CHRONIC CARE CLINICS

PROTOCOLS AND CLINIC PROCEDURES

GEORGIA DEPARTMENT OF CORRECTIONS

JAMES H. HIPKENS M.D., Ph.D.

KATHRYN KRAUSE R.N., A.N.P.

MADELEINE LAMARRE R.N.C., F.N.P.

APRIL 1994

CHRONIC CARE PROTOCOLS AND PROCEDURES

TABLE OF CONTENTS

Chronic Obstructive Pulmonary Disease

I. Tuberculous Infection Clinic

J. Women's Wellness Clinic

Abnormal Pap Smear

IV. Appendices

THE GEORGIA DEPARTMENT OF CORRECTIONS WOULD LIKE TO THANK THE NATIONAL INSTITUTE OF CORRECTIONS FOR THEIR SUPPORT OF THIS PROJECT.

WE ALSO THANK PAGE FLETCHER R.N., DIRECTOR OF NURSING AT VALDOSTA C. I., FOR HIS ASSISTANCE IN THE DEVELOPMENT OF CHRONIC CARE FLOW SHEETS AND DATA BASES.

GENERAL POLICIES FOR CHRONIC CARE

GENERAL POLICIES FOR CHRONIC CARE CLINICS

PURPOSE:

A. To screen, identify and monitor patients with chronic illnesses in order to initiate appropriate therapeutic regimens which will promote health and prevent complications.

B. To provide patient education and counseling to encourage patients to practice healthy behaviors.

DEFINITIONS:

A. Chronic Care Clinics: Routinely scheduled encounters between a health care provider and an inmate with a chronic medical disease.

B. Advanced Level Provider: Nurse Practitioner or Physician Assistant.

C. Medication Noncompliance: This is defined as missing three consecutive days of medication or more than 50% of medication prescribed during a 30 day period. Individuals on insulin shall be considered noncompliant after missing one dose.

D. Diet Noncompliance: Failure to pick up a prescribed diet six (6) meals a week or fifteen (15) meals a month.

POLICIES:

A. Chronic Care Clinics will be established at all Georgia Department of Corrections institutions caring for incarcerated populations. The clinics will include the following:

Cardiovascular (excluding hypertension)
Diabetes Mellitus
Gastrointestinal
Hypertension
Infectious disease (excluding tuberculous infection)
Seizure Disorder
Pulmonary
Tuberculous Infection

General Medicine (multiple chronic diagnoses)

Periodic physicals and health screening should be organized through the following clinics:

Men's Wellness Clinic
Women's Wellness Clinic

B. Inmates will be screened upon intake and assigned to the appropriate chronic care clinic. Inmates with multiple diagnoses may be assigned to a general medicine clinic. If an institution has very few inmates with a particular type of chronic illness the clinic may also be combined into a general medicine clinic. Inmates who do not have a chronic illness will be enrolled in the wellness clinic for annual screening which should coincide with the inmate's birth month.

C. Inmates with chronic medical conditions will be evaluated initially during the medical diagnostic process and scheduled for enrollment into the chronic care system. The first chronic care clinic visit shall be scheduled within three months of entering GDC. Once inmates are transferred to permanent institutions, the scheduling process should insure appropriate continuity of care. A tracking system will be developed to monitor chronically ill inmates.

D. All initial medical evaluations of inmates in chronic care clinics shall be conducted by an advanced level provider or physician.

E. If the patient has had medical evaluations prior to incarceration which would be helpful in the assessment and treatment of the patient, a release of information should be obtained from the patient and the medical records retrieved from the treating institution or provider.

F. After receiving the initial evaluation by a physician, inmates in chronic care clinics will be evaluated a minimum of every three months with the following exceptions:

1. Inmates whose disease process is not well controlled should be monitored through sick call or scheduled appointments between clinic visits.

2. Inmates in the Tuberculous Infection Clinic must be seen monthly by a registered nurse while on INH prophylaxis, with an evaluation by a physician or advanced level provider at the three month visit.

3. Inmates who are doing well enough that they are being weaned from a chronic care clinic may be seen every six months.

G. Chronic care Clinics may be organized by a registered nurse who may: schedule appointments and baseline laboratory tests; monitor medication compliance and provide patient education and counseling. However, the actual clinic visit shall be conducted by an advanced clinical provider or physician (with the exception of the INH clinic which may be conducted by a registered nurse).

H. Medications for chronically ill inmates may be ordered for 30 days with 5 refills (total of six months). A system for notifying the pharmacy of medication reorders shall be developed.

I. Clinic data base forms shall be completed initially, and flow sheets with each clinic visit. Flow sheets are designed to monitor trends in symptoms (indicate yes or no), physical findings (normal or abnormal) and laboratory values (enter lab value result or normal or abnormal). Flow sheets are not to take the place of a thorough progress note. All clinic visits should result in an updated flow sheet and progress note, indicating what diagnostic, therapeutic and patient education measures are planned.

J. A data collection system shall be developed to determine the number of inmates enrolled and discharged from clinics on a monthly basis, and the current number of inmates currently enrolled in each clinic. A quarterly summary shall be maintained for reporting to Health Services in central office.

K. Short term facilities such as detention centers and boot camps shall conduct the initial assessment of chronic illnesses during the diagnostic phase and monitor inmates every three months or as clinically indicated.

CARDIOVASCULAR CLINIC PROCEDURES

CARDIOVASCULAR CLINIC PROCEDURES

I. CLINIC GOALS

A. To properly diagnose patients with heart disease and initiate appropriate therapeutic regimens.

B. To prevent, reduce or eliminate risk factors associated with heart disease.

C. To provide patient education to promote a better understanding of causes, symptoms, and treatments of heart disease and the importance of compliance with the therapeutic regimen and lifestyle changes.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE CARDIOVASCULAR CLINIC

A. All inmates with the following diagnoses will be enrolled in the hypertension clinic:

Cardiomyopathy
Coronary Artery Disease
Cardiac Dysrhythmias
Congestive Heart Failure
Valvular Heart Disease
Peripheral Vascular Disease
Other Circulatory System Diseases

B. An inmate who enters a diagnostic center and presents a history of heart disease or who at any time presents with signs and symptoms suggestive of heart disease shall be referred to an advanced level provider or physician for evaluation and possible enrollment into the cardiovascular clinic.

C. The provider shall evaluate the patient's medical and family history for risk factors associated with heart disease, subjective and objective findings, EKG and chest x-ray results.

D. If the physician concurs that the patient has heart disease, (s)he shall write a physician's order enrolling the patient in the cardiovascular clinic. Baseline laboratory studies ordered should include a fasting serum chemistry including lipid profile, CBC with differential, dipstick urinalysis, EKG and chest x-ray.

E. Stress tests, invasive studies or specialty consults will be ordered only after consultation with the institutional physician.

F. All consult requests will be completed by a physician or advanced level provider with the physician's concurrence and signature. The consult sheet shall include a review of the patient's symptoms, objective findings and current medications.

III. THE INITIAL VISIT

A. At the initial clinic visit the following information should be reviewed by the provider and the cardiovascular clinic intake form should be filled out:

1. The family history of hypertension, stroke, heart or kidney disease;
2. The medical history with particular attention to known history of hypertension, stroke, cardiovascular or renal disease;
3. Risk factors for cardiovascular disease (smoking, hypertension, obesity, hypercholesterolemia, diabetes, sedentary lifestyle);
4. Review of medication history, including prescription and over-the-counter (OTC) drug use;
5. History of alcohol, tobacco or drug use;
6. Any known drug allergies;
7. Recent or current symptoms, their frequency and severity (chest pain, SOB, palpitations, syncope, dizziness, claudication, ankle swelling etc.);
8. Results of laboratory tests (including serum pregnancy tests for women);
9. Review of physical findings including vital signs, assessment of the heart and lungs, peripheral pulses, swelling or cyanosis of the extremities.

B. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not to exceed 30 days. If the patient requires a nonformulary medication, a request form shall be completed by the physician and forwarded to the medical director in central office for approval.

C. The patient should be counseled regarding the diagnosis, its potential complications if untreated, and lifestyle factors which influence cardiovascular health. If the patient is treated with medication, (s)he should be counseled regarding the proper administration of the drug and potential side effects. Whenever possible, written materials should be reviewed with and provided to the patient.

D. Patients with newly diagnosed cardiovascular disease should be profiled to reflect this and the diagnosis documented on the problem list. Each patient encounter should be fully documented in the progress notes

including patient education. A cardiovascular flow sheet should be initiated.

E. A follow-up appointment shall be scheduled.

IV. MONITORING THE PATIENT

A. At each subsequent visit, patients will be evaluated for the following:

1. Review of signs and symptoms and laboratory test results;
2. Medication compliance and side effects;
3. Compliance with the therapeutic diet (if prescribed);
4. Assessment of the patient's knowledge of the diagnosis and treatment plan including diet, exercise, smoking cessation, weight reduction and salt restriction;
5. Patient education regarding any scheduled laboratory or diagnostic tests;
6. Reorder of medications, if appropriate;
7. Reschedule the next clinic appointment;
8. Completion of the cardiovascular flow sheet;
9. Documentation of 1 through 7 in the progress notes.

B. Patients whose symptoms have increased shall be referred for evaluation by a physician.

V. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the cardiovascular clinic for the following reasons:

1. The patient has required no pharmacologic or dietary intervention for six months, and for whom discontinuation from the clinic poses little if any risks to the patient.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral if at all possible. The patient should be provided with a community discharge summary sheet with the diagnosis and list of medications.

3. **The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of foregoing therapy, refuses all therapy and monitoring. This shall also apply to patients who refuse evaluation after being informed of potential risks. If the health consequences of the refusal of evaluation and or treatment are significant, a refusal of treatment form shall be completed. This process shall also be well documented in the progress notes.**

B. A physician's order shall be written to discontinue patients from the cardiovascular clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

CARDIAC/HTN CLINIC DATABASE
Georgia Department of Corrections

NAME_____ STATE I.D._____
Date of Birth_____ Race_____ Sex_____
ALLERGIES_____

Vital Signs: Temp_____ Pulse_____ Resp._____ Height_____ Weight_____ lbs.
(L) Blood Pressure Lying_____ Standing_____
(R) Blood Pressure Lying_____ Standing_____

HISTORY

Headaches_____
Dizziness_____
Blurred vision_____
Epistaxis_____
Palpitation_____
Chest Pain_____
Dyspnea_____
Claudication_____
Hematuria_____
Nocturia_____
Polyuria_____
Polydypsia_____
Muscle Weakness_____
Weight Gain_____
Weight Loss_____

Risk Factors:
Family History_____
Smoking History_____
Diabetes_____
Hyperlipidemia_____
Obesity_____
Hypertension_____
Substance Abuse_____

Medication History:
_____
_____
_____
_____
_____
Diet_____
Other Relevant Information:
_____
_____

_____
Signature Date

PHYSICAL EXAMINATION

Head, face, mouth, neck_____
_____
Eyes, ears, nose_____
Thorax, lungs_____
Breasts, axillae_____
Musculo-skeletal_____
Cardiovascular Evaluation:
PMI_____
Heart Sounds_____
Bruits:
Carotid_____
Abdominal_____
Pulses:
Radial_____
Femoral_____
Pedal_____
Abdominal Evaluation:
Liver_____
Spleen_____
Bowel Sounds_____
Tenderness_____
Edema_____
Other Findings_____
_____

DIAGNOSIS_____
_____

ORDERS/INSTRUCTIONS:
_____
_____
_____
_____
_____
_____

_____
Signature Date

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

CARDIAC/HYPERTENSION CLINIC FLOWSHEET*

Georgia Department of Corrections

(.) **Cardiac/Hypertension Clinic Database completed.**

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs **T-P-R** **Blood Pressure**							
Weight							
Cardiovascular Symptomatology							
Chest Pain	( )	( )	( )	( )	( )	( )	( )
SOB	( )	( )	( )	( )	( )	( )	( )
Palpitations	( )	( )	( )	( )	( )	( )	( )
Headaches	( )	( )	( )	( )	( )	( )	( )
Dizziness	( )	( )	( )	( )	( )	( )	( )
Physical Findings Fundoscopic Exam Periph. Cir./Edema Lung Field Auscul. Other							
Diet							
Medication Compliance							
Laboratory							
CBC with diff.	( )	( )	( )	( )	( )	( )	( )
CZ-49	( )	( )	( )	( )	( )	( )	( )
Serum Potassium	( )	( )	( )	( )	( )	( )	( )
Urinalysis	( )	( )	( )	( )	( )	( )	( )
Diagnostics							
EKG	( )	( )	( )	( )	( )	( )	( )
Chest X-Ray	( )	( )	( )	( )	( )	( )	( )
Education							
Comments							
Staff Signature /Credentials							

***All entries on flowsheet are to correspond to clinical documentaion in Progress Notes, S.O.A. P. format.**

SUSPECTED ANGINA PECTORIS PROTOCOL

SUSPECTED ANGINA PECTORIS

I. DEFINITION

Pain, usually in the substernal area of the chest, but occasionally in the epigastrium, neck, back, or arms, results from an imbalance between myocardial oxygen demand and myocardial oxygen supply.

II. ETIOLOGY

Anginal pain usually is the result of atherosclerosis of the coronary arteries. In general, the likelihood that chest discomfort is due to coronary disease is higher in older patients, and at any age, the probability is higher in men than in women.

III. CLINICAL FEATURES

A. Subjective:

1. **History of smoking, diabetes, hypercholesteremia, hypertension, family history of coronary artery disease (CAD). Family history of early cardiac death (less than 55 years of age) is a significant risk factor.**

2. **Symptomatology may be absent in uncomplicated angina or in patients with diabetes.**

Diagnosis is based primarily on the history of characteristic pain/discomfort.

1. **Location. Pain/discomfort located in the substernal region of the chest, but may be present in the epigastrium, neck, back, or arms.**

2. **Onset. Pain/discomfort occurs with increased physical exertion or stress and is relieved by rest (usually in 3 to 6 minutes).**

3. **Description. The pain/discomfort is usually described as squeezing or pressure like, sometimes as expanding and rarely as sticking, sharp or burning.**

4. **Radiating pain/discomfort which often radiates to the neck, shoulder, or arms (the left more than the right).**

5. Accompanying symptoms may include slight shortness of breath, mild sweating, or slight nausea, or a combination of these symptoms. The pain is not affected or aggravated by deep inspirations.

THE PATIENT'S HISTORY COMBINED WITH ATTEMPTS TO IDENTIFY RISK FACTORS FOR CAD ARE KEY ELEMENTS IN MAKING THE DIAGNOSIS OF ANGINA OR IMPENDING MYOCARDIAL ISCHEMIA. YOUNG MALES WHO SMOKE, HAVE USED DRUGS (ESPECIALLY COCAINE), HAVE HIGH CHOLESTEROL, HAVE LOW HDL (HIGH DENSITY LIPOPROTEIN) AND A POSITIVE FAMILY HISTORY ARE CLEARLY AT RISK FOR ARTERIOSCLEROSIS AND CAD.

B. Objective:

1. Physical examination and vital signs may be normal.

2. Resting 12-lead EKG may be WNL or indicate prior myocardial infarction. ST-segment depression or T-wave inversions during anginal attack are suggestive of CAD or myocardial ischemia.

C. Assessment: Angina

Differential Diagnosis

a. acute myocardial infarction

b. preinfarctional angina

c. musculoskeletal pain (e.g. costochondritis)

d. esophagitis, esophageal spasm, or other gastrointestinal causes

e. pleurisy or other pulmonary causes

f. hyperventilation or other psychosomatic causes

g. secondary gain

D. Plan:

1. Unstable angina consists of the "first attack or attacks of angina" or a worsening of previously stable angina. The pain/discomfort is more severe, persistent, occurs with less exertion and/or at rest. These patients should be referred immediately. Their risk of infarction is significant.

2. Stable angina is previously diagnosed angina that recurs with same amount of exertion, frequency and intensity of pain, and is relieved after approximately the same period of rest (less than 15 minutes).

