



HANDBOOK FOR MEDICAL INTERNS  
ON  
ROUTINE INSTRUCTIONS AND APPROACH TO PATIENTS

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MEDICAL SERVICE  
Multnomah County Hospital

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# HANDBOOK FOR MEDICAL INTERNS

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## I. GENERAL INSTRUCTIONS

**PURPOSE:** The purpose of this manual is to aid the intern while on the Medical Service to approach the patient from a definite point of view, establish the diagnosis, and institute treatment as soon as possible after entrance into the hospital. This not only benefits the service but reduces waste of hospital days. The service is a busy one and entails much detailed work and for this reason each intern should quickly learn to plan his day's work in advance.

**ADMISSIONS:** He is responsible for the admission of the patient and for the assignment of that patient to the correct service. Patients are admitted on the admission book. Since the hospital does not have an admitting service, one cannot always be sure from questioning the patient or relatives as to which is the proper service.

**RE-ADMISSIONS AND NOTIFICATION OF NEW PATIENT:** If a change is necessary, it is permissible for the intern to whom the patient has been assigned to re-admit the patient, after examination, to the proper service. This must be done within one hour of admission. Hence, one should be notified by the floor to which the patient is admitted at once and should see that **patient** as soon as possible. Patient's may be re-admitted but once. To re-admit a patient change the admission note on the chart and the admission book.

**PROPER SERVICES:** In general if there is doubt as to the diagnosis, admit the patient to the medical service. All gall-bladder and thyroid patients are to be admitted to the medical service unless they have been thoroughly studied and sent in from the Outpatient Clinic for operative procedures.

**TRANSFERS:** Transfer of patients from one service to another is permissible only by residents. It has been agreed upon that each resident shall transfer cases only to his own service. This is done by making a notation on the chart and in the admission book. All previous orders on the patient's chart are cancelled on transfer and new orders must be written by the intern assigned to the case.

**HISTORY AND PHYSICAL:** The history and physical must be completed within twenty-four hours of admission. Patients admitted before 5:00 p.m. should have complete history and physical on their chart on the day of admission. Patients admitted after 5:00 p.m. may have their chart completed by noon of the next day, providing they are not seriously ill.

**NEW PATIENTS:** Patients that have never been in the hospital or the Outpatient Clinic are given a double front sheet. The history and physical are to be written on this sheet. This should come from the main office soon after the patient is brought to the floor. Insist on obtaining this sheet as soon as possible and do not delay in writing up the case for important details are quickly forgotten.

**OLD PATIENTS:** If the patient has been to the hospital or Outpatient Clinic previously, the history and physical are written on the single sheet. A chest stamp is provided in the student's laboratory. All patients who are admitted should have this sheet filled in. Do not write just an admission note on the progress sheet because your history and physical may not agree with that taken previously.

**ADMISSION NOTES:** An admission note should be made on the progress sheet at the time of entry.

**ORDERS:** Never write an order on a patient for whom you are not responsible. All patients admitted

before 6:00 p.m. must have orders written by this hour. This allows the nursing staff to copy their night orders before the nurses change duty. The metric system is to be used throughout this hospital by order of the Director of the hospital. Learn to think in this system and you will find it very helpful.

Orders for all procedures and therapy are to be written on the Order Sheet. Do not expect the nurses to fulfill verbal orders. If they are asked for in an emergency, write them on the Order Sheet as soon as possible. This relieves the nursing staff of unwarranted responsibility. When each new order is written, insert a new order slip in the chart to direct the nurses attention to the new order.

**MONTHLY REVISION:** Discontinue all previous orders for each patient and rewrite the orders completely by the first of each month.

**DOCTORS' ORDER BOOK:** On 1 W, 1 E, and 2 W there is a doctors' order book. This contains suggestions taken down by the floor supervisor during daily rounds and suggestions by the residents, staff men, and consultants. Check it over each evening and cross out those items which apply to your cases and which you have fulfilled.

**ROUTINE LAB WORK:** A routine blood examination, urine examination, and serology are to be done on each patient within twenty-four hours of admission, regardless of whether they are old or new patients.

**BLOOD HOUR:** For your convenience between the hour of 8:00 and 9:00 a.m. there will be a nurse on duty on each of the medical floors to help you procure your blood samples for the day. She will clean and sterilize the blood syringes. At all other times of the day it is necessary that you cleanse the syringes and needles.

**ORDER SLIPS:** The only slips which can be filled out and sent to the Laboratory by the nursing staff are the routine urine slips. All others are to be made out by the interns. Make out the sputum and stool examinations in advance as necessary and leave these in the chart. Electrocardiograph requests should state the patient's name and floor. They are to be left in the envelope at the main office. In ordering X-ray examinations place a note on the order sheet as to what manner the patient shall be transported to the X-ray department.

**DISCHARGES:** When a patient is to be discharged, see that the chart is up-to-date and that the reason for discharge, home orders, and therapy are written on the progress sheet. Then obtain the signature of the resident on the discharge order. Delay the time of return to the Outpatient Clinic sufficiently that the chart may be completed and returned to the central record room. This is very important.

**PROGRESS NOTES:** Progress notes are to be written every fourth day on the Progress Sheet. Make intelligent, informative progress notes, noting any change in the patient's condition, therapy, response to therapy or procedure. If the patient is acutely ill, it will probably be necessary to make even more frequent notes.

**STAFF MAN:** Each intern is assigned to one of the three regular staff physicians. These physicians make rounds twice a week. Anticipate their visit and show them every new case. Make a note of their impression, suggestions for treatment, and points for further study on the progress notes in red ink. This must be done in every case. Be sure that the opinion of the attending physician is written on the chart and signed.

**CONSULTATION:** If, at the discretion of the intern or

his staff man, a consultation is desired on any particular case, a consultation sheet is provided. This is to be filled out and handed to the resident to be signed. It is then placed in the proper compartment of the consultation file. Before consultation is asked for see that you have completed all the necessary procedures relative to diagnosis that the consultant may desire. Under no circumstances ask for a consultation by a staff man on another service without passing the request through the correct channels. It serves only to confuse those in charge.

**ROUNDS:** Daily rounds begin at 1:00 p.m. Plan your work so that you are free at this hour and can appear promptly on I. W. These rounds are of mutual benefit to the intern and the Residents. It permits the intern to see and follow the other patients not on his service and it makes it possible for him to say: "I have visited all my patients today."

There is one hour in which to see all the medical patients. For this reason omit social calls and confine your attention to medical problems of the patient. One patient is seen at a time. If he is your patient, step forward and give any new developments in the case, point out any findings of unusual interest, answer questions as to his case quickly, and make sure that the floor supervisor notes down any suggestions that are made. Then pass quickly on to the next case. BE GUARDED IN WHAT YOU SAY IN FRONT OF THE PATIENT. The patient strains to catch every word that is said. If you wish to say anything that you feel the patient should not hear, state it between wards. Avoid discussing medication, criticisms of the staff, food, or nurses before the patient. The chief of the Medical staff makes rounds on Thursdays.

**DIRECTOR'S ROUNDS:** The Director of the hospital makes daily rounds in the morning. You are not required to make rounds with him but when he enters the ward in which you may be examining a patient, stop all procedures and stand until he has left the ward.

**CLINICAL CONFERENCE:** On Thursdays at 3:00 p.m. there is held in the classroom on the lower floor a clinical conference. If one of your cases is to be presented, have the case history in mind so that it may be given without the chart and have the X-ray plates, if any, at hand. It is the duty of every intern in the Medical Service to be present at this conference. The internes on anaesthesia and X-ray, laboratory and eye, and dermatology and anaesthesia are to obtain from the Resident the names of the cases to be shown and to bring these patients to the conference room and return them to their proper ward.

**PATHOLOGY CONFERENCE:** Pathology conference is held each Friday at 8:00 a.m. during the school year. Every intern on the Medical Service is **expected** to be present. Those having cases assigned are to hand in a summary of the case to the Resident in Pathology by the previous Tuesday.

**TIME OFF:** Time off -- as described in the instruction sheets at the beginning of the year. In an effort to stimulate dependability, infraction of the time off rule will be reported. It appears heroic to say you will take another man's service but it is unfair unless you reciprocate by trading time off. No one man shall take more than two services at one time. When you step out of the hospital, as over to the Clinic, leave your destination and approximate time of stay with the telephone operator. Do this every time you leave, even though you believe she understands that part of your service is at the Outpatient Clinic. When leaving the hospital over

night, sign out and change the indicator in the office. After returning from time off, look over the admission book for new patients entered on your service. If you are taking some one else's calls over a week-end, it is permissible to make a short summary of the salient facts of the case on the progress sheet and allow the regular intern to work this case up fully on his return. The only two exceptions to this rule are in case the patient is extremely ill or in case of pneumonia, or like complaint, in which the patient might be much worse by the time the regular intern arrived and so ill that a full history and physical examination is precluded.

**DEATHS:** When notified that one of your patients has expired, do not waste a second to get to the bedside. Test for evidences of death (heart tones, corneal reflex, etc.) and if the patient has expired, note the time and date of expiration on the Order Sheet with your signature. Do not pronounce another intern's patient expired because you may interfere with the permission for an autopsy.

**POST MORTEM EXAMINATION:** Autopsies are to be obtained in every case no matter how simple the case may seem. Obtain the confidence of the patient's relatives before the patient's death and your request will be granted. When the office is notified of the death of a patient, they will ask the relatives to report to the hospital at once. They do not tell the relative that the patient is expired. You will be notified when the relatives come. Greet them with the knowledge that they do not know of the patient's death and tell them gently of their loss. It is the aim of the hospital to have the relatives notified when the patient is critical that they may be at the bedside.

A Post-mortem Permit is to be obtained from

the office. Have the nearest relative sign the permit. On this sheet place the full medical diagnosis, the intern's and Resident's name, and state whether this case is desirable for pathology conference. All cases which have been watched with great interest are desirable for conference. Ask the patient's relatives to return in two weeks so that you may give them a full report of the case.

**DIABETIC BLOODS:** The three interns on medical service shall alternate so that one of them shall obtain blood samples on all diabetic patients in the hospital on Tuesday morning. Obtain a list of the diabetic patients on the previous night from the assistant medical Resident. These blood samples are to be taken between the hours 7:00 and 8:00 a.m. and placed in the refrigerator in the laboratory.

**CHANGING SERVICES:** When the end of your service is approaching, make sure that all your charts are up to date. Make rounds with the man who replaces you on the last day of your service.

**EMERGENCY CASES:** Cases that are sent to the hospital for X-ray examinations, special treatment, as radium applications, etc., shall not be treated in any fashion until the chart is obtained so that a note may be made as to what was done and what was found by examination. This rule is absolute for infractions lead to medico-legal disputes.

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NOTES:

## II. SPECIAL SERVICES

### ANAESTHETICS: Order of call for anaesthetics:

#### A.M. till 12:30 P.M.

1. Full time anaesthetist
2. Anaesthesia and X-ray intern
3. Dermatology and Syphilis intern, except on Tues. and Thurs. until the Staff man has made rounds
4. Orthopedic intern
5. Urology intern
6. Ear, Nose, & Throat Intern
7. Gynecology intern
8. Gynecology intern

#### 12:30 P.M. till 4:30 P.M.

1. Full time anaesthetist
2. Lab. and Eye intern, except on week-ends and holidays when taking medical intern's calls
3. Ear, Nose, and Throat intern
4. Urology intern
5. Orthopedic intern
6. Dermatology and Syphilis intern

#### After 4:30 P.M.

1. Anaesthesia and X-ray intern
2. Dermatology and Syphilis intern

Interns, while on General Medicine, are not to give anaesthetics.

### DERMATOLOGY AND SYPHILIS:

#### A. General:

1. Each patient when assigned to this department directly or by reference is to receive and have recorded detailed dermatological history

and examination, same to be in addition to findings in other departments if referred.

2. The above record is to be completed on date of entrance or reference.

3. Progress notes are to be made at least four times a week, denoting change in patient's condition, medication, treatment, etc.

4. All treatment of in-patients on this service shall be carried out by the intern under supervision of attending staff; this to include:

(a). Routine lumbar puncture on all luetics;

(b). Administration of all intramuscular and other special anti-luetic therapy;

(c). All special dermatological therapy, including follow-up of actinic, X-ray, and other special types of therapy.

5. Each syphilitic, at time of discharge, is immediately transferred to the Outpatient Clinic and the intern should see that his treatment is continued in the latter department.

#### B. Rounds:

1. Rounds will be made by the staff members at least twice weekly at which time all data relative to the patient will be available for clinical discussion.

2. It is the desire of this department to place its services to the disposal of all hospital departments and to this end the intern will be expected to place himself in contact with dermatological material in other departments.

3. To the above end interns will make rounds with the Medical Staff each Thursday afternoon.

#### C. Completion of Service:

Each intern at the completion of his service shall be responsible for acquainting the incoming intern with the details of the service, the



patients under treatment, their medication, etc. To this end it is expected that the out-going and in-coming intern, together, make rounds with staff members at each change of service.

D. Finally the department desires to impress upon the intern of so developing the service that the interns may receive the maximum instructions in the allotted time. To this end, each intern deserves to feel entirely free to call upon the staff at any time a question may arise, the immediate solution of which may be to the advantage of either the patient or the intern.

E. Attendance and partial supervision of clinics:

1. Monday, Wednesday, and Friday, 1:00 to 2:00 p.m., Dermatology, OPC.

2. Wednesday, 12:00 to 1:00 p.m., Clinic, MCH.

3. Tuesday and Friday, 8:00 to 10:00 p.m., rounds.

4. Thursday p.m., Medical rounds.

5. Department "L", OEC:

Monday --- 1 and 6:00 p.m.

Tuesday -- 1:00 p.m.

Wednesday - 6:00 p.m.

Thursday - Medical rounds

Friday --- 6:00 p.m.

#### LABORATORY AND EYE:

1. Each morning at 8:30 laboratory service at the Outpatient Clinic under guidance of the Director of the Laboratory.

2. Monday, Wednesday, and Friday, Eye Department, Outpatient Clinic.

3. Care of all eye cases in the hospital under the supervision of the Resident in Eye.

4. Emergency laboratory work after 4:30 p.m. and on days the laboratory is closed. Chart your re-

sults, heading them "Emergency".

#### ANAESTHESIA AND X-RAY:

1. Anaesthetics as described before.

2. Spend as much time in the X-ray department as possible. Be there when the X-ray staff man reads the films.

#### NOTES:

### III. DIETS

The Dietetic Department is composed of a Chief Dietitian, Assistant Dietitian, and Student nurses on dietetic service.

Diet orders for patients are written on the order sheet. Prescription diets are copied by the Supervisor when sent to the diet kitchen. Here the diet nurses prepare the qualitative diet list which is checked by the dietitian. Special dishes are prepared by the diet nurses in the diet kitchen. Patients on prescription diets are checked after each meal and the caloric intake is recorded. The general house menu is planned by the dietitian. All special diets are planned by the diet nurses assisted by the dietitian using the general house menu as a basis.

#### A. Full diet, general or house diet:

When a patient is ordered this diet, it is the responsibility of the dietitian and the supervisor to serve a diet with:

1. Calories to maintain normal weight;
2. Protein to build tissues;
3. Carbohydrates and fat within normal limit;
4. Bulk or residue to produce a normal bowel motility;
5. Mineral salts for normal metabolism;
6. Vitamins for body requirement.

