fever -- sponsored  
by Phi Beta Pi Medical Fraternity ..... T. Duckett Jones  
(Museum of Natural History Auditorium)

Thursday, January 10

- 7:30 Breakfast. Center dining room.
- 8:30 Brucellosis and Tularemia .....
- ..... Wendell H. Hall and Wesley W. Spink
- 9:30 Staphylococcal, Gonococcal, and Meningococcal Infections .....
- ..... Wesley W. Spink
- 10:30 Community Program in Care of Patients with Rheumatic  
Fever ..... T. Duckett Jones
- 11:30 Round Table -- Rheumatic Fever .....
- T. Duckett Jones  
M. J. Shapiro  
Paul Dwan  
and associates
- 12:30 Luncheon. Center dining room.
- 2:30-5:00 Medical Clinic .....
- Group A -- Minneapolis General Hospital  
G. E. Fahr  
H. T. Koschnitzke  
R. C. Lindgren  
and associates
- Group B -- Ancker Hospital, St. Paul  
E. B. Flink  
David M. Craig  
and associates
- 6:00 Dinner. Center dining room.

Friday, January 11

- 7:30 Breakfast. Center dining room.
- 8:30 Introduction to Virus Diseases ..... Charles A. Evans
- 9:30 The Common Cold ..... Donald W. Cowan
- 10:30 Influenza ..... John H. Dingle
- 11:30 Round Table -- Virus Respiratory Diseases .....
- John H. Dingle  
Charles A. Evans  
Donald W. Cowan  
and associates
- 12:30 Luncheon. Center dining room.

Friday, January 11 (continued)

2:30-5:00 Medical Clinic .....  
 Group B -- Ancker Hospital, St. Paul  
 E. B. Flink  
 David M. Craig  
 and associates

6:00 Dinner. Center dining room.

Saturday, January 12

7:30 Breakfast. Center dining room.  
 8:30 Respiratory Diseases in Infants ..... John M. Adams  
 9:30 Atypical Pneumonia ..... John H. Dingle  
 10:30 Virus Diseases of Central Nervous System ..... A. B. Baker  
 11:30 Virus Diseases of the Skin .....  
 ..... Francis W. Lynch and Richard J. Steves  
 12:30 Luncheon. Center dining room.

NOTE: Medical Clinic at Minneapolis General Hospital in Contagious Diseases will be announced.

NOTE: Please note time schedule for buses on bulletin board.

Faculty

John M. Adams ..... Associate Professor of Pediatrics  
 A. B. Baker ..... Associate Professor of Neuropsychiatry  
 Donald W. Cowan ..... Associate Professor of Public Health  
 David M. Craig ..... Medical Fellow in Medicine  
 John H. Dingle, Major, M.C. .... Commission on Acute Respiratory Diseases  
 Regional Hospital, Ft. Bragg, North Carolina  
 Paul Dwan ..... Clinical Assistant Professor of Pediatrics  
 Charles A. Evans ..... Associate Professor of Bacteriology  
 and Immunology  
 G. E. Fahr ..... Professor of Medicine  
 E. B. Flink ..... Assistant Professor of Medicine  
 Wendell H. Hall ..... Clinical Instructor in Medicine  
 T. Duckett Jones ..... Associate Professor of Medicine  
 Harvard University Medical School  
 H. T. Koschnitzke ..... Instructor in Medicine  
 R. C. Lindgren ..... Clinical Instructor in Medicine  
 Francis W. Lynch ..... Associate Professor of Dermatology  
 J. M. Nolte ..... Director of University Extension  
 William A. O'Brien ..... Director, Postgraduate Medical Education  
 L. G. Rigler ..... Professor of Radiology  
 M. J. Shapiro ..... Clinical Assistant Professor of Medicine  
 Wesley W. Spink ..... Associate Professor of Medicine  
 Richard J. Steves ..... Medical Fellow in Dermatology  
 W. Barry Wood, Jr. .... Professor of Medicine  
 Washington University Medical School  
 A. V. Stoesser ..... Associate Professor of Pediatrics

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(Second Week)

Monday, January 14, 1946

7:30 Breakfast. Center dining room.  
9:00 Rickettsial Diseases..... Wesley W. Spink  
10:00 Parasitic Diseases ..... Thomas B. Magath  
11:00 Spirochetal Diseases ..... Fordyce R. Heilman  
12:00 Luncheon. Center dining room.  
Medical Clinic  
1:00 Group A -- Ancker Hospital, St. Paul  
E. B. Flink  
David M. Craig  
and associates  
2:00 Group B -- Minneapolis General Hospital  
G. E. Fahr  
H. T. Koschnitzke  
R. C. Lindgren  
David L. Fingerman  
and associates  
6:00 Dinner. Center dining room.  
8:00 Meeting -- Clinical Research Club, Eustis Amphitheatre,  
University Hospitals. (Clinical Investigations by Junior  
Staff Members)  
Studies in the Anemias of Pregnancy  
Roy G. Holly, Medical Fellow in Obstetrics  
and Gynecology  
Central Nervous System in Acute Disseminated Lupus  
Erythematosus  
David Daly, Medical Fellow in Neuropsychiatry  
Hepatogenous Pruritus and Its Relief by External  
Biliary Fistulization  
Richard Varco, Assistant Professor of Surgery