3. General measures:

   a. decrease physical activities

   b. decrease cardiac stress by controlling existing diseases which would increase the heart workload – hypertension, anemia, diabetes, anxiety.

   c. decrease dietary sodium intake in order to improve cardiac function and reduce fluid retention.

   d. discontinue smoking

   e. weight reduction if indicated

   f. decrease elevated serum cholesterol level by diet or medication if indicated.

E. Pharmacologic Agents:

1. Nitroglycerin, 1 tablet, 1/150gr, (0.3-0.4mg.) sublingually every 3 to 5 minutes until pain is relieved, not to exceed 3 tablets.

2. Long-acting nitrates:

   - Nitroglycerin Transdermal (Transderm-Nitro) 5mg., 10mg., & 15 mg. patch apply once q 24hrs (remove q hs.).

   - Isosorbide dinitrate (Isordil) orally 10-40mg. q6hrs., or

- Isosorbide dinitrate ER (Isordil Tempids). 40mg.- 80mg. q8-12 hrs.

3. Beta blockers:

- Most effective in young caucasians, nonsmokers, myocardial infarction survivors.

- Contraindicated in those with asthma, IDDM, congestive heart failure, Raynaud's phenomenon, and AV block.

    - Propranolol (Inderal) total daily doses 80-320mg. when administered bid, tid, or qid.

    - Nadolol (Corgard) total daily dose 40-240mg. qd.

    - Atenolol (Tenormin) total daily dose 50-100mg. qd.

    - Metoprolol (Lopressor) total daily doses 100-400mg. when administered bid or tid, taken after meals.

- INCREASES OR DECREASES in beta blocker dosages should be done gradually.

4. Calcium channel blocking agent

- To be used with caution in patients taking a beta blocker.

    - Diltiazem (Cardizem) total daily dose 180-360mg. when administered tid or qid, taken before meals and at bedtime.

    - Nifedipine (Procardia) total daily dose 30-240mg. when administered tid or qid. May produce dependent edema.

References:

Dornbrand, Laurie, Axalla J. Hoole, G. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care, 2nd ed. Boston, Little Brown and Co., 1992, pp. 114-133.

Drug Formulary. Georgia Department of Corrections Pharmacy and Therapeutics Committee, June 30, 1993.

Hillis, L. David, Brian G. Firth, James T. Willerson, (eds.). Manual of Clinical Problems in Cardiology, 2nd ed., Boston, Little, Brown and Co., 1984, pp. 58-64.

Hoole, Axalla J., Robert A. Greenberg, C. Glenn Pickard, Jr., (eds.). Patient Care Guidelines for Nurse Practitioners, 3rd. ed., Boston, Little, Brown and Co., 1988, pp. 185-188.

Ramsey, Paul G., Eric Larson, (eds.). Medical Therapeutics, 2nd ed., Philadelphia, W.B. Saunders, 1988, pp. 185-187.

DIABETES MELLITUS CLINIC PROCEDURES

DIABETES MELLITUS CLINIC PROCEDURES

I. CLINIC GOALS

A. **To properly diagnose patients with diabetes mellitus and initiate appropriate therapeutic regimens which will achieve the following objectives for each patient:**

1. **Relieve symptoms of diabetes;**
2. **Maintain a desirable weight;**
3. **Achieve normal levels of physical activity;**
4. **Achieve blood glucose levels of 70-140 mg/dL two hours after meals;**
5. **Achieve normal glycosylated hemoglobin levels;**
6. **Prevent or delay the complications of diabetes.**

B. **To educate patients regarding diabetes, its causes, symptoms and treatments and the importance of compliance with the therapeutic regimen to prevent or minimize complications.**

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE CLINIC

A. **All inmates with the following diagnoses will be enrolled in the diabetes clinic:**

Insulin Dependent Diabetes Mellitus (IDDM)
Non-Insulin Dependent Diabetes Mellitus (NIDDM)
Other Types
Impaired Glucose Tolerance (IGT)
Gestational Diabetes

B. **An inmate who enters a diagnostic center and presents a history of diabetes or who at any time presents signs and symptoms suggestive of diabetes shall be referred to an advanced level provider or physician for evaluation and possible enrollment into the diabetes clinic.**

C. **The provider shall evaluate the medical history, subjective complaints and objective findings to determine whether or not the patient has diabetes. If so, a physician's order shall be written enrolling the patient in the diabetes clinic.**

III. THE INITIAL VISIT

A. At the initial clinic visit, a thorough medical history should be obtained which includes the following information:

1. Onset and type of diabetes (IDDM or NIDDM);
2. Frequency and severity of acute complications: (DKA, hospitalizations, hypoglycemia, infections);
3. Current treatment program including medication, diet, exercise and results of glucose monitoring (and glycosylated hemoglobin if known);
4. Prior diabetes education and training;
5. Current dietary habits and prior nutritional education;
6. Symptoms and treatment of chronic complications: (skin, eye, heart, kidney, nerve, sexual function, peripheral vascular, cerebrovascular);
7. Risk factors for atherosclerosis: (smoking, hypertension, hyperlipidemia, family history);
8. Psychosocial and economic factors that may influence the management of diabetes and ability to comply with therapeutic regime

B. A physical exam should be performed which includes the following:

1. Height and weight;
2. Blood pressure with orthostatic measurements;
3. Ophthalmologic exam for acuity and fundus evaluation (with dilatation if possible);
4. Cardiovascular exam including peripheral pulses;
5. Foot exam;
6. Skin exam to include injection sites;
7. Neurological exam for neuropathy;
8. Dental and periodontal exam.

C. Laboratory tests should be done to establish the diagnosis and type of diabetes if not known, to assess recent glycemic control, and to define associated complications and risk factors. These include:

1. Fasting glucose;
2. Glycosylated hemoglobin (Hb A1, or Hb A1c);
3. Serum creatinine and electrolytes;
4. Fasting lipid profile;
5. Urinalysis (after 5th year if diabetes or after puberty, total urinary protein excretion should be measured preferably by microalbuminuria method if dipstick protein negative);

6. Urine culture if microscopic is positive;
7. Thyroid function tests;
8. EKG in adults.

D. The management plan should be formulated as an individualized therapeutic alliance between the patient and the health care provider (or team) to achieve the desired level of glucose control. Implementation of such a plan requires that each aspect of the plan be understood by everyone involved and the goals and means are realistic. Such a plan should include:

1. Statement of goals to include target glucose range desired;
2. Medications: insulin with adjustment and supplementation guidelines, oral agents, other medications;
3. Monitoring instructions for blood glucose and urine ketones;
4. Referral to ophthalmologist for annual comprehensive eye exam in all patients 12-30 years old with diabetes for greater than 5 years or anyone over 30 years of age;
5. Continuing care plan developed between patient and health care provider for follow-up, on-going support, problem solving, and crisis management;
6. Education regarding diabetes to include the following topics:
   - Basic facts about diabetes
   - Symptoms of high and low blood sugar
   - Blood sugar testing
   - Complications
   - Preparing and giving an Insulin shot
   - Caring for feet
   - Skin problems and infections
   - Laboratory tests (Hemoglobin 1Ac etc.).

   Brochures on the above topics are produced by Eli Lilly and Company and may be obtained by contacting a pharmaceutical representative.

IV. MONITORING THE PATIENT

A. Glucose Monitoring

1. Frequent monitoring of blood glucose levels is an integral component of disease control. Each institution will make arrangements for diabetic patients to have access to a glucose monitoring device for routine monitoring of glucose levels. This may be accomplished by making glucometers available in the medical section where inmates may come to check glucose levels during clinic hours.

2. Access to glucose monitoring should also be made available to patients during hours when the clinic is not open (e.g. weekends). This may be accomplished by assigning a glucometer to a housing unit in the control room. Patients shall be instructed in the use of glucometers and encouraged to check glucose levels daily. This shall occur under the supervision of a correctional officer to assure the proper disposal of sharps. The medical section will be responsible for providing alcohol swabs, gauze and puncture resistant containers for disposal of lancets. Several small cans of juice shall also be maintained in the first aid kit in the control room in case of hypoglycemic events. A log shall be maintained indicating the name of the patient and the date and time the juice was administered.

Biochemical Indices of Metabolic Control: Top Limits

Biochemical Index	Normal	Acceptable	Poor
Fasting plasma glucose	115	140	>200 mg/dl
Post-prandial plasma glucose	140	200	>235 mg/dl
Glycosylated Hgb	6	7	>10%
Fasting plasma cholesterol	<200	200	>240 mg/dl
Fasting plasma triglyceride	<150	150	>250 mg/dl
Adjust for normal values of laboratory			

3. Patients shall be provided a flow sheet for monitoring blood glucose levels and shall bring this log with them to sick call and clinic visits. Patients should be instructed to notify the medical section if glucose results are so abnormal as to require changes in medication or diet.

4. The frequency of blood glucose monitoring is a joint decision of the patient and the provider. Patients should be encouraged to take responsibility for checking glucose levels daily and more than once daily if results are abnormal.

B. Diabetic Diets

1. The treatment plan should include the prescribing of a medically appropriate diet. Patients should be counseled regarding the benefits of dietary compliance and risks of noncompliance.

2. Consultations regarding therapeutic diets may be obtained by notifying the clinical dietician in Food Services in central office.

3. The kitchen shall provide the medical section a monthly report indicating patient compliance with diabetic diets. Diets shall be renewed every 90 days.

4. Occasional noncompliance with therapeutic diets is to be expected particularly among young diabetics. Dietary goals and expectations should not be set so high that the patient is unable to achieve them and becomes discouraged from attempting to comply. Providers should use information regarding dietary compliance and blood glucose levels to be instructive to the patient.

5. Therapeutic diets may be discontinued if, after counseling regarding the risks of noncompliance, the patient refuses the treatment. The patient should sign a refusal of treatment form. Therapeutic diets may also be discontinued if, after repeated counseling sessions (minimum of three), the patient is so non-compliant that no clinical benefit is obtained from the therapeutic diet.

6. Review *Clinical Updates* on Medical Diets for current policies.

C. Clinic Visits

1. Chronic care clinic visits will be conducted a minimum of every three months. However, for unstable patients, the frequency of clinic visits depends on several factors, including the type of diabetes, treatment regimens, presence of complications, compliance, and ability to achieve treatment goals.

2. At each clinic visit, results of glucose monitoring and adjustments to the treatment plan, as well as current medications, issues of compliance, and signs and symptoms of complications, should be assessed.

3. At regular intervals, the following should be done:

   a. At each visit: weight, blood pressure, a blood glucose, assessment of compliance with the overall treatment regimen, and patient education.
   b. Quarterly: a glycosylated hemoglobin.
   c. Annually: a lipid profile, a routine analysis, a 24 hr. urine for creatinine clearance and protein, if diabetes duration greater than 5 years.

D. Consultations

1. Individuals with diabetes should receive their treatment and care from physicians with expertise and a special interest in diabetes. The following are referral guidelines to a diabetes specialist and/or a diabetes management team:

   a. Inability to achieve treatment goals and desired level of glucose;
   b. Recurrent acute complications (diabetic ketoacidosis, hypoglycemia);
   c. Early or progressive complications:
      1. To an ophthalmologist/retinologist for retinopathy (all patients should have an annual eye exam regardless of any eye disease detected);
      2. To a podiatrist/foot specialist for any foot problem including deformity, ulceration, etc.;
      3. To a nephrologist or diabetologist for early nephropathy including microalbuminuria or hypertension.
   d. Pregnancy.

2. If a referral to a diabetes specialist is made, a consult sheet shall be completed and signed by the institutional physician.

V. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the clinic for the following reasons:

1. A non-insulin dependent patient is able to maintain normal blood glucose levels through diet, exercise and weight control for a period of one year. These individuals should have their blood glucose levels checked annually thereafter.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a community referral if at all possible. The patient should be provided with a discharge summary sheet with the diagnosis and list of medications.

3. The patient, after being advised of the treatment options, risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This process should be well documented in the medical record. This does not preclude the health care staff from housing an unstable diabetic in the infirmary, where, although the patient may refuse medical treatment, cannot refuse the housing assignment.

B. A physician's order shall be written to discontinue patient's from the diabetic clinic.

References: Gebhart, S. S., and Richardson, P. Introduction to Standards of Care for Patients with Diabetes Mellitus. Diabetes: Professional Update. Spring Issue 1991.

DIABETIC CLINIC DATABASE

Georgia Department of Corrections

NAME_____ STATE I.D._____
Date of Birth_____ Race_____ Sex_____
ALLERGIES_____

Vital Signs: Temp_____ Pulse_____ Resp._____ Height_____ Weight_____lbs.
(L) Blood Pressure Lying_____ Standing_____
(R) Blood Pressure Lying_____ Standing_____

HISTORY

Headaches_____
Dizziness_____
Blurred Vision_____
Epistaxis_____
Palpitation_____
Chest Pain_____
Dyspnea_____
Claudication_____
Hematuria_____
Nocturia_____
Polyuria_____
Polydypsia_____
Muscle Weakness_____
Weight Gain_____
Weight Loss_____
Hyperglycemic Coma_____
Hypoglycemic Episodes_____

Risk Factors:
Family History_____
Obesity_____
Other_____

Medications:
_____
_____
_____
_____

Other Relevant Information:_____
_____
Last Menstrual Period_____
Diet_____
Last Eye Exam_____
Other medical conditions_____
_____
_____

_____
Signature Date

PHYSICAL EXAMINATION

Fundoscopic Evaluation:
A/V Ratio_____
Hemorrhage_____
Exudate_____
Disc Margins_____
Cardiovascular Evaluation:
PMI_____
Heart Sounds_____
Murmurs_____
Rubs/Gallops_____
Bruits:
Carotid_____
Renal_____
Abdominal_____
Pulses:
Radial_____
Carotid_____
Femoral_____
Pedal_____
Edema_____
Laboratory Evaluation:
UA_____ OPTC_____ EKG_____
Chest X-Ray_____
Other Findings_____
_____
_____
_____
_____
_____

DIAGNOSIS:_____
_____
ORDERS:_____
_____
_____
_____

_____
Signature Date

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

DIABETIC CLINIC FLOWSHEET*

Georgia Department of Corrections

Diagnosis/Diabetic Type_____.
( ) Diabetic Clinic Database completed.

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
Symptoms/Physical Findings (Y,N,Nml.,Abn.)							
Hypoglycemic S/S	( )	( )	( )	( )	( )	( )	( )
Hyperglycemic S/S	( )	( )	( )	( )	( )	( )	( )
Opthalmologic	( )	( )	( )	( )	( )	( )	( )
Foot Examination	( )	( )	( )	( )	( )	( )	( )
Integument Exam	( )	( )	( )	( )	( )	( )	( )
Neuropathies	( )	( )	( )	( )	( )	( )	( )
Nutrition/Diet Compliance							
Exercise							
Medication Compliance							
Laboratory (Specify dates)							
F.B.S.	( )	( )	( )	( )	( )	( )	( )
Glycosylated Hb	( )	( )	( )	( )	( )	( )	( )
Creatinine/Lytes	( )	( )	( )	( )	( )	( )	( )
Lipid Profile	( )	( )	( )	( )	( )	( )	( )
Urinalysis	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Education							
Comments							
Staff Signature /Credentials							

PATIENT INFORMATION FOR DIABETES MELLITUS

DO'S

A. Become familiar with diabetes and how it affects your body
   1. Visit your physician on a regular basis
   2. Attend any available classes
   3. Read literature on Diabetes

B. Keep daily routine that is fairly consistent
   1. Get an adequate amount of rest and sleep
   2. Exercise regularly
      a. Avoid spurts of exercise before meals
      b. Exercise 1 1/2 hours after meals

C. Follow prescribed dietary regimen
   1. Eat daily diet as ordered by physician
   2. Learn how to estimate food quantities for nutritional values
   3. Avoid highly concentrated carbohydrates
   4. Normalize body weight, as prescribed by physician
   5. If taking insulin, eat extra calories when unusual physical activity is required, as instructed by physician or nurse

D. Familiarize yourself with aspects of insulin. The physician or nurse will give you written information about the insulin or pill you take, and what to do if you should have a problem. One problem that happens to many diabetics at one time or another is hypoglycemia (low blood sugar). If your blood sugar gets too low, you may have these feelings:

1.	Palpitations	4.	Trembly
2.	Feeling nervous	5.	Drowsy
3.	Sweaty; cold, clammy	6.	Light-headed

If you start having these feelings, let your correctional officer know at once! You should be given something sweet to eat or drink if your blood sugar is too low.