#### B. Liquid diet, 1500 calories:

Broth	ice cream
tea	ices
coffee	gruels
fruit-juice	cream soups (strained)
milk	gelatin (plain)
buttermilk	junkot
malted milk	Feedings to be given if patient is
egg-nog	awake at: 6 a.m.; 8a.m.; 10 a.m.;
	12 m.; 2 p.m.; 4p.m.; 6 p.m.; 8.p.m.

#### C. Soft diet, 1800 calories:

Toast, crackers, bread, soups (strained), soft cooked eggs, custards, soft puddings (without seeds), vegetable purees, baked, mashed, or riced potatoes, stewed fruits (without seeds), jellies, cereals, macaroni, cottage cheese, sponge cake, one glass of milk (each meal).

All foods listed on liquid diet may be included on soft diet. Additional feedings to be given, if patient is awake, at: 10 a.m.; 3 p.m.; 8 p.m.

#### D. Light diet, 2000 calories:

Scraped beef, steaks (broiled), chops (no pork), chicken, fish and bacon, oysters, fresh fruits, green vegetables, potatoes, no coarse vegetables unless ordered.

All foods listed on liquid and soft diet may be included on light diet.

Nourishment at 10 a.m. and 3 p.m. unless otherwise ordered.

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The following diets are variations of the preceding and are used in special types of cases.

#### Cardiac Diet:

1. What is desired is a well-balanced diet of easily digested foods with a minimum of fluid intake.
2. Total fluid intake for twenty-four hours to be ordered by intern.
3. Sodium chloride is as used in cooking. Add no salt when serving and do not serve with a salt shaker unless a special order is obtained.
4. Foods to be avoided: All fried foods; rich pastries; highly seasoned foods; condiments; gaseous vegetables, such as cabbage, cauliflower, sprouts, cucumbers, corn, navy beans, onions, turnips, rutabagas, and meats as pork, veal, and corned beef; coffee, and tea.

Karell Diet consists of 800 cc. of whole milk per day. This has a water content of 696 cc. and a caloric value of 560. No other fluid or food is allowed. One glass of milk at 8:00 a.m., 12:00 m., 4:00 p.m. and 8:00 p.m. The medication nurse is responsible and should chart the milk given. Modifications of this diet, such as the Gibson diet, and modified Karell diet are obtainable.

#### Bland Diet:

A bland diet is one which causes no chemical, mechanical, or thermal irritation. High carbohydrate foods allowed. Additional feedings may be added, making an ideal preoperative diet in most cases.

Soups: Cream soups with vegetable purees.

Meats: One daily; chicken, fish, or sweetbreads prepared any way except fried or sauteed.

Eggs: Boiled, poached, scrambled, creamed, baked, or in souffles.

Cheese: Cottage, Philadelphia cream, or mild American.

Vegetables: Potatoes may be boiled, baked, mashed, creamed, scaloped, or au gratin. Two of the following vegetables pureed a day: beets, carrots, celery, corn, mushrooms, peas, spinach, squash, string beans.

Fruits: Two of the following fruits per day: peach sauce, pear sauce, white cherry sauce, apple sauce, baked peaches, baked pears, baked apples, baked bananas. Skins and seeds of fruit are not allowed. All fruit must be thoroughly cooked.

Salads: Once daily, of foods allowed. Salad dressing, if used, should be half mayonnaise and whipped cream. A small amount of leaf lettuce may be eaten if well chewed.

Desserts: Custards, junket, tapioca pudding, corn-starch puddings, rice puddings, Bavarian cream puddings, sponge cake, angelfood cake, simple butter cakes, fruit whip, fruit (see list above).

Bread: White bread only, must be one day old or toasted through and crisp (Melba toast). Soda crackers are allowed.

Cereals: Cream of Wheat, Farina, polished rice, oatmeal gruel.

Cream: As desired.

Butter: As desired.

Beverages: Milk, buttermilk, malted milk, egg-nog, Ovaltine, cocoa, Postum, Sanka or Kaffee-Hag coffee, weak tea, pear juice, peach juice, and white cherry juice.

Miscellaneous: Macaroni, noodles, spaghetti (without stimulating sauces) and honey.

Foods not allowed: Fried foods, relishes, pickles, olives, spices, highly seasoned foods, ice-cream, iced and carbonated beverages, nuts, hot bread, biscuits, waffles, muffins, etc. sea-foods, oysters, lobster, shrimp, etc.

#### High Caloric Diet:

A variation of a full diet made by increasing caloric value from 2500 to 3000 calories additional. This can be done by adding fat in the form of butter, mayonnaise dressing, or cream and by adding carbohydrate in the form of jelly, preserves, or fruit juices. When the patient cannot take the normal bulk of the full diet, the bulk may be decreased and the fat increased, making a low bulk, high fat diet. By thus increasing the fat, the quantity of food can be lessened without decreasing the calories. Some of the fat may be given in the form of egg-nog or milk and cream between meals.

#### Suggestions:

1. Twenty percent cream -- 100 grams and whole milk 100 grams. Serve t.i.d.

2. Forty percent cream -- 100 grams, tomato purce - 50 grams ( a speck of soda and salt) and

serve as cream soup.

3. Use twenty percent cream for making cocoa and malted milk.

4. A double portion of lactose may be used in place of sugar for sweetness.

5. Add melted butter with a dash of paprika to vegetables and potatoes before serving.

6. Whipped cream may be used on cream soup, cocoa, egg-nogs, fruit desserts, etc.

#### Ulcer Diets:

These diets are very monotonous and every effort should be made to avoid disgusting the patient. The night nurse should wash and boil the bottles used for milk and cream feedings each night and wash the jars used for ice and water. See that both containers are filled by 7:00 a.m. A 90.0 cc. mark with a red glass pencil should be made on a glass for measuring. A clean medicine glass, a spoon, and a watch should be at the bedside. It is of greatest importance to see that the milk and cream is at hand on the allotted hour.

#### Gall Bladder Diet:

This diet is the Diet No. 1 under gall bladder diseases. It is of the low cholesterol, low fat, and low caloric type. The other diets under gall bladder diseases are given so that the patient may be given a diet list at the time of discharge or to correct other factors. Non-surgical types of gall bladder diseases are not treated for any length of time in the hospital after the diagnosis is made.

#### BREAKFAST:

Fruit: Orange juice, baked apple, apple sauce, or stewed prunes, with a little sugar and milk, no cream.

Eggs: One egg may be taken three times weekly, soft

boiled or poached, with a thin slice of lean, crisp bacon.

Bread: A half slice of toasted white bread with a little marmalade, jelly, or jam.

Beverages: A small cup of coffee, Sanka coffee, Postum, or tea, with 1 teaspoonful of cream, 1 lump of sugar.

#### LUNCH AND DINNER

Soups: A small portion of consomme, chicken, tomato or clear vegetable soup may be taken once daily. No creamed soups or fats.

Meats: A small portion of lean meat or fish, twice daily.

Meat: roast beef, lamb (leg), chicken, ham.

Fish: Cod, trout, halibut, weakfish, bluefish, blackfish, flounder, striped bass, red snapper.

Vegetables: Two green vegetables daily, as spinach, peas, beans, beet tops, asparagus, string beans, or beets, carrots, squash, boiled mushrooms, stewed tomatoes, stewed celery, boiled okra. Not prepared or eaten with butter or cream.

Salads: Lettuce with stewed fruits or cooked vegetables. Liquid petrolatum or lemon dressing.

Bread: as above.

Beverages: As above or a small glass of buttermilk.

Desserts: Stewed fruits, as peaches, pears, plums, cherries, grapes, prunes, pineapple, or apple sauce, Gelatin, fruit ices, prune soufflo.

Avoid: Butter, cream, meat fats, grease gravies. All foods fried, hashed or warmed over. Inner organs, as brain, liver, kidneys, sweetbreads. All rich and highly seasoned foods, creamed foods, and foods prepared with cream, butter or eggs. Oils, as olive oil, cod liver

oil, salad dressings.

Heavy cheeses, nuts, olives, spiced foods.

Candies, cakes, pies, pastries, chocolate, cocoa.

Acid foods, condiments, alcohol, smoking.

Rough foods, as cabbage, cucumbers, pickles, bran and whole wheat products.

With digestive disturbances, salads, raw fruits, and raw vegetables should be omitted; all vegetables should be pureed.

#### Typhoid diet:

The most important factors in the treatment of this disease are hydrotherapy, rest in bed, and dietary management. At least forty calories per kilogram per day with one gram of protein per kilogram should be given. During the pyrexial stage, one can use as a basis:

Whole milk -- 1500 cc.	C - 245
Lactose ----- 250 grams	P - 60
20% cream --- 500 cc.	F - 160

This mixture gives a total caloric value of 3000 calories. Feed every two hours during the day as long as fever persists. Additional caloric value should be obtained from strained gruel, plain jello, custards, and strained fruit juices. When the temperature has been normal for three days add eggs, twice sieved baked potatoes, buttered toast, and fine cereals. When the temperature has been normal for one week add, scraped beef, bacon, jelly, macaroni and noodles, and twice sieved fruits.

#### Purin-Free Diets:

When using a Purin-Free diet, the following foods should be excluded:

1. Meat and fish;
2. Meat soups, broth, and gravies;
3. Whole grain cereals including oatmeal;
4. Graham and whole wheat bread;

5. All legumes as peas, beans, and lentils;

6. Coffee, tea, and chocolate;

7. Asparagus and spinach.

#### NOTES:

*Obesity Diet 800 cal.*

*High CHO - Added Feedings*

*Elimination (Allergy) Diets.*

## V. APPROACH TO MEDICAL CASES

### Outline of Therapy -- Medical Department

FOREWARD: In treating any medical patient two things must be kept in mind: first, the purpose of the treatment; second, has that purpose been accomplished.

#### CARDIO-VASCULAR SYSTEM

1. Congestive failure.
  - a. Rest -- absolute and total rest in bed with back rest in a Fowler bed.
  - b. Fluids:
    - (1). No dependent edema - 1500-1800 cc.
    - (2). Mild dependent edema - limited to legs, 1200 cc.
    - (3). Severe dependent edema - 800-1000 cc.
    - (4). Any patient with fluid restriction should have intake and output charted.
  - c. Diet:
    - (1). Cardiac diet.
    - (2). Severe cases may be started on Karell diet.
  - d. Special nursing care: Nurse must do everything in her power to prevent exertion on the part of the patient. She shall take the apex rate on all cardiac patients.
  - e. Medication:
    - (1). 500-750 cc. venesection at once or at any time in the course if necessary. If severe anemia is not present, do on all cases showing a high venous pressure with peripheral cyanosis. Venesection is to be done by cutting down on the vein using apparatus in the venesection packet found in surgery. Before needle is withdrawn 50-100 cc. of 25% dextrose should be injected.

(2). Oxygen. In all cases with severe orthopnea, cyanosis, and pulmonary edema. Use nasal oxygen at 4-6 liters per minute.

(3). Sedation.

(a). Morphine sulphate 10.0 mg. by hypodermic on admission to allay apprehension and distress in severe cases.

(b). During acute failure, tr. opium 0.75-1.0 cc. every 4-6 hours as necessary for complete sedation. Prescribe for 4 days -- renew if necessary for a like period.

(c). One of the most frequent causes for apprehension and restlessness in a cardiac patient is Cheyne-Stokes respiration. This becomes most noticeable at night. Morphine often exaggerates it. Give aminophylline 0.5 in 10 cc. of saline slowly, intravenously, at night or in severe cases b.i.d. Morphine sulphate 15 mg. and caffeine citrate .25 g. by mouth is of greater value than continued hypodermic doses of morphine.

(d). During convalescence, barbituates are given not later than 8:00 p.m. for the necessary nocturnal rest. Suggest barbitals 0.3-0.6 gm.

(4). Digitalis: Has patient had digitalis within the past two weeks? If has not: --

(a). Extreme emergency -- severe orthopnea - edema - cyanosis - high cardiac rate - low blood pressure - and patient will probably die within 48 hours. Call the Resident. Strophanthin or Oubaine 0.25 - 0.3 mg. intravenously. May repeat in one hour if no toxic effect noted. No digitalis to be administered for 48 hours. Caffeine sodio-benzoate 0.5 gm. may be given in the same type of case and repeated as necessary.

(b). Digitalis: 0.125 cc. per lb. of body weight, using the standardized U.S.P. tincture. Give  $1/4-1/8-1/8-1/8$  of the total dose at 4 hour intervals. Then give  $1/8-1/8-1/8$  of the total dose at 6 hour intervals. This gives effect in 48 hours. Then the daily ration is to be determined for the individual patient. This varies from 1-3 cc. per day. Give every day in one dose a day.

Toxic signs to be watched for:

- 1). pulse below 60;
- 2). nausea and vomiting;
- 3). Bigeminus or frequent premature beats;
- 4). diarrhea.

Slow digitalization -- in those cases where previous digitalis is known or questioned having been given. Give 1 cc. every four hours for four doses a day and reduce to one dose a day when toxic symptoms appear.

Optimum cardiac rate and possible exceptions to digitalis medication:

- 1). aortic regurgitation 85-95;
- 2). all other cases 70-90;
- 3). acute coronary thrombosis;
- 4). subacute coronary thrombosis.

(c). Diuretics. -- Diuretics are indicated in all markedly edematous patients, those with orthopnea, and dyspnea. It is a principle in the use of diuretics to give one for 2-3 days and then change. Salyrgan should not be given oftener than every 4th day.

- 1). Salyrgan -- 0.5 cc. intravenously

as a test dose. Next day 1-2 cc. intravenously, or, if there is difficulty in getting in the vein, it can be given deeply intramuscularly, or, in cases with ascites, it can be given intraperitoneally with good results. Use 4 cc. in a 10 cc. syringe. Aspirate ascitic fluid sufficient to fill syringe and inject. Avoid getting any outside of vein by using a 5 cc. syringe and aspirating 3-4 cc. of blood before injecting. If any has inadvertently been injected outside of vein, inject 1% novocaine about the area and order hot packs for 48 hours. Salyrgan is contra-indicated only in cases of acute glomerular nephritis and chronic glomerular nephritis with elevated blood urea nitrogen. It is given every 4th or 5th day until edema is controlled. Give in a.m.

- 2). Ammonium Chloride 6-8 gms. or ammonium nitrate 10-12 gms. per 24 hours are of value in themselves and increase the efficiency of salyrgan.
- 3). Ammonium Bromide 4.0 gms. daily given 2 days before the salyrgan dose is a good method to use in preparing the patient for salyrgan.
- 4). Aminophyllin 0.5 in 20 cc. water as a retention enema b.i.d. Do not give longer than 2 days. Give between salyrgan injections.
- 5). Theocin suppositories -- each contain 0.3 gm. Give one t.i.d. for 2-3 days.

(d). Paracentesis of the chest, abdomen, and scrotum may be necessary.

(e). Vasodilators (coronary):

Theobromine -- In all heart cases where

coronary arteriosclerosis is suspected. Give 0.3 gms. t.i.d. five times weekly.

(f). Gastro-Intestinal Disturbances.

Patients in cardiac failure, as part of their rest regime, should have soft formed stools. Magnesium Sulphate 30 cc of sat. sol. is given each a.m. at 6:00 a.m. This may be increased or decreased as necessary. Distention may best be relieved by a proper diet. If distention occurs, a Levin tube is introduced into the stomach thru the nose if distention is chiefly gastric. If colonic, it is best relieved by the return flow or injection of 30 cc. glycerin in 90 cc water.

(g). Mania -- May be controlled by one or a combination of the following measures.