Tuesday, January 15, 1946

7:30 Breakfast. Center dining room.  
8:00 Therapy of Infectious Diseases ..... Wesley W. Spink  
9:00 Antibiotic Therapy ..... Wallace E. Herrell  
Penicillin  
Tyrothricin  
10:00 Streptomycin ..... Wallace E. Herrell  
11:00 Round Table -- Therapy of Infectious Diseases  
..... Wesley W. Spink, Wallace E. Herrell  
12:00 Luncheon. Center dining room.  
6:00 Dinner. Center dining room.  
8:00 Meeting -- Minnesota Pathological Society  
(15 Medical Sciences, Amphitheatre)  
Uremia Due to Primary Hyperparathyroidism  
..... Ambrose J. Hertzog  
Pathology of Diabetes Mellitus ..... E. T. Bell

Wednesday, January 16, 1946

7:30 Breakfast. Center dining room.  
 8:00 Case Finding in Tuberculosis ..... J. A. Myers  
 9:00 Surgical Treatment of Tuberculosis ..... Thomas J. Kinsella  
 10:00 Roentgenologic Signs of Tuberculosis ..... Walter Ude  
 11:00 Management of Tuberculosis ..... Francis F. Callahan  
 12:00 Luncheon. Center dining room.  
                 Medical Clinic  
 1:00 Group A -- Ancker Hospital, St. Paul  
                 E. B. Flink  
                 David M. Craig  
                 and associates  
 2:00 Group B -- Minneapolis General Hospital  
                 G. E. Fahr  
                 H. T. Koschnitzke  
                 R. C. Lindgren  
                 David L. Fingerman  
                 and associates  
 6:00 Dinner. Center dining room.

Thursday, January 17, 1946

7:30 Breakfast. Center dining room.  
 9:00 Bronchogenic Carcinoma, Bronchiectasis, Pneumoconiosis,  
                 Emphysema, and Atelectasis (Clinical Aspects)  
                 ..... Thomas Lowry  
 10:00 Radiologic Aspects ..... L. G. Rigler  
 11:00 Round Table -- Chronic Pulmonary Lesions  
                 ..... Thomas Lowry, L. G. Rigler  
 12:00 Luncheon. Center dining room.  
                 Medical Clinic  
 1:00 Group A -- Ancker Hospital, St. Paul  
                 E. B. Flink  
                 David M. Craig  
                 and associates  
 1:00 Group B -- Minneapolis General Hospital  
                 G. E. Fahr  
                 H. T. Koschnitzke  
                 R. C. Lindgren  
                 David L. Fingerman  
                 and associates  
 6:00 Dinner. Center dining room.

Friday, January 18, 1946

7:30 Breakfast. Center dining room.  
 8:00 Clinical Aspects of Allergy in Childhood ..... A. V. Stoesser  
 9:00 Clinical Aspects of Allergy in Childhood (Concluded)  
                 ..... A. V. Stoesser  
 10:00 Hay Fever and Asthma and Other Allergic Disorders  
                 ..... Francis M. Rackemann  
 12:00 Luncheon. Center dining room.  
                 Medical Clinic  
 2:30 Group A -- Ancker Hospital, St. Paul  
                 E. B. Flink  
                 David M. Craig  
                 and associates  
 6:00 Dinner. Center dining room.

Saturday, January 19, 1946

7:30 Breakfast. Center dining room.  
 8:00 Clinical Allergy in University of Minnesota Students  
 ..... Donald W. Cowan  
 9:00 Histamine Headaches ..... Bayard T. Horton  
 10:00 Hay Fever and Asthma and Other Allergic Disorders  
 (Concluded) ..... Francis M. Rackemann  
 12:00 Luncheon. Center dining room.

