

*Bulletin* of the  
University of Minnesota Hospitals  
and  
Minnesota Medical Foundation



Serum Lipids  
In Acne Vulgaris

BULLETIN OF THE  
UNIVERSITY OF MINNESOTA HOSPITALS  
and  
MINNESOTA MEDICAL FOUNDATION

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## I. SERUM LIPIDS IN ACNE VULGARIS

C. Gordon Vaughn, M.D.\*

Although acne vulgaris cannot be regarded as a serious disease when measured in terms of life and death, it nevertheless becomes important to the patient out of proportion to its seriousness as demonstrated by the large number and frequent visits of patients that present themselves for treatment. The incidence of this affliction at the time of puberty becomes frequent enough so that many writers consider the occurrence to be physiological as a manifestation of changed hormonal secretion in the adolescent. This correlation between concomitant onset of puberty and acne vulgaris was noted by Aristotle who used the derivation of the term acne meaning "the first growth of the beard."<sup>1</sup> The scientific proof of this correlation, however, was lacking until Bloch<sup>2</sup> in 1931 supported this hypothesis. However, multiple factors are assumed contributory as no single etiological background is found consistently and correction of any single factor alone is insufficient in treatment or prevention. These factors have been studied to varying degrees. Hereditary factors were studied by Stokes and King<sup>3</sup> and familial background was noted by Hellier<sup>4</sup> as early as 1910. A bacterium, *Corynebacterium acnes*, was suggested by Engman<sup>5</sup> as the causative factor and since then many organisms have been incriminated which, however, have not been found consistently and are usually considered saprophytic. The micrococcus is still considered by many as important particularly in those cases which improve with *Staphylococcus vaccine*. Carbohydrate metabolism has been shown by Blanco and group<sup>6</sup> to have no effect on acne vulgaris. Other factors including vitamin A and D deficiencies, decreased metabolic rates, and psychological aberrations have been recognized as contributory but not causative. The problem resolves itself into the fact that while no single etiological

factor has been certainly demonstrated, a combination of these many factors must be considered in aggravation of the process.

Recently more interest has developed in the role of fat metabolism in the pathogenesis of acne vulgaris and is considered important since observations of Sutton in 1941.<sup>7</sup> This is supported by the clinical observations that some oily foods such as chocolate and nuts aggravate the condition soon after ingestion. We believe it is conceivable that many other fatty foods may also affect the condition either directly by stimulating sebaceous gland activity or by elevating the plasma lipids. Neumark<sup>8</sup> found elevated serum cholesterol values in acne patients which was not confirmed by subsequent investigators. Juster and Thulliez<sup>9</sup> found abnormal iodine numbers of the blood lipids indicating disturbed fat metabolism. Kile<sup>10</sup> found the total amount of surface lipids to be increased but no important differences in their constituents in acne patients as compared with normal persons. In view of the suggested role of altered plasma lipids in acne patients, we were interested in the total lipid and phospholipid levels in patients following measured fat intake. Acne patients were therefore grouped according to various weighed fat diets and fat levels studied during and after various weighed fat diet periods.

### Methods and Materials

1. Fasting total cholesterol, total lipids, and phospholipids were determined in 17 male patients between ages 17 and 23 after measured fat diets as served in the University of Minnesota Students Health Service diet kitchen.

2. Fat content of diets was altered by increasing or decreasing fats derived from dairy products. Chocolate, nuts, and excessive vegetable fats were eliminated.

3. Nine patients in Group I were placed on 50 gram fat diets for six weeks in the diet kitchen.

\*Acknowledgment is made to the Student Health Service of the University of Minnesota for the use of its facilities.

4. Four patients of Group II were placed on 50 gram fat diets for six weeks at home.

5. Five patients of Group III were placed on an unmeasured low vegetable fat diet at home for six weeks.

6. Five patients of Group I were placed on a high fat diet consisting of 200 grams fat daily for three weeks following their low fat diet.