E. Take medication as directed

F. Proper Foot Care:
   1. Inspect feet routinely for calluses, corns, blisters, abrasions, and nail abnormalities. Remember, do not remove any calluses or nails, report problems to physician
   2. Bathe feet daily. Dry well, especially between the toes
   3. Keep feet dry
   4. Wear well fitting shoes
   5. Wear clean nonrestrictive socks
   6. Avoid injuries to feet. Report injuries to the nurse or physician by submitting a sick call request form
   7. Do foot exercises

G. During period of illness, submit a sick call request form

INSULIN DEPENDENT DIABETES MELLITUS

INSULIN-DEPENDENT DIABETES MELLITUS (IDDM)

I. DEFINITION

Insulin-dependent diabetes mellitus (IDDM/TypeI) is a syndrome characterized by the body's inability to secrete insulin or adequate amounts of insulin needed for carbohydrate and lipid metabolism. IDDM is associated with the acceleration of atherosclerosis as well as small vessel changes in the kidney, eye and nerves. Exogenous insulin is required to sustain life and the absence of insulin will result in ketoacidosis, which can be life-threatening.

II. ETIOLOGY

IDDM is associated with a hereditary predisposition, elevated triglyceride levels and low levels of high-density lipids (HDL). Those with Type I diabetes (IDDM) account for less than 10% of all diabetic patients. Ninety percent of all IDDM had onset of the disease before the age of 20.

III. CLINICAL FEATURES

A. Subjective:

1. Family history of Diabetes Mellitus
2. Generally, onset of disease before age of 35, but the majority will have onset before the age of 20
3. In previously diagnosed, history of previous episode(s) of ketoacidosis and hyperglycemia
4. Polyuria
5. Polydipsia
6. Increased fatigue, weakness and/or blurred vision
7. Postural dizziness, anorexia, nausea/vomiting, abdominal pain
8. Dyspnea

B. Objective:

1. Presence of classic symptoms along with --

   a. Random blood glucose >200mg./dl. or

   b. fasting plasma glucose >140mg./dl. or

   c. fasting capillary whole blood (accucheck) >140mg./dl.

   *reevaluate if patient is currently on thiazide/corticosteroid medication, if postoperative, experiencing a febrile illness, or extraordinarily stressful conditions.

2. Abnormal serum chemistry findings reflective of impending ketoacidosis.

3. Elevated hemoglobin Alc levels

4. Low C-peptide levels after glucose challenge

5. Weight loss

6. As disease progresses or with poor control:

   a. decreased peripheral sensation, cool extremities, claudication

   b. microaneurysms, hemorrhages, and/or exudates of ocular fundus

   c. diminished peripheral pulses

   d. abdominal/femoral bruits

   e. foot ulcerations

   f. loss of hair on toes, feet and/or lower legs

   g. decreased capillary fillings

   h. absent knee-ankle jerks

   i. sensory loss, primarily in feet

   j. impotence

k. renal insufficiency

C. Assessment: Insulin-dependent diabetes mellitus (IDDM/Type I)

D. Plan:

1. Individualized exogenous insulin regimen to stabilize glucose levels.

2. Diabetic diet, based on IBW and needed caloric intake (low sodium/fat).

3. Begin exercise regime when stabilized.

4. Recorded daily glucose monitoring (before insulin administration) and as often as is checked. The frequency of monitoring should be negotiated with the patient to achieve optimum control.

5. Reinforce/educate patients re:

- IDDM
- Treatment plan
- Signs/symptoms of hypoglycemia, diabetic ketoacidoses (DKA)
- Proper technique of subcutaneous insulin administration
- Importance of smoking cessation
- Proper foot care
- Dietary therapy

References:

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care. 2nd ed. Boston, Little, Brown and Co., 1992, pp. 391-409.

Drug Formulary. Georgia Department of Corrections Pharmacy and Therapeutics Committee, June 30, 1993.

Ramsey, Paul G., Eric Larson, (eds.). Medical Therapeutics, 2nd ed., Philadelphia. W.B. Saunders, 1993, pp. 452-458.

NONINSULIN DEPENDENT DIABETES MELLITUS PROTOCOL

NON-INSULIN DEPENDENT DIABETES MELLITUS (NIDDM)

I. DEFINITION

Diabetes Mellitus is a syndrome that is characterized by abnormal carbohydrate and lipid metabolism and is associated with small vessel changes in the kidney, eye and nerves (accelerated atherosclerosis). There are two major types of Diabetes Mellitus; Type I or insulin-dependent diabetes mellitus (IDDM) and Type II, non-insulin dependent diabetes mellitus (NIDDM). NIDDM is characterized by abnormal insulin resistance and impaired insulin secretion in response to glucose.

The most significant difference between Type I and Type II diabetes is dependence on exogenous insulin. Patients with Type I diabetes require insulin to sustain life and may develop ketoacidosis in the absence of insulin. Patients with Type II diabetes do not require exogenous insulin to sustain life and, except under extraordinarily stressful conditions (e.g., auto accident, surgery, febrile illness, or severe stress), do not develop ketoacidosis.

II. ETIOLOGY

NIDDM is associated with a hereditary predisposition, obesity, hypertension, elevated triglyceride levels and low levels of high-density lipids (HDL) cholesterol.

III. CLINICAL FEATURES

A. Subjective:

1. Family history of Diabetes Mellitus
2. Onset of Diabetes Mellitus after age 35
3. More prevalent in blacks, Hispanics and some Native Americans than whites; more common in females than males
4. Polyuria
5. Polydipsia
6. May complain of increased fatigue and/or weakness, blurred vision

7. May complain of numbness or loss of sensation of extremities, recurrent skin infections or delayed healing

8. In women, recurrent candida vaginal infections

B. Objective:

1. - Presence of classic symptoms together with random blood glucose >200mg./dl, or,

   - fasting plasma glucose >140mg./dl or,

   - >120mg./dl...(on more than one occasion), or

   - abnormal oral glucose tolerance test (OGTT).
   *Reevaluate if patient currently is on thiazide diuretics/corticosteroids.

2. >120% Ideal body weight

3. Initially, physical findings WNL

4. Elevated hemoglobin A1C levels

5. C-peptide levels are usually elevated

6. Diminished peripheral sensation, cool extremities, and/or claudication

7. May have microaneurysm, hemorrhages and exudates in ocular fundus

8. Vascular changes which occur indicating advanced atherosclerosis include:

   a. diminished dorsalis pedis and posterior tibial artery pulses

   b. abdominal and femoral bruits

   c. ulcers between toes or on dorsum of foot

   d. loss of hair on toes, lower leg and/or foot

   e. decreased capillary filling

   f. gangrene

9. Nervous system dysfunction may include:

   a. absent knee-ankle jerks

   b. areas of sensory loss, particularly in feet

C. Assessment: Diabetes Mellitus, Type II (NIDDM)

D. Plan - Initially:

1. Weight reduction to IBW range

2. Diet modification – low fat and low sodium American Diabetic Association Diet

3. Increase exercise regime

4. Recorded fasting accuchecks 3 times/week

5. Educate patient re: diabetes, importance of weight reduction, diet and exercise regime and the discontinuation of smoking, and proper foot care.

E. If serum glucose remains elevated:

1. Continue low fat/sodium diabetic diet

2. Oral hypoglycemic agents may be introduced:

   a. Glypizide (glucotrol), dosage range 2.5-40mg./qd., administered qd or bid

   b. Glyburide (Diabeta), dosage range 1.25-20mg.qd, administered qd or bid

3. Reinforced diet/exercise regimen

4. Educate re: medication schedule, side effects, potential for hypoglycemia

References:

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care, 2nd ed., Boston, Little, Brown and Co., 1992, pp. 391-409.

Drug Formulary. Georgia Department of Corrections Pharmacy and Therapeutics Committee, June 30, 1993.

Ramsey, Paul G., Eric Larson, (eds.). Medical Therapeutics, 2nd ed., Philadelphia, W.B. Saunders, 1993, pp. 452-458.

GASTROINTESTINAL CLINIC PROCEDURES

GASTROINTESTINAL CLINIC PROCEDURES

I. CLINIC GOALS

A. To accurately diagnose gastrointestinal (GI) disorders in a timely manner and initiate appropriate therapeutic regimens.

B. To relieve symptoms, promote healing and prevent complications of GI disorders.

C. To provide patient education to effect a better understanding of causes, symptoms, and treatments of gastrointestinal conditions and the importance of compliance with therapeutic regimens.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE GI CLINIC

A. All inmates with the following diagnoses will be enrolled in the GI clinic:

Gastroesophageal reflux disease
Inflammatory bowel disease
    crohn's disease
    ulcerative colitis
Irritable bowel syndrome
Malabsorption Syndromes
    celiac sprue
    chronic pancreatitis
    post-gastrectomy syndromes
Peptic or gastric ulcer disease
Other chronic esophageal, gastroduodenal, bowel or anorectal disorders

B. An inmate who enters a diagnostic center and presents a history of gastrointestinal symptoms of a chronic nature, or inmates presenting similar complaints at sick call shall be referred to an advanced level provider or physician for evaluation and possible enrollment into the GI clinic.

C. The provider shall evaluate the medical history, subjective complaints and objective findings to determine whether or not the patient is a candidate for the GI clinic. If so, a physician's order shall be written in the medical record, enrolling the patient in the clinic.

D. Baseline laboratory studies for the clinic shall include a serum chemistry, CBC with differential, dipstick urinalysis and stool for occult blood. Additional laboratory work may be ordered in consultation with the physician depending on the suspected or confirmed diagnosis.

III. THE INITIAL VISIT

A. At the initial clinic visit the following information should be reviewed by the provider and the GI clinic intake form should be filled out:

1. Review of the medical history including previous evaluations and hospitalizations, if any; review of any previous GI surgery;
2. Review of medication history, including prescription and over-the-counter (OTC) drug use;
3. History of tobacco, alcohol and drug use;
4. Any known drug allergies;
5. Recent or current GI symptoms, their frequency and severity and dietary and bowel habits;
6. Recent results of laboratory work (including serum pregnancy tests for women);
7. Review of physical findings, including vital signs and weight, and abdominal assessment.

B. Any invasive studies (UGI, Barium enema) or specialty consults will be ordered only after consultation with the institutional physician.

C. All consult requests will be completed by a physician or advanced level provider with the physician's concurrence and signature. Consult sheets should give a brief history of the patient's complaints and objective findings.

D. Once the diagnosis is established, the patient shall be profiled to reflect the diagnosis, special diet (if any), and any limitations. The diagnosis shall be listed on the problem list.

F. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not to exceed 30 days. If the patient requires a nonformulary drug, a request form shall be filled out by the physician with appropriate justification and forwarded to the medical director in central office for approval.

G. The patient shall be counseled regarding the suspected or confirmed diagnosis, diagnostic and therapeutic measures which have been ordered, and when to return to the clinic. Each patient encounter shall be fully documented in the progress notes, including patient education.

H. A GI baseline data and flow sheet shall be initiated.

I. Depending upon the clinical evaluation of the patient, a follow-up appointment shall be scheduled.

IV. MONITORING THE PATIENT

A. Patients in the GI clinic will be monitored as clinically indicated. As a general guideline clinics shall be conducted a minimum of every three months. However, some patients may require more frequent monitoring according to the following guidelines:

1. Monthly or more frequently (may be done through sick call)
    a. Patients whose symptoms are not well controlled;
    b. Patients who are noncompliant with the therapeutic regimen or who require patient education regarding their diagnosis or test results.
2. Every three months
    a. Patients whose symptoms are recently controlled on the therapeutic regimen, who demonstrate good understanding and compliance with the treatment regimen;
    b. Evaluation of patients who are on chronic medications and are stable.
3. Every six months
    a. Patients whose symptoms are well controlled on the treatment regimen.

B. Each follow-up clinic visit shall include the following:
1. Review of signs and symptoms;
2. Medication compliance and side effects;
3. Compliance with the therapeutic diet (if prescribed);
4. Assessment and review of patients knowledge of the diagnosis and therapeutic regimen;
5. Patient education regarding any scheduled laboratory or diagnostic tests;
6. Reorder of medications, if appropriate;
7. Reschedule next appointment;
8. Completion of the GI flow sheet;
9. Documentation of 1 through 7 in the progress notes.

V. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the GI clinic for the following reasons:

1. The patient has required no pharmacologic or dietary intervention for six months, and for whom discontinuation from the clinic poses little if any risks to the patient.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral, if at all possible. The patient should be provided with a discharge summary sheet with the diagnosis and list of medications.

3. The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This shall also apply to patients who refuse evaluation after being informed of potential risks. If the health consequences of the refusal of evaluation and or treatment are significant a refusal of treatment form shall be completed. This process shall also be well documented in the progress notes.

B. A physicians order shall be written to discontinue patients from the GI clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

References: Gastroenerology: Special Issue. Patient Care: The Practical Journal for Primary Care Physicians. Vol. 26, No. 13, August 15, 1992.

GASTROINTESTINAL CLINIC DATABASE
Georgia Department of Corrections

NAME _____ STATE I.D. _____
Date of Birth _____ Race _____ Sex _____
ALLERGIES _____

Vital Signs: Temp_____ Pulse_____ Resp._____ B/P_____ Height_____ Weight_____lbs.

HISTORY

Abdominal Cramping_____
Abdominal Pain_____
Anorexia_____
Belching_____
Bloody Stools_____
Constipation_____
Diarrhea_____
Difficulty Swallowing_____
Dizziness_____
Flatulence_____
Nausea_____
Rectal Pain_____
Reflux_____
Tarry or Black Stools_____
Weight Gain_____
Weight Loss_____
Vomiting_____

Risk Factors:

Alcohol_____
Smoking_____

Medications:

_____
_____
_____

Diet_____

Other Medical Conditions:

_____

_____

Signature Date

PHYSICAL EXAMINATION

HEENT _____
_____

Abdominal Exam:

Bowel Sounds_____
Tenderness_____
Rebound_____
Scars_____

Cardiovascular Evaluation:

PMI_____
Heart Sounds_____
Murmurs_____
Rubs/Gallopos_____
Chest_____

Rectal:

Rashes_____
Lesions_____
Hemorrhoids_____

Laboratory Evaluation:

Hgb_____ Hct_____ U/A_____
Stool for occult blood_____

DIAGNOSIS_____

_____
_____
_____

PLAN:_____

_____

_____

Signature

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

GASTROINTESTINAL CLINIC FLOWSHEET*

Georgia Department of Corrections

Diagnosis_____.

( ) Gastrointestinal Clinic Database completed.

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
Gastrointestinal Symptomatology							
Burning	( )	( )	( )	( )	( )	( )	( )
Reflux	( )	( )	( )	( )	( )	( )	( )
Abd. Cramping	( )	( )	( )	( )	( )	( )	( )
Abd. Pain	( )	( )	( )	( )	( )	( )	( )
Nausea/Vomiting	( )	( )	( )	( )	( )	( )	( )
Diarrhea	( )	( )	( )	( )	( )	( )	( )
Eructation	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Nutrition/Diet Compliance							
Medication Compliance							
Laboratory							
Serum Chemistries	( )	( )	( )	( )	( )	( )	( )
CBC with Differential	( )	( )	( )	( )	( )	( )	( )
Urinalysis	( )	( )	( )	( )	( )	( )	( )
Stool for Occult Blood	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Diagnostics							
Upper GI	( )	( )	( )	( )	( )	( )	( )
Barium Enema	( )	( )	( )	( )	( )	( )	( )
Endoscopy	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Education							
Comments							
Staff Signature /Credentials							

***All entries on flowsheet are to correspond to clinical documentation in Progress Notes, S.O.A.P. format.**

CHRONIC ULCERATIVE COLITIS

CHRONIC ULCERATIVE COLITIS

I. DEFINITION

An inflammatory disease of the colonic mucosa and submucosa. Ulcerative colitis is the most common of the inflammatory bowel diseases (IBD).