Faculty

E. T. Bell ..... Professor of Pathology  
 Francis F. Callahan ..... Medical Director, Minnesota State Sanatorium  
 Ah-Gwah-Ching, Minnesota  
 Donald W. Cowan ..... Associate Professor of Public Health  
 David M. Craig ..... Medical Fellow in Medicine  
 G. E. Fahr ..... Professor of Medicine  
 David L. Fingerman ..... Medical Fellow in Medicine  
 E. B. Flink ..... Assistant Professor of Medicine  
 Fordyce R. Heilman ..... Associate Professor of Bacteriology  
 Mayo Foundation, Rochester, Minnesota  
 Wallace E. Herrell ..... Assistant Professor of Medicine  
 Mayo Foundation, Rochester, Minnesota  
 Ambrose J. Hertzog ..... Assistant Professor of Pathology  
 Bayard T. Horton ..... Associate Professor of Medicine  
 Mayo Foundation, Rochester, Minnesota  
 Thomas J. Kinsella ..... Clinical Associate Professor of Surgery  
 H. T. Koschnitzke ..... Instructor in Medicine  
 R. C. Lindgren ..... Clinical Instructor in Medicine  
 Thomas Lowry ..... Clinical Assistant Professor of Medicine  
 Thomas B. Magath ..... Professor of Parasitology  
 Mayo Foundation, Rochester, Minnesota  
 J. A. Myers ..... Professor of Medicine  
 William A. O'Brien ..... Director, Postgraduate Medical Education  
 Francis M. Rackemann ..... Physician, Massachusetts General Hospital  
 Associate in Medicine, Harvard Medical School, Boston  
 L. G. Rigler ..... Professor of Radiology  
 Wesley W. Spink ..... Associate Professor of Medicine  
 A. V. Stoesser ..... Associate Professor of Pediatrics  
 Walter J. Ude ..... Clinical Assistant Professor of Radiology

Bus Schedule for Medical Clinics

Group A -- Ancker Hospital, St. Paul  
 Monday, January 14 Leave 12:30 p.m.  
 Wednesday, January 16 " 12:30 p.m.  
 Thursday, January 17 " 12:30 p.m.  
 (Friday, January 18, transportation to be furnished  
 by registrants, leave 1:45 p.m.)  
 Group B -- Minneapolis General Hospital  
 Monday, January 14 Leave 1:30 p.m.  
 Wednesday, January 16 " 1:30 p.m.  
 Thursday, January 17 " 12:30 p.m.

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(Third Week)

Monday, January 21, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:20 Dermatology: A review and a forecast .... Henry E. Michelson  
9:30 - 10:20 Lupus Erythematosus ..... Louis A. Brunsting  
10:30 - 11:50 Dermatomyositis ..... Paul A. O'Leary  
12:00 Luncheon. Center dining room.  
1:00 - 2:50 General Consideration of Allergy ..... A. Rostenberg, Jr.  
3:00 - 3:50 Atopy ..... Elmer M. Rusten  
4:00 - 5:00 Drug Eruptions ..... Louis A. Brunsting  
6:00 Dinner. Center dining room.

Tuesday, January 22, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:20 Contact Dermatitis ..... Elmer M. Rusten  
9:30 - 10:20 Industrial Dermatoses ..... A. Rostenberg, Jr.  
10:30 - 11:50 Eczema ..... Felix Pinkus  
12:00 Luncheon. Center dining room.  
1:00 Clinic -- Minneapolis General Hospital  
..... Samuel E. Sweitzer and Harry A. Cumming  
(Bus leaves Center at 12:30 p.m.)  
6:00 Dinner. Center dining room.

Wednesday, January 23, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 The Influence of Psychic and Emotional Factors in  
Dermatology ..... Francis W. Lynch  
9:20 - 9:50 Psycho-Biologic Studies in Atopic Eczema...Robert G. Hinckley  
9:50 - 10:20 Neurotic Excoriations and Related Disorders  
..... Rodney F. Kendall  
10:30 - 11:10 The Psychosomatic Approach to Dermatology ... Edwin F. Gildea  
11:20 - 12:00 Psoriasis ..... John F. Madden  
12:00 Luncheon. Center dining room.  
2:00 - 2:50 Tuberculosis and Sarcoid ..... Henry E. Michelson  
3:00 - 4:00 Round Table -- Questions and Answers  
..... Henry E. Michelson and Associates  
6:00 Dinner. Center dining room.

Thursday, January 24, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:15 History of Syphilis Therapy ..... Henry E. Michelson  
9:25 - 10:10 Experiences in Treatment of Early Syphilis...Robert L. Barton  
10:20 - 11:10 The Diagnosis of Syphilis of the Central Nervous System  
..... Edwin F. Gildea  
11:20 - 12:00 Discussion ..... Paul A. O'Leary  
12:00 Luncheon. Center dining room.  
2:00 Clinic -- Ancker Hospital, St. Paul  
..... John F. Madden and Francis W. Lynch  
(Bus leaves Center at 1:15 p.m.)  
6:00 Dinner. Center dining room.



Friday, January 25, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:15	Pyodermas of Acne ..... Robert R. Kierland
9:25 - 10:10	Impetigo ..... Stephen Epstein
10:20 - 11:10	Fungus Infections ..... Carl W. Laymon
11:20 - 12:00	Xanthomas ..... Hamilton Montgomery
12:00	Luncheon. Center dining room.
2:00 - 2:50	Dermatological Conference ..... Henry E. Michelson
3:00 - 4:00	Urticaria ..... Arthur C. Curtis
6:00	Dinner. Center dining room.