- 1). Lumbar puncture with withdrawal of fluid until normal pressure is reached. This is of great value and is done 1-2 times daily as necessary. 20-30 cc. fluid is usually removed.
- 2). Hypertonic Dextrose in 25% solution given intravenously in 50-100 cc amounts as necessary.
- 3). Scopolamine Hbr. 0.5 mg. (H) is of value in some cases and can be combined with morphine sulphate 10-15 mg. This may be repeated if necessary.
- 4). Paraldehyde 5-20 cc. may be given well diluted with ice water or milk orally or 20 cc. in 60 cc. of olive oil as a retention enema. May repeat in eight hours. Paraldehyde is of special value in cases of long continued mania.
- 5). Disorientation is frequently produ-



ced by morphine. Give aminophylline intravenously in cases with Cheyne-Stokes respiration.

## 2. Acute Coronary Thrombosis:

### Principles:

- a. Absolute rest must be maintained. Rest, relief of pain, and oxygen constitute the major means of therapy. Digitalis is not indicated if congestive failure is not present. The chief danger during the period of the 5th to 14th day is rupture of the heart and the patient must be kept at absolute rest. Embolism with resultant infarction is not uncommon.
- b. Vasodilator drugs are utilized for diagnostic purposes on admission to differentiate angina from thrombosis. Nitroglycerine 0.6 mg. under the tongue may be used.
- c. Morphine sulphate should be given to effect and its action sustained by even, adequate, repeated dosage. 30 mg. on admission and 8-15 mg. every 2-3 hours as necessary.
- d. Oxygen is indicated and continued as long as pain, rapid, weak pulse, and other evidences of acute failure persist. Nasal oxygen at 6 liters or the oxygen tent with 50% concentration is used.
- e. Bed rest for 6 weeks to 2 months. Bed rest, diet, fluids, etc. are to be utilized if congestive failure is present as indicated before.
- f. Acute thrombosis of the right coronary artery with rapid congestive failure may be treated by bleeding or application of sphygmomanometers or tourniquets to all four extremities.
- g. In an effort to combat ventricular tachycardia with resultant fibrillation, quinidine is given t.i.d. in 0.2 gm. doses in all cases. Watch for this complication.

- h. Stokes-Adams attacks are combated by giving aminophyllin 0.5 gm. in 10 cc. saline, slowly, intravenously b.i.d.
- i. Diabetic patients developing this complication should have the blood sugar maintained close to threshold level for one month.
- j. Thrombosis occurring in luetic heart disease is not treated with anti-luetic therapy for one month and then only KI and Hg is used. Arsenicals should probably never be given.

## 3. Anginal Failure:

### Principles:

- a. This condition occurring without thrombosis is treated by vasodilators and attempt to elicit the causal factors for the angina and teach the patient to avoid these factors. It is justifiable to leave with the patient 2-3 tablets of nitroglycerine as necessary for his own use.
  - b. Tissue extract #568 S&D 3-5 cc. initial dose and give every other day for 5 weeks using a progressively decreasing dose so that the last dose is 1 cc. has been shown to be of value.
  - c. Angina at rest -- These are serious cases. Give aminophyllin 0.5 gm. intravenously once daily for 10-14 days. Then give aminophyllin suppositories (0.36 gm.) t.i.d.
- ## 4. Arrhythmias -- Acute tachycardia, acute paroxysmal tachycardia, flutter, and fibrillation.
- a. E.K.G. is indicated in acute cases on admission.
  - b. Pressure over carotid sinuses, eyeballs, and deep respiration and holding the breath may give relief. Note how the pulse falls if success is obtained. If this fails, quinidine is used, 0.2 gm. at once and 0.3 gm. every four hours if no abnormality is noted after

the first dose. Order quinidine for 10 days only. An ice bag over the precordium may be appreciated.

- c. In auricular flutter give Digalen 3.0 cc. intravenously daily until bradycardia results-- then stop.

#### 5. Peripheral Vascular Collapse:

- a. This condition is characterized by rapid, feeble pulse, low B.P. and appearance of shock. It occurs in cases of acute toxicity, acute infectious diseases except diphtheria, post-operative conditions, trauma, and acute hemorrhage. In the latter condition with a large vessel bleeding one must first stop the hemorrhage.
- b. Treatment is aimed at restoring the diastolic filling of the heart and restoring blood volume.
  - (1). Epinephrine at once -- 0.3 cc. intramuscularly with frequent massage of the injection site and repetition if necessary thru the tube of the intravenous set-up.
  - (2). Intravenous fluids -- 500 cc. of 6% of acacia solution. Ampoules are in drug room and the surgery. Note that this solution spoils the white count for three days.
  - (3). Intravenous fluids -- 250 cc. of 25% dextrose.
  - (4). Notify resident.
  - (5). Blood for typing and cross-matching.
  - (6). Blood transfusion of 500-750 cc.

#### Routine orders in cardiac cases:

- 1. Routine blood, urine, and serology.
- 2. Chart fluid intake and output.
- 3. Blood pressures to be charted on the temperature charts.
- 4. Heart rate at apex is routinely observed on the Medical cardiac patients.

- 5. Blood urea nitrogen if hypertension is present.
- 6. E.K.G. stat before therapeutic effects occur.
- 7. Fluoroscopy and chest plates are not emergency measures for hospital cases and should be deferred but are necessary in most cases.
- 8. Serum proteins if edema proves very resistant to treatment.
- 9. Urinalysis daily for 5 days if congestive failure is present and once weekly thereafter.

#### Discharge notes:

In addition to a short summary of the course in the hospital, the patient should be instructed as to his condition and methods of preserving the reserve that he has gained while in the hospital. Do not leave this up to the O.P.C. as the patient may never return to the O.P.C. but will next appear at the hospital in congestive failure again.

#### NOTES:

NOTES:

PNEUMONIA

1. Lobar pneumonia:

- a. Rest -- In position most comfortable to the patient. No examination or prolonged history other than necessary after the diagnosis is made.
- b. Fluids -- Fluids until the daily urinary output is 2000-2500 cc. This may be given by all routes but preferably by hypodermoclysis in the thighs, using 5% dextrose in saline.
- c. Diet -- One is not interested so much in diet the first few days if the patient is acutely ill. Otherwise, one attempts to give easily absorbed food such as lactose, eggs, and milk and cream mixtures. See typhoid fever diet. Orange juice is contra-indicated because of its great tendency to produce tympanities.
- d. Special nursing care -- This type of case demands a special nurse.

See that the room is cool, not cold, and free from draughts. Keep patient covered with a light blanket and the chest blanket should be of light material of a single thickness and draped about the shoulders.

Sponge bath not often than once every other day unless ordered.

Make sure that the nurse notes B.P., pulse, rectal temperature, respirations, venous pressure, sudden changes in condition of patient, and presence or absence of cyanosis, every two hours.

Patient should be screened with partial isolation.

e. Medication:

Principles: Sedation and oxygen therapy are the chief measures. Oxygen therapy should be started when:

- (1). cyanosis is first noted;

- (2) pleuritic pain is extreme;
- (3) respirations are rapid, shallow, and labored.

Sedation -- These patients are usually apprehensive due to toxicity. Morphine sulphate is of great value. Give 8 mg. every three hours while awake. More or less as necessary to insure quiet.

Carbogen -- To be given at discretion of the Resident.

Digitalis -- Should not be used routinely.

Peripheral failure -- See previous notes under cardiac cases. Venesection is indicated in right heart failure with replacement with 25% dextrose.

Serum -- If the disease is less than 48 hours old and shown to be Type I or II serum may be considered.

Inhalation therapy -- Steam inhalations using benzoin and eucalyptus mixtures are of definite value but must be properly given.

Supportive therapy is utilized as under peripheral failure if this condition be present.

Liver extract 3 cc. intramuscularly in cases of low white count. Observe the count the next day and if any increase in white cells has occurred, one is justified in continuing this therapy.

Hyperpyrexia of temperatures over 105° F. rectally should be combatted with a tepid sponge bath until a reduction to 102° F. is attained.

Distention must be anticipated and preventive measures instituted. Daily saline enema with or without a little soap for irritating effect is utilized. A return flow is ideal if signs of distention have appeared.

Acute dilatation of the stomach with peripheral failure must be watched for. Suspect if the

patient displays any sudden change for the worse. Aspiration with a Levin or Ewald tube should be done at once.

Mania may occur and scopolamine Hbr. 0.4 mg. every four hours to affect can be used.

Suspect the complications of pneumonia if your case is not improving in 7-12 days.

After the fever has subsided, do a white count and sedimentation rate every third day as a means of determining progress.

Patient should remain in bed one and one-half times as long as they have had fever.

## 2. Bronchopneumonia:

Principles -- Bronchopneumonia is a disease to be prevented and prophylactic measures are the most important.

- a. Patients unable to turn themselves should be turned four times daily, alternating each side and back;
- b. Any patient with acute pharyngitis or acute tracheo-bronchitis ;
- c. Any severely ill patient;
- d. Any patient with an abdominal operation;
- e. Any person with dysphagia.

In any patient in whom an incipient bronchopneumonia is present, as indicated by his condition or temperature, carbogen is indicated in addition to turning. This is given every four hours and if fever is present, every 2 hours for 4-6 time and then every 4 hours. Order for 30 seconds.

Treatment: -- The treatment for severe bronchopneumonia varies little from that of lobar pneumonia except that carbogen is more useful thruout the course and great care must be given to see that the cough reflex is reduced only just enough to remove the paroxysms. As long as the cough is productive, it is useful.

#### Laboratory Orders:

1. Routine blood, urine, and serology.
2. 24 hour sputums.
3. First 24 hour sputum to the laboratory for predominant organisms.
4. Type of pneumococcus if lobar pneumonia is present and the patient has been ill less than 48 hours.
5. If tuberculosis is suspected, one should send three 24 hour sputum specimens for Tb. and then three more for concentration test if previous reports are negative. Discontinue if two positive specimens are secured.

#### NOTES:

#### PEPTIC ULCER

#### Principles:

1. Peptic ulcer histories contain definite diagnostic points. Question the diagnosis in every case even tho the patient enters with an X-ray report of an irregularity in the contour of the stomach or duodenum. Many facts concerning these cases can be learned to a better advantage than by the use of the barium meal. For this reason an accurate approach to these cases is desired. Follow each test carefully, observe the results, and record.
2. It is only fair to the surgeon, if the case ultimately needs surgery, to be able to appraise him of the exact function of the gastrointestinal tract so that he may determine the type of operative procedure to be used in this particular case.
3. Surgery is indicated in cases with perforation, perigastric abscess, obstruction that is not relieved after 2-3 weeks of management, and in cases of gastric carcinoma, actual or suspected.
4. Principles of treatment are:
  - a. Maintenance of gastric contents at neutrality or alkalinity.
  - b. Maintenance of fluids and nutrition.
  - c. Relief of retention.
  - d. Correction of anemia.
  - e. Determination of renal function.
  - f. Determination of active foci of infection and removal.
5. There is no routine treatment. Specify each portion of your treatment.

#### Uncomplicated Active Peptic Ulcer:

1. Rest -- Bed rest with bathroom privileges.
2. Fluids -- Ad libitum. The fluid intake should occur during the day. Allow no fluids

after stopping the alkali and aspiration at night.

3. Diet -- This must be specified on the chart. 90 cc. of whole milk and 20% cream every hour from 7:30 a.m. to 7:30 p.m.

Alkaline powder every hour from 8:00 a.m. to 8:00 p.m. and at 8:30 and 9:00 p.m.

Alkaline powders --

No. 1 -- Calcium Carb.	1.3 gms.	Alkaline
No. 2 -- Calcium Carb.	0.3	Alkaline and
Mag. Oxide	0.6	laxative

Give No. 2 powder as necessary. Average is four No. 2 and ten No. 1 powders per day.

If, after 3-5 days, the patient is comfortable and aspirations reveal no, or but little, acid, one starts additional feedings of soft food.

Additional feedings:

1st day - Add well cooked cereal (bran free) 90 gm. at 7:30 a.m.

2nd day - Add a baked potato at 5:30 p.m.

3rd day - Add a soft boiled egg at 7:30 a.m.

4th day - Add baked custard 120. at 5:30 p.m.

5th day - Add a small steak at 11:30 a.m.

6th day - Add a slice of toast with each meal.

7th day - Regular soft tray at meal time. The evening meal should be light. Thus the patient is on three meals a day with milk and cream mixture with alkali omitted at each meal and hourly milk and cream alternating with alkaline powders between meals.

4. Aspirations:

Aspirations serve to determine the amount of residual in the stomach, whether the alkaline therapy is adequate and to empty the stomach for the night. Measure the amount of fluid obtained, test the reaction with litmus paper and record. Use the Ewald tube and by finasse

and encouragement the patient can, in most cases, learn to aspirate his own stomach. It is not necessary to boil the tube. Have the nurse cleanse it thoroughly with soapy water and rinse it well before using. Take the patient to the utility room for aspirations.

Aspirations should be done every night at 9:30 p.m. for the first four nights. A return in excess of 50 cc. is an indication to continue aspirations. Acidity to litmus is an indication for aspiration at 4:30 p.m. and an increase in the amount of sedative given the patient. Do not attempt to control the acidity during the day by excess alkaline powders. Night distress is combatted by continuing the alkaline powder, giving it at 10:00, 10:30, and 11:00 p.m. If this measure fails, aspirate at 12:00 midnight and continue this therapy as long as night distress persists.

One of the commonest causes of failure of treatment is continued secretion. This occurs most frequently in duodenal ulcer. It is characterized by vomiting of watery material and dehydration. In these cases stop the milk and cream mixture, insert a Levin tube thru the nostril into the stomach and aspirate every 4-6 hours with an aseptic syringe. Give three small feedings a day, alkaline powders every hour as before, and maintain fluid intake thru the use of proctolysis or parenteral methods. Control the fluid intake by maintaining an output of 1500-2000 cc. of urine per day. These cases must be differentiated from those with pyloric obstruction. The latter cases vomit all material taken into the stomach.

5. Antispasmodics: -- Tr. Belladonna 0.5 cc. to 0.8 cc. t.i.d.
6. Sedation: -- Phenobarbital 30 mg. t.i.d. and 90-180 mg. q.h.s.
7. Anemia may be combatted with 6.0 gms. of ferric ammonium citrate daily. Give 4.0 cc. of 50% sol. with the milk and cream t.i.d.
8. Procedures:

a. After the history and physical are done and the patient complains of hunger pain give him:

4.0 gm. of calcium carbonate - return in 20 minutes. If he still states that his distress is present, aspirate the stomach contents and test for acidity with litmus. If neutral or alkaline, the acidity has been corrected and the distress is not that of ulcer. If it is acid, the acidity is not controlled and more alkalic must be given. Repeat the test using 8.0 of alkalic and aspirate if distress continues.

If the distress is relieved by adequate alkalization, it may be on an ulcer basis. If it is, it should not be made worse or recur on giving the patient 1 glass of cold milk and 1 hard boiled egg. If distress has been unaltered or recurs on the last test, one is strongly suspicious that this patient's complaints arise from a faulty bowel function. This may or may not be due to reflex from a pathological gall bladder.