II. ETIOLOGY

Cause of ulcerative colitis is unknown. Disease tends to have an early onset, usually in people in their teens or 20's and persists throughout their lifetimes.

III. CLINICAL FEATURES

Mild Ulcerative Colitis:

A. Subjective:

1. Medical history of mild diarrhea <5/day;
2. May have hematochezia with passage of small amounts of blood;
3. May complain of anorexia, vague abdominal pain;
4. Additional general complaints may include joint aches and soreness.

B. Objective:

1. Physical exam generally WNL;
2. Vital signs WNL, may have low-grade fever;
3. Abdominal exam WNL. Bowel signs normal, may have mild abdominal tenderness;
4. Anemia. Leukocytosis frequently noted, may have decreased, iron and iron-binding capacity;
5. May have elevated ESR;
6. Reticulocytosis frequently noted with chronic disease;

7. Negative stool for bacterial pathogens;

8. Common non-GI symptoms include: symmetrical joint swelling, uveitis, variety of abnormal dermatological findings;

9. Sigmoidoscopy reveals: hyperemia, pus and friability of colon mucosa, ceration, disease usually limited to distal mucosa.

Moderate-to-Severe Ulcerative Colitis:

A. Subjective:

1. Bloody diarrhea. >5/day. "Tomatosoup" to bright-red blood;

2. Associated crampy abdominal pain and tenesmus more prominent;

3. Severe attacks, abrupt in onset;

4. Variable systemic symptoms include: moderate-to-high-grade fever, malaise, fatigue, dehydration and prostration.

B. Objective:

1. Physical exam: may be remarkable for fever, tachycardia, signs of dehydration, hypovolemia. Severe cases may show signs of cardiovascular collapse;

2. Pallor. Secondary to anemia frequently noted, as well as decreased iron and iron-binding capacity;

3. Elevated ESR;

4. Presence of reticulocytosis;

5. Negative stool for pathogens;

6. Increased bowel sounds and abdominal tenderness are present;

7. Other systemic symptoms include: jaundice, joint effusions, eye involvement, and various dermatological findings;

8. Peripheral edema, secondary to hypoalbuminemia, in severe cases;

9. Sigmoidoscopy reveals: friability, extensive ulceration, pus and pseudopolyp formation of the colonic mucosa.

C. Assessment: Ulcerative Colitis
R/O acute bacterial infection
Crohn's disease
Amebic colitis

D. Plan:

1. Educational support;

2. Nutritional support with increased caloric and protein (>100 gm.) protein daily. Nutritional evaluation for severe episodes may indicate need for hyperalimentation;

3. Antidiarrheal medications may be considered;

4. Sulfasalazine (Azulfidine) 1 to 4 gms. daily in equally-divided doses based on disease process;

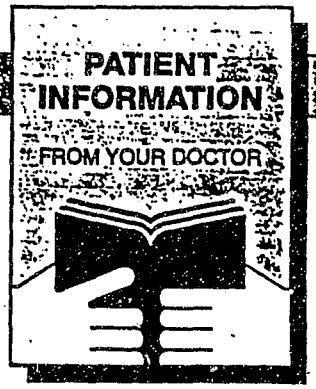
5. Corticosteroid considered with severe disease;

6. Medical evaluation is necessary in treatment of the variety of UC complications.

References:

Bongiovanni, Gail L. Essentials of Clinical Gastroenterology. 2nd ed., McGraw-Hill Book Co., 1988, pp. 315-330.

patient care



Living with inflammatory bowel disease

Both ulcerative colitis and Crohn's disease are caused by inflammation of the small or large bowel. Because they are similar, these two conditions are often referred to as inflammatory bowel disease (IBD). Inflammation is a natural process that helps the body get rid of dangerous materials. But if inflammation gets out of control, as it does with IBD, arthritis, and other conditions, it can cause damage and pain.

What happens if you have IBD

Abdominal pain, cramps, and diarrhea are common symptoms. But some people may also experience bleeding from the rectum, tenderness of the abdomen, and awakening at night because of diarrhea. Other symptoms are fever, weight loss, and constipation. Children with IBD may not grow and develop as they should. Arthritis, skin rashes, and inflamed eyes may also occur. Many of these symptoms come and go, as the disease flares up or tapers off.

Unfortunately, IBD affects many people when they are young and stays with them throughout their lives. Patients generally need to take drugs for years. Some patients may need surgery later when the disease becomes worse and severely affects bowel function.

The good news is that IBD can be successfully treated, and most patients can carry on normal lives and live as long as anyone else. Today a number of helpful drugs are available, and several operations have been perfected to give relief to IBD victims—and sometimes cure them.

When you see a doctor

Your doctor will ask about past illnesses you have had and whether anyone in your family has had IBD. He or she will probably take a blood sample and also ask you to bring in a stool sample to check for blood cells. The doctor may also examine your large bowel through a tube inserted in the rectum or take X-rays of your intestines.

Your doctor will probably give you medication to reduce the inflammation in your bowels. If one drug doesn't help, another one may work better or not have unpleasant side effects. Even after the pain and other symptoms let up, it is important to keep on taking the medicine to avoid a flare-up of the symptoms. Many medications can be taken by mouth, but the doctor may ask you to use an enema or a suppository.

Changing your diet may help

Another way to relieve symptoms is to make changes in your diet. If you have diarrhea, your doctor may ask you to avoid foods containing roughage, such as fruits and vegetables. But if you are constipated, he may tell you to add roughage to your diet. Spicy foods, fatty foods, and beverages containing caffeine may be forbidden. You will probably learn by trial and error which foods agree with you. You should understand, however, that foods of one kind or another do not cause IBD: They only make the symptoms better or worse. If you are not getting enough nourishment with your diet to keep healthy and active, a doctor may suggest vitamins or concentrated food supplements in liquid form.

If surgery is needed for IBD

Sometimes, in both ulcerative colitis and Crohn's disease, the symptoms and damage to the intestines get gradually worse, especially after a few years. Then your doctor may recommend surgery so that you can feel and function better. In some cases, a surgeon can remove diseased parts of the small or large in-

patient care

Living with inflammatory bowel disease *continued*

testine and sew the healthy sections together. In other cases, the surgeon will have to make a hole in the abdominal wall (ostomy) so that the end of the remaining intestine can be attached. Waste matter then passes through the hole and into a bag on the outside of the person's body. Today, surgeons are sometimes able to perform an operation that avoids the hole and bag and allows bowel movements through the rectum. The kind of operation recommended depends on which parts of the intestines are diseased and how serious the condition is. Most patients find that their lives improve considerably after surgery, although a few may require surgery again later on.

If you need help with problems

In some cases, patients become discouraged with the symptoms they must live with for the rest of their lives. They may find that it helps to talk to other people with the same problems. A nationwide support organization has been set up and may be able to refer you to a local support group, where you can obtain information and discuss your problems. Contact the Crohn's & Colitis Foundation of America, Inc., 444 Park Ave. S, 11th Floor, New York, N.Y. 10016-7374; (212) 685-3440 or (800) 343-3637. Patients who must wear an ostomy bag can get help from the United Ostomy Association, 36 Executive Park, Suite 120, Irvine, Calif. 92714; (714) 660-8624.

You can live with IBD!

People with IBD can generally lead normal lives, holding jobs, marrying, having children, and engaging in almost every kind of activity. In fact, patients can freely choose their mates, and women should not worry about pregnancy or nursing. Doctors can switch drugs for their female patients if any of the commonly used drugs might be harmful during pregnancy. □

IRRITABLE BOWEL SYNDROME

IRRITABLE BOWEL SYNDROME
(Functional Bowel Disease)

I. DEFINITION

Irritable Bowel Syndrome (IBS) is characterized by frequent bowel movements (4 to 6 per day) of small amounts of loose, watery stools which are associated with mild lower abdominal pain and/or intermittent bouts of constipation. There is a frequent recurring sensation for further defecation in the anxious patient, particularly during times of stress.

II. ETIOLOGY

Etiology of IBS is unknown. Tension and anxiety in susceptible individuals produce increased intestinal activity with a decreased transit time leading to frequent loose, watery stools. The bowel appears to be normal on examination and is not inflamed. The problem is in bowel function.

III. CLINICAL FEATURES

A. Subjective:

1. Alternating constipation and diarrhea.
2. Constipated stools described as hard, dry and small in caliber.
3. Diarrhea stools, described as 4 to 6 bowel movements per day of loose watery stools of small volume. Diarrhea does not disturb sleep.
4. Mild lower abdominal pain, which precedes the bowel movement and is relieved by defecation.
5. GI symptoms are worse after eating.
6. No history of bloody stools.
7. Stools frequently contain mucus.
8. No nausea or vomiting.
9. Symptoms are commonly associated with stress.

B. Objective:

1. Negative physical findings in general:

   a. Afebrile.

   b. May have minimal lower abdominal tenderness.

   c. Normal to slightly hyperactive bowel sounds.

   d. No rebound or referred rebound tenderness.

   e. No palpable masses or organomegaly.

2. Laboratory studies:

   - Stool for occult blood - Negative
   - Stool for ova and parasites - Negative
   - Hematocrit/Hemoglobin - WNL

C. Assessment: (Differential Diagnosis)

1. Infectious diarrhea
2. Inflammatory bowel diseases (e.g., ulcerative colitis/regional enteritis).
3. Parasitic infestations.
4. Tumors of the colon.

D. Plan:

1. No universal treatment has been established. Drug therapy should focus on specific symptoms which interfere with activities of daily living.

   a. Bentyl 10-20mg. before meals can be used for patients with postprandial pain.

   b. Loperamide HCL (Imodium). 2 to 4mg. qid can be used for patients with predominant diarrhea.

c. Psyllium powder or Cholestyramine (Questran) 1/2 to 1 single-dose packet, or 1 level scoopful mixed with liquids, 1-6 times daily for patients with predominant diarrhea.

2. Educate and reassure patient as to the nature of the problem.

3. Educate and reinforce stress-reducing activities.

4. Diet consultation to include the use of increased fiber in diet, decrease foods that stimulate bowel activity (caffeine products), or produce increased intestinal gas.

References:

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care., 2nd ed., Boston, Little, Brown and Co., 1992.

Drossman, Douglas A., W. Grant Thompson, William E. Whitehead. Approaching IBS with Confidence. Patient Care. :175-213, August 12, 1992.

Hanauer, Stephen B., Mark Peppercorn, Daniel H. Present. Current Concepts. New Therapies in IBD. Patient Care. :79-103, August 15, 1992.

Humphries, Thomas J. Manual of Clinical Problems in Gastroenterology. Boston, Little, Brown & Co., 1988.

Ramsey, Paul G., Eric Larson. (eds.). Medical Therapeutics. 2nd ed., Philadelphia. W. B. Saunders, 1993.

patient care

PATIENT INFORMATION
FROM YOUR DOCTOR

What you need to know about irritable bowel

What is irritable bowel syndrome?

First, it is *not* a disease. It does *not* make you more likely to get cancer or another disease. It does *not* shorten how long you can expect to live, and you will *not* need surgery because of it.

One person in every five or six has irritable bowel, so it is very common. People with irritable bowel may have belly pain (cramps), diarrhea, constipation, and a bloated feeling. Some people may have mostly diarrhea, others may have mostly constipation, and still others may have both. Your pain and cramps may often go away or feel better after you have a bowel movement. Or the firmness of your bowel movements may change after the pain and cramps appear. These problems can be triggered by eating, by a woman's period, by stress, and even by strong emotions.

When you first went to see the doctor, you may have been worried that you had some serious disease. Yes, some diseases cause pain, diarrhea, constipation, and so on. Your doctor has checked carefully to make sure you don't have any sign of these diseases. In the future, your doctor will check regularly to make sure your problem is nothing more than irritable bowel.

Will it get worse?

The problem may not go away, but it is not likely to get a lot worse. Most people with irritable bowel feel better sometimes and worse at other times. But over the long run they stay about the same.

If irritable bowel is not serious, why do I feel pain?

The bowels of people with irritable bowel react more strongly to being stimulated. This causes spasms and stretching in the muscles of your bowel and gives you crampy pain and changes in your bowel habits. Also, your bowels may be more sensitive to the feeling of being filled. This, too, can cause muscle spasms.

Even people who do not have irritable bowel may feel the same way you do when they are under stress. Stress can come with the loss of a job, problems at work, disagreements with your spouse, divorce, or physical abuse. It can also come with the death of a spouse, family member, or loved one, or with depression and anxiety. Stress affects how your bowels work. Because your bowels may be sensitive or react strongly, stresses have much more force and can trigger your symptoms or make them worse.

Am I allergic to certain foods?

Food allergy or sensitivity is probably not responsible for your irritable bowel. Eating *anything* may trigger an attack, so you probably won't get very far if you try to eliminate certain foods you think are responsible. You are better off eating a complete, balanced diet. Just make sure you don't eat too much of certain *types* of foods, especially those containing fat or caffeine.

Can I do anything to feel better?

You can do a lot!

- Try to eat regularly. Don't just grab a sand-

patient care

What you need to know about irritable bowel *continued*

wich, either. Whenever possible, eat in quiet surroundings, and don't rush your meals.

- If you are particularly troubled by intestinal gas, the doctor may suggest that you eat less of foods that tend to produce gas. These include beans, cabbage, and certain fruits.
- Cut down on the fat in your diet. This may mean eating less red meat and staying away from fried foods. Fat can make your bowels contract soon after eating.
- Cut down on caffeine in your diet. Caffeine from coffee, tea, and soft drinks has much the same effect as fat.
- If you are limiting your use of sugar, you should know that sorbitol, a sweetener used in dietetic foods, drinks, candy, and chewing gum, can cause diarrhea and may make things worse for you.
- Cut down on your use of antacid tablets containing magnesium. They can cause diarrhea.
- Eat more high-fiber foods. Fiber can help prevent constipation. But fiber from fresh fruits, vegetables, and grains is also important for overall well-being. Recently, the U.S. Department of Agriculture recommended that a healthy diet should contain 2-4 servings of fruits, 3-5 servings of vegetables, and 6-11 servings of bread, cereals, rice, or pasta each day.
- If your doctor says you need to get extra fiber from bran, psyllium, or another source, follow directions carefully. The extra fiber may help a lot.
- *Don't take laxatives!* Taking laxatives whenever you get constipated is a terrible trap to get into: It can make the diarrhea phase of irritable bowel so much worse, and you may have to depend on laxatives to have any bowel movement at all. If the main problem is diarrhea, ask yourself whether you are using laxatives too much.
- Deal with stress. You may have noticed that your bowel problems are worse when you are under stress at home or at work. Stress may have a lot to do with irritable bowel. Ask your doctor about ways of reducing and dealing with stress. □

UNCOMPLICATED PEPTIC ULCER DISEASE

UNCOMPLICATED PEPTIC ULCER DISEASE

I. DEFINITION

Peptic Ulcer Disease (PUD) refers to ulceration of the gastric/duodenal mucosa producing pain but not bleeding or obstruction.

II. ETIOLOGY

The cause of PUD is unknown, but in the United States, PUD is a common medical problem which is more common in white, young to middle-aged males than non-white males and females. Several risk factors have been associated with the occurrence of PUD in individuals and include: cigarette smoking, the use of non-steroidal inflammatory medications, alcohol, steroids and in individuals with a family history of PUD.

III. CLINICAL FEATURES

A. Subjective:

1. Complete medical history which is to include: the use of aspirin, NSAID, steroids, cigarette smoking, use of alcohol, stress factors, past history of pancreatitis or gallbladder disease and a positive family history of PUD.