Saturday, January 26, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Lymphoblastomas ..... Arthur C. Curtis
9:30 - 10:20	Leukemia ..... Felix Pinkus
10:30 - 12:00	Pre-cancerous Lesions and Cancer ..... Carl W. Laymon and Henry E. Michelson
12:00	Luncheon. Center dining room.

Faculty

Robert L. Barton	..... P. A. Surgeon, United States Public Health Service Chicago, Illinois
Louis A. Brunsting	..... Associate Professor of Dermatology and Syphilology Mayo Foundation, Rochester, Minnesota
Harry A. Cumming	..... Clinical Instructor in Dermatology
Arthur C. Curtis	..... Professor of Dermatology, University of Michigan
Stephen Epstein	..... Marshfield Clinic, Marshfield, Wisconsin
Edwin F. Gildea	..... Department of Neuropsychiatry Washington University School of Medicine, St. Louis, Missouri
Robert G. Hinckley	..... Associate Professor of Neuropsychiatry
Rodney F. Kendall	..... Clinical Instructor in Dermatology
Robert R. Kierland	..... Assistant Professor of Dermatology and Syphilology Mayo Foundation, Rochester, Minnesota
Carl W. Laymon	..... Clinical Associate Professor of Dermatology
Francis W. Lynch	..... Clinical Associate Professor of Dermatology
John F. Madden	..... Clinical Assistant Professor of Dermatology
Henry E. Michelson	..... Professor of Dermatology
Hamilton Montgomery	..... Associate Professor of Dermatology and Syphilology Mayo Foundation, Rochester, Minnesota
William A. O'Brien	..... Director, Postgraduate Medical Education
Paul A. O'Leary	..... Professor of Dermatology and Syphilology Mayo Foundation, Rochester, Minnesota
Felix Pinkus	..... Visiting Professorial Lecturer, Monroe, Michigan
A. Rostenberg, Jr.	..... College of Medicine, University of Illinois Chicago, Illinois
Elmer M. Rusten	..... Clinical Assistant Professor of Dermatology
Samual E. Sweitzer	..... Clinical Professor of Dermatology

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(Fourth Week)

Program

Monday, January 28, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 Hemoglobin Metabolism ..... C. J. Watson  
9:20 - 10:20 Classification of the Anemias ..... C. J. Watson  
10:30 - 11:10 Physiology of Iron Metabolism ..... Carl V. Moore  
11:20 - 12:00 Iron Deficiency Anemia ..... Carl V. Moore  
12:00 Luncheon. Center dining room.  
Medical Clinics  
1:00 Group B -- Ancker Hospital, St. Paul  
Edmund B. Flink  
David M. Craig  
and associates  
2:00 Group A -- Minneapolis General Hospital  
G. E. Fahr  
H. K. Koschnitzke  
R. C. Lindgren  
David L. Fingerman  
and associates  
6:00 Dinner. Center dining room.

Tuesday, January 29, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 Pernicious Anemia ..... C. J. Watson  
9:20 - 10:20 Hemolytic Anemias ..... C. J. Watson  
10:30 - 11:10 Anemia Due to Deficiency of Dietary Factors  
Other Than Iron ..... Carl V. Moore  
11:20 - 12:00 Refractory Anemias ..... C. J. Watson  
12:00 Luncheon. Center dining room.  
2:30 - 4:20 Medical Clinic  
University of Minnesota Hospitals (Todd Amphitheatre)  
C. J. Watson  
Carl V. Moore  
and associates  
6:00 Dinner. Center dining room.

Wednesday, January 30, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 Useful Laboratory Methods in Blood Diseases  
..... Edmund B. Flink  
9:20 - 10:20 Polycythemia ..... John J. Boehrer  
10:30 - 11:10 Physiology of Hemostasis (clotting mechanism)  
..... Armand J. Quick  
11:20 - 12:00 Prothrombin Time, Thromboplastin Method, Clinical  
Hypothrombinemia ..... Armand J. Quick  
12:00 Luncheon. Center dining room.

(Continued on next page)

Wednesday, January 30, 1946 (continued)Medical Clinics

- 1:00 Group B -- Ancker Hospital, St. Paul  
Edmund B. Flink  
David M. Craig  
and associates
- 2:00 Group A -- Minneapolis General Hospital  
C. E. Fahr  
H. K. Koschnitzke  
R. C. Lindgren  
David L. Fingerman  
and associates
- 6:00 Dinner. Center dining room.

Thursday, January 31, 1946

- 7:30 - 8:30 Breakfast. Center dining room.
- 8:30 - 9:10 Purpura and Hemorrhagic Disease ..... Armand J. Quick
- 9:20 - 10:20 Lymphatic Leukemia and Reticuloendotheliosis  
..... Charles H. Watkins
- 10:30 - 11:10 Infectious Mononucleosis ..... Byron E. Hall
- 11:20 - 12:00 Discussion  
..... Charles H. Watkins, Byron E. Hall, and associates
- 12:00 Luncheon. Center dining room.