7. Because cholesterol levels have not been found by previous investigators to be elevated in acne patients<sup>11,12</sup> control studies were carried out by determining lipid levels in Groups I to III while on normal diets. This also served the purpose of determining changes in the amount of serum lipids after subjected to lower intake.

8. Treatment of the skin lesions during the period of study was deferred unless there was an immediate prior six months period of topical therapy in which case it was continued.

9. Patients were observed at weekly intervals for clinical change and blood samples were drawn at two to three week intervals for study.

10. Laboratory determinations of serum lipids were carried out by the following methods:

(a) Cholesterol levels were determined by the method of Schoenheimer and Sperry<sup>13</sup> using the Lieberman-Burchard reaction.

(b) Total lipid levels were determined by the method of Kunkel, Ahrens, and Eisermenger<sup>14</sup> measuring the optical density of precipitated lipid suspension.

(c) Phospholipid levels were determined by the method of Fiske and Subbarow<sup>15</sup> measuring the phosphorus content of the extracted lipids.

### Results

Clinical observations revealed improvement in 15 of 17 patients with acne

vulgaris subjected to low fat diets. This improvement manifested itself within one week by gross decrease in the amount of skin oiliness which reflected decreased activity of the sebaceous glands by either diminished production of sebum or diminished flow. The former mechanism, however, would be assumed to be apparent as factors affecting sebum flow such as temperature, sweating, and psychological stimulation were unchanged during the study. The number of comedones were also observed to decrease with resultant fewer papules and pustules. These changes took place shortly after oiliness was observed to diminish and remained apparent during the course of the diet. Although these changes were noticed to be stationary, they never showed complete regression over this period. In Group I, acne manifestations were aggravated when a high fat diet replaced low fat diet. Clinical improvement was less marked in those patients instructed on low fat diets at home and those restricted from fats of vegetable origin. Clinical observations of decreased acne manifestations were correlated with laboratory findings of decreased serum lipids.

Consistent clinical improvement of individual acne patients, however, was not correlated in each case by parallel changes in serum lipids as shown in Table I. Only when averages are figured is there an indication that acne improvement follows decreased serum levels of cholesterol, total lipids, or phospholipid. A larger group of patients would be necessary to bear out this indication. As shown in Table II, cholesterol levels are not appreciably altered by high fat diet although total lipids and phospholipid levels are elevated above normals. Determination of cholesterol and total lipids in low fat diets resulted in decreased levels, however, the average phospholipid was found to be inconsistently elevated in Groups I and II. This reflects selective reduction of non-phospholipid fractions in certain cases while not true in others and seems to indicate phospholipid levels are difficult to lower in low fat diets. All groups showed reduction in total lipids indicating significant decrease can be

TABLE I

Average Lipid Determinations During and After Study\*

<u>Groups and type of diet</u>	<u>Cholesterol mg%</u>	<u>Total lipid Units</u>	<u>Phospholipid mg%</u>	
<u>Low Fat Diet</u>				
Group I	1.	121	9	7.8
	2.	105	9.5	8.4
	3.	129	8	9.0
	4.	248	13	14.7
	5.	130	14	10
	6.	134	12	8.1
	7.	171	14.5	8.7
	8.	119	11	8.0
	9.	166	14	8.7
Group II	10.	162	14	9.5
	11.	173	14	8.3
	12.	158	13.5	9.1
Group III	13.	184	10	9.9
	14.	170	8	11
	15.	170	13	9
	16.	162	14	11
	17.	140	8	9.2
<u>High Fat Diet</u>				
Group I	1.	119	10	8.6
	2.	158	13	10.3
	3.	145	9	9.4
	4.	196	15	12
	5.	170	16	16.4
<u>Normal Diet</u>				
Group I	1.	131	9	7.9
	2.	104	8	7.1
	3.	162	13	11
	4.	144	16	8
	5.	148	14	8.8
	6.	220	24	9.5
	7.	132	12	8.1
	8.	205	16	9.7
Group II	9.	170	16	8.3
	10.	211	16	7.4
	11.	125	12	8.5
Group III	12.	192	10	10.2
	13.	204	9	14.7
	14.	164	18	8.8
	15.	180	16	10.0
	16.	152	10	9.7

\*The figures denote average values of multiple determinations for each patient.