2. Pain is the most frequent complaint in individuals with PUD and the common pain characteristics include:

   a. Well localized in the upper epigastric region and the specific area can be identified by the patient by pointing, with one finger, to the area of greatest discomfort;

   b. Can occur 1 to 2 hours after eating, when the stomach is empty and can awaken the individual during the night;

   c. Relieved with the use of antacids or food, however, in some individuals eating may make the pain worse;

   d. Intermittent, with periodic exacerbations and remissions over the years.

3. Intermittent nausea, vomiting, and belching.

4. No history of hematemesis or melena.

B. Objective:

1. General physical exam unremarkable, however, there can be an area of well-localized epigastric tenderness. Exam negative for rebound or referred tenderness.

2. Normal stool without melena on rectal exam.

3. Laboratory studies:

- Hematocrit/hemoglobin - within normal limits.

- Stool test for occult blood - negative/positive.

C. Assessment: (differential diagnosis)

1. PUD

2. Gastritis

3. Hiatal hernia, with or without reflux

4. Coronary insufficiency

5. Less frequently, mild pancreatitis and biliary colic

D. Plan:

1. Repeat any abnormal laboratory studies.

2. Pharmacological:

a. Antacids: Mylanta II suspension, 20 to 30 ml. approximately 6 times a day. Most effective when taken 1 and 3 hours after meals.

b. Ranitidine (Zantac), 150mg. qHS or bid or 300mg. qHS with a maintenance dosage of 150mg. qHS not to exceed one year, or Nizatidine (Axid), 150mg. qHS or bid or 300mg. qHS.

c. Omeprazole in refractory case.

d. Recent evidence suggests that infectious agents such as *Helicobacter pylori* may contribute to the development of peptic ulcer disease. Triple therapy antibiotics may be indicated in circumstances where patients experience multiple symptomatic recurrences. Triple therapy regimens vary, but may include the following medications for two weeks to eradicate *H. pylori*:

Metronidazole (Flagyl, Protostat), 250 mg. tid
and
Bismuth subsalicyclate (Bepto-Bismol), 1-2 tablets with each meal and 2 tablets at bedtime
and
Amoxicillin (Amoxil, Trimox, Wymox, etc.), 500 mg. qid.

This regimen should be followed by a 2-16 week course of an H_2-blocker to heal an active ulcer.

3. Avoid aggravating agents such as caffeine products (coffee, tea, chocolate) and alcohol. Decrease or discontinue smoking, and avoid use of aspirin, NSAID and steroids.

4. Follow-up

a. Every 2 weeks for 4 weeks after acute onset of symptoms of pain (without GI bleeding) to evaluate for:

1. response of pain to antacids

2. evidence of GI bleeding (history of hematemesis or melena or positive test for occult blood in stool).

b. Check for side effects of antacids, such as diarrhea and constipation.

c. After 6 to 8 weeks of effective antacid therapy (relief of symptoms), antacids may be stopped and regular usage resumed only if symptoms recur.

d. PUD that does not respond to medical therapy requires further evaluation. Gastric ulcers that fail to heal need to be evaluated for gastric carcinoma.

References:

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care. 2nd ed., Boston, Little, Brown and Co., 1992.

Feldman, Mark, Paul N. Maton, Richard W. McCallum, Denis M. McCarthy. Treating Ulcers and Reflux: What's New? Patient Care. pp. 53-72, August 15, 1992.

Humphries, Thomas J. Manual of Clinical Problems in Gastroenterology. Boston, Little Brown & Co., 17:61-65, 1988.

Ramsey, Paul G., Eric Larson, (eds.). Medical Therapeutics. 2nd ed., Philadelphia. W.B. Saunders, 1993.

CHRONIC ULCERATIVE COLITIS

I. DEFINITION

An inflammatory disease of the colonic mucosa and submucosa. Ulcerative colitis is the most common of the inflammatory bowel diseases (IBD).

II. ETIOLOGY

Cause of ulcerative colitis is unknown. Disease tends to have an early onset, usually in people in their teens or 20's and persists throughout their lifetimes.

III. CLINICAL FEATURES

Mild Ulcerative Colitis:

A. Subjective:

1. Medical history of mild diarrhea <5/day;
2. May have hematochezia with passage of small amounts of blood;
3. May complain of anorexia, vague abdominal pain;
4. Additional general complaints may include joint aches and soreness.

B. Objective:

1. Physical exam generally WNL;
2. Vital signs WNL, may have low-grade fever;
3. Abdominal exam WNL. Bowel signs normal, may have mild abdominal tenderness;
4. Anemia. Leukocytosis frequently noted, may have decreased, iron and iron-binding capacity;
5. May have elevated ESR;
6. Reticulocytosis frequently noted with chronic disease;

7. Negative stool for bacterial pathogens;

8. Common non-GI symptoms include: symmetrical joint swelling, uveitis, variety of abnormal dermatological findings;

9. Sigmoidoscopy reveals: hyperemia, pus and friability of colon mucosa, ceration, disease usually limited to distal mucosa.

Moderate-to-Severe Ulcerative Colitis:

A. Subjective:

1. Bloody diarrhea. >5/day. "Tomatosoup" to bright-red blood;

2. Associated crampy abdominal pain and tenesmus more prominent;

3. Severe attacks, abrupt in onset;

4. Variable systemic symptoms include: moderate-to-high-grade fever, malaise, fatigue, dehydration and prostration.

B. Objective:

1. Physical exam: may be remarkable for fever, tachycardia, signs of dehydration, hypovolemia. Severe cases may show signs of cardiovascular collapse;

2. Pallor. Secondary to anemia frequently noted, as well as decreased iron and iron-binding capacity;

3. Elevated ESR;

4. Presence of reticulocytosis;

5. Negative stool for pathogens;

6. Increased bowel sounds and abdominal tenderness are present;

7. Other systemic symptoms include: jaundice, joint effusions, eye involvement, and various dermatological findings;

8. Peripheral edema, secondary to hypoalbuminemia, in severe cases;

9. Sigmoidoscopy reveals: friability, extensive ulceration, pus and pseudopolyp formation of the colonic mucosa.

C. Assessment: Ulcerative Colitis
R/O acute bacterial infection
Crohn's disease
Amebic colitis

D. Plan:

1. Educational support;

2. Nutritional support with increased caloric and protein (>100 gm.) protein daily. Nutritional evaluation for severe episodes may indicate need for hyperalimentation;

3. Antidiarrheal medications may be considered;

4. Sulfasalazine (Azulfidine) 1 to 4 gms. daily in equally-divided doses based on disease process;

5. Corticosteroid considered with severe disease;

6. Medical evaluation is necessary in treatment of the variety of UC complications.

References:

Bongiovanni, Gail L. Essentials of Clinical Gastroenterology. 2nd ed., McGraw-Hill Book Co., 1988, pp. 315-330.

HYPERTENSION CLINIC PROCEDURES

HYPERTENSION CLINIC PROCEDURES

I. CLINIC GOALS

A. To achieve and maintain blood pressure levels which will prevent complications of hypertensive disease.

B. To prevent significant side effects associated with antihypertensive therapy.

C. To provide patient education to promote a better understanding of causes, symptoms, and treatments of hypertension and the importance of compliance with the therapeutic regimen and lifestyle changes.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE HYPERTENSION CLINIC

DEFINITION

Hypertension is defined as sustained average of blood pressure above 140/90 Hg. in adult patients. Those with diastolic blood pressure below 90 but systolic blood pressure above 160 may be defined as having isolated systolic hypertension.

The 1988 Joint National Committee report proposed the following classification of the degree of hypertension:

RANGE OF BLOOD PRESSURE	CATEGORY OF BLOOD
Diastolic	
90 to 104	Mild Hypertension
105 to 114	Moderate Hypertension
115 and above	Severe Hypertension
Systolic (with diastolic <90)	
140 to 159	Borderline Isolated Systolic Hypertension
160 and above	Isolated Systolic Hypertension

A. All inmates with the following diagnoses will be enrolled in the hypertension clinic:

Essential Hypertension
Secondary Hypertension

B. The first and most important step in the management of hypertension is the careful assessment of the level of the blood pressure. The basic technique in the measurement of the blood pressure includes:

1. Using an appropriate size cuff for the patient;
2. Having the patient sit in a chair with the arm unconstricted and supported at the level of the heart;
3. At least two (2) blood pressure readings at each visit; if they differ by more than 5 mm/Hg, additional readings should be taken;
4. For an initial assessment, measure the blood pressure in both arms, if there is a persistent difference, use the arm with the higher pressure. If the difference in the pressure is significant (systolic >20 mm or diastolic >10 mm), refer the patient to a physician to rule out coarctation of the aorta or other vascular pathology;
5. Deflate the cuff slowly at 2 to 3 mm/Hg per heart beat.

C. Inmates who enter diagnostic centers with a history of hypertension or treatment with antihypertensive medications shall have their blood pressures checked every week for three (3) weeks unless the initial level is so high (above 180/110 mm/Hg) or target organ damage is so ominous as to demand immediate intervention.

D. Inmates who present with elevated blood pressure readings at sick call or at annual health assessments shall also have blood pressure readings checked on three (3) separate occasions. Inmates should be counseled regarding their elevated readings and non-pharmacologic measures to decrease blood pressure.

E. Inmates whose blood pressure readings are persistently elevated (according to criteria outlined in the hypertension protocol) shall be referred to the physician or designee for evaluation and consideration for enrollment in the hypertension clinic.

F. If the physician concurs that the patient is hypertensive, (s)he shall write a physician's order enrolling the patient in the hypertension clinic. Baseline laboratory studies ordered should include a fasting serum chemistry, CBC with differential , dipstick urinalysis, EKG and chest x-ray.

G. Any invasive studies or specialty consults to rule out secondary hypertension or cardiovascular disease will be ordered only after consultation with the institutional physician.

H. All consult requests will be completed by a physician or advanced level provider with the physician's concurrence and signature. The consult sheets shall include a brief history, current blood pressure readings and medications.

I. The frequency of evaluation of patients depend on several factors including severity of disease, clinical and laboratory abnormalities and patient compliance with the therapeutic regimen. As a general rule it is recommended that patients be evaluated according to the following guidelines:

1. Weekly or more frequently (through sick call)
   a. Patients with moderate to severe uncontrolled hypertension.
2. Bi-weekly
   a. Patients being evaluated for elevated blood pressure readings.
   b. Patients whose blood pressure levels are not yet controlled on pharmacologic therapy.
   c. Patients with recent changes in pharmacologic therapy.
3. Monthly
   a. Patients with recently established pharmacologic control of blood pressure.
   b. Patients whose medication compliance is questionable.
   c. Patients requiring patient education or information regarding laboratory tests.
4. Quarterly
   a. Patients whose blood pressure readings and laboratory values have stabilized on current antihypertensive therapy and;
   b. Patients who demonstrate good understanding of disease and compliance with the treatment regimen.
   c. Patients requiring renewal of antihypertensive medications.
5. Semi-annually
   a. Patients whose blood pressure readings are borderline normal and who have risk factors for hypertension.
6. Annually
   a. Inmates who are normotensive. All inmates should have their blood pressure checked annually as part of a health screening program.

III. THE INITIAL VISIT

A. At the initial clinic visit the following information should be reviewed by the provider and the hypertension clinic intake form should be filled out:

1. The family history of hypertension, stroke, heart or kidney disease;
2. The medical history with particular attention to known history of hypertension, stroke, cardiovascular or renal disease;
3. Risk factors for hypertension;
4. Review of medication history, including prescription and over-the-counter (OTC) drug use;

5. History of alcohol, tobacco or drug use;
6. Any known drug allergies;
7. Recent or current symptoms, their frequency and severity (chest pain, SOB, palpitations, headaches, dizziness, etc.);
8. Results of laboratory tests (including serum pregnancy tests for women);
9. Review of physical findings.
10. Recent blood pressure readings.

B. Any findings which would suggest secondary hypertension (cardiovascular, renal or adrenal disease), or laboratory abnormalities should be referred to the physician for evaluation and consultation.

C. During the initial clinic visit two separate blood pressure readings should be obtained, one from each arm.

D. If the patient is mildly hypertensive (DBP<104 mm/Hg) with no evidence of heart disease, a nonpharmacologic approach (see protocol) may be used initially, with patient monitoring every two months. If after three months of good compliance the blood pressure readings have not improved, pharmacologic therapy may be initiated according to the protocol.

E. If the patient is moderately or severely hypertensive, both non- and pharmacologic measures should be used after consultation with the physician and consent of the patient.

F. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not to exceed 30 days. If the patient requires a nonformulary medication, a request form shall be completed by the physician and forwarded to the medical director in central office for approval.

G. The patient should be counseled regarding hypertension, its potential complications if untreated, and lifestyle factors which influence cardiovascular health. If the patient is treated with medication, (s)he should be counseled regarding the proper administration of the drug and potential side effects. Whenever possible, written materials should be reviewed with and provided to the patient.

H. Patients with newly diagnosed hypertension should be profiled to reflect this and the diagnosis documented on the problem list. Each patient encounter should be fully documented in the progress notes including patient education. A hypertension flow sheet should be initiated.

I. A follow-up appointment shall be scheduled.

IV. MONITORING THE PATIENT

A. **At each subsequent visit, patients will be evaluated for the following:**

1. **Blood pressure readings should be taken and reviewed with the patient;**
2. **Compliance with medication therapy and the presence or absence of side effects;**
3. **Knowledge of hypertension and lifestyle factors which affect blood pressure. Understanding of the overall treatment plan;**
4. **If the patient is on a potassium depleting diuretic, potassium levels should be checked every six months, or more frequently if indicated.**

B. **If blood pressure readings are improved or have stabilized according to the patient's treatment plan, the patient shall be monitored according to clinic guidelines (see previous page).**

C. **If blood pressure readings demonstrate no improvement after 1-2 months of therapy, changes in the treatment regimen should be considered.**

E. **Although it is considered ideal to achieve completely normal blood pressure readings, (<140/90 mm/Hg) the decision as to what constitutes an acceptable blood pressure for each patient must be weighed against other factors, including the presence of other risk factors for cardiovascular disease, and side effects of medications. The treatment decisions should be made by the physician with the understanding and compliance of the patient.**

V. DISCONTINUATION FROM THE CLINIC

A. **Patients may be discontinued from the hypertension clinic for the following reasons:**

1. **The patient has required no pharmacologic or dietary intervention for six months, and for whom discontinuation from the clinic poses little if any risks to the patient.**

2. **The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral if at all possible. The patient should be provided with a community discharge summary sheet with the diagnosis and list of medications.**

3. The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This shall also apply to patients who refuse evaluation after being informed of potential risks. If the health consequences of the refusal of evaluation and or treatment are significant, a refusal of treatment form shall be completed. This process shall also be well documented in the progress notes.