- b. Obtain routine blood and urine studies. If anemia is suspected, order indices.
- c. Stools to laboratory for occult blood for 5 days, then on alternate days until three negative specimens are obtained and then once

weekly. If patient is getting iron, note it on your slips so the technician will do the proper ether extraction test. If occult blood persists in the stools while under treatment, be suspicious of carcinoma but first thoroughly exclude bleeding gums, epistaxis, hemorrhoids, etc.

d. The next step is to determine the amount of pyloric obstruction. This is done on the day of entrance by the following methods:

- (1). Motor meal -- this consists of a large meal containing food which can be recognized after aspiration. Fried potatoes, string beans, carrots, spinach, etc. At least 3 vegetables are given. Sliced bread and butter, cheese, raw apple, dill pickles, seedy jams, etc. Tea leaves are readily recognized when later seen. This meal should leave the stomach in 7 hours. Retentions amounting to 1000-1500 cc. indicate an high grade obstruction. Retentions of 300-400 cc. indicates a low grade obstruction.
- (2). Inflation of the stomach. The patient is given 4.0 gms. of sodium bicarbonate in solution. This is followed by 4.0 gms. of tartaric acid in solution. Carbon dioxide is evolved and serves to dilate the stomach so that its boundaries can be percussed and if obstruction of high or medium grade is present, one can see peristaltic waves passing from left to right across the abdomen.
- e. . . . Order an Ewald meal. -- This con-

sists of 3 graham crackers and one glass of water, before breakfast, at 7:15 a.m. given by the nurse. She will call you in time to aspirate at 8:15 a.m. The time is one hour. Do not alter the test by inaccuracy.

- f. If there is a doubt concerning the differential diagnosis between peptic ulcer and gall bladder disease, order the gall bladder study before the gastro-intestinal X-ray study. The gall bladder study begins on the day of entrance and if it is not to be done, the X-ray studies can be done the next a.m. as the patient should have had only the Ewald meal which was aspirated. If X-ray gastro-intestinal studies are to be done, give 0.6 mg. of atropine sulphate subcutaneously before going to X-ray department. Should a gall bladder study be desirable after a barium meal has been given, order cleansing enemas, etc., sufficient to be sure that the bowel is clear of barium. Also the patient should have no alkaline powders for three days previous to a gall bladder study. Note on your x-ray slip that the patient has had alkaline powders.
- g. A blood urea nitrogen estimation should be obtained if renal impairment is suspected.
- h. The alkalie reserve figure is to be obtained once weekly and oftener if necessary. Watch for alkalosis and suspect if the patient states that his milk tastes bad, has paresthesias, or is exceedingly nervous and irritable. Reduce the powders at once and if he does not improve, discontinue the alkaline powders. Force fluids and dextrose and check the alkalie reserve figure frequently.
- i. Weigh patient on entrance and once weekly.
- j. All vomitus is to be saved until observed by the intern.

- k. Certain cases may be utilized for treatment with larostidin or similar preparations.

#### Peptic Ulcer with Pyloric Obstruction:

##### Principles:

Nearly all cases of pyloric obstruction are due to duodenal ulcer. Two factors are concerned in these cases. One is spasm of the pylorus and the other is tissue narrowing or scar tissue contraction. About 10% of the cases are due to tissue narrowing and can only be relieved surgically. They are ideal cases for gastro-enterostomy but such an operation on a case in which the obstruction is due to spasm results in little improvement. For this reason one should separate these two types of cases.

High grade obstructions in which a motor meal would remain in the stomach over 12 hours is accompanied sooner or later by gastric dilatation. In these cases food and fluids by mouth are withheld so that the stomach wall may regain its tonus.

Continuous suction with a Levine tube in place is utilized to empty the stomach. Irritation of the nostril may be overcome by spraying with 1% ephedrine in oil t.i.d. Fluids in the form of intravenous, subcutaneous, and rectal fluids should be given until the daily urine volume is maintained at or above 1500 cc. This requires 3000 to 4000 cc. of 5% dextrose in saline per day. Atropine sulphate 0.4 to 0.6 mg.(H) q. 4 h should be given, watching for reactions. At the end of the third day place on Sippy management. Aspirate at 4:30 p.m. and 10:00 p.m. to see if there is any marked retention. If there is, replace the Levine tube and maintain the stomach empty



for another three day period. If, at the end of the second period, obstruction still persists, the G.I. consultant should be called.

Cases with partial obstruction are to be treated as an uncomplicated case, or if necessary, as a case with complete obstruction, depending upon the degree of obstruction.

#### Peptic Ulcer with Hemorrhage:

Ninety percent of cases with hematemesis are due to peptic ulcer. Bleeding must be stopped before an absolute diagnosis can be made.

Patient is placed at absolute bed rest. If shock is present, elevate the feet of the bed. An ice cap is placed on the abdomen if appreciated, obtain donors, and type blood. Transfusion should be done if signs of shock are present. 500 cc. are given very slowly. Fluids are maintained by parenteral routes as indicated by dehydration. Calcium carbonate 4 grams every hour for twenty-four hours with just enough water to aid in swallowing is given. It is maintained until gross blood has disappeared from the stool. Opiates may be necessary to obtain absolute sedation.

After the gross blood has disappeared from the stool give:

Milk and cream -- 30 cc. q hour for first 24 hrs.

Milk and cream -- 60 cc. q hour for 2nd 24 hours.

Milk and cream -- 90 cc. q hour for 3rd 24 hours.

Then the regular Sippy management is maintained until the stool is negative for occult blood, which usually requires about 10 days. Additional feedings may be added and study procedures instituted when occult blood has disappeared from the stool for ten days.

Daily stool specimens are ordered to the Lab. after gross blood has disappeared from the stool.

Iron and Ammonium Citrate is used to correct the

anemia.

#### Peptic Ulcer with Partial Perforation:

Treat as uncomplicated ulcer for ten days. If regression of x-ray findings and pain occur, continue treatment. If symptoms continue or increase ask for a surgical consultation.

#### Peptic Ulcer with Perforation:

This is a surgical problem and surgical consultation should be asked at once.

#### NOTES:

## GASTRIC CARCINOMA

NOTES:

### Principles:

Any patient over forty years of age whose complaints are of fairly recent date and whose defect is on the stomach side of the pylorus should be considered applicable for surgery. If the defect is on the greater curvature this is absolute. Massive hemorrhage and long duration of symptoms speak for ulcer.

Obtain consent for operation and donors for blood transfusion. Transfuse the patient until the blood count and hemoglobin are within normal range.

Ask for surgical consultation.

### Inoperable Carcinoma:

Patients with gastric carcinoma, to be considered inoperable, should show definite evidence of metastases as found in liver, neck, rectal shelf, umbilicus, and lungs. Even at laparotomy, in doubtful cases, short circuiting operations may be of great value to the patient the carcinoma displays metastases.

These patients with careful regime can be brought back to a fair food toleration. The method is the same as that of peptic ulcer but the alkaline powders are often not necessary. Solid foods should be added slowly and in small amounts. The anemic can be controlled with ferric ammonium citrate.

The course of these patients may be long. Pain should always be adequately controlled but one should save the opiates for severe terminal pain. Hypodermic medication should be deferred, likewise, due to a short duration, until absolutely necessary.

Most of these patients can be discharged from the hospital after food toleration is accomplished and allowed to return when symptoms become worse.

## VOMITING

### Principles:

1. Seek for and remove the cause of vomiting.
2. If one is not able to find a cause for vomiting, treat symptomatically.

### Treatment:

1. Absolute rest in bed.
2. No food or fluids by mouth until 24 to 48 hours after vomiting has ceased. May rinse mouth with water or orange juice, and cracked ice may be used.
3. Liquids containing bromides are given as necessary for dehydration and sedation. Give two to four grams of sodium bromide in 500 cc. of tap water every four hours by rectum.
4. Cleansing enema every morning previous to the retention enema. If patients do not retain the retention enema, give the fluids by Murphy Drip.
5. When starting foods by mouth, utilize a dry diet. Give meat, potatoes, bread and butter to the amount of one-half feeding. If no vomiting in twenty-four hours, continue the diet.
6. Liquids may be started if the dry diet is tolerated. Begin with a glass of water but give no liquid three hours after meals or within one hour before meals. Discontinue fluids by rectum as soon as patient is able to take one liter by mouth per day.
7. Bromides are given by mouth as soon as the patient has ceased vomiting. Watch for signs of bromism.
8. Tincture of belladonna may be of value.
9. In severe type of nervous vomiting bromides are given in sufficient quantities to stop vomiting or produce bromism.

10. If the above methods should fail, which happens very rarely, feed thru a duodenal tube.

### NOTES:

## DIARRHEA

### 1. Acute Gastro-enteritis:

#### Principles:

- a. Remove the irritant.
- b. Sooth the inflamed bowel.
- c. Restoration of the fluids to normal.

#### Treatment:

- a. Rest -- bed rest.
- b. Fluids -- forced orally and parenterally if necessary.
- c. Diet -- bland.
- d. Medication:
  - (1). Oleum Ricini 6-15 cc. at once.
  - (2). Follow in 30min. with 8.0 cc. doses q. 2 hours of the following mxture until diarrhea ceases.

Bismuth subcarbonate	12.0
Camph. Tr. Opii	24.0
Tr. Gambir Comp.	8.0
Elix. Lact. Pepsin q.s.	90.0

"Shake Well"
- e. If vomiting is severe, the patient may be aspirated or given an emetic.

#### Laboratory:

Routine laboratory work and a stool culture.

### 2. Acute Bacillary Dysentery:

#### Principles:

- a. Start treatment as for acute gastro-enteritis.
- b. Routine laboratory work and stool culture.
- c. Isolation with disinfection of stools with 5% liq. cresolis comp.
- d. A small amount of saline laxative is given daily. Use 4-8 cc. of sat. sol. of sodium sulphate every 2 hours for the first day and then 4 cc. every 6 hours until recovery.
- e. Polyvalent serum should be considered in all acute cases.
- f. Diet -- Bland. High carbohydrate diet.
- g. Fluids should be maintained. These must be forced.

h. Shock and colicky pain in the abdomen may be relieved by heat to the abdomen.

### 3. Fermentative Type of Diarrhea:

See irritable bowel.

### 4. Ulcerative colitis; Amoebic Dysentery:

Special considerations. Keep these two etiological factors for diarrhea in mind.

#### NOTES:

## CONSTIPATION

### Irritable Bowel.

#### Principles:

1. This condition does not require hospitalization but is a frequent accompaniment of other diseases. It is necessary to consider its etiology and to treat the bowel during the hospital stay.
2. A definite history of excessive use of cathartics or enemas, a psychoneurotic picture or reflex irritants as gall bladder, rectal, or kidney disease are the most frequent etiological factors.
3. Other conditions as ulcerative colitis, etc., may be excluded by proctoscopic, stool, and fluoroscopic examination.
4. Treatment is directed towards elimination of the precipitating factor or factors and establishment of normal bowel physiology.
5. The treatment is individual but very satisfactory if carried out.
6. If the irritable bowel results in a stool of the fermentative type, one should test for acidity in the mushy stool that results. These patients often give a history of explosive bowel movements.

#### Treatment:

1. Rest with B.R.P.
2. Fluids -- Fluid intake is very important. At least 8 glasses per day when stomach is normally empty. 2 glasses before breakfast, 2 in late forenoon, 3 in afternoon, and 1 in evening.
3. Diet -- For the first 2-3 weeks the diet should be bland, free of fried foods, coarse or raw vegetables, nuts, alcohol, condiments, rough cereals as prepared breakfast foods, and whole wheat products. No cold food or drinks. After the distress has been overcome, the following

may be added gradually and in order: Cooked vegetables, raw vegetables, cooked fruits, raw fruits.

4. The patient should be educated against the use of cathartics, enemas, internal baths, and fear of missing a day without a bowel movement. He should be told what he can eat and to beware of food fadism, when discharged.
5. Hot wet packs to the abdomen for one hour p.c. if necessary.
6. Establishment of the daily stool habit time while in the hospital.
7. During the early days of treatment, if the bowels are not moving, use 60 cc. of warmed liquid petrolatum as a retention enema at night followed by a 500 cc. enema of cool water in the morning. A glycerin suppository may be used instead of the enema.
8. Tr. Belladonna 0.5 cc. t.i.d.  $\frac{1}{2}$  hour a.c.  
Tr. Hyoscyamus 1.0 cc. t.i.d.  $\frac{1}{2}$  hour a. c. may be of more value in some cases.
9. Treatment of the fermentative type: Lean meat, eggs, fish, sea foods, gelatin, clear broth, cheese -except cottage cheese, grapefruit and 5% vegetables, one half slice of white toast with each meal; butter o.k. In 4-5 days can add the softer starches as cooked cereals, rice, macaroni and leave milk and potatoes from the diet until the last.

### Atonic Bowels:

#### Principles:

1. The treatment of this condition is almost the antithesis of that of the previous type. Foods of an irritating nature and large bulk are used
2. Rest is not indicated and the patient should maintain exercises designed to increase the tonicity of the abdominal musculature. Deep

breathing of the diaphragmatic type using a weight on the abdomen is very helpful if the patient is confined to bed for other reasons.

Treatment:

1. Rest -- As indicated above.
2. Fluids -- 8 glasses per day as above.
3. Diet -- A well rounded diet with a large complement of vegetables and fruits. Full tray. Foods to be taken liberally, all of any fruit, raw or cooked, as desired. Vegetables, raw (e.g. celery, lettuce, etc.) or cooked. Jams, figs, berries, raisins, dates, etc. Foods to be taken sparingly: meat, milk, eggs, cheese, fish or fowl. (These contain necessary proteins and from them 2-3 servings daily must be taken). All pies, pastries, ices, ice cream, white bread, fresh or hot bread.
4. Medication:
  - a. Fl. Ext. Cascara Aromat. 4-8 cc. daily, as necessary.
  - b. Liquid Petrolatum, 15 cc. q. h. s. p. r. n.
  - c. Agar agar.
  - d. Combination of the above.
  - e. If much difficulty be encountered early in the treatment in emptying the rectum, a 500 cc. enema of cool water may be used every third day.

NOTES:

JAUNDICE

After the history and physical there are certain laboratory aids that should be done on all patients with jaundice in addition to routine blood and urine studies.

1. Urine -- daily for 10 days.
    - a. Routine;
    - b. Urobilinogen, bile pigment, and bile salts.
  2. Blood:
    - a. Routine;
    - b. Icterus index -- repeat as necessary;
    - c. Direct vandenbergh test.
  3. Stool:
    - a. Routine;
    - b. Bile pigment and urobilinogen;
    - c. Daily stool color to be recorded by nurse.
  4. Rarely familial hemolytic icterus may be suspected from the history.
    - a. Red cell fragility;
    - b. Reticulocyte count;
    - c. Red cell diameter.
  5. Bleeding and clotting time.
  6. Flat plate of gall bladder area.
  7. Cholecytograms in mildly jaundiced patients if gall bladder disease is suspected.
  8. Blood typing and search for donors in severe cases.
  9. Surgical consultation on all cases of painful jaundice at once.
- Diet -- high CHO -- low fat diet. The following foods should be avoided:
1. Greasy and fried foods.
  2. Raw vegetables. No fruits except cooked peaches and apricots.
  3. No cabbage, beans, cucumbers, rutabaga, or corn.
  4. No strong coffee or tea.

Fluids -- 2000-3000 cc. per 24 hours.

Medication:

1. Calcium chloride 5%, 10 cc. in vein twice weekly except in cases with severe bleeding or pruritus when it should be given daily.
2. Intravenous 5% dextrose in saline pre-operatively and if vomiting has occurred.
3. For relief of severe colic:
  - a. Nitroglycerin 0.6 mg. under the tongue.
  - b. Calcium chloride intravenously.
  - c. Dilaudid 2-3 mg. subcutaneously.
  - d. Pantapone 15-20 mg. subcutaneously.
  - e. Atropine sulphate 0.4 - 0.6 mg. subcutaneously. Useful in combination with the previous two medicaments.
  - f. Morphine sulphate should not be used.
4. Viosterol 0.6 - 1.0 cc. t.i.d. This is given to patients with prolonged bleeding time to aid in calcium absorption that risk in prospective operative procedures may be reduced.
5. Magnesium sulphate -- 15 cc. of 50% sol. each a.m. before breakfast.
6. Pruritus may be combatted with intravenous calcium and calamine emulsion with 2% phenol.