Medical Clinics

- 1:00 Group B -- Ancker Hospital, St. Paul  
Edmund B. Flink  
David M. Craig  
and associates
- 2:00 Group A -- Minneapolis General Hospital  
G. E. Fahr  
H. K. Koschnitzke  
R. C. Lindgren  
David L. Fingerman  
and associates
- 6:00 Dinner. Center dining room.

Friday, February 1, 1946

- 7:30 - 8:30 Breakfast. Center dining room.
- 8:30 - 9:10 General Considerations of Liver Functions  
(Bilirubin and Urobilinogen) ..... C. J. Watson
- 9:20 - 10:10 Alterations in Protein and Lipid Metabolism in  
Liver Disease ..... Charles L. Hoaglund
- 10:20 - 11:00 Carbohydrate and the Damaged Liver  
(Phospholipid turnover) ..... Jesse L. Bollman
- 11:10 - 12:00 Mechanism of Ascites Formation ..... Charles L. Hoaglund
- 12:00 Luncheon. Center dining room.

Medical Clinic

- 2:30 Group B -- Ancker Hospital, St. Paul  
Edmund B. Flink  
David M. Craig  
and associates
- 6:00 Dinner. Center dining room.

Saturday, February 2, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:10	Present Concept of Hepatitis (Acute Catarrhal Jaundice) ..... C. J. Watson
9:20 - 10:10	Pathologic Physiology of Hepatitis ... Charles L. Hoaglund
10:20 - 11:00	The Relation of Hepatitis to Cirrhosis ..... C. J. Watson
11:10 - 12:00	The Treatment of Hepatitis and Cirrhosis ..... Charles L. Hoaglund
12:00	Luncheon. Center dining room.

Faculty

John J. Boehrer ..... Clinical Assistant Professor of Medicine

Jesse L. Bollman ..... Professor of Physiology  
Mayo Foundation, Rochester

David M. Craig ..... Medical Fellow in Medicine

G. E. Fahr ..... Professor of Medicine

David L. Fingerman ..... Medical Fellow in Medicine

Edmund B. Flink ..... Assistant Professor of Medicine

Byron E. Hall ..... Assistant Professor of Medicine  
Mayo Foundation, Rochester

Charles L. Hoaglund ..... Rockefeller Institute, New York City

H. K. Koschnitzke ..... Instructor in Medicine

R. C. Lindgren ..... Clinical Instructor in Medicine

Carl V. Moore ..... Washington University, St. Louis, Missouri

William A. O'Brien ..... Director, Postgraduate Medical Education

Armand Quick ..... Professor of Biochemistry  
Marquette University, Milwaukee, Wisconsin

Charles H. Watkins ..... Associate Professor of Medicine  
Mayo Foundation, Rochester

C. J. Watson ..... Professor of Medicine

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(Fifth Week)

Monday, February 4, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 Peritoneoscopy and Liver Biopsy ..... F. W. Hoffbauer  
9:20 - 10:20 Differentiation of Hepatogenous and Obstructive  
Jaundice ..... Franklin W. Hanger  
10:30 - 11:10 Demonstration of Certain Procedures Used in the  
Study of Jaundice ..... C. J. Watson  
11:20 - 12:00 Serum Proteins in Liver Disease ..... Franklin W. Hanger  
12:00 Luncheon. Center dining room.  
Medical Clinics  
1:00 Group A -- Ancker Hospital, St. Paul  
Edmund B. Flink  
David M. Craig  
and associates  
2:00 Group B -- Minneapolis General Hospital  
G. E. Fahr  
H. K. Koschnitzke  
R. C. Lindgren  
David L. Fingerman  
and associates  
6:00 Dinner. Center dining room.

Tuesday, February 5, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:10 Jaundice Due to Cancer ..... C. J. Watson  
9:20 - 10:20 Newer Surgical Management of Bleeding Varices and Its  
Effect on Liver Function ..... Franklin W. Hanger  
10:30 - 11:10 Radiologic Manifestations of Biliary Tract Disease  
..... B. R. Kirklin  
11:20 - 12:00 Pancreatic Disease ..... Mandred Comfort  
12:00 Luncheon. Center dining room.  
2:30 - 4:20 Medical Clinic -- Hepatic Disease  
University of Minnesota Hospitals (Todd Amphitheatre)  
C. J. Watson  
Franklin W. Hanger  
B. R. Kirklin  
Mandred Comfort  
and associates  
6:00 Dinner. Center dining room.

Wednesday, February 6, 1946

7:30 - 8:30 Breakfast. Center dining room.  
8:30 - 9:20 Radiologic Manifestations of Diseases of Stomach  
and Duodenum ..... B. R. Kirklin  
9:30 - 10:10 Gastritis ..... Walter L. Palmer  
10:20 - 12:00 Treatment of Peptic Ulcer  
..... Walter L. Palmer, Richard L. Varco and associates  
12:00 Luncheon. Center dining room.