TABLE II

Comparison of Average Lipid Determination to Normals of Group

<u>Low fat diet</u>	<u>Cholesterol</u>		<u>Total Lipid</u>		<u>Phospholipid</u>	
	<u>Study</u>	<u>Normal</u>	<u>Study</u>	<u>Normal</u>	<u>Study</u>	<u>Normal</u>
Group I	147	173	11.6	15.2	9.3	8.7
Group II	164	169	13.8	14.6	8.9	8.1
Group III	165	178	10.6	12.6	10	10.7
<u>High fat diet</u>	157	135	12.6	11.5	11.3	8.5

TABLE III

Combined Averages of Lipid Determinations After Study

<u>Diet</u>	<u>Cholesterol</u> <u>mg%</u>		<u>Total Lipid</u> <u>Units</u>		<u>Phospholipid</u> <u>mg%</u>	
	<u>Average</u>	<u>Peaks</u>	<u>Average</u>	<u>Peaks</u>	<u>Average</u>	<u>Peaks</u>
High fat diet	157	196 145	12.6	16 9	11.3	16.4 8.6
Low fat diet	149	248 105	11.7	14.5 8.0	9.4	14.7 7.8
Normal diet	165	220 104	13.7	18 8	8.9	14.7 7.1

effected in low fat diets. It would also seem to indicate that sustained low serum lipid levels are advantageous in acne vulgaris patients.

Conclusion

1. Fifteen of seventeen acne vulgaris patients who were placed on measured low animal fat diets showed clinical improvement of acne manifestations.

2. Five acne vulgaris patients placed on un-measured low vegetable fat diets showed moderate clinical improvement.

3. Five acne vulgaris patients placed on high fat diet showed exacerbations of acne manifestations.

4. Laboratory studies seen to indicate that serum cholesterol and phospholipid levels were not appreciably altered by low fat diets but that total serum lipids were lowered.

5. Further studies of a larger group of acne vulgaris patients is indicated by this report.

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## II. MEDICAL SCHOOL NEWS

### Coming Events

- March 21 - 23 Continuation Course in Cardiovascular Diseases for General Physicians
- March 22 Special Lecture; "Pulmonary Stenosis: Its Basic Anatomy and the Changes, Anatomical and Physiological, Produced by Operation;" Sir Russell Brock, London, England; Room 100, Mayo Memorial; 4:00 p.m.
- March 24 Special Lecture; "Recent Advances in the Study of the Living Cell;" Charles M. Pomerat, Professor of Anatomy, University of Texas Medical School; Mayo Memorial Auditorium; 8:00 p.m.
- March 31 - April 2 Continuation Course in Emergency Surgery for General Physicians
- April 11 - 13 Continuation Course in Radiology for General Physicians
- April 14 George E. Fahr Lectureship; "Surgical Management of Aortic Disease;" Dr. Michael E. DeBakey, Professor of Surgery, Baylor University, Houston, Texas; Mayo Memorial Auditorium; 8:15 p.m.
- April 14 - 16 Continuation Course in Gynecology for General Physicians

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### Continuation Course

A continuation course in Emergency Surgery for General Physicians will be presented by the University of Minnesota next March 31 to April 2, 1955, at the Center for Continuation Study. The management of injuries and other acute surgical problems will be taken up in detail. Guest speaker will be Colonel Warner F. Bowers, Chief, Department of Surgery, Brooke Army Hospital, San Antonio, Texas. The program will be presented under the direction of Dr. Owen H. Wangensteen, Professor and Chairman, Department of Surgery.