NOTES:

DISEASES OF THE GALL BLADDER

Acute Cholecystitis:

Principles:

1. The danger note in this type of case is to rule out acute empyema of the gall bladder. For this reason in all acute cases with fever it is well to obtain surgical consultation at once.
2. These cases are usually not jaundiced and relief of pain, correction of fluid loss, bed rest, and care of the bowel are the important factors.

Rest -- Absolute bed rest until fever free and as many days as fever has been present.

Fluids -- If vomiting has been frequent, give intravenous 5% dextrose in saline and repeat as necessary. If vomiting persists, lavage the stomach with 5% sod. bicarb. Otherwise, give fluids to 2500 cc. daily.

Diet -- Gall bladder diet with high carbohydrate drinks between meals.

Medication:

1. Pantapone or Dilaudid with or without atropine sulphate is given those cases with colic. See jaundice.
2. Ice bag over upper right quadrant for 4 hours on and one hour off if appreciated.
3. Mag. Sulph. 15 cc. of 50% sol. every a.m. before breakfast. 30 cc. may be necessary to obtain the gall bladder drainage desired.

After the acute inflammatory stage has subsided, the patient should be studied as for chronic cholecystitis.

Chronic Cholecystitis:

Principles:

1. After this disease is diagnosed, one is confronted with the determination of the type of pathology present. This may be determined by:

- a. Ewald meal;
- b. Cholecystogram -- orally and if necessary intravenously;
- c. Gastro-intestinal study;
- d. Laboratory work:
  - (1). Routine blood and urine;
  - (2). Urobilinogen, bile pigment, and bile salts in the urine daily for 5 days and then once weekly;
  - (3). Stool for routine, urobilinogen, and daily record of the color of the stool.
2. A patient with chronic cholecystitis, regardless of type, that does not respond to adequate medical treatment can be considered a surgical case.
3. Patients with chronic inflammation of the gall bladder frequently have reflex gastro-intestinal symptoms that may be the chief clinical manifestations of the disease.
4. Treatment should be directed toward determining whether the case is one of poor function of the gall bladder wall, spasm of the sphincter, or whether the colic is due to stone.

Types of cases: -- From the study of these patients they may be grouped into five classes:

1. Non-filling gall bladder, confirmed by intravenous test are usually due to stone in the cystic duct. These cases may or may not have pain. Their treatment is surgical.
2. The lazy gall bladder characterized by atonic enlargement and poor emptying is treated by the high cholecystokin diet. and physical therapeutic methods. Dilute hydrochloric acid 4-6 cc. in a glass of water sipped with meals is given if achlorhydria is present.
3. Infected gall bladder in which the gall bladder fills poorly, is small with thickened walls, and

may or may not empty poorly. This type produces symptoms many of which are due to disease of the gall bladder itself.

4. Stone positive gall bladder: In the treatment of these last two types every effort should be made to prevent stimulation of the gall bladder. Reflex gastro-intestinal disturbances are frequent. Cholecystokin-free, bland, fat-free diets are used. No alcohol, cold foods, spices, condiments, or strong tea or coffee are allowed. Meals should be small, regular, and be given four and preferably five times daily. The day should be started with a glass of hot water before breakfast. Laxatives and enemas should be avoided.
5. Spastic sphincter type. These cases, in addition to dyspepsia, frequently display attacks of biliary colic. Treatment is aimed at relaxing the sphincter of Oddi and favoring biliary drainage.
  - a. Magnesium sulphate 30 cc. of sat. sol. each a.m. This may be reduced to 15 cc. if liquid stools occur.
  - b. Follow in one hour with a high cholecystokin diet. The other meals are of the general tray type.
  - c. Dilute HCl well diluted; sipped with meals.
  - d. Antispasmodics as Tr. Belladonna 0.5 -0.75 cc. t.i.d.  $\frac{1}{2}$  hour a.c.
  - e. Exercises as walking and deep breathing should be encouraged.

#### SPECIAL DIETS

Diet I -- Low Cholesterol, Low Fat, Low Caloric (Low Cholecystokin):

##### BREAKFAST

Fruit: Orange juice, baked apple, apple sauce, or stewed prunes, with a little sugar and milk, no cream.



Eggs: One egg may be taken three times weekly, soft boiled or poached, with a thin slice of lean, crisp bacon.

Bread: A half slice of toasted white bread with a little marmalade, jelly or jam.

Beverages: A small cup of coffee, Sanka coffee, Postum or tea, and 1 teaspoonful of cream, 1 lump of sugar.

#### LUNCH AND DINNER

Soups: A small portion of consomme, chicken, tomato, or clear vegetable soup may be taken once daily. No creamed soups or fats.

Meats: A small portion of lean meat or fish, twice daily:

Meat: Roast beef, lamb (leg), chicken, ham.

Fish: Cod, trout, halibut, weakfish, bluefish, blackfish, flounder, striped bass, red snapper.

Vegetables: Two green vegetables daily as spinach, peas, beans, beet tops, asparagus, string beans: or beets, carrots, squash, boiled mushrooms, stewed tomatoes, stewed celery, boiled okra. Not prepared or eaten with butter or cream.

Salads: Lettuce with stewed fruits or cooked vegetables. Liquid petrolatum or lemon dressing.

Bread: As above.

Beverages: As above, or a small glass of buttermilk.

Desserts: Stewed fruits, as peaches, pears, plums, cherries, grapes, prunes, pineapple or apple sauce, Gelatin, fruit ices, prune soufflé.

Avoid: Butter, cream, meat fats, grease gravies. All foods fried, hashed, or warmed over. Inner organs as brain, liver, kidneys, sweetbreads, All rich and highly seasoned foods, creamed foods, and foods prepared with cream, butter, or eggs. Oils, as olive oil, salad dressings. Heavy cheeses, nuts, olives, spiced foods. Candies, cakes, pies, pastries, chocolate, cocoa. Acid foods, condiments, alcohol, smoking. Rough foods, as cabbage, cucumbers, pickles,

bran and whole wheat products.

With digestive disturbances, salads, raw fruits and raw vegetables should be omitted: all vegetables should be pureed.

Diet 2 -- Low Cholesterol, Low Fat, High Caloric.

#### BREAKFAST

Fruits: Orange juice, baked apple, apple sauce, or stewed fruits, as prunes, pears, peaches, with milk and sugar.

Cereals: Cooked, as farina, cream of wheat, wheatena oat meal, rolled oats, with milk and sugar.

Eggs: One egg may be taken three times weekly, soft boiled or poached, on toast, with 2 slices of lean crisp bacon.

Bread: Two slices toasted white bread, rolls, or corn bread, with jam, marmalade, or jelly.

Beverages: Milk, half milk and coffee, Sanka coffee, Postum or weak tea, with 1 teaspoonful of cream and 2 lumps of sugar.

#### LUNCH AND DINNER

Soups: Small portions of tomato, chicken, plain vegetable, gumbo, or oxtail.

Meats: Lean meat or fish at least once daily.

Meats: Roast beef, chicken, ham or lamb.

Fish: Cod, trout, weakfish, whitefish, bluefish, flounder, striped bass, blackfish, red snapper.

Vegetables: Potatoes, baked, mashed, or boiled: or sweet potatoes, macaroni, spaghetti, Spinach, peas, beans, beat greens, beets, carrots, squash, asparagus, boiled mushrooms, string beans, stewed tomatoes or celery. Not to be eaten or prepared with butter or cream.

Salads: Lettuce with stewed fruits, or canned fruits, or cooked vegetables, with liquid petrolatum, or lemon dressing.

Bread: As above.

Beverages: As above or malted milk.

Desserts: Puddings, as bread, tapioca, cornstarch,

or sago. Stewed fruits, as peaches, pears, plums, prunes, berries, apple sauce, baked apple, with milk and sugar. Gelatin, junket, baked banana, plain cake.

Intermediate feedings: A glass of milk, malted milk or ovaltine, to be taken at 10 a.m., 4 p.m. and at bedtime. With zwieback, plain, or arrowroot crackers, breadsticks, or toast. Jelly or marmalade may be added if desired.

Avoid: Foods listed to be avoided in Diet I.

Diet 3 -- Bland, Low Cholesterol for Gastric Hyperacidity.

#### BREAKFAST

Fruits: Stewed or canned, as peaches, pears, apricots, prunes. Baked apple, apple sauce, no sugar added.

Cereals: Cooked as farina, cream of wheat, wheatena, strained oatmeal, with milk and little sugar.

Eggs: One egg, soft boiled or poached, on toast, with a slice of lean crisp bacon if desired.

Bread: One slice of toasted white bread with marmalade or jelly.

Beverages: Milk, Postum, weak tea, with milk and sugar.

#### LUNCH AND DINNER

Meats: Lean meat or fish twice daily, not fried.

Meats: Roast beef chicken, lamb, ham, chopped meat.

Fish: Cod, trout, weakfish, whitefish, blackfish, flounder, striped bass, haddock, pike.

Vegetables: Potatoes, baked, boiled, or mashed. Macaroni or spaghetti, no sauce. Vegetables, pureed only, as carrots, beans, spinach, peas, beans, asparagus tips, squash.

Salads: Lettuce with stewed fruits or cooked vegetables, liquid petrolatum dressing.

Bread: As above.

Beverages: Milk or malted milk.

Desserts: Puddings, as cornstarch, bread, tapioca, sago. Stewed fruits, as pears, peaches, prunes, cherries. Gelatin. Baked banana.

Avoid: Foods listed to be avoided in Diet 1.

Diet 4 -- High Cholesterol, Low caloric.

#### BREAKFAST

Fruits: Orange juice or stewed fruits, as peaches, pears, prunes. Baked apple, apple sauce with cream and sugar.

Eggs: One egg (soft boiled or poached) may be taken daily with a slice of lean, crisp bacon.

Bread: A half slice of toasted white bread with butter.

Beverages: Milk, tea, coffee, or Postum, with cream and sugar.

#### LUNCH AND DINNER

Soups: A small portion of consomme, vegetable, ox-tail, pea, or tomato soup may be taken once daily.

Meats: A small portion of lean meat or fish twice daily.

Meats: Chicken, roast beef, lamb chop, leg of lamb, mutton, or veal.

Fish: Cod, trout, halibut, weakfish, whitefish, flounder,

Brains, liver, kidneys or sweetbreads three times weekly.

Vegetables: Two at each meal (preferably green), as spinach, asparagus, string beans, beet greens, carrots, squash, stewed tomatoes, celery, or okra.

Salads: Lettuce with canned or stewed fruits.

Liquid petrolatum.

Bread: As above.

Beverages: As above.

Desserts: Stewed fruits, as peaches, pears, pineapple, cherries. Gelatin, apple sauce, prune souffle.

Avoid: All foods fried, hashed, or warmed over.

Rich and highly seasoned foods, spices, condiments.

Heavy cheeses, nuts, olives, pickles. Candies,

cakes, pies, pastries, chocolate, cocoa. Rough foods, as cabbage, cucumbers, bran and whole wheat products. With digestive symptoms, salads, raw vegetables and raw fruits should be omitted: all vegetables should be pureed.

Diet 5 -- High Cholesterol, High Caloric.

BREAKFAST

Fruits: Orange juice, stewed or canned fruits, or prunes. Baked apple, apple sauce, with cream and sugar.  
Cereals: Cooked as wheatena, cream of wheat, farina, oatmeal, with cream and sugar.  
Eggs: Two soft boiled or poached eggs daily, with two slices of lean, crisp bacon.  
Bread: Two slices of toasted white bread with butter.  
Beverages: Tea (weak), milk, Postum, with cream and sugar.

LUNCH AND DINNER

Soups: Consomme, creamed, tomato, vegetable, oxtail.  
Meats: A small portion of lean meat or fish.  
Meats: Lamb chops, roast lamb, leg of lamb, chicken or other fowl, roast beef, steak.  
Fish: Shad, trout, halibut, weakfish, whitefish, pike, flounder, bass, blackfish.  
Brains, liver, kidneys, or sweetbreads three times weekly.  
Vegetables: Baked, boiled, or mashed potatoes with cream, or butter; or macaroni or spaghetti.  
Spinach, asparagus, carrots, beets, beat greens, squash, boiled mushrooms, stewed tomatoes.  
Salads: Lettuce with stewed fruits or cooked vegetables. Mayonnaise, liquid petrolatum or lemon dressing.  
Bread: Two slices toasted white bread, with butter.  
Beverages: As above.  
Desserts: Custards, puddings, as rice, tapioca,

bread. Stewed fruits or canned fruits with crackers. Baked apple, apple sauce with cream and sugar. Plain cake, ice cream, junket, gelatin.  
Olive Oil: A teaspoonful of olive oil is to be taken a half hour before each meal, this amount is to be increased a teaspoonful each week until a tablespoonful is taken before each meal.  
Intermediate Feedings: A glass of milk, malted milk, egg-nog or ovaltine is to be taken at 10 a.m., 4 p.m. and at bedtime, with zwieback, crackers, toast, or breadsticks. Butter or jam if desired.  
Avoid: Foods listed to be avoided under Diet 4.

The general principle of a bland diet is followed in each of the five diets. The first three diets are limited in cholesterol (cholecystokinin stimulating factor) and fat intake and are indicated for those patients having an intolerance to fats, active inflammation of the gall bladder, a non-functioning gall bladder (previous to operation) a hypercholesteremia, or cholelithiasis. Diet 1 has a low caloric value for use in obese patients. Diet 2 differs from Diet 1 in that it has increased carbohydrate and caloric value and is therefore useful in underweight patients as well as in cases of cirrhosis of the liver or jaundice. Diet 3 differs in the more strict avoidance of all stimulating and irritating foods and is used for patients having excessive gastric hyperacidity. Diets 4 and 5 are relatively high in cholesterol and moderately high in fat content; these diets are used to stimulate the evacuation of the gall bladder in patients having an atonic or poorly functioning gall bladder (with patent cystic duct) without fat intolerance, hypercholesteremia, or cholelithiasis. Diet 4 is low in caloric value (for obese patients). Diet 5 is high in carbohydrate and caloric value.

NOTES:

RENAL AND URINARY DISEASES

Principle:

The diagnosis and differential diagnosis of these conditions necessitates:

1. In any case displaying hypertension, prostatic hypertrophy, facial edema, uremic breath or coma, a blood urea nitrogen should be done within 24 hours.
2. If the blood urea nitrogen is under 50 mg., a urea clearance test should be done. If the blood urea nitrogen is under 50 mg. and there is no edema present, a dilution and concentration test should be done. If the blood urea nitrogen is over 20 mg., an alkalic reserve and creatinine should be ordered on the blood specimen.
3. Urinalysis on admission and daily routine urinalysis for 5 days with at least one urinalysis per week, thereafter.
4. If 2 plus pus or more is found in the voided urine, a sterile catheterized specimen should be sent to the lab. for:
  - a. routine urinalysis;
  - b. stain and culture of organisms.
5. If renal edema is marked, a quantitative albumen test on the 24 hour urine should be ordered and examination for doubly refracting lipoids asked for. Also a serum protein estimation and a blood cholesterol.
6. Any case showing pus in the catheterized urine (without fever) or hematuria in a patient not obviously having glomerular nephritis, should have pyclograms.
7. If nephrosis is suspected, a blood cholesterol, B.M.R. and a congo red test should be done.