(continued on next page)

## Continuation Course in Medicine (Fifth Week)

Wednesday, February 6, 1946 (continued)

Medical Clinics

1:00                    Group A -- Ancker Hospital, St. Paul  
   Edmund B. Flink  
   David M. Craig  
   and associates

2:00                    Group B -- Minneapolis General Hospital  
   G. E. Fahr  
   H. K. Koschnitzke  
   R. C. Lindgren  
   David L. Fingerman  
   and associates

6:00                    Dinner. Center dining room.

Thursday, February 7, 1946

7:30 - 8:30            Breakfast. Center dining room.

8:30 - 9:10            Diseases of the Small Bowel Including Sprue  
   ..... Edmund B. Flink

9:20 - 10:20          Radiologic Manifestations of Disease of the Small  
   Bowel ..... Harry M. Weber

10:30 - 11:10          Polyps, Pernicious Anemia, and Cancer of the Stomach  
   ..... L. G. Rigler

11:20 - 12:00          Cancer of the Stomach ..... Walter L. Palmer

12:00                   Luncheon. Center dining room.

Medical Clinics

1:00                    Group A -- Ancker Hospital, St. Paul  
   Edmund B. Flink  
   David M. Craig  
   and associates

2:00                    Group B -- Minneapolis General Hospital  
   G. E. Fahr  
   H. K. Koschnitzke  
   R. C. Lindgren  
   David L. Fingerman  
   and associates

6:00                    Dinner. Center dining room.

8:00                    Annual George Chase Christian Lecture --  
   Mice, Men, and Malignancy ..... Leonell C. Strong

Friday, February 8, 1946

7:30 - 8:30            Breakfast. Center dining room.

8:30 - 9:10            Diverticulosis and Diverticulitis ..... Reuben A. Johnson

9:20 - 10:30          Radiologic Manifestations of Diseases of the Colon  
   ..... Harry M. Weber

10:40 - 12:00          Ulcerative Colitis ..... J. A. Bargen

12:00                   Luncheon. Center dining room.

Medical Clinics

2:30                    Group A -- Ancker Hospital, St. Paul  
   Edmund B. Flink  
   David M. Craig  
   and associates

6:00                    Dinner. Center dining room.

## Continuation Course in Medicine

Saturday, February 9, 1946

7:30 - 8:30 Breakfast. Center dining room.  
 8:30 - 9:05 Movie -- "Proctoscopy"  
 9:10 - 9:50 Dysenteries ..... Herbert F. R. Plass  
 10:00 - 10:50 Malignant Lesions of the Colon and Rectum .... W. A. Fansler  
 11:00 - 12:00 Functional Bowel Disorders ..... Elmer G. Wakefield  
 12:00 Luncheon. Center dining room.

Faculty

J. A. Bargen ..... Associate Professor of Medicine  
 Mayo Foundation, Rochester  
 Mandred W. Comfort ..... Associate Professor of Medicine  
 Mayo Foundation, Rochester  
 David M. Craig ..... Medical Fellow in Medicine  
 Clarence Dennis ..... Associate Professor of Surgery  
 G. E. Fahr ..... Professor of Medicine  
 W. A. Fansler ..... Clinical Professor of Surgery  
 David L. Fingerman ..... Medical Fellow in Medicine  
 Edmund B. Flink ..... Assistant Professor of Medicine  
 Franklin W. Hanger ..... Associate Professor of Medicine  
 College of Physicians and Surgeons, New York City  
 F. W. Hoffbauer ..... Assistant Professor of Medicine  
 Reuben A. Johnson ..... Clinical Associate Professor of Medicine  
 B. R. Kirklin ..... Professor of Radiology  
 Mayo Foundation, Rochester  
 H. K. Koschnitzke ..... Instructor in Medicine  
 R. C. Lindgren ..... Clinical Instructor in Medicine  
 William A. O'Brien ..... Director, Postgraduate Medical Education  
 Walter L. Palmer ..... Professor of Medicine  
 University of Chicago  
 Herbert F. R. Plass ..... Medical Fellow in Medicine  
 Northwestern Hospital, Minneapolis  
 L. G. Rigler ..... Professor of Radiology  
 Leonell C. Strong ..... Associate Professor of Anatomy  
 Yale University Medical School  
 Richard L. Varco ..... Assistant Professor of Surgery  
 Elmer G. Wakefield ..... Associate Professor of Medicine  
 Mayo Foundation, Rochester  
 C. J. Watson ..... Professor of Medicine  
 Harry M. Weber ..... Assistant Professor of Radiology  
 Mayo Foundation, Rochester

UNIVERSITY OF MINNESOTA  
Center for Continuation Study

CONTINUATION COURSE IN MEDICINE  
(Sixth Week)

Monday, February 11, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Nutritional Requirement of the Infant ..... Irvine McQuarrie Breast Feeding ..... L. F. Richdorf
9:30 - 10:20	Artificial Feeding ..... John M. Adams Psychological Factors in Infant Feeding ... Reynold A. Jensen
10:30 - 11:20	Rickets and Tetany ..... Edwards A. Park
11:30 - 12:00	Discussion: Problems of Nutrition in Childhood ..... Edwards A. Park, Irvine McQuarrie, and Associates
12:00	Luncheon. Center dining room.
2:30 -	<u>Medical Clinics</u>
	Group A -- Minneapolis General Hospital
	Group B -- Ancker Hospital, St. Paul
6:00	Dinner. Center dining room.