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### Faculty News

Dr. C. J. Watson, Professor and Head, Department of Medicine, has recently returned from Washington where he lectured to students and faculty at the University of Washington Medical School and to the Tacoma Academy of Internal Medicine.

Dr. Paul Winchell, Instructor, Department of Medicine, is attending an International Symposium on Cardiovascular Surgery at the Henry Ford Hospital in Detroit.

Dr. E. B. Brown, Associate Professor, Department of Physiology, participated in a Conference on Respiratory Problems in Poliomyelitis in Los Angeles from March 1 to 4.

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### Publications of the Medical School Faculty

- Lichstein, H. C.: The Presence of Bound Biotin in Purified Preparations of Oxalacetic Carboxylase. J. Biol. Chem., 212: 217, 1955.
- Modi, N. L. and Tobin, J. O'H.: Observations on the Growth of Herpes Simplex Virus in the Chorio-Allantois of the Developing Chick Embryo and in Tissue Culture. J. Exp. Pathology, 35: 595, 1954.
- Park, W. E.: Industrial Medicine - Prepayment Medical and Hospital Plans. Bull. Hennepin Co. Med. Soc., 25: No. 7, July, 1954.



III.

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL  
WEEKLY CALENDAR OF EVENTS

Physicians Welcome

March 21 - 26, 1955

Monday, March 21

Medical School and University Hospitals

- 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; W-612, U. H.
- 10:00 - 12:00 Neurology Rounds; A. B. Baker and Staff; Station 50, U. H.
- 11:30 - Tumor Conference; Doctors Hitchcock, Zimmermann, and Stenstrom; Todd Amphitheater, U. H.
- 12:15 - Obstetrics and Gynecology Journal Club; Staff Dining Room, U. H.
- 1:00 - 2:00 Roentgenology-Surgical-Pathological Conference; Paul Lober and L. G. Rigler; Todd Amphitheater, U. H.
- 1:30 - 2:30 Pediatric-Neurological Rounds; R. Jensen, A. B. Baker, and Staff; U.H.
- 1:30 - 3:30 Dermatology Hospital Rounds; H. E. Michelson and Staff; Dermatology-Histopathology Room, C-394 Mayo Memorial.
- 4:00 - 6:00 Anesthesiology Conference; F. H. Van Bergen and Staff; Todd Amphitheater, U. H.
- 4:30 - Pediatric-Medicine Infectious Disease Rounds; Station 33, U. H.
- 5:00 - 6:00 Urology-Roentgenology Conference; C. D. Creevy, O. J. Baggenstoss, and Staff; Eustis Amphitheater.

Ancker Hospital

- 8:00 - 9:00 Pediatric Contagion Rounds; Richard Lein; Contagion 5.
- 8:30 - 10:30 Medical and Surgical Chest Conference; Dr. Gehlen and Staff; Auditorium.
- 9:30 - 12:00 Visiting Staff Rounds.
- 10:00 - 12:00 Surgery Grand Ward Rounds; Begin Floor E4.
- 11:00 - 12:00 Pediatric Rounds; Harry Orme; Contagion 1.
- 12:30 - 2:30 Surgery Out-Patient Clinic; Room 8.
- 2:00 - 3:00 Routine EKG Interpretation; Dr. Sommers and House Staff; Medical Record Library.
- 2:30 - 3:00 Discussion of Problem Case; Auditorium.
- 3:00 - 4:00 Surgery Journal Club; Classroom.

Monday, March 21 (Cont.)

Ancker Hospital (Cont.)

- 3:00 - 4:00 Lectures on Electrocardiography; Ben Sommers; Auditorium.
- 4:00 - 5:00 Medical Clerk Journal Club; Auditorium.

Minneapolis General Hospital

- 10:30 - 12:00 Medicine Rounds; Thomas Lowry; Station 31.
- 10:30 - Orthopedic and Fracture Rounds; Drs. John Moe and O. J. Campbell; Station 20.
- 11:00 - Pediatric Case Discussions; Erling Platou; Station 4.
- 12:30 - Surgery Grand Rounds; O. J. Campbell; Station 21.
- 1:30 - 2:30 Tuberculosis Conference; J. A. Myers; Station 8.
- 2:00 - Pediatrics Rounds; William Krivit; Stations 4, 5, & 6.