B. A physician's order shall be written to discontinue patients from the hypertension clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

CARDIAC/HTN CLINIC DATABASE
Georgia Department of Corrections

NAME_____ STATE I.D._____
Date of Birth_____ Race_____ Sex_____
ALLERGIES_____

Vital Signs: Temp_____ Pulse_____ Resp._____ Height_____ Weight_____lbs.
(L) Blood Pressure Lying_____ Standing_____
(R) Blood Pressure Lying_____ Standing_____

HISTORY

Headaches_____
Dizziness_____
Blurred vision_____
Epistaxis_____
Palpitation_____
Chest Pain_____
Dyspnea_____
Claudication_____
Hematuria_____
Nocturia_____
Polyuria_____
Polydypsia_____
Muscle Weakness_____
Weight Gain_____
Weight Loss_____

Risk Factors:
Family History_____
Smoking History_____
Diabetes_____
Hyperlipidemia_____
Obesity_____
Hypertension_____
Substance Abuse_____

Medication History:
_____
_____
_____
_____
_____
Diet_____
Other Relevant Information:
_____
_____

_____
Signature Date

PHYSICAL EXAMINATION

Head, face, mouth, neck_____
_____
Eyes, ears, nose_____
Thorax, lungs_____
Breasts, axillae_____
Musculo-skeletal_____
Cardiovascular Evaluation:
PMI_____
Heart Sounds_____
Bruits:
Carotid_____
Abdominal_____
Pulses:
Radial_____
Femoral_____
Pedal_____
Abdominal Evaluation:
Liver_____
Spleen_____
Bowel Sounds_____
Tenderness_____
Edema_____
Other Findings_____
_____

DIAGNOSIS_____
_____

ORDERS/INSTRUCTIONS:
_____
_____
_____
_____
_____
_____

_____
Signature Date

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

HYPERTENSION CLINIC FLOWSHEET*

Georgia Department of Corrections

( ) **Cardiac/Hypertension Clinic Database completed.**

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs **T-P-R** **Blood Pressure**							
Weight							
Cardiovascular Symptomatology							
Chest Pain	( )	( )	( )	( )	( )	( )	( )
SOB	( )	( )	( )	( )	( )	( )	( )
Palpitations	( )	( )	( )	( )	( )	( )	( )
Headaches	( )	( )	( )	( )	( )	( )	( )
Dizziness	( )	( )	( )	( )	( )	( )	( )
Physical Findings Fundoscopic Exam Periph. Cir./Edema Lung Field Auscul. Other							
Diet							
Medication Compliance							
Laboratory							
CBC with diff.	( )	( )	( )	( )	( )	( )	( )
CZ-49	( )	( )	( )	( )	( )	( )	( )
Serum Potassium	( )	( )	( )	( )	( )	( )	( )
Urinalysis	( )	( )	( )	( )	( )	( )	( )
Diagnostics							
EKG	( )	( )	( )	( )	( )	( )	( )
Chest X-Ray	( )	( )	( )	( )	( )	( )	( )
Education							
Comments							
Staff Signature /Credentials							

HYPERTENSION PROTOCOL

ESSENTIAL OR PRIMARY HYPERTENSION

I. DEFINITION

Hypertension is defined as sustained average of blood pressure above 140/90 Hg. in adult patients. Those with diastolic blood pressure below 90 but systolic blood pressure above 160 may be defined as having isolated systolic hypertension.

The 1988 Joint National Committee report proposed the following classification of the degree of hypertension:

RANGE OF BLOOD PRESSURE	CATEGORY OF BLOOD
Diastolic	
90 to 104	Mild Hypertension
105 to 114	Moderate Hypertension
115 and above	Severe Hypertension
Systolic (with diastolic <90)	
140 to 159	Borderline Isolated Systolic Hypertension
160 and above	Isolated Systolic Hypertension

II. ETIOLOGY

A. Primary hypertension: Approximately 95% of hypertensive adults age 18 to 65 will have no identifiable cause, thus their hypertension is defined as primary or essential. Contributing factors for the development of primary hypertension include:

1. Family history
2. Obesity
3. Excessive salt intake
4. Sedentary lifestyle
5. Smoking
6. Diabetes

7. Elevated serum lipids

8. Stress

9. Black race

10. Older age group

B. Secondary hypertension: Hypertension which results from other medical conditions including:

1. Renal parenchymal disease

2. Renal vascular disease

3. Adrenal hyperfunction
   pheochromocytoma
   Cushing's syndrome
   primary aldosteronism

4. Miscellaneous

III. CLINICAL FEATURES

A. Subjective:

Normally patients with elevated blood pressure are without symptoms. Headaches, dizziness, nosebleeds, etc., do not occur any more often in hypertensive patients than in other populations.

Symptoms which suggest complications of high blood pressure (i.e., end organ damage) include:

1. Blurred vision

2. Chest pain

3. Shortness of breath

4. Flank pain or infections

5. Convulsions

6. Transient neurological symptoms such as difficulty with speech or movement.

B. Objective:

1. **BP: Diastolic blood pressure > 90mm Hg. or systolic blood pressure > 140mm Hg.**

2. **Physical exam may be WNL or the following abnormalities may be noted:**

   HEENT: Optic fundi may reveal narrowing, copper-wiring, or AV nicking; no hemorrhage, exudates or papilledema is identified and there is an absence of exophthalmos.

3. **Laboratory studies: All patients being evaluated for HTN should have a recent/baseline fasting serum chemistry, CBC with differential, urinalysis (dipstick), EKG and chest x-ray.**

   - **Serum chemistry - may observe elevated serum cholesterol. Glucose, BUN, and creatinine are generally within normal limits.**

   - **CBC with differential - WNL**

   - **Urine dipstick - Negative for glucose, protein, nitrites and leukocytes.**

   - **EKG and CXR - reviewed by physician and WNL or minimal abnormalities.**

C. Assessment: Primary (essential) Hypertension Plan:

1. **Diagnostic:**

   a. **Baseline serum chemistry, CBC with differential, urine dipstick, CSR and EKG are to be done.**

   b. **Abnormal lab studies are to be repeated as indicated (consult with advanced health care provider).**

2. Therapeutic:

   a. Initially, for the mildly elevated HTN patient, a nonpharmacologic approach is to be instituted. This includes salt and alcohol restrictions, weight reduction if indicated, smoking cessation, decreased fat ingestion, and beginning an aerobic exercise program.

   b. If nonpharmacologic measures do not begin to bring BP down after 1 to 2 months of good compliance, then continue with STEP-CARE PLAN using pharmacologic measures while continuing nonpharmacologic measures as adjunct therapy.

3. General Principles of Medication Therapy in Step-Care Plan

   a. Start with lowest practical dose.

   b. Gradually titrate dosage until BP goes down or side effects appear.

   c. If pressure reduction is not satisfactory, add or substitute one drug after another in gradually increasing doses until BP is controlled, side effects become intolerable, or the maximum dose of each drug has been reached.

   d. After control is gained and maintained for one year, step-down therapy should be considered (see follow-up).

Based on the assessment of the patient's state of health including pre-existing health problems, the risk factors and health habits present, and general demographics such as age, race, sex, etc., select the appropriate drug class to initiate pharmacologic therapy.

Therapeutic Plan - Selection of Antihypertensive Pharmacologic Therapy

Choices for antihypertensive therapy include diuretics, beta blockers, ace inhibitors, calcium channel blockers, vasodilators and central acting agents.

For most asymptomatic patients, recommended first line drug therapy includes diuretics, beta blockers or both. Each class of antihypertensive drug categories has benefits and drawbacks for some patient populations. Drug selection should be tailored to each individual considering the medical history, including contraindications to selected therapies.

The general considerations and precautions for each drug category is listed below.

The drugs available on the GDC formulary, available doses, recommended dosages, side effects and precautions of each drug are listed on the following pages:

DRUG CATEGORY	GENERAL CONSIDERATIONS	PRECAUTIONS
Diuretics	• May be used as monotherapy • White patients tend to respond more so than blacks. • Isolated systolic hypertension responds well to Beta Blockers. • Useful for patients with angina.	• Thiazide diuretics should be used with caution in patients with renal disease. • Thiazides are potassium depleting. Use with caution in patients on digitalis.
Ace Inhibitors	• Agent of choice for patients with Diabetes Mellitus, particularly if combined with renal impairment.	• May cause fetal morbidity and mortality in any trimester.
Calcium Channel Blockers	• Useful in patients with chronic stable angina or vasospastic angina, Diabetes Mellitus.	
Vasodilators or Central Acting Agents	• Should initiate therapy at low dosages and increase gradually to avoid syncopal episodes.	

ANTIHYPERTENSIVE MEDICATIONS ON GDC FORMULARY

Category: Diuretics

DRUG NAME	DOSAGE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Hydrochlorothiazide (HCTZ)	. 25 mgm and . 50 mgm	50 mgm to 100 mgm po pd	- Muscle cramps - Lethargy - Acute joint pain - Polyuria - Polydipsia	- May cause elevated serum glucose, and/or uric acid levels - Should be used with caution in diabetes. - May cause hypokalemia.
Indapamide (Luzol)	2.5 mgm	2.5 mgm po qd may be increased to 5 mgm po qd after one month if response not satisfactory.	- Headache - Dizziness - Fatigue	- Should not be given concomitantly with Lithium.
Metolozone (Zaroxlyn Diulo)	5 mgm	2.5 to 5 mgm po qd	- Orthostatic Hypotension - Syncope	

Category: Beta Blockers

DRUG NAME	DOSAGE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Betaxolol HCL (Kerlone Tablet)	10 mgm and 20 mgm	10 mgm po qd along or added to diuretic adjusted to 20 mgm after 1-2 weeks.	- Depression - Fatigue - Insomnia - Hallucinations - Nightmares	- Use with caution in depression prone patients.
Atenolol (Tenormin)	50 mgm and 100 mgm	50 mgm po alone or added to diuretic may be adjusted to 100 mgm after 1-2 weeks.	- Impotence - Decreased Libido - Mild Lipid Alterations	- May aggravate congestive heart failure, asthma. - Avoid blockers in Insulin dependent diabetics. - Decrease dosage with renal impairment.
Metoprolol (Lopressor)	50 mgm and 100 mgm	100 mgm 1 day initially in single or divided doses; alone or added to diuretic		
Naldolol (Corgard)	40 mgm and 80 mgm	40 mgm qd alone or added to diuretic increased gradually in 40-80 mgm increments. Usual maintenance dose 40 mgm po qd.		
Propanolol (Inderal)	20 mgm	40 mgm bid initially alone or added to diuretic.		

Category: Ace Inhibitors

DRUG NAME	DOSAGE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Enalapril (Vasotec)	5 mgm and 10 mgm	- The recommended dose of patients not on diuretics is 5 mgm po qd. The usual dose range is 10 mgm to 40 mgm daily administered in single or divided doses. - In patients who are currently taking a diuretic, symptomatic hypotension may occur following the initial dose of Vasotec. If possible, the diuretic should be discontinued or 2-3 days prior to initiating Vasotec. If not possible to discontinue the diuretic; begin 2.5 mgm and increase the dosage gradually.	- Angioedema - Dizziness - Syncope - Diarrhea	- Vasotec is contrainindicated in patients who are hypersensitive to this product and in patients with a history of angio-edema related to previous treatment with an angiotensin converting enzyme inhibitor. - Ace inhibitors can cause fetal morbidity and mortality when used in pregnant women. - Use with caution in patients on Lithium.

DRUG NAME	DOSAGE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Ramipril (Altace)	**1.25 mgm 2.5 mgm 5 mgm and 10 mgm**	**- The recommended initial dose in patients not receiving a diuretic is 2.5 mgm qd. The usual maintenance dose is 2.5 to 20 mgm / day administered as a single or in two equally divided doses. - If patient is receiving a diuretic, an initial dose of 1.25 mgm should be used to avoid excessive hypotension. Consideration should be given to discontinuing the diuretic for 2-3 days prior to initiating Altace.**	**- Cough - Dizziness - Impotence - Angioedema - Rash**	**- Ace inhibitors can cause injury and death to the fetus even when used during the second and third trimesters. - Hyperkalemia may develop if Altace is used concomitantly with potassium sparing diuretics, or if renal insufficiency and Diabetes Mellitus is present. - Increased serum lithium levels have been reported. Use with caution in patients on lithium.**

Category: Calcium Channel Blockers

DRUG NAME	DOSAGE AVAILABLE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Amlodipine (Norvasc)	5 mgm and 10 mgm	Usual dosage 5 mgm po qd. Maximum dosage 10 mgm. Small or frail patients may be started on 2.5 mgm qd.	- Headache - Edema - Dizziness - Flushing - Palpitations	- Rarely, patients with severe obstructive coronary artery disease have developed documented increased frequency, duration and/or severity of angina or acute MI. - Should be used with caution in patients with heart failure particularly in combination with Beta Blockers.
Isradipine (Dynacisc)	2.5 mgm and 5 mgm cap.	Initial dose is 2.5 mgm bid alone or in combination with diuretic. Maximal response may require 2-4 weeks.		

Category: Vasodilators or Central Acting Agents

DRUG NAME	DOSAGE AVAILABLE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Doxazosin (Cardura)	2 mgm	Initial dosage is 1 mgm daily. Dosage may be gradually increased to 2 mgm and, if necessary, 4 mgm to control blood pressure. May be used alone or in combination with diuretics or Beta Blocker agents.	- Dizziness - Edema - Malaise - Fatigue	- Syncope and "first dose" effects: Marked orthostatic hypotension may occur with the first dose or an increase in dosage. - To decrease the likelihood of excessive hypotension it is essential that treatment be initiated with the 1 mgm dosage. - Beware of first dose syncopal effects. Initial dose should be 1 mgm and increased gradually. - Should be used with caution with Beta Blockers.
Prazosin (Minipres)	1 mgm 2 mgm and 5 mgm	Initial dose 1 mgm bid or tid. Therapeutic doses range from 6 mgm to 15 mgm daily.	- Dizziness - Headache - Drowsiness - Lack of energy - Palpitations	

DRUG NAME	DOSAGE AVAILABLE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Hydralazine (Apresoline)	25 mgm	Begin with 10 mgm po qid for the first 2-4 days. Then increase to 25 mgm qid. May be increased to 50 mgm po qid.	- Headache - Anorexia - Nausea - Vomiting - Diarrhea - Palpitations - Tachycardia - Angina	- Used with caution in patients with coronary artery disease. Teratogenic in mice. Should be avoided in pregnant women.
Clonidine (Catapres)	.1 mgm and .2 mgm	0.1 mgm po bid initially. May be increased gradually. Usual therapeutic dose is .2 mgm to .6 mgm daily. When discontinuing therapy dosage, it should be decreased gradually.	- Dry mouth - Drowsiness - Dizziness - Constipation - Sedation	- Patients should be instructed not to discontinue clonidine without consultation with physician. Sudden cessation of clonidine treatment has resulted in subjective symptoms such as nervousness, headache, agitation followed by a rapid rise in blood pressure.

DRUG NAME	DOSAGE AVAILABLE	RECOMMENDED DOSAGE	SIDE EFFECTS	PRECAUTIONS
Hydralazine (Apresoline)	25 mgm	Begin with 10 mgm po qid for the first 2-4 days. Then increase to 25 mgm qid. May be increased to 50 mgm po qid.	- Headache - Anorexia - Nausea - Vomiting - Diarrhea - Palpitations - Tachycardia - Angina	- Used with caution in patients with coronary artery disease. Teratogenic in mice. Should be avoided in pregnant women.
Clonidine (Catapres)	.1 mgm and .2 mgm	0.1 mgm po bid initially. May be increased gradually. Usual therapeutic dose is .2 mgm to .6 mgm daily. When discontinuing therapy dosage, it should be decreased gradually.	- Dry mouth - Drowsiness - Dizziness - Constipation - Sedation	- Patients should be instructed not to discontinue clonidine without consultation with physician. Sudden cessation of clonidine treatment has resulted in subjective symptoms such as nervousness, headache, agitation followed by a rapid rise in blood pressure.

D. PATIENT EDUCATION/COUNSELING

I. DIET COUNSELING (Nutritionist, if available)

a. Cutting down on sodium - Include discussion of foods high in sodium as well as cutting down salt at table and in cooking.

b. Cutting down on fats - Emphasize foods high in fats that should be avoided or used sparingly.

c. Weight reduction/control - Using nutritional assessment, plan appropriate caloric intake to lose or maintain weight. Work on food selection and preparation.

d. Alcohol and caffeine in moderation.

II. RISK FACTORS

a. Sedentary lifestyle - Assist with establishing exercise plan and counseling patient on importance.

b. Smoking cessation - Assist patient in finding a smoking cessation group to attend.

c. Cholesterol reduction - Recommendations on diet may control this.

III. TREATMENT REGIME

Emphasize importance of compliance with all aspects of treatment plan: diet, lifestyle changes, and drugs. This phase of education should include drug side effects to watch for, clinic appointments, and when and how to contact clinic with questions or problems.

E. REFERRAL/CONSULTATION

I. Allied Health Professionals - Refer to Nutritionist, Pharmacist, Health Educator, and Physical Therapist as needed with education and counseling.