Tuesday, February 12, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Premature Infant ..... Albert V. Stoesser
9:30 - 10:20	Infantile Diarrhea and Vomiting ..... Willis H. Thompson
10:30 - 11:20	Scurvy ..... Edwards A. Park
11:30 - 12:00	Discussion: Problems of Nutrition in Childhood (concluded) ..... Edwards A. Park, Irvine McQuarrie, and Associates
12:00	Luncheon. Center dining room.
6:00	Dinner. Center dining room.

Wednesday, February 13, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Hematology of Normal Infant ..... Marguerite Booth Bone Marrow Studies ..... Dorothy Sundberg
9:30 - 10:50	Anemias of Newborn and Older Infants ..... Louis K. Diamond
11:00 - 12:00	Purpuras of Childhood ..... Roger L. J. Kennedy
12:00	Luncheon. Center dining room.
2:00 - 4:00	Demonstration -- Sternal Aspiration ..... Dorothy Sundberg
6:00	Dinner. Center dining room.

Thursday, February 14, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Clinical Aspects of Leukemia ..... Marguerite Booth
9:30 - 10:20	Experimental Leukemia ..... Arthur Kirschbaum
10:30 - 11:20	Erythroblastosis Foetalis ..... Louis K. Diamond
11:30 - 12:00	Round Table -- Erythroblastosis Foetalis ..... Louis K. Diamond, Marguerite Booth, and Associates
12:00	Luncheon. Center dining room.
2:00 - 4:00	Clinic -- Pediatric Hematology ..... Marguerite Booth
6:00	Dinner. Center dining room.



Friday, February 15, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Pertussis and Parapertussis ..... E. J. Huenekens
9:30 - 10:20	Diphtheria ..... Albert V. Stoesser
10:30 - 11:20	Measles ..... Archibald L. Hoyne
11:30 - 12:00	Prenatal Infections -- German Measles and Toxoplasmosis ..... Forrest H. Adams
12:00	Luncheon. Center dining room.
2:30 - 5:00	Medical Clinic (Arranged)
6:00	Dinner. Center dining room.

Saturday, February 16, 1946

7:30 - 8:30	Breakfast. Center dining room.
8:30 - 9:20	Scarlet Fever ..... Erling S. Platou
9:30 - 10:20	The Meningitides ..... Archibald L. Hoyne
10:30 - 11:10	Mumps ..... John M. Adams
11:20 - 12:00	Round Table -- Contagious Diseases ..... Archibald L. Hoyne and Associates
12:00	Luncheon. Center dining room.

Faculty

Forrest H. Adams	..... Medical Fellow in Pediatrics
John M. Adams	..... Associate Professor of Pediatrics
Marguerite Booth	..... Assistant Professor of Pediatrics
Louis K. Diamond	..... Associate in Pediatrics, Harvard University
Archibald L. Hoyne	..... Professor of Pediatrics, University of Chicago
E. J. Huenekens	..... Clinical Professor of Pediatrics
Reynold A. Jensen	..... Associate Professor of Pediatrics
Roger L. J. Kennedy	..... Associate Professor of Pediatrics Mayo Foundation, Rochester, Minnesota
Arthur Kirschbaum	..... Associate Professor of Anatomy
Irvine McQuarrie	..... Professor of Pediatrics
William A. O'Brien	..... Director, Postgraduate Medical Education
Edwards A. Park	..... Professor of Pediatrics, Johns Hopkins University
L. F. Richdorf	..... Clinical Associate Professor of Pediatrics
Albert V. Stoesser	..... Associate Professor of Pediatrics
Dorothy Sundberg	..... Instructor in Anatomy
Willis H. Thompson	..... Clinical Assistant Professor of Pediatrics

IV.

UNIVERSITY OF MINNESOTA HOSPITALS  
Annual Report of the Blood Bank to the Clinical Staff

The Blood Bank has for the most part been able to maintain an adequate supply of blood through the contacts made by the doctors, social service, hospital administrative staff and the patient or his immediate relatives and friends.

To insure against a deficit being incurred by individuals unable to replace blood a professional donor system is available. In addition, the Blood Bank is credited with one donor for every ten received. In this manner 828 donations were made available during the year 1945 as a reserve to be used either as whole blood or to be stored as plasma.