Veterans Administration Hospital

- 9:30 - Infectious Disease Rounds; Drs. Hall, Zinnemann, and J. Brown.
- 1:30 - Cardiac Conference; Drs. Smith, Berman, Hoseth, Simonson, Tamlyn, and Farquhar; Conference Room, Bldg. I; Rounds immediately following conference.

Tuesday, March 22

Medical School and University Hospitals

- 9:00 - 9:50 Roentgenology-Pediatric Conference; Samuel Feinberg, John A. Anderson and Staffs; Eustis Amphitheater, U. H.
- 12:30 - 1:20 Pathology Conference; Autopsies; J. R. Dawson and Staff; 104 Jackson Hall.
- 3:30 - General Physiology Seminar; 323 Zoology Building.
- 3:30 - Pediatric Seminar; Abnormal Hemoglobins; Dr. Johnson; 1450 Mayo Memorial.
- 4:00 - 5:00 Pediatric Rounds on Wards; John A. Anderson and Staff; U. H.
- 4:00 - 5:00 Physiology-Surgery Conference; Todd Amphitheater, U. H.
- 4:30 - 5:30 Clinical-Medical-Pathological Conference; Todd Amphitheater, U. H.

Ancker Hospital

- 8:00 - 9:00 Pediatric Rounds; Dale Cumming; Contagion 1.
- 9:00 - 10:30 Visiting Staff Rounds.
- 9:00 - 12:00 Practical Diagnostic Clinic; Harry Orme; Out-Patient Department.
- 11:00 - 12:00 Medical X-ray Conference; J. R. Aurelius; Auditorium.
- 2:30 - 4:00 Routine EKG Interpretations; Resident Staff.
- 4:00 - 5:00 Medical-Pathological Conference; W. F. Mazzitello, Auditorium.

Tuesday, March 22 (Cont.)

Minneapolis General Hospital

- 9:30 - Pediatric Rounds; Elizabeth Lowry and A. Bridge; Station 5.
- 10:00 - Psychiatry Grand Rounds; R. W. Anderson, Station 3.
- 10:00 - Cardiac Rounds; Paul F. Dwan; Classroom, Station 4.
- 11:00 - 12:00 Medicine-Surgery Conference; Classroom, Station 8.
- 12:30 - 2:30 Dermatology Rounds on Clinic; Carl W. Laymon and Staff.
- 12:30 - ECG Conference; Boyd Thomas and Staff; 302 Harrington Hall.
- 1:00 - Tumor Clinic; Drs. Eder, Coe, and Lipschultz; Classroom.
- 3:30 - Pediatric-Psychiatry Rounds; Station 4.

Veterans Administration Hospital

- 7:30 - Anesthesiology Conference; Surgical Conference Room, Bldg. 43.
- 8:30 - Hematology Rounds; Drs. Hagen and Wexler.
- 8:30 - Surgery Journal Club; Conference Room, Bldg. I.
- 9:30 - Surgery-Pathology Conference; Conference Room, Bldg. I.
- 10:30 - Surgery-Tumor Conference; D. Ferguson and J. Jorgens.
- 1:00 - Review of Pathology, Pulmonary Tuberculosis; Conference Room, Bldg. I.
- 1:30 - Combined Medical-Surgical Chest Conference; Conference Room, Bldg. I.
- 2:00 - 2:50 Dermatology and Syphilology Conference; H. E. Michelson and Staff; Bldg. III.
- 4:00 - Thoracic Surgical Problems; Conference Room, Bldg. I.
- 5:30 - Physiology Seminar; Surgical Conference Room, Bldg. 43.