## Uremia:

**Principles:** The treatment of uremia calls for special nursing care. True uremia and eclamptic uremia are treated the same but the results in the former are but temporary in chronic cases. One attempts to relieve cerebral edema and maintain the alkali reserve figure within normal limits.

1. Lumbar puncture is used with removal of sufficient fluid to reduce the pressure to 100 mm. of water.
2. Hypertonic dextrose solution intravenously 200 cc. of 25% -- inject slowly with the arm kept level.
3. 400 cc. of 25% sol. of mag. sulph. by Murphy Drip at 40-60 gtt. per min. Repeat p.r.n. every 4-6 hours.
4. The alkali reserve figure may be corrected by:
  - a. Calculated amount of Sod. Bicarb. orally:

Rise in alk. res. fig. desired X kg. body wt.

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This gives gms. of sod. bicarb. to be given. It may be given by mouth or intravenously.

By the latter route, one uses freshly prepared 5% solution in sterile distilled water.

- b. Molar lactate solution. This is converted into sod. bicarb. and is diluted 6 times with sterile freshly distilled water before using. Dose in cc. of molar sol. (undiluted) equals  $60 - \text{alk. res. fig.} \times 0.3 \text{ kg. of body weight}$ . When the alk. res. fig. is not known, 10 cc. of molar sol. per kg. of body wt. can be given. It is best to give one-half of the diluted sol. intravenously and the other half subcutaneously or intraperitoneally.
- c. Normal saline may be used. The patient excretes the ion not desired. This method is slow in its action.

- d. Alkalosis is combated with saline, dilute HCl orally or ammonium chloride intravenously if necessary.

Drop in alk.res.fig. desired x kg. body wt

~~21~~ 60

equals gms. Ammon. Cl. Dilute each gram with 100 cc. sterile distilled water to make 1% sol.

5. Rest -- Place on a back rest in a quiet room and avoid all excitement.
6. Fluids -- given as above and when patient is under control give fluids equal to the last days urinary output. Fluid intake and output must be charted. The patient should be under control in 48-72 hours but the therapy must be maintained. If the blood urea nitrogen is rising and if over 60 mg., force fluids even tho edematous but have hypertonic dextrose at hand. Great care must be taken not to give intravenous solutions too fast.
7. Sedation: Barbituates may be used if necessary.
8. In cases with prostatic obstruction, a retention catheter may be necessary. Watch for bladder distention.

## Acute, Subacute and Acute Exacerbations of Chronic Glomerular Nephritis:

**Principles:**

1. To maintain the body at absolute bed rest in semi-Fowler's position.
2. To maintain the optimum urinary output.
3. To maintain the serum proteins and alkali reserve at normal levels.
4. Prevent the onset of uremia.
5. To prevent the onset of acute left ventricular failure and pulmonary edema.

6. Careful search and removal of sources of toxin. Removal of foci of infections should be avoided during the fulminating stage unless clear cut sources are evident. It is well to have an E.N.T. consultant in every case.

Rest: -- In this condition bed rest should be maintained for 4 months after the acute symptoms have subsided.

Nursing care: -- It is most important to maintain the skin tone, guard against chilling, and avoid sudden changes in the room temperature.

Fluids: -- The fluid intake should equal the urinary output of the previous day. Not less than 500 cc. and not over 1500 cc. of fluids if edema is present. If the blood urea nitrogen is above 60 mg., the fluid intake should be increased with the production of intentional edema. Anuric patients and patients with a daily urinary output of less than 200 cc. should, also, have forced fluids.

Diet: -- Protein 1.0 gm. per kilo in adults. 2.0 gm. per kilo in children. This should include meat at least once daily and should be increased as necessary to compensate for urinary albumen loss. Carbohydrate and fat given in sufficient amounts to make a total basic caloric requirement. In the hospital one can vary the diet to compensate for changes in the alkali reserve figure, otherwise the diet should be of the neutral ash type. Coffee, tea, alcoholic beverages, and condiments are not allowed. A low salt diet is indicated in the presence of edema.

Medication: -- Headache and backache are the chief complaints. The former if severe can be relieved by lumbar puncture and hypertonic dextrose solution. Milder types of headache and backache can be combatted with small doses of codeine combined with coal tar derivatives as in the analgesic capsule. The use of oral or intravenous

magnesium sulphate should be utilized at the discretion of those in charge of the case. All cases should be watched daily for evidences of pulmonary edema as this is not an infrequent complication of nephritis. One attempts to determine if this is due to generalized tissue edema or left ventricular failure. The latter is evidenced by a fall in B.P., gallop rhythm and sudden increase in cardiac rate. Both are treated by the upright position, intravenous dextrose 25% and, in the case of cardiac failure, venesection and digitalis may be necessary. Morphine sulphate 8 mg. should be given as necessary.

Philocarpine and heat sweats are not to be used.

Sedation: -- Barbituates are used. In order of preference are amytal, phenobarbital, and barbital as they are destroyed in the body in this order.

#### Chronic Glomerular Nephritis:

Uncomplicated cases of chronic glomerular nephritis as characterized by a large output of urine, and dehydration are treated as a uremia case with forced fluids. Do not assume these cases to be hopeless. With proper treatment they can often be discharged from the hospital for years of active life.

#### Nephrosis:

Principles:

1. Maintain the serum proteins.
2. Reduce edema.
3. Removal of foci of infection.

Rest: -- Bed rest while in the hospital.

Diet: -- Low salt with or without salt substitutes during the edematous stage. High protein diet containing 150-200 gms. of protein daily.

Fluids:-- Fluids to 1000 cc. daily.

Diuretics: -- Mercurial diuretics can be used if there is no urea retention, rise in blood pressure, or red cells in the urine. Paracentesis of the chest and abdomen may be necessary. Great care should be used in the asepsis during these procedures.

Other treatment: -- Dessicated thyroid may be used to bring the B.M.R. to normal.

### Pyelitis and Cystitis:

Principles: -- Cystitis is practically always and pyelitis in most cases are secondary to other causes.

1. Obstruction to urinary flow should be looked for. The most common causes are urethral stricture, hypertrophied prostate, cystocele, pelvic neoplasms including carcinoma of the cervix, and cord bladder.
2. Determination of the residual urine.
3. Maintenance of a rapid flow of urine and complete emptying of the urinary tract.
4. Catheterization and passage of instruments should always be done under antiseptic or aseptic conditions.
5. In any severe case or in any case not responding to treatment within 10 days, ask for urological consultation at once. Have a blood urea nitrogen, p.s.p. excretion and 3 urine analyses before consultation is sought.

Rest: -- Bed rest without lavatory privileges in severe cases. Fowler's position or elevation of the head of the bed may be of value.

Fluids: -- 4000-5000 cc. per day.

Treatment: -- Urinary P.H. One should change the reaction of the urine opposite to that found on admission. This should be altered at 5-7 day intervals. During the acid regime the P.H. should be above 7.4. Urine is tested daily and

recorded by the nurse. Test first with litmus and if alkaline, add 0.1% phenolphthalein in aqueous sol. This turns red at 7.4. If acid to litmus, add several drops of 0.05% methyl red in 50% alcohol. This turns red at 5.4.

Diet: -- Diet is an important factor and must not be overlooked. During the acid regime high protein, cereal, and neutral foods, as butter, tapioca, vegetable oils, and sugar are used. During the alkaline treatment, milk, vegetables, fruits, cheese, and nuts may be eaten.

Therapy: -- Alkaline-Sod. Bicarb. beginning with at least 4.0 gms. 6 times daily. Acid-ammonium chloride - 2.0 gms. 4 times daily with meals in solution or capsules. Coated tablets Ammonium nitrate - 2.0 gms. 4 times daily with meals in 0.5 gm. enteric. Sod. Acid Phosphate 1.0 gm. 4 times daily with meals. Dilute HCl - 4 cc. well diluted thru glass tube with meals. Acid medication should be accompanied with methenamine - 1.0 gm. three times daily 1 hour a.c.

Antispasmodics: -- Tr. Hyoscyamus 1.0 cc. t.i.d. is very helpful for tenosmus.

Pituitrin: -- 0.3 - 1.0 cc. subcutaneously every 4-18 hours and continued until improvement results is of value in pyelitis. One must be sure that no marked obstruction to urinary flow is present.

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## THYROID DISEASES

### Hyperthyroidism:

#### Principles:

1. Establishment of the diagnosis and determination of the state of toxicity.
2. Bed rest and quiet atmosphere.
3. Avoidance of emotional or physical activity.
4. When the diagnosis has been established and operative procedures are to be done, the patient should be transferred to the Department of Surgery for preoperative, operative, and post operative care.

Rest: Absolute bed rest.

Fluids: Fluids ad lib.

Diet: High caloric.

#### Laboratory:

1. Routine blood and urine.
2. B.M.R. to be determined after three days hospital stay without previous medication of any type. Recheck the B.M.R. the next morning if it is above normal.
3. Fasting blood cholesterol.

### Hypothyroidism:

#### Principles:

1. Once the diagnosis is established the treatment is specific but offers several problems.
  2. The special laboratory procedures are B.M.R., fasting blood cholesterol and electrocardiogram once weekly.
  3. Treatment consists of dessicated thyroid. Begin with 15 mg. per day and increase until a maintenance dose is established.
  4. Beware of coronary occlusion which occurs if thyroid medication is increased too abruptly.
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NOTES:

DIABETES MELLITUS  
(Diabetic Coma---see Coma)

Uncomplicated Diabetes:

In past years the diabetic patients have been under the care of the intern. This proved unsatisfactory, and the care of diabetes was placed under the full control of the Resident in Medicine. The result was that when the intern left the medical service he had learned little concerning the care of this important group of medical patients. In an effort to correct this, a change will be made this year. If full cooperation is obtained, it will remain. The intern is to have the full responsibility of the diabetic patients under his care on the medical service. However, every order, or change in orders, is to be made only after consultation with the assistant medical resident. The assistant Resident in Medicine is to take charge of the diabetic problems in patients on other services.

Principles:

1. Each diabetic case requires careful daily supervision.
2. The success of the treatment depends upon:
  - a. The intelligence of the patient;
  - b. The cooperation of the patient;
  - c. The care and accuracy with which the nursing staff carry out the procedures delegated to their responsibility.
  - d. The care and accuracy with which the dietitian and her staff use in preparing the weighed diets, satisfying the food fancies of the patient and the education of the patient.
3. The hospitalization is utilized for two purposes:
  - a. ~~Establishment~~ of the proper diet and

insulin if necessary.

- b. Education of the patient.
4. Since hospitalization should not extend over 10-14 days, it is imperative that all departments carry out the procedures delegated to them from the day of entrance.
5. The education of the patient as to the principles of diabetes is the responsibility of the dietitian. If the patient is not mentally qualified or does not speak English, some qualified member of the family should be found.
6. Determination of the presence or absence of complications frequently seen in the diabetic. See and follow the section on peripheral vascular disease.
7. Establishment of proper weight curve.
8. Give the following instructions to the patient on the day of entrance or as soon as the diagnosis is established:
  - a. Full cooperation must be given;
  - b. All the urine must be saved. Used the urinal before the bowels are emptied. The urine is necessary in determining the degree of diabetes.
  - c. All the food on the tray must be eaten, if possible. The food is the chief medicine while in the hospital. Do not eat anything not on your tray and do not eat anything between meals.
  - d. Be out of bed at 8 a.m. Exercise as much as possible thru the day and do not get in bed until 8 P.M.
  - e. Weigh every day.
  - f. Care of the feet.
  - g. Take careful notes and work hard on learning about diabetes and its problems.
  - h. Note the C.P. and F. marked on your tray every day and learn to visualize your food.

#### Methods:

##### 1. Diet:

Carbohydrate - minimum is 100 gms.

Protein -  $\frac{2}{3}$  to 1 gram per kilo or higher when the C is over 150 gms.

Fat -- sufficient for caloric value of a maintenance, submaintenance, or above maintenance standard, depending upon the corrective weight factor. The minimum is 30 grams.

An effort should be made, if adequate time is available, to discharge the patient on a diet sufficiently high in carbohydrates to satisfy the appetite.

When the carbohydrate is raised 20 gms., the fat is reduced 9 gms. to maintain an isocaloric diet.

##### 2. Insulin:

Insulin should not be started until at least 3 complete 24 hour urine collections have been estimated quantitatively for dextrose. If the amount of dextrose shows a substantial reduction each day and indicates desugarization by diet alone, added time should be allowed to make the urine sugar free without insulin. If the reduction in dextrose excretion does not occur in appreciable degree, insulin should be started. First start with two doses. B (breakfast) and S (supper).

Usually  $\frac{5}{8}$  total dose at B.

$\frac{3}{8}$  total dose at S.

Start with small doses. One unit for each 4 gms. of dextrose in the 24 hr. specimen of urine. Insulin is given 15 minutes before meals unless otherwise ordered.

Increase in insulin dosage depends upon:

- a. Gms. of dextrose excreted in the 24 Hr.

urine sample.

- b. Single specimen urine tests.
- c. Need for additional doses as a D (dinner) or N (bedtime) dose.

Insulin is increased by 2 units at each dose depending upon the results of the single specimen urine tests. Raise the preceding insulin dose 2 units when single test shows sugar.

Decrease in insulin dosage depends upon:

- a. Time of insulin reactions. Reduce B dose if reactions occur before noon meal. Reduce D dose if reactions occur before evening meal and reduce S dose if reactions occur after the evening meal.
- b. Additional exercise.
- c. Increase in carbohydrate tolerance.
- d. Inability to eat regular meals.

Exceptions to decrease in insulin dosage:

- a. Reactions which follow unusual exercise.
- b. Inability to eat full meal.
- c. Vomiting not due to acidosis or sepsis.

### 3. Urine tests:

#### 24 hour urine collection:

All the urine is collected in a clean bottle to which 1 cc. of toluol has been added. Shake after each addition of urine. The urine is collected from 7:30 a.m. to 7:30 a.m. If the specimen is incomplete, it should be marked "incomplete" with the reason on the urine slip..

#### Single specimen urine tests:

Urine specimen is obtained at 7:30 a.m. A portion is utilized for the single specimen test and the remainder is placed in the 24 hour sample of the previous day and a new 24 hour collection is begun.

Single specimen tests are done 15 minutes before the insulin is given. For example: at

7:30 a.m., 11:30 a.m., and 4:30 p.m. if the patient is on three doses of insulin before meals.

The specimens should be properly labeled and examined qualitatively for dextrose as soon as possible. The result and the insulin dosage are to be recorded on the chart on returning from administration of the insulin. The result of the single specimen test should be checked by the supervisor on the floor and the balance of the specimen not used in the test should be added to the 24 hour collection. When additional single specimen tests are ordered, results should be recorded as to time of day.

The patient should always be instructed to empty the bladder 1 hour before the single specimen is collected. Follow each voiding with a full glass of water.

#### 4. Weight:

The caloric intake should be regulated to produce the proper weight curve. Weigh the patient every day at 3:00 p.m. and record the weight.

#### 5. Activity:

Exercise should be encouraged to the point of approximating, while hospitalized, the amount of exercise or activity engaged in when not hospitalized.

#### 6. Weekly blood sugar tests:

On each Tuesday a.m. one of the interns on the Medical Service obtains fasting blood sugar specimens from the diabetic patients as stated before.

#### 7. Records:

There is a special pink slip for these patients. On the front of the sheet there are spaces for pertinent data. Acetone tests, reactions, substitutional feedings, etc. are

recorded under the miscellaneous column.

On the reverse side progress notes concerning the diabetic regime are made.