II. **Medical Consultation - In addition to periodic review by medical practitioner, special consultation is indicated if:**

a. **Initial diastolic pressure is greater than 115 mm Hg;**

b. **Pre-existing diagnosis raises questions about type of drug to use to initiate therapy;**

c. **Lab results are excessively abnormal;**

d. **Extreme complications or side effects occur with therapy.;**

e. **Patient does not respond to therapy and you reach point of adding fourth drug;**

f. **Patient is less than 18 years old;**

g. **Patient is pregnant.**

References:

Drug Formulary. Georgia Department of Corrections Pharmacy and Theraputics Committee, June 30, 1993.

Kaplan, M.D., Norman M., Management of Hypertension, 4th ed., Essential Medical Information Systems, Durant, Oklahoma, 1992.

INFECTIOUS DISEASE CLINIC PROCEDURES

MANAGEMENT OF HIV INFECTION AND DISEASE

TO BE INSERTED AT A LATER DATE

MEN'S WELLNESS CLINIC

THE MEN'S WELLNESS CLINIC

I. CLINIC GOALS

A. To provide health screening for commonly occurring conditions among the male population

B. To provide education and counseling to men regarding their health to promote healthy behaviors.

II. GENERAL POLICIES

A. All men entering facilities will be enrolled in at least one of two clinics:

1. Men with no significant medical diagnoses will be enrolled in the Men's Wellness Clinic.

2. Men with chronic illnesses will be enrolled in the appropriate chronic care clinic.

III. ENROLLMENT INTO THE MEN'S WELLNESS CLINIC

ANNUAL HEALTH ASSESSMENTS

A. Following the diagnostic and intake process, an inmate is profiled to reflect his health status. At the time the inmate is profiled by the physician, the chart will be reviewed for any diagnosis of a chronic nature. If none is found, an order shall be written by a licensed provider enrolling the inmate in the Men's Wellness clinic.

B. Annual health assessments shall be resynchronized to take place in the birth month of the inmate. A grace period of two months is permitted to facilitate this process. For example, an inmate whose birth month is in January, but who enters GDC in November, may be scheduled for his annual health assessment 14 months later to take place in January of the following year. Similarly, an inmate whose birth month is in January but who enters GDC in March shall have his health assessment scheduled 10 months later to again take place in January.

C. At each annual health assessment, the following activities shall take place:

1. The medical record shall be reviewed for significant health events of an acute or chronic nature.

2. A general inquiry shall be made regarding any new health concerns.

3. The following measures or tests shall be repeated unless there is a contraindication:
   - Blood pressure
   - Weight
   - Tuberculin skin test
   - Testicular exam between the ages of 13 and 40 years)
   - Rectal and Prostate exam (above the age of 40 years)
   - Other measures as indicated by history, exam or other guidelines

4. Patients will have a complete physical exam
   every third year between the ages of 13 and 30 years;
   every other year between the ages of 31 and 50; and
   annually thereafter.

5. Following annual assessments the inmate will be reprofiled. If no significant changes have occurred, the profile will be updated to reflect the most recent assessment date. There is no data base or flow sheet for the wellness clinic. A thorough progress note should be written documenting the encounter and a profile sheet completed.

6. Patients will be counseled regarding the meaning of their test results and measures he can take for health promotion. Topics might include:
   a. Eliminating or reducing risk factors for heart disease(maintaining normal weight and blood pressure, importance of lowering dietary fat etc.).
   b. Smoking cessation.
   c. Health benefits of exercise.
   d. Monthly testicular self exam.

7. If patients are approaching their release date, additional topics may include:
   a. HIV and STD risk reduction
   b. Referral to health agencies, including alcohol and drug treatment and counseling agencies.

IV. PATIENT EDUCATION MATERIALS

PULMONARY CLINIC PROCEDURES

PULMONARY CLINIC PROCEDURES

I. CLINIC GOALS

A. To accurately diagnose chronic pulmonary disorders and initiate appropriate therapeutic regimens.

B. To relieve symptoms, promote healing and prevent complications of pulmonary disorders.

C. To educate patients to promote a better understanding of causes, symptoms, and treatments of chronic pulmonary conditions and the importance of compliance with therapeutic regimens.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE PULMONARY CLINIC

A. All inmates with the following diagnoses will be enrolled in the pulmonary clinic:

- Asbestosis
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
  - Chronic Bronchitis
  - Emphysema
- Chronic Bronchiolitis
- Cystic Fibrosis
- Industrial Pneumonitis
- Other conditions of a chronic respiratory nature

B. An inmate who enters a diagnostic center and presents a history of pulmonary symptoms of a chronic nature, or inmates presenting similar complaints at sick call shall be referred to an advanced level provider or physician for evaluation and possible enrollment into the pulmonary clinic.

C. The provider shall evaluate the medical history, subjective complaints and objective findings to determine whether or not the patient is a candidate for the pulmonary clinic. If so, a physician's order shall be written in the medical record, enrolling the patient in the clinic.

D. Baseline laboratory studies for the clinic shall include a serum chemistry, CBC with differential, chest x-ray, EKG, Wright peak flow meter

readings, and a sputum for culture and sensitivity, if clinically indicated. Additional laboratory work may be ordered in consultation with the physician, depending on the symptoms or diagnosis.

III. THE INITIAL VISIT

A. At the initial clinic visit, the following information should be reviewed by the provider and the pulmonary clinic intake form should be filled out:

1. Review of the medical history including previous evaluations and hospitalizations if any;
2. Review of medication history, including prescription and over-the-counter (OTC) drug use;
3. History of tobacco, alcohol and drug use;
4. Any known drug allergies;
5. Recent or current respiratory symptoms, their frequency and severity including cough (productive or non-productive), sputum production (color, amount), shortness of breath, orthopnea, chest pain, fever, weight loss, weakness, fatigue, anxiety, mental confusion, agitation, headache, ankle swelling;
6. Recent results of laboratory work (including serum pregnancy tests for women);
7. Wright Peak flow meter results;
8. Review of physical findings including vital signs, assessment of the lungs and heart, and extremities.

B. Any invasive studies or specialty consults will be ordered only after consultation with the institutional physician.

C. All consult requests will be completed by a physician or advanced level provider with the physician's concurrence and signature. Consults shall include a brief history, current symptoms and medications.

D. Once the diagnosis is established, the patient shall be profiled to reflect the diagnosis, special diet (if any), and any limitations. <u>The diagnosis shall be listed on the problem list</u>.

E. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not to exceed 30 days. If the patient requires a nonformulary drug, a request form shall be filled out by the physician with appropriate justification and forwarded to the medical director in central office for approval.

F. The patient shall be counseled regarding the suspected or confirmed diagnosis, diagnostic and therapeutic measures which have been ordered, and when to return to the clinic. Medication counseling shall include the following:

1. names of the medications, their purpose and benefits;
2. dosage and frequency;
3. side effects of medications;

Patients should also be advised of what symptoms should prompt a return to the clinic. Each patient encounter shall be fully documented in the progress notes, including patient education.

G. A pulmonary baseline data and flow sheet shall be initiated.

H. A follow-up appointment shall be scheduled.

IV. MONITORING THE PATIENT

A. Patients in the pulmonary clinic will be monitored as clinically indicated. As a general guideline it is recommended that patients be seen according to the following:

1. Monthly or more frequently (through sick call)
    a. Patients whose symptoms are not well controlled.
    b. Patients who are noncompliant with the therapeutic regimen or who require patient education regarding their diagnosis or test results.
2. Every three months
    a. Patients whose symptoms are recently controlled on the therapeutic regimen, who demonstrate good understanding and compliance with the treatment regimen.
    b. Evaluation of patients who are on chronic medications.
3. Every six months
    a. Patients whose symptoms are well controlled on the therapeutic regimen.

B. Each follow-up clinic visit shall include the following:

1. Review of signs and symptoms;
2. Medication compliance and side effects;
3. Compliance with the therapeutic diet (if prescribed);
4. Assessment and review of patients knowledge of the diagnosis and therapeutic regimen;
5. Patient education regarding any scheduled laboratory or diagnostic tests;

6. Reorder of medications if appropriate. Chronic medications may be renewed for a period of up to six months per physician's order, however, compliance should be reviewed a minimum of every three months;
7. Reschedule next appointment;
8. Completion of the pulmonary flow sheet;
9. Documentation of 1 through 7 in the progress notes.

V. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the pulmonary clinic for the following reasons:

1. The patient has required no pharmacologic or dietary intervention for six months, and for whom discontinuation from the clinic poses little if any risks to the patient.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral if at all possible. The patient should be provided with a discharge summary sheet (PI form number) with the diagnosis and list of medications.

3. The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This shall also apply to patients who refuse evaluation after being informed of potential risks. If the health consequences of the refusal of evaluation and or treatment are significant, a refusal of treatment form shall be completed. This process shall also be well documented in the progress notes.

B. A physician's order shall be written to discontinue patients from the pulmonary clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

PULMONARY CLINIC DATABASE
Georgia Department of Corrections

NAME_____ STATE I.D._____
Date of Birth_____ Race_____ Sex_____
ALLERGIES_____

Vital Signs: Temp_____ Pulse_____ Resp._____ Height_____ Weight_____lbs.
Blood Pressure_____ Peak Flow Measurement_____

HISTORY

Date of last PPD_____ Result_____mm
Date last chest x-ray:_____ Result_____
Diagnosis of TB?_____
Source of TB Exposure_____
Date of last sputum_____Result_____
Anemia_____
Previous Hospitalizations_____
Lack of appetite_____
Weight Loss_____
Fatigue_____
Low Grade Fever_____
Irregular Menses_____
Night Sweats_____
Chronic Cough_____
Mucopurulent Sputum_____
Bloody Sputum_____
Chest Pain_____
Shortness of Breath_____
Productive Cough_____
Disorientation_____

RISK FACTORS
Recurrent pulmonary infections_____
Recurrent sinus infections_____

MEDICATIONS

_____
_____
_____
_____
Other Relevant Information:_____
_____
_____

_____
Signature Date

PHYSICAL EXAMINATION

Head, Face, Mouth, Neck_____
Eyes, ears, nose_____
Breasts and axillae_____
Abdomen_____
Genitalia_____
Anus/Rectum_____
Musculo-skeletal_____
Heart_____
Thorax_____
Lungs_____
_____
_____
_____

COMMENTS

_____
_____
_____
_____
_____
_____

DIAGNOSIS:

_____
_____

ORDERS/INSTRUCTIONS

_____
_____
_____
_____
_____
_____
_____

_____
Signature Date

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

PULMONARY CLINIC FLOWSHEET*

Georgia Department of Corrections

Diagnosis _____.
Allergies _____.
( ) **Pulmonary Clinic Database completed.**

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
Respiratory Signs & Symptoms (List frequency and severity.)	( )	( )	( )	( )	( )	( )	( )
Diet							
Medication Compliance							
Laboratory and Diagnostics (List by result/date.)							
Chemistries	( )	( )	( )	( )	( )	( )	( )
CBC with Differential	( )	( )	( )	( )	( )	( )	( )
Chest X-Rays	( )	( )	( )	( )	( )	( )	( )
EKG	( )	( )	( )	( )	( )	( )	( )
P.F. Studies	( )	( )	( )	( )	( )	( )	( )
Sputum for C & S	( )	( )	( )	( )	( )	( )	( )
Peak Flow Measurements							
Education							
Comments							
Staff Signature /Credentials							

***All entries on flowsheet are to correspond to clinical documentation in Progress Notes, S.O.A.P. format.**

ASTHMA PROTOCOL

ASTHMA

I. DEFINITION

Asthma is described as a chronic obstructive pulmonary disease characterized by the narrowing of the airway passages. airflow obstruction, inflammation of the airway and an increased airway responsiveness.

II. ETIOLOGY

The specific causative agent(s) of asthma is unknown. Historically, asthma has been categorized as extrinsic, i.e., with a significant allergic component, or intrinsic, i.e., without significant allergic component. Most asthmatics have manifestations of both intrinsic and extrinsic disease. Asthma should therefore be considered a syndrome with intrinsic, extrinsic and occupational aspects. Some patients will experience exercise-induced asthma or have asthmatic attacks when exposed to cold temperatures.

III. CLINICAL FEATURES

Asthma is more prevalent in individuals in low socioeconomic groups living in urban settings and in those individuals with a positive family history.

A. Subjective:

1. **Chronic and frequently, productive cough;**
2. **Wheezing, breathlessness and chest tightness;**
3. **Exercise, cold air, exposure to respiratory irritants, stress, viral URI, beta blockers, aspirin, NSAID are several of the common stimuli that can trigger attacks;**
4. **Night-time or early morning exacerbation of respiratory symptoms;**
5. **Positive family history of asthma;**
6. **More prevalent in patients of low socioeconomic groups living in urban settings;**

B. Objective:

1. May have rhinitis, sinusitis or nasal polyps;

2. Decreased breath sounds, wheezing (not a reliable indicator of severity), and prolonged expiratory phase;

3. Flexural eczema may be present;

4. During attack, will speak in short sentences, sit upright, may use accessory respiratory muscles and have elevated resting heart rate, have inspiratory and expiratory wheezes and be diaphoretic. Wheezing may actually disappear as the attack becomes more severe;

5. Laboratory studies:
Spirometry/Peak Flow meter - decreased expiratory flow rate that improves or reverses after administration of bronchodilator.

C. Assessment: Asthma

MANY PATIENTS DIE EACH YEAR FROM ASTHMA. ATTACKS NEED TO BE TREATED SERIOUSLY AND CLOSE FOLLOW-UP IS ESSENTIAL. REFERRAL FOR TERTIERY CARE SHOULD BE CONSIDERED EARLY IN THE COURSE OF ASTHMATIC ATTACKS THAT FAIL TO CLEAR OR RECUR WITHIN 18-24 HOURS.

D. Plan:

1. Classify the asthma as mild, moderate, or severe based on the most recent clinical update. Record on problem list.

2. Environmental control. Reduce the possible trigger factors which include: dust, exercise, chemical irritants, molds, pollens, cigarette smoke, animal dander.

3. Pharmacological: (Stepped Care Approach)

   a. FOR MILD, INTERMITTENT SYMPTOMS:

      - beta-adrenergic agents administered as aerosol bronchodilator, i.e., albuterol (Proventil/Ventolin) MDI, pirbuterol acetate (Maxair) MDI and Metaproterenol

sulfate (Alupent/Metaprel) MDI, 2 puffs every 4 to 6 hours as needed. If symptoms worsen and long-term therapy is needed:

b. Administration of inhaled corticosteroid is indicated along with the use of inhaled beta-adrenergic agents. These include: Beclomethasone dipropionate (Vanceril/Veclovent) MDI, 2 puffs bid.

c. Cromolyn Sodium (Intal) MDI, 2 puffs 1 to 4 times each day, is another agent that in combination with inhaled corticosteroid, is effective in preventing and modifying the late asthmatic response and controlling persistent symptoms
**Inhaled corticosteroid and inhaled Cromolyn Na are not to be used for acute attacks but for maintenance.

d. Oral corticosteroids, theophylline and beta-adrenergic drugs are indicated if the symptoms are not being controlled through the use of inhaled agents. If theophylline is being used chronically, blood levels are available to monitor therapy.

3. Provide patient with educational materials on asthma and their role in management.

4. Explain and reinforce medical treatment plan, medication administration and if indicated, the use of the MDI.

5. Review with patient side effects of medication.

References:

Anderson, Barbara. An Overview of Drug Therapy for Chronic Adult Asthma. The Nurse Practitioner. Vol. 16, 12:39-42, Dec. 1991.

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care. 2nd. ed. Boston, Little, Brown and Co., 1992.

Hoole, Axalla J., Robert A. Greenberg, C. Glenn Pickard, Jr. (eds.). Patient Care Guidelines for Nurse Practitioners. 3rd. ed., Boston, Little, Brown and Col, 1988.