Wednesday, March 23

Medical School and University Hospitals

- 11:00 - 12:00 Pathology-Medicine-Surgery-Pediatrics Conference; Todd Amphitheater, U. H.
- 12:15 p.m. Family Doctors' Day; Division of Urology; Hospital Dining Room.
- 1:00 - 2:00 Dermatology Clinical Seminar; F. W. Lynch; 300 North Clinic.
- 1:30 - 3:00 Pediatrics Allergy Clinic; Albert V. Stoesser and Lloyd Nelson; W-211, U. H.
- 3:30 - 4:30 Dermatology-Pharmacology Seminar; 3rd Floor Conference Room, Heart Hospital.
- 4:30 - 5:50 Dermatology-Infectious Disease Seminar; 3rd Floor, Conference Room, Heart Hospital.
- 5:00 - 5:50 Urological-Pathological Conference; C. D. Creevy and Staff; A503, Mayo Memorial.

Wednesday, March 23 (Cont.)

Medical School and University Hospitals (Cont.)

- 5:30 - 7:30 Dermatology Journal Club and Discussion Group; Hospital Dining Room.  
7:30 - 9:30 Dermatology Seminar; Review of Interesting Slides of the Week; Robert W. Goltz; Todd Amphitheater, U. H.

Ancker Hospital

- 8:30 - 9:30 Clinico-Pathological Conference; J. Noble; Auditorium.  
11:00 - 12:00 Pediatric and Contagion Rounds; Harry Orme; Contagion 1.  
11:00 - 12:00 Medicine Resident Rounds; W. F. Mazzitello.  
3:00 - 5:00 Infectious Disease Rounds; Auditorium.

Minneapolis General Hospital

- 8:30 - 9:30 Obstetrical and Gynecological Grand Rounds; William P. Sadler and Staff; Station 30.  
10:30 - 12:00 Medicine Rounds; Thomas Lowry and Staff; Station 11.  
11:00 - Pediatric Rounds; Erling Platou and Richard Raile; Station 6.  
12:30 - Pediatrics Staff Meeting; Classroom, Station 4.

Veterans Administration Hospital

- 8:30 - 10:00 Orthopedic X-ray Conference; E. T. Evans and Staff; Surgical Conference Room; Bldg. 43.  
8:30 - 12:00 Neurology Rehabilitation and Case Conference; A. B. Baker.  
9:00 - Gastro-Intestinal Rounds; Drs. Wilson, Zieve, Ferguson, Brakel, Swenson, Nesbitt and Sadoff.  
10:30 - Psychosomatic Conference; C. K. Aldrich; 7th Floor, Bldg. 43.  
12:30 - Medical Journal Club; Doctors' Dining Room.  
12:30 - X-ray Conference; J. Jorgens; Conference Room, Bldg. I.  
1:30 - 3:00 Metabolic Disease Conference; Drs. Flink and Williams.  
3:30 - Urology Pathology Slide Conference; Dr. Gleason; Conference Room, Bldg. I.  
7:00 - Lectures in Basic Science of Orthopedics; Conference Room, Bldg. I.

Thursday, March 24

Medical School and University Hospitals

- 9:00 - 11:50 Medicine Ward Rounds; C. J. Watson and Staff; Room 3.148 Mayo Memorial.  
11:00 - 12:00 Cancer Clinic; K. Stenstrom, B. Zimmermann; Todd Amphitheater, U. H.  
12:30 - 1:55 Physiology Seminar 210; Transport; Selected Topics in Permeability; Nathan Lifson; 214 Millard Hall.

Thursday, March 24 (Cont.)

Medical School and University Hospitals (Cont.)

- 1:30 - 4:00 Cardiology X-ray Conference; Heart Hospital Theatre.
- 4:00 - 5:00 Anesthesiology Seminar; F. H. Van Bergen and Staff; Room 100, Mayo Memorial.
- 7:30 - 9:30 Physiology 211 Seminar; Selected Topics in Heart and Circulation: Hemodynamics; M. B. Visscher and Robert Evans; 271 Lyon Laboratories.
- \*8:00 p.m. Special Lecture; "Recent Advances in the Study of the Living Cell;" Charles M. Pomerat, Professor of Anatomy, University of Texas Medical School; Mayo Memorial Auditorium.