Complicated Diabetes:

Sepsis and Fever:

In the presence of these factors the diet should be divided into 5 equal C.P. and F. liquid feedings. They are given at 7-10, 1-4, and 7 o'clock. The insulin dose should be rapidly raised to maintain the urine sugar-free.

Anorexia:

In the absence of fever, when the patient is unable to eat a meal,  $\frac{1}{2}$  the insulin dose is given. In the presence of fever give the full dose and more depending on the urine tests.

Precoma and coma:

See Coma.

NOTES:

PERNICIOUS ANEMIA

Principles:

1. The diagnosis must be definitely established.  
Obtain:  
Routine hematology;  
Indices, including icterus index;  
Reticulocyte count;  
Urobilinogen in the urine;  
Stools for blood and parasites;  
Histamine meal -- Subcutaneous injection of  
0.25 mg. of histamine (Ergomine B & W)  
 $\frac{1}{4}$  cc. of 1:1000 sol. Aspirate stomach in  
20 minutes and again in 30 minutes and send  
to laboratory.
2. Reticulocyte, hemoglobin, and red blood cell count to be repeated daily for 14 days.
3. Treatment:
  - a. Intramuscular liver extract, one-half of week's dosage given in each buttock, intramuscularly, at once. Repeat weekly until hemoglobin and red cell count approach normal limits.
  - b. Transfusion to be considered in those cases with red cell counts below one million.
  - c. Iron may be necessary if the C.I. and S.I. drop below 85.
  - d. Dilute HCl 4-6 cc. in glass of water to be sipped during the meal. Drink thru a glass tube. Lemon and sugar may be added.
4. Discharge:  
When this patient is ready to be discharged, explain the present conception of this condition and plan a method whereby he may maintain his liver intake. Liver preparations are not furnished at the Outpatient Department.

NOTES:

BRONCHIAL ASTHMA

The following things are to be done **on** all these patients:

1. Careful analysis of the history in respect to allergens, seasonal variations, means of relief, and familial tendencies.
2. Routine blood, urine, and serology.
3. Sputum after cleansing mouth. Label "For Allergy Clinic".
  - a. Eosinophile count.
  - b. Culture on blood plate with count.
  - c. Vaccine.
4. Stool to Lab. in sterile container. Label "For Allergy Clinic."
  - a. Culture.
  - b. Vaccine.

Treatment:

DON'TS:

1. Don't administer opiates.
  - a. Patients not infrequently succumb with use of opiates. Question of sensitivity.
  - b. Danger of addiction.
  - c. Tendency to further neglect of true therapy of a more permanent nature.
2. Don't administer acetylsalicylic acid. Sensitivity?

Immediate relief of acute attack:

1. Epinephrine 0.3-0.5 cc. subcutaneously, preferably not oftener than every 3 hours with attention to rubbing site of inoculation to get prolonged action. Ephedrine may be used -- will probably be of no value if epinephrine did not give relief. Use 24-45 mg.
2. Atropine Sulphate 0.4-0.6 mg. Give subcutaneously if no results with epinephrine. Observe results.

3. Ether: -- 30 cc. in 90 cc. olive oil or liquid petrolatum as a retention enema. Repeat as necessary. This is utilized in cases of epinephrine intolerance. The intolerance to epinephrine may disappear by the next morning and be of value.
4. Strychnine Sulphate 1-2 mg. May be of value in listless patients with poor venous return.
5. Scopolamine Hbr. 0.4-0.5 mg. may be useful.
6. Nasal oxygen.

Prophylactic and Curative Treatment:

1. Sodium iodide -- is indicated in any case of asthma.
2. Tr. Belladonna --- is indicated if colon is spastic and breathing is particularly difficult.
3. Liq. Potassii Arsenitis -- Seems to be somewhat specific in asthma and aids nutrition. It is a cumulative drug.
4. Tr. Nucis Vomicae -- Empirical usage has found it very helpful.

Small doses of these medicaments are preferred. They are to be given t.i.d. at first and then reduced to b.i.d. and then q. day with evening meal.

Stock prescriptions:

Sodium iodide, 10.0  
 Tr. Belladonna, 8.0  
 Elix. Lactated Pepsin  
 q.s., 120.0  
 Sig: Dose is 4 cc.

Sodium Iodide 10.0  
 Tr. Belladonna 15.0  
 Tr. Nucis Vomicae, 6.0  
 Liq. Pot. Arsenitis,  
 6.0  
 Elix. Lact. Pop. q.s.  
 120.0  
 Sig: Dose is 4 cc.

Diet: -- The diet should be on the basis of a thorough testing using both cutaneous and intracutaneous tests. Lean meats as beef, lamb, and chicken are favored if no specific reactions. Pork is an ex-

ception and should be avoided. Milk, eggs, and cereals are likewise favored. Nuts are frequent offenders. Fruits should be well cooked. Fruits effects are of two types: specific, as betrayed by (1) immediate reaction to cutaneous test and (2) 24 hour intracutaneous reaction, and the non-specific reaction which acts synergistically with the real causal agent of the asthma. Vegetables also display in addition to a specific action in some cases, a non-specific 24 hour reaction which is definite, febrile, and universal. String beans, spinach, asparagus, and the gourds are frequent offenders of this type. The gourds are squash, pumpkin, melon, cucumber, etc.

Vaccine: -- Begin with 0.02 cc. of the vaccine which is a mixture of the organisms found. One may use the whole broth culture or a washed culture. Observe and record the size of the wheel and the erythema of both the immediate and 24 hour reactions and estimate the dosage to be used. Ordinarily one begins with 0.05 cc., then 0.07 cc., then 0.1 cc. and give the latter at 3-5 day intervals.

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NOTES:

## ARTHRITIS

### Acute Rheumatic Fever:

#### Principles:

1. This condition, which is not commonly seen in this hospital, is very important because of its cardiological aspects and generalized involvement of almost all tissues of the body.
2. Reduction of pain and absolute bed rest are very important in the treatment.
3. Careful watch for evidence of pericarditis.
4. Maintenance of rest until all evidences of infection are gone.

Rest: -- Absolute bed rest.

Fluids: -- Fluids to 3000 cc. daily.

Diet: -- Full diet.

Nursing care: The nurse must utilize her ability in psychotherapy to keep the patient quiet and satisfied and to remain in bed. In changing linen, she must utilize her knowledge to avoid pain as much as possible.

#### Treatment:

1. All affected joints should be wrapped in cotton and be well protected to prevent contact of bed clothes. A light cradle should be utilized and the bed clothes must be changed often enough to keep them dry.
2. Methyl salicylate should be carefully applied to the joints each day at the time the linen is changed.
3. Acid acetylsalicylic 1 gram.  
Sodium bicarbonate  $\frac{1}{2}$  grams every hour with at least a glass of water for five doses or until salicylism is produced. Repeat the above dosage every three hours for five doses a day and decrease if necessary. In case salicylates are not tolerated by mouth, rectal or intravenous routes may be used.

4. Hypnotic barbital, 0.2 q.h.s. if necessary.
5. Cases with cardiac complication. The criteria to gauge the amount of infection in the circulatory system are:
  - a. Rapid and unstable pulse;
  - b. Any abnormality of rhythm;
  - c. Any small rises in temperature or transitory joint pains;
  - d. Presence of any changing cardiac murmur or evidence of cardiac dilatation;
  - e. Prolongation of the P.R. interval;
  - f. Sedimentation rate increase.
6. Patient must maintain a bed rest for two to four months after all evidences of infection have disappeared.
7. Foci of infection can be removed while still in bed after evidence of infection has disappeared.
8. If foci of infection are removed, one should observe the patient from one to two weeks and if no exacerbation occurs, he may be sent home for convalescence.

### Atrophic Arthritis:

#### Principles:

1. Relief of pain.
2. Prevention of deformity.
3. Determination of source and removal of infection.

Rest: -- Bed rest with a minimum of active motion during the painful stage except for passive motion within the range of tolerance. When pain and constitutional symptoms have disappeared and joints not effected, active exercise in bed must be encouraged. A definite program, including diaphragmatic breathing, should be taught to the patient.

Fluids: -- Fluids should be encouraged.

Diet: -- Full diet. Excess vitamin intake must be guaranteed to the patient. It may be necessary to add vitamin concentrate to the diet.

Search for foci of infection:

1. Ear, nose, and throat, and dental consultation on each patient.
2. Prostatic smear following the prostatic massage on male patients.
3. Cervical and urethral smears on female patients.
4. Gall bladder study in patients in which gall bladder disease is suspected.
5. Stool, sputum, tonsillary crypts, nasal secretion, prostatic secretions, and cervical secretions for culture as indicated.

Therapy:

1. Analgesic, heat cradle and salicylates as necessary. Opiates must not be used. Methyl salicylate to be provided the patient so that he may massage his own joints three times a day.
2. Therapeutic:
  - a. Elimination of foci of infection;
  - b. These patients frequently have disturbed bowels. This should be corrected. See irritable bowel and atonic constipation.
3. Vaccine therapy. There are three types of vaccine which may be utilized in either sub-reactive or reactive doses. They are to be given at the discretion of the staff physician.
  - a. Autogenous vaccine.
  - b. Foreign protein reaction as with typhoid vaccine.
  - c. Streptococcus vaccine.
4. Joints: -- Each joint should be moved passively thru the non-painful range of motion b.i.d.

5. If ankylosis seem inevitable, the joint should be maintained in the position of optimum function.

6. Electrotherapy: -- The patient is to be sent to Physiotherapy at the discretion of the staff physician for diathermy or short wave pyrexial therapy.

#### Hypertrophic Arthritis:

The treatment of this condition is palliative but foci of infection should be sought for and removed. These patients will suffer traumatic exacerbations in isolated joints that will respond to heat and bed rest. If effusions occur, aspirate the joint and apply a tight binder for a few days. These patients are not hospital patients unless other complications are present.

#### Gonorrheal Arthritis:

These cases are treated by the Surgery Department.

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NOTES:



NOTES:

## PERIPHERAL VASCULAR DISEASE

### Principles:

In any case of atherosclerosis, diabetes mellitus, gangrene, or ulceration of an extremity, pallor, cyanosis, paresthesias or pain in the extremities, the peripheral vascular system should be carefully examined. There is, as yet, no diagnostic test which makes an accurate history and careful examination unnecessary.

### Method:

1. Note color and temperature of the limb in horizontal position; marked pallor, mottling, undue redness, or cyanosis is pathological. Pallor is the result of constriction of the superficial vessels. It is seen in association with arterio occlusive disease only when this occurs suddenly and in this case it persists until gangrene or superficial or collateral circulation is established.
2. With the patient in the recumbent position elevate the limb to the vertical. Marked blanching does not occur normally. If it does, it is indicative of extensive compensatory constriction of the superficial capillaries and the degree and speed of appearance of the blanching are in proportion to the involvement of the cutaneous circulation. After blanching has occurred, the limb should be lowered quickly to the dependent position. If redness, or redness and cyanosis, appears, the deep vessels are probably diseased. The angle of circulatory efficiency is determined in each case for it is valuable in diagnosis and in following the progress of the case. It is that angle from the vertical at which normal color, or what is more frequent, redness and cyanosis, just appear. The lower the limb has to be placed after blanching has been produced

- in order to obtain a return of color, the greater is the degree of circulatory involvement. Occasional vasomotor irritability causes blanching to persist and the test is not accurate. Plantar pallor is a simple bedside procedure of definite value. The ball of the foot is observed before and after active exercise in the form of flexion and dorsiflexion of the foot. Rapidly developing pallor is significant.
3. Trophic changes are also noted. These occur particularly in slowly developing arterial occlusions. Thinning of the skin, loss of subcutaneous fat, giving the skin a shrivelled appearance, a loss of normal softness and oiliness of the skin are noted. In addition there may be a thickening and brittleness of the nails, especially that of the great toe.
  4. Gangrene due to occlusion of the vessels is frequently unilateral, or, if bilateral, is not symmetrical. While a disturbance of vasomotor origin, the gangrene tends to be both bilateral and symmetrical. One must recognize the tiny gangrenous spots which occur around the bases of the nail in relatively early vascular disease. If the serious import of this comparatively slight tissue death is recognized, many patients if properly treated can be spared the tragic progress of the disease.
  5. Venous circulation is determined by locating the presence or absence of edema, cyanosis, and varicosities. One should carefully palpate for venous thrombosis in suspected cases. Thrombophlebitis of the migratory type should arouse a suspicion of thromboangiitis obliterans.
  6. Absence of pulsation of the peripheral accessible arteries is fairly reliable evidence of occlusive disease. In the lower extremity of a

- normal individual, the pulsation of the femoral, popliteal, posterior tibial, and dorsalis pedis arteries are usually easily felt.
7. X-ray studies of the peripheral vessels are of secondary importance. However, they give some idea of the extent and degree of calcium deposition and the occurrence of bone rarefaction can be determined.
  8. Histamine test: The chief value is to determine the efficiency of a superficial circulation. The following is Starr's technique for the test: Histamine acid phosphate 1:1000 in distilled water is used. "The patient is placed in a horizontal position with the toes pointing inward to prevent the histamine solution from running over the dorsum of the foot. The upper surfaces of the feet and anterior surfaces of the legs are cleansed gently with alcohol, which is allowed to dry. About 0.5 cc. of the histamine solution is drawn up in a hypodermic syringe and one drop is placed on the dorsum of one foot. About ten intracutaneous punctures are made in rapid succession through the drop of histamine. The process is repeated on the dorsum of the other foot and in rapid succession in the midline at both ankles, external to the crest of the tibia below the knees and in the midline just above both knees. With a little experience the eight test may be performed in one minute. Readings of the reactions are taken at  $2\frac{1}{2}$ , 5, 10, and 15 minutes, after the first intradermal injection and, if possible, all eight of the tests should be read within the length of time which is necessary for the injection.
- "The reaction normally consists of two parts; there is first a zone of erythema due to arteriolar dilatation. This is called the 'flare'.

In addition, there is located in the center of this a wheal which is due to exudation of plasma. The diameter of both the 'flare' and the wheal are noted at each injection site at each reading. Normally both the wheal and the 'flare' begin to appear within five minutes and increase in intensity up to the fifteen minute reading and then begin to fade. The 'flare' is usually about the size of a ten cent piece, but variations in the size of the reaction are not of diagnostic importance unless the reaction is so small as to be negligible. It also occasionally happens that only the 'flare' or only the wheal appear. Along with most workers in the field, we believe that this appearance of an incomplete reaction is not necessarily abnormal. From a diagnostic standpoint, significance must be attached to failure of reaction to appear at all or to appear only after five minutes have elapsed. The reaction ordinarily is more intense as one approaches the knee. This is not necessarily so, however, and not infrequently the reaction is less marked at the ankle than it is over the dorsum of the foot. This is probably indicative of the less well-developed superficial circulation in the former region."

The imminence of gangrene in cases in which the deep vessels are known to be occluded can be determined with the histamine test. Absence of the reaction or its appearance after an abnormally long time shows involvement of both the superficial and deep vessels and gangrene is likely to occur under these circumstances. "In advanced vascular disease, amputation should always be performed above the level of a normal response to histamine in order to be sure there will be healthy tissue at the site of operation."

9. Differentiate the number of spastic elements from the amount of occlusive elements in an arterial disease of the extremities, a means of obtaining vascular release must be sought. Acetyl choline injection, anaesthesia of the sympathetics, local anaesthesia, or general anaesthesia may be used, taking temperatures of the cutaneous surface. A centigrade thermometer may be strapped on the skin or a thermocouple may be used. Accurate vasomotor index determinations require the latter.