The accompanying tables contain a monthly report of the Blood Bank activities as well as the per cent participation of the individual services.

The Blood Bank at the University of Minnesota Hospitals has successfully completed another year. The operational success of our Blood Bank has been made possible by the continued cooperation of the participating services and the cooperation of its individual members. We, the staff of the Blood Bank, wish to thank those participants.

Gerald M. Needham  
 Director of Blood Bank  
 December 31, 1945

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BLOOD BANK REPORT  
 UNIVERSITY OF MINNESOTA  
 HOSPITALS  
 1945

	Percent of Total Hospital Transfusions	<u>Donations</u>	<u>Transfusions</u>
General Surgery	61.4	4950	5374
Tumor Surgery	2.5	265	210
Fracture Surgery	0.6	84	57
Plastic Surgery	1.3	100	117
Neurosurgery	3.3	269	289
Urology	3.8	343	337
Orthopedics	1.0	104	95
Obstetrics and Gynecology	4.7	391	404
Pediatrics	11.4	1106	990
Medicine	9.2	632	811
Neurology	0.4	27	43
Ear, Nose and Throat	0.1	16	16

TOTAL NUMBER DONATIONS . . . . . 8287

TOTAL NUMBER TRANSFUSIONS . . . . . 8743

BALANCE DEFICIT . . . . . 456

## V. GOSSIP

As we near the halfway mark in the first quarter of the courses at the Center for Continuation Study, it is apparent that this type of instruction will meet a definite need. Over 80 physicians are enrolled in either the Continuation Course in Medicine or the Continuation Course in the Basic Sciences. These courses are arranged for physicians who plan to accept an association with a specialist, obtain a residency, prepare for an American Board examination, or return to practice. The Basic Science group includes physicians who plan to take training in Dermatology, Radiology, Orthopedics, Urology, Neuropsychiatry, Ophthalmology, Surgery, Medicine, Obstetrics, Gynecology, and Pediatrics. The Continuation Course in Medicine includes physicians who plan to take an American Board examination, obtain a residency in Medicine, or Surgery, and physicians who will go into practice (general or special) at the end. The program in the Basic Science courses is arranged so the men can have 3 free mornings and 1 free afternoon a week, so they may attend other University functions, including the Continuation Course in Medicine or spend the time in study. In the mornings they review recent developments in Physiology, Physiological Chemistry, Pharmacology, and Bacteriology. H. S. Wells, who represents the Department of Physiology, brings in other members of his department as the occasion demands; R. M. Bieter and associates are handling Pharmacology, and W. P. Larson is in charge of Bacteriology; E. A. Boyden and Wesley Schaeffer are teaching Anatomy. The physicians are dissecting under supervision and are enjoying their experience immensely. The body is divided according to interests as follows: chest, medicine; abdomen, surgery; extremities and back, orthopedics; head and neck, surgery and ophthalmology. In the spring quarter Anatomy will be replaced by Pathology, but the other subjects will remain the same. Assuming that 1-hour lecture is equivalent to one credit and laboratory work (dissection) is a 3:1 ratio the course required subjects equal 15 credits. If these students register later in the graduate school they may petition to have their work applied on course registration required for graduate training, so it is

not necessary for them to register in the graduate school at the present time. Experience with the Basic Science course indicates this is a valuable type of instruction for physicians, especially those who have been away from medical practice 4-5 years, or in the case of many who have had no opportunity to practice following internship. The course in Medicine is based upon teaching outlines developed by the Department and it also includes sections on Dermatology, Neuropsychiatry, and certain phases of Diseases of Children. The plan of inviting distinguished leaders from other medical centers is meeting with great success. This has also given the visitors a chance to see how our plan is operated so they may bring it back to their group. Of special interest in the Medical Course is the success of the ward rounds at the Minneapolis General Hospital and the Ancker Hospital, St. Paul. The men are getting their fingers into things and like it immensely. It would be a mistake to give only lectures or only ward walks in the short period at our disposal. The more we look at these courses, the more we think of the possibility of combining the two in such a way that fundamental considerations, technical demonstrations, laboratory studies would lead to the ward there the student would see his new knowledge applied in the solution of the patient's problem. The University of Iowa Medical School has found that about 2/3rds of medical knowledge can be correlated in this way. This would require a longer time probably 9 months, but, it might be included in sections with residencies. Registrations for the spring quarter in both the Course in Surgery and the Course in Basic Sciences are being received and late comers are put on a waiting list, and given a number (anyone interested is encouraged to write). Ultimate plans for the Minnesota group of residencies is to have about 175 men stationed in the various hospitals in the group. (This does not include men at the Mayo Clinic.) Some people believe this program is a postwar emergency measure but we think it is a permanent addition to our teaching program. We are badly in need of more space and more faculty, but will have to get along with present space for some time...