Ancker Hospital

- 9:00 - 10:00 Pediatric Contagion Rounds; Alexander Stewart, Contagion 5.
- 9:30 - 10:30 Medical Grand Rounds; Auditorium; Visiting Staff Rounds immediately following Grand Rounds.
- 11:00 - 12:00 Medicine Resident Rounds; W. F. Mazzitello.
- 2:00 - 3:00 Routine ECG Interpretation; Ben Sommers; Medical Record Library.

Minneapolis General Hospital

- 9:30 - Neurology Rounds; Heinz Bruhl; Station 4.
- 9:30 - Pediatric Contagion Rounds; R. B. Raile; Station 4.
- 10:00 - Psychiatry Grand Rounds; R. W. Anderson and Staff; Station 3.
- 11:30 - 12:30 Clinical Pathological Conference; John I. Coe; Classroom.
- 12:30 - 2:30 Dermatology Rounds and Clinic; Carl W. Laymon and Staff.
- 1:00 - Fracture X-ray Conference; Drs. Campbell and Moe; Classroom.
- 1:00 - House Staff Conference; Station 4.

Veterans Administration Hospital

- 8:00 - Experimental Surgery Laboratory Meeting; Conference Room, Bldg. I.
- 8:30 - Hematology Rounds; Drs. Hagen and Doe.
- 9:00 - Surgery Grand Rounds; Conference Room, Bldg. I.
- 9:00 - Surgery Ward Rounds; D. Ferguson and Staff; Ward 11.
- 11:00 - Surgery-Roentgen Conference; J. Jorgens; Conference Room, Bldg. I.
- 1:00 - Infectious Disease Conference; Conference Room, Bldg. I. (Rounds immediately following conference.)

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\* Indicates special meeting. All other meetings occur regularly each week at the same time on the same day. Meeting place may vary from week to week for some conferences.

Friday, March 25

Medical School and University Hospitals

- 8:00 - 10:00 Neurology Grand Rounds; A. B. Baker and Staff; Station 50, U. H.
- 9:00 - 9:50 Medicine Grand Rounds; C. J. Watson and Staff; Todd Amphitheater, U.H
- 10:30 - 11:50 Medicine Rounds; C. J. Watson and Staff; Todd Amphitheater, U. H.
- 11:00 - 12:00 Vascular Rounds; Davitt Felder and Staff Members from the Departments of Medicine, Surgery, Physical Medicine, and Dermatology; Eustis Amphitheater, U. H.
- 11:45 - 12:50 University of Minnesota Hospitals Medical Staff Meeting; The Basic Curriculum in the University of Minnesota School of Nursing; Dorothy E. Titt; Powell Hall Amphitheater.
- 1:00 - 2:50 Neurosurgery-Roentgenology Conference; W. T. Peyton, Harold O. Peterson and Staff; Todd Amphitheater, U. H.
- 1:00 - 2:00 Physiology Seminar 212; Selected Topics in Respiration: Respiratory and Circulatory Effects of Hypothermia; E. B. Brown; 214 Millard Hall
- 1:30 - 2:30 Dermatology Grand Rounds; Presentation of Cases from Grouped Hospital (University, Ancker, General and Veterans) and Private Offices; H. E. Michelson and Staff; Eustis Amphitheater, U. H.
- 2:30 - 4:00 Dermatology Hospital Rounds; H. E. Michelson and Staff; Begin at Dermatological Histopathology Room, C-394 Mayo Memorial.
- 3:00 - 4:00 Neuropathological Conference; F. Tichy; Todd Amphitheater, U. H.
- 3:30 - 4:30 Dermatology-Physiology Seminar; 3rd Floor Conference Room, Heart Hospital.
- 4:00 - 5:00 Physiology Seminar 213; Selected Topics in Advanced Neurophysiology; Role of the Vestibular Apparatus and the Cerebellum in the Extra-pyramidal Motor Activity; Werner Koella; 129 Millard Hall
- 4:30 - 5:20 Ophthalmology Ward Rounds; Erling W. Hanson and Staff; E-534, U. H.
- 5:00 - Urological Seminar and X-ray Conference; A503, Mayo Memorial.