A fairly accurate method in determining whether occlusive or spastic disease is present and its degree is to determine the rise in temperature of the inferior extremities following immersion of the superior extremities in warm water. After exposure of the inferior extremities to constant room temperature, the skin temperature of the area to be tested is recorded. The forearms are then immersed in water at a temperature of 43-45° C for at least 20". Normally, the surface temperature should reach 32° C. It may be stated that if the surface temperature exceeds 31.5° C, significant occlusive disease is not present.

The results should be checked by spinal block and thermocouple in doubtful cases.

#### Treatment:

The treatment is quite individual depending upon the etiology and type of lesion. The etiological factor should be treated and corrected if possible. Frank gangrene should be seen by Surgical service. The most important thing is to recognize impaired circulatory conditions before serious trouble occurs and the patient instructed as to proper care of extremities. The functional capacity in circulatory disease of the extremities is just as

important as it is in cardiac conditions.

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NOTES:

#### CARE OF THE UNCONSCIOUS OR HELPLESS PATIENT

1. This type of patient is dependent upon the nursing staff. Death from bronchopneumonia and decubitus ulceration is likely to occur unless proper nursing care is followed. One must maintain skin tone, fluid intake, caloric intake, and cleanliness. Bronchopneumonia and decubitus ulceration are prevented by frequent turning of the patient and proper back care. Turn the patient on one side, then the back, then the other side, then back, etc. at four hour intervals. This does not mean swinging one arm and elevating one shoulder slightly instead of turning the patient on his side. By the use of pillows and correct position, the patient may be maintained in a state of relaxation.
  2. Restraints must be in place at all times.
  3. Keep the patient warm, dry, and clean. In the care of the bowel it may be saving in both linen and time to give enemas and insert a retention catheter.
  4. Temperature should be taken rectally.
  5. All apparatus which is utilized in warming the patient should be covered. No heat over 110° F. should be utilized and no burns will result. Burns are the responsibility of the nursing staff and the hospital.
  6. The care of the mouth is very important. Oral sepsis is a precursor of parotitis and bronchopneumonia. The mouth should be thoroughly cleansed with the finger covered with a soft, moist cloth. Do this three times daily.
  7. If the patient is able to take fluids, these should be maintained to the amount specified or if ordered ad libitum, between 1500 and 2000 cc. should be given per 24 hours. This means 6-8 glasses of fluid a day, given whether the patient asks or does not ask for it.
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NOTES:

COMA

Principles:

1. This condition is an emergency. The diagnosis must be made and the proper treatment instituted at the earliest possible moment.
2. Obtain what information you can from the relatives or ambulance driver before they leave.
3. Know thoroughly the differential diagnosis and the treatment of the common causes of coma. Proceed in an orderly fashion to make the diagnosis.
4. A case of coma cannot be adequately studied until a cerebrospinal fluid examination, urinalysis, blood sugar, blood urea nitrogen, and alkali reserve figure are obtained.
5. A case is not diagnosed until the cause of the coma is proven. A fall may have been due to some other factor and the resulting head injury is not the primary cause of the coma.
6. In any case suspected of having been poisoned or if vomiting, aspirate the stomach contents and save for toxicological examination.
7. The common causes of coma are:
  - a. Traumatic injuries:
    - (1). Subdural hemorrhage;
    - (2). Skull fracture with concussion;
    - (3). Extra-dural hemorrhage.
  - b. Cerebrovascular accidents:
    - (1). Thrombosis;                   (2). Hemorrhage;
    - (3). Embolism;                   (4). Vascular spasm.
  - c. Metabolic:
    - (1). Acidosis (diabetic, nephritis, ingestion of acids);
    - (2). Uremia;                       (3). Hepatic toxemia;
    - (4). Alkalosis;
    - (5). Hypoglycemia;
    - (6). Tetany.

d. Toxic agents:

- (1). Morphine
- (2). Alcohol;
- (3). Carbon monoxide;
- (4). Mercury poisoning;
- (5). Barbituate intoxication;
- (6). Phenol.

e. Specific diseases of the Brain and Meninges:

- (1). Meningitis;
- (2). Enccephalitis;
- (3). Meningo-encephalitis;
- (4). Brain abscess;
- (5). Parosis;
- (6). Brain tumor.

f. Cardiac:

- (1). Paroxysmal tachycardia;
- (2). Heart block;
- (3). Coronary thrombosis;
- (4). Aortic stenosis.

g. Miscellaneous:

- (1). Epilepsy;
- (2). Hysteria;
- (3). Acute hemorrhage;
- (4). Shock;
- (5). Syncope.

Rest: -- Bed rest with restraints.

Procedure:

1. Notify the Resident.
2. See the relatives or ambulance driver for history, previous illness, position, and condition of the patient when found, poison in vicinity, etc.
3. Order catheterization tray and lumbar puncture set-up.
4. Examination of the head, orifices, breath, pupils, fundi, extra-ocular muscles, mucous membranes of the mouth, pulse, neck for stiffness, Kernig's sign. Note the nasio-labial folds for inequality, raise the various ex-

tremities and let fall to detect inequality, elicit the deep reflexes, look for abnormal reflexes, and muscle twitching. Take the blood pressure and determine the size of the heart and gross deviations from normal auscultatory findings and note the condition of the peripheral vessels. Look for evidences of skull fracture and rupture of the liver or spleen.

5. Percuss the bladder. Do a rectal on males and a vagino-rectal examination on females.
6. Catheterize for urine sample.
7. Obtain 20.0 cc. of blood using 5.0 cc. for the unoxalated sample.
8. Do a lumbar puncture and note the pressure with the manometer, Queckenstadt's test, color, and appearance of the fluid obtained. If the pressure is increased, reduce it to normal. A posterior fossa tumor may be present but to have this case enter the hospital in coma would be very rare. However, one should always reduce the pressure slowly. 10.0 cc. of cerebrospinal fluid should be taken for examination. Be prepared to introduce 30.0 cc. of antimeningococcic serum if cloudy fluid is obtained.
9. The examinations thus far should be completed within 30 minutes of the time of entrance into the hospital. If any difficulty is encountered in gaining the proper assistance of the nursing staff, report it to the Resident at once.
10. Order all laboratory work as an emergency. If the laboratory is closed, call the laboratory intern at once and then obtain the samples for him and let him start the laboratory work and he shall assist you in completing it.

11. As soon as shock, syncope, and the cardiac group have been excluded, raise the head of the bed. Most other types will be benefited by hypertonic dextrose.

#### Diabetic Coma and Precoma:

##### Principles:

1. When this diagnosis is suspected or established by the procedures outlined above, search for the factor which precipitated the coma. Acute infectious processes are the most frequent causes. If the patient has any fever, be especially watchful for a surgical emergency. If signs and symptoms persist after the acidosis is corrected, be especially cautious that you are not overlooking a masked infectious process, i.e., pneumonia, otitis media, appendicitis, etc.
2. Proceed thru the same examination as under coma. Work speedily.
3. Ketosis and anhydremia are to be combatted and not hyperglycemia.

##### Procedure:

1. Order:
  - a. External heat with extra blankets;
  - b. Lumbar puncture set-up;
  - c. Stomach aspiration set;
  - d. Indwelling catheter;
  - e. Benedict's qualitative reduction test and acetone test every 30 min. for 2 hours and then every hour.
  - f. Intravenous set-up with arm-board;
  - g. Special nurse.
2. In a known diabetic without sugar in the urine give 20.0 cc. 25% dextrose intravenously.
3. Insulin: -- Give 40 units at once, then give 20-40 units every 2-3 hours until the urine is free of ketone bodies.
4. Fluids: -- Intravenous saline is given with

insulin in sufficient quantity to maintain the urinary reductions between 1 and 3 plus and the urinary output volume at 100.0 cc. per hour. When large amounts of fluid are necessary, it is wise to give the major portion subcutaneously so that the circulatory system be not embarrassed. If the urine becomes sugar-free, give 5% dextrose intravenously.

5. Caffeine Sodio-Benzoate 0.5 intravenously or 0.5 - 1.0 cc. of epinephrine solution subcutaneously or possibly intravenously may be necessary with circulatory collapse.
6. Aspirate the stomach if gastric dilatation is suspected and lavage with 5% sodium bicarbonate solution. Allow 500.0 cc. of the solution to remain in the stomach.
7. Do a lumbar puncture.
8. As soon as the urine is free of ketone bodies check the alkali reserve.
9. If the alkali reserve is normal, continue with dextrose and insulin to insure a good glycogen reserve. If the patient is conscious and can tolerate oral feedings, the fluids and dextrose may be given by mouth. Use one of the following methods at same time forcing water.
  - a. Orange juice (10% CHO) 200.0 cc. (1 glass) 5 times daily at 7-10-1-4-7.  
Orange juice 100.0 cc ( $\frac{1}{2}$  glass) with 2 teaspoons sucrose as above.  
Milk (5% CHO) 200.0 cc. (1 glass) with 2 teasp. sucrose as above.
  - b. Insulin units: 10 is given subcutaneously receding each liquid feeding unless the urine reduction done before each feeding is negative. 5-10 cc. of insulin at midnight is often necessary.
  - c. Urine reduction tests before each of the five feedings.

10. The next day order C. 150, P. 50, and F. 50 with 5 liquid feedings per day. Insulin to be given as judged by the blood sugar and urine tests.
11. On the following day begin the establishment of the daily routine as under diabetes, plus that of any infectious process found.

NOTES:

## CEREBRO-VASCULAR ACCIDENTS

### Principles:

1. Prevention of cerebral compression, bronchopneumonia, and decubitus ulcers.
2. Treatment of initial shock if present.
3. Prevention of urinary bladder distention. Gradual decompression of the bladder if distention is found.
4. Maintenance of normal fluid intake and nourishment.
5. Avoidance of medication.
6. Restraint of patient.

Rest: Bed rest with back rest and restraints in position.

Nursing care: As under the care of the unconscious or helpless patient.

Diet: If the patient is in coma over 48 hours, or has dysphagia, nourishment and fluids should be given thru a Levine or Ewald tube.

Fluids: The most convenient method is thru the stomach tube at the time of feedings. If possible, give by mouth.

Therapy: In general one should avoid medication but a mild sedative may be necessary. Enemas are necessary in most cases. Lumbar punctures should be done as often as is necessary to maintain normal cerebrospinal fluid pressure and relieve headache. They are also done as necessary to remove bloody spinal fluid. This may require lumbar punctures every 6-8 hours for the first 48 hours.

### Laboratory work:

1. Routine blood and urine examination.
2. Lumbar puncture on admission with routine cerebrospinal fluid examination.
3. Blood urea nitrogen, blood sugar, and alkali reserve as under coma.



### Convalescence:

These patients should be encouraged to be up after three weeks. The patient that is maintained in bed over a much longer period will tend to remain in bed. It is necessary that the nursing staff encourage these patient and help them to gain confidence and to teach them how to walk. If the patient is slow in learning how to walk, send them to physiotherapy three times weekly to use the walker.

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### NOTES:

### MENINGITIS:

#### Principles:

1. A lumbar puncture should be done, at once, on all cases displaying severe headache or stiff neck, providing a posterior fossa tumor is not suspected and choked discs are not present. Do a Queckenstadt's test and record pressure.
2. If cloudy fluid is obtained, antimeningococcic serum should be injected before the needle is withdrawn.
3. Sufficient fluid should be withdrawn to reduce the pressure to normal and provide fluid for complete examination. If the laboratory is closed, a smear and cell count are necessary.
4. Isolate all patients until infectious processes are ruled out.

Rest: Bed rest with restraints.

Nursing care: A special nurse should be provided. The patient may become maniacal at any time. Strict isolation is necessary in meningococcic meningitis.

Diet: The patient is often in coma and unable to take nourishment. If the patient is able to take nourishment by mouth, a diet similar to that in typhoid fever is utilized. If not, one must use fluid and dextrose by vein or subcutaneously.

#### Meningococcic:

A subarachnoid block must be watched for in these cases. It is suggested if the Queckenstadt test is negative or if the fluid ceases to flow after only a few cc. have been withdrawn, using at least a 16-18 gauge needle. If a block develops, call the Resident at once.

Antimeningococcic polyvalent serum is used intraspinally. This must be carefully warmed to but not exceeding 110° F. Give 30 cc. intra-

spinally every 8 hours for the first 36 hours and then every 12 hours. Test the patient for sensitivity to horse serum by making an intracutaneous injection of 0.05 cc. of a 1:10 dilution of the serum. Give in an extremity. It is not necessary to desensitize a patient if the serum is given only intraspinally but it is well to know if the patient is sensitive to horse serum.

Serum is maintained until the spinal fluid is free of organisms and 3-4 injections thereafter.

Send a specimen to the laboratory daily to follow the cell count. However, the cell count is of no value in gauging recovery.

Watch for dehydration, circulatory collapse, pneumonia, and urinary retention. These cases frequently develop an urticarial rash for which calamine with 2% phenol is applied. Sedation must be given in most cases.

#### Tuberculous:

This type of meningitis is fatal and treatment is palliative.

#### Meningitis produced by gram positive cocci:

This type requires special procedure and care.

#### Syphilitic Meningitis:

This is a manifestation of secondary syphilis. Frequent lumbar punctures are necessary. These may have to be done as often as every four hours. Give intravenous sodium iodide 1.0 gm. b.i.d.

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## TUBERCULOSIS

### Principles:

1. Cases in which the diagnosis of pulmonary tuberculosis is suspected should be isolated at once.
2. Order three unconcentrated and three concentrated sputum tests. Obtain two positive tests. Order daily sputum volume to be recorded.
3. Cases with severe hemoptysis:
  - a. Notify the Resident.
  - b. Absolute bed rest with back rest.
  - c. Feed drinks and cold food only.
  - d. Sodium Bromide 2.0  
Sodium Phenobarbital 0.120  
Aqua. q.s. 120.0  
Give as retention enema q. 4 hrs.
  - e. 10.0 cc. of 5% Sodium Chloride intravenously stat and once daily.
  - f. Give no opiates.
4. If fluid is removed from the chest or other cavities, order a routine fluid examination, and, if the case is unimproved, a guinea pig inoculation.
5. If tuberculin tests are to be done, use the purified protein derivative.
6. Patients are to be transferred to the tuberculosis hospital as soon as possible.
7. No type of collapse therapy is to be instituted unless ordered by the chest consultant. Pulmonary tuberculosis is not to be treated in this hospital.

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### MALARIAL THERAPY

Syphilitic patients to whom malarial therapy is to be given are under the care of the psychiatry department. Before inoculation there should be a note on the chart recommending the therapy by one of the members of this department. Also, it is necessary to obtain a written permit for treatment from the patient, if he is mentally clear, or the patient's relatives.

The patient comes to the hospital, after being given a hospital permit, and is inoculated. He then returns home with instructions to come back to the hospital when his first chill occurs. This requires 5-10 days. Inoculation is made by injecting 10.0 cc. of fresh malarial blood intramuscularly.

Routine physical, history, and laboratory examinations are done on entrance. Blood pressure readings are taken daily and recorded on the temperature chart. The patient is allowed to have 10-12 chills if no contra-indication develops. If the systolic blood pressure falls below 90 mm. or excessive anemia develops, it is necessary to discontinue the malarial therapy. Ferric ammonium citrate and fluids, 2500-3500 cc. per day are ordered on entrance.

If the chills stop, contra-indications develop or sufficient chills have been given, order 1.0 quinine sulphate t.i.d. The patient is maintained in the hospital for one week following the cessation of the malarial therapy.

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PNW Archives