Ancker Hospital

- 8:00 - 9:00 Pediatric Rounds; Charles Steinberg; Contagion 1.
- 10:30 - 11:30 Pediatric Contagion Rounds; Richard Smith; Contagion 1.
- 11:00 - 12:00 Contagion Rounds; Harry Orme; Contagion 5.
- 2:00 - 3:00 Routine EKG Interpretation; Resident Staff.
- 3:00 - 4:00 Medical-Surgical-Pathological Conference; Auditorium.
- 4:00 - 5:00 Medical Journal Club; Conference Room, E5.
- 4:00 - 5:00 X-ray Surgery Conference; Auditorium.

Minneapolis General Hospital

- 10:00 - Otolaryngology Conference; Robert A. Priest, Large Classroom.
- 10:30 - Pediatric Surgical Conference; Tague Chisholm and B. Spencer; Classroom, Station 4.

Friday, March 25 (Cont.)

Minneapolis General Hospital (Cont.)

- 12:00 - Surgery-Pathology Conference; Drs. Campbell and Coe; Classroom.  
1:00 - 3:00 Clinical-Medical Conference; Thomas Lowry; Classroom, Station 8.

Veterans Administration Hospital

- 10:30 - 11:20 Medicine Grand Rounds; Conference Room, Bldg. I.  
11:00 - 12:30 Psychiatry Case Conference; Werner Simon; Psychiatry Department, VA Hospital Annex.  
12:30 - Urology X-ray Conference; X-ray Department.  
1:00 - Autopsy Conference; E. T. Bell; Conference Room, Bldg. I.  
2:00 - Chest Pathology Follow-Up Conference; E. T. Bell; Conference Room, Bldg. I.

Saturday, March 26

Medical School and University Hospitals

- 7:45 - 8:50 Orthopedic X-ray Conference; W. H. Cole and Staff; M-109, U. H.  
9:00 - 9:30 Pediatric Grand Rounds; Eustis Amphitheater, U. H.  
9:00 - 11:50 Medicine Ward Rounds; C. J. Watson and Staff; Heart Hospital Amphitheater.  
9:15 - 10:00 Surgery-Roentgenology Conference; Alexander R. Margulis, Owen H. Wangensteen and Staff; Todd Amphitheater, U. H.  
10:00 - 11:30 Surgery Conference; Todd Amphitheater, U. H.  
10:00 - 12:50 Obstetrics and Gynecology Rounds; J. L. McKelvey and Staff; Station 44, U. H.  
10:00 - 12:00 Otolaryngology Seminar on Current Literature; L. R. Boies and Staff; Todd Memorial Room, A-675, Mayo Memorial.

Ancker Hospital

- 8:30 - 9:30 Surgery Conference; Auditorium.  
9:30 - 11:00 Medicine Grand Ward Rounds; W. F. Mazzitello.  
11:00 - 12:00 Medical Clerk Case Conference; W. F. Mazzitello.

Minneapolis General Hospital

- 8:00 - Urology Staff Conference; T. H. Sweetser; Main Classroom.  
9:00 - Psychiatry Grand Rounds; R. W. Anderson; Station 3.  
9:30 - Pediatrics Rounds on all Stations; R. B. Raile.  
11:00 - 12:00 Medical X-ray Conference; O. Lipschultz, Thomas Lowry and Staff; Main Classroom.

Veterans Administration Hospital

- 8:00 - Proctology Rounds; W. C. Bernstein and Staff; Bldg. III.  
8:30 - Medical X-ray Conference; Conference Room, Bldg. I.