Ramsey, Paul G., Eric Larson. (eds.). Medical Therapeutics. 2nd ed., Philadelphia, W.B. Saunders, 1993.

Schaffer, Susan D. Current Approaches in Adult Asthma: Assessment, Education and Emergency Management. The Nurse Practitioner. Vol. 16, 12:18-34, Dec. 1991.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

I. DEFINITION

COPD is a disorder that includes emphysema, chronic bronchitis, asthmatic bronchitis and bronchiolitis. All are characterized by expiratory flow obstruction, cause dyspnea on exertion and may be complicated by bronchospasm.

EMPHYSEMA is a condition in which there are permanent destructive changes in the alveolar walls and bronchioles.

CHRONIC BRONCHITIS is defined as chronic excessive mucus secretion, leading to a daily persistent productive cough lasting 3 or more months per year for at least two years.

II. ETIOLOGY

Smoking is the major risk factor, with mild dyspnea on exertion appearing after 20 pack years. Additional etiologic factors include positive family history of COPD (check for genetic factors such as alpha 1-antiltryspin deficiency), recurrent pulmonary infections, inhaled irritants, and environmental factors.

III. CLINICAL FEATURES

A. Subjective:

1. History of smoking, permanent irreversible lung changes after 20 pack years (1 pack cigarettes qd for 20 years).
2. May initially be asymptomatic, but as disease progresses, shortness of breath or breathlessness on exertion develops.
3. History of frequent upper respiratory infections with increased severity of URI symptomatology.
4. Chronic productive morning cough.
5. Positive history of chronic exposure to pulmonary irritants.
6. Family history of COPD.

B. Objective:

1. **In early disease, (smoking <20 packs/years):**
   a. **Physical examination WNL**
   b. **May develop dyspnea on exertion as disease progresses**
2. **In advanced disease, physical examination reveals:**
   a. **Wheezing**
   b. **Use of accessory respiratory muscles with prolonged expiration**
   c. **Decreased breath sounds**
   d. **Pursed-lipped breathing**
   e. **Increased respiratory excursion**
   f. **Clubbing of fingernails (late finding)**
3. **Laboratory studies:**
   a. **Abnormal ratio of FEV1 to FVC (forced vital capacity), identifies the individual at risk for developing COPD**
   b. **Spirometry - Decrease in expiratory flow rate**
   c. **Chest X-ray - WNL in early disease and in late disease shows hyperinflation, areas of hyperlucency, bullae formation, and a small cardiac outline.**
4. **Arterial Blood Gases (ABG's) - early disease, mild hypoxemia, late disease shows arterial hypoxemia.**
5. **CBC may reveal secondary polycythemia.**
6. **EKG - with severe disease may show right ventricular hypertrophy and atrial arrhythmias are common.**

C. **Assessment: Chronic Obstructive Lung Disease**

D. **Plan:**

1. **Diagnosis:**

- **Baseline CXR, EKG and spirometry**
- **Sputum culture if patient presents with chronic mucopurulent sputum**
- **Arterial blood gases if clinically indicated**

2. **Therapeutic:**

Treatment of COPD includes treatment of acute or chronic disease as well as prevention of complications.

- **Single immunization with pneumococcal vaccine**
- **Annual immunization with influenza vaccine**
- **Cessation or reduction in smoking**
- **Avoidance of respiratory irritants**
- **Avoid extremes in temperature**
- **Avoid foods or beverages which may increase sputum production (dairy products, alcohol) and bronchospasm.**

Pharmacologic Therapy:

General Considerations:

The mainstays of therapy for obstruction are two categories of bronchodilator: the B-adrenergic agonists and the anticholinergic. Begin with an inhaled B-agonist to control symptoms. (Because responses to B-agonists differ among patients, it's worthwhile to perform spirometry before and after administration to gauge the response).

B-agonists include:

a. **Albuterol (Proventil/Ventolin) metered dose inhaler (MDI) 2 inhalations q4-6 hrs.**

b. **Pirbuterol acetate (Maxair) MDI 1-2 inhalations q4-6 hrs. (not to exceed 12 inhal/d).**

c. **Metaproterenol sulfate (Alupent/Metaprel) MDI.**

If there is no significant improvement in forced expiratory volume (FEV) in one second, and forced vital capacity (FVC) consider switching to an inhaled anticholinergic agent:

a. **Ipratropium bromide (Atrovent) MDI 2 inhalations q6 hrs.**

If no improvement, try a B-agonist followed by Ipratropium. If patients have difficulty using a MDI properly, consider an oral B-agonist such as:

a. **Albuterol (Proventil repetab) sustained release table 4mg. 1-2 tablets q 12 hrs.**

b. **Terbutaline (Brethine) tablets 5 mg. po tid.**

Theophylline is primarily useful in patients with nocturnal symptoms, who derive advantages from its long duration of action.

- **Begin theophylline dosing at 300-400mg. bid and titrate upwards.**

- **For safety, keep the serum level at 8-12 ug/mL.**

- **Monitor for side effects of cardiac arrhythmias, anorexia, GI symptoms, restlessness, and convulsions. Tachycardia may be the earliest symptom of toxicity.**

- Consider factors which can impair theophylline's clearance, resulting in toxic serum levels even at conventional doses. These factors include deficient liver function, congestive heart failure, sustained high fever, drugs, and age over 55 (particularly in men and patients with chronic lung disease). Although the only formal contraindications are previously demonstrated hypersensitivity to theophylline, active peptic ulcer disease and uncontrolled underlying seizure disorders, view these other conditions as relative contraindications.

- The risk of drug interactions is substantial. Drugs associated with increased serum theophylline levels include:

  - allopurinol (lopurin, zyloprim)
  - cimetidine (tagamet)
  - ciprofloxacin HCL (Cipro)
  - erythromycin
  - troleandomycin (Tao)
  - oral contraceptives
  - propranolol HCL (Inderal)

- If phenytoin sodium (Dilantin) and theophylline are given together, their levels are both decreased; rifampin (Rifadin, Rimactane) decreases theophylline levels; theophylline increases renal excretion of lithium carbonate (Eskalith, Lithobid, Lithonate), etc. Toxic synergism can occur with ephedrine and other sympathomimetic bronchodiators.

- Ascertain what other medications the patient is receiving, and use noninteractive substitutes when possible. For example, if an antibiotic is needed, replace erythromycin with trimethoprim/sulfamethoxazole, amoxicillin or an appropriate cephalosporin.

Managing Difficult Patients:

- **If symptom control is inadequate with maximal doses of inhaled bronchodilator, with or without theophylline, consider referral.**

- **Aggressive measures include a trial of oral corticosteroid (Prednisone 40 mg. x 10-14 days). If spirometry indicates the desired effect, taper the dose over one month to a maintenance dose of 10mg./d or the lowest effective level. If no improvement is demonstrated on the initial trial of steroids, rapidly taper the drug (over one week) and discontinue.**

- **When a patient's condition has stabilized on low-dose systemic corticosteroid therapy, try switching to an inhaled corticosteroid:**

    a. **Beclomethasone diproprianate (Vanceril/Beclovent) MDI 2 inhalations tid or qid.**

Managing of Acute Exacerbations (increase in dyspnea and mucopurulent sputum):

1. **Consult with physician regarding possible admission to an infirmary setting or hospitalization.**

2. **Consider aggressive bronchodiation with aerosolized nebulizer:**

    - **Metaproterenel (Alupent/Metaprel) 0.3-0.5 mL (15-26mg.) in 2.5 mL normal saline every 15-20 min. up to 3 doses, then q 4 hrs.**

3. **Antibiotic therapy if clinically indicated. Use broad spectrum drugs such as:**

    - **Tetracycline 500 mg. po qid x 10-14 days**

    - **Amoxicillin 500 mg. po qid x 10-14 days**

    - **Bactrim DS 1 po bid x 10-14 days**

4. **Oxygen supplementation: initiate cautiously via nasal cannula 2-3 L/min. Management of oxygen therapy should be based on arterial gas analysis and limit oxygen concentrations to achieve a PaO2 level of 55-70 mmHg. Higher levels may result in increased CO2 retention.**

5. **Adequate hydration and nutrition.**

6. **Consult *Clinical Updates* on most current treatment of asthma.**

References:

Dornbrand, Laurie, Axalla J. Hoole, G. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care, 2nd ed. Boston, Little Brown and Co., 1992, pp. 114-133.

Ramsey, Paul G., Eric Larson, (eds.). Medical Therapeutics, 2nd ed., Philadelphia, W.B. Saunders, 1988, pp. 185-187.

SEIZURE CLINIC PROCEDURES

SEIZURE CLINIC PROCEDURES

I. CLINIC GOALS

A. To accurately diagnose seizure disorders and initiate appropriate therapeutic regimens.

B. To routinely monitor patients on pharmacologic therapy to assess the compliance and clinical response to treatment.

C. To provide patient education to the patient regarding the causes, symptoms, and treatments of seizure disorders and to reinforce the importance of compliance with the treatment regimen.

D. To ensure the appropriate living and work assignment to protect the patient from hazardous conditions.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE SEIZURE CLINIC

A. All inmates with the following diagnoses will be enrolled in the seizure clinic:

Generalized seizures
- tonic-clonic (grand mal)
- absence seizures (petit mal)

Partial seizures
- simple partial
- complex partial

Other neurological diagnoses which include seizure activity
Undiagnosed seizure activity

B. An inmate who enters a diagnostic center and presents a history of seizures will be evaluated for possible enrollment into the seizure clinic.

C. The patient who presents a history of seizures in childhood or adolescence, but has had no seizure activity for the previous two years, is not on any medication for seizure activity, and whose physical exam is normal is not required to be enrolled in the seizure clinic if, in the judgement of the physician, the patient is not at a significantly increased risk of seizures at this time. These individuals shall not require special precautions such as

bottom bunks or limited work details.

D. The patient who presents a recent history of seizures (previous 2 years) or who enters the system on anti-seizure medication(s) will be enrolled in the clinic. A physician's order shall be written in the medical record, enrolling the patient in the clinic. If previous evaluations have been conducted including electroencephalograms (EEG) or computerized tomography (CT), a release of information shall be obtained from the patient in order to obtain records and document the diagnosis.

E. If previous medical records are for any reason unavailable and there is insufficient information to establish a diagnosis, the institutional physician shall be consulted to determine what measures shall be taken to establish a diagnosis. If a neurological consult is requested, it is strongly recommended that decisions regarding diagnostic testing be deferred until the neurologist has evaluated the patient.

F. Decisions regarding pharmacologic therapy in the absence of medical documentation shall be made on a case by case basis by the physician.

F. Baseline laboratory studies for the seizure clinic shall include a serum chemistry, CBC with differential, serum levels for the anti-seizure medication the patient is currently taking.

III. THE INITIAL VISIT

A. At the initial clinic visit the following information should be reviewed by the provider and the seizure clinic database form should be completed:

1. review of the medical history including previous evaluations and hospitalizations if any; history of any previous head trauma;
2. review of medication history, including prescription and over-the-counter (OTC) drug use;
3. tobacco, alcohol and drug use;
4. any known drug allergies;
5. description of typical siezure with associated symptoms; recent or current seizure activity or other neurological symptoms, their frequency and severity;
6. results of laboratory work (including serum pregnancy test results for women);
7. review of physical findings.

B. Following the initial review of the patients record, if the diagnosis remains

unclear, the physician will be consulted as to what further steps should be taken to establish a diagnosis.

C. Specialty consults and diagnostic tests such as EEG's, CT scans or MRI's will be ordered only after consultation with the physician. All consult requests will be completed by the physician or advanced level provider. Consults will include a brief history, current symptoms and frequency of seizure episodes and medications.

D. Once the diagnosis is established, the patient shall be profiled to reflect the diagnosis, which will then be listed on the problem list.

E. Patients will be profiled to reflect physical limitations. All patients with an active seizure disorder will be assigned a bottom bunk to prevent injury from falling. For seizure patients who are not well controlled, dormitory assignments should take into consideration the number of stairs the patient will have to climb (ie. minimize risk of falls). Patients will be assigned a work detail which does not involve climbing ladders, working in high places or with heavy machinery.

F. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not exceeding 30 days. If the patient requires a nonformulary drug, a request form shall be filled out by the physician with appropriate justification and forwarded to the medical director in central office for approval.

G. The patient shall be counseled by the physician or advanced level provider regarding the suspected or confirmed diagnosis, diagnostic and therapeutic measures which have been ordered, and when to return to the clinic. Each patient encounter shall be fully documented in the progress notes, including patient education.

H. A seizure clinic database form and flow sheet shall be initiated.

IV. MONITORING THE PATIENT

A. Patients in the Seizure clinic will be monitored as clinically indicated. As a general guideline it is recommended that patients be seen according to the following:

1. Monthly or more frequently (through sick call)
   a. Patients whose seizure activity is not well controlled requiring frequent clinical and laboratory monitoring;

b. Patients who are noncompliant with the therapeutic regimen or who require patient education regarding their diagnosis or test results.

2. Every three months
   a. Patients whose symptoms are recently controlled on the therapeutic regimen, who demonstrate good understanding and compliance with the treatment plan;
   b. Patients requiring blood work to evaluate serum levels of therapeutic drugs;
   c. Evaluation of patients on chronic medications who are stable;
   d. Patients who have recently had pharmacologic therapy discontinued and are being monitored for seizure activity.

3. Every six months
   a. Patients who have had pharmacologic therapy discontinued and having been monitored quarterly and for the previous six months, demonstrate no seizure activity.

B. Each follow-up clinic visit shall include the following:
   1. Review of signs and symptoms;
   2. Medication compliance and side effects;
   3. Assessment and review of patients knowledge of the diagnosis and therapeutic regimen;
   4. Patient education regarding any scheduled laboratory or diagnostic tests;
   5. Reorder of medications if appropriate;
   6. Completion of the seizure clinic flow sheet;
   7. Reschedule next clinic appointment.

C. The determination of how frequently blood should be drawn to monitor antiepileptic drugs shall be made in consultation with the physician or advanced care provider. Serum levels should be checked no less frequently than every six months.

V. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the seizure clinic for the following reasons.

1. The patient has required no pharmacologic therapy for one year and has neither reported nor demonstrated seizure activity during this time.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral if at all possible. The patient should be provided with a discharge summary sheet (PI form number) with the diagnosis and list of medications.

3. The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This process should be well documented in the medical record. A refusal of treatment form shall be obtained from the patient and placed in the medical record.

   Note: If the patient refuses therapy and monitoring, but continues to report or experience seizure activity, the patient may be assigned to an infirmary setting for observation and/or patient safety.

B. A physician's order shall be written to discontinue patients from the seizure clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

SEIZURE CLINIC DATABASE
Georgia Department of Corrections

NAME_____ STATE I.D._____
Date of Birth_____ Race_____ Sex_____
ALLERGIES_____

Vital Signs: Temp_____ Pulse_____ Resp._____ Height_____ Weight_____lbs.
Blood Pressure_____

Diseases/Conditions_____

HISTORY

Date of Onset of Seizures_____
Type of Seizures_____

Are Seizures Related to:	Yes	No
Neonatal Problem	_____	_____
Illness	_____	_____
Injury	_____	_____
Predisposing Factors	_____	_____

What_____
_____
_____

DESCRIBE SEIZURE:
Aura_____
Sudden Loss of Consciousness_____
_____
Recall_____
Seizure Activity_____
Jerking of Body Parts_____
Stiffening of Body Parts_____
Incontinence_____
Immed. Return to Nml. Functioning_____
Sleepy After Seizure_____

FREQUENCY OF SEIZURES_____
_____
SEIZURES PRECIPITATED BY_____
_____
Alcohol Use_____
Drug Use_____
MEDICATION:
_____
_____
_____
_____
_____
_____

_____
Signature Date

PHYSICAL EXAMINATION

Head, Face, Mouth Neck_____
Eyes, Ears, Nose_____
Thorax, Lungs, Heart_____
Breasts and Axillae_____
Abdomen_____
Genitalia_____
Anus, Rectum_____
Musculo-Skeletal_____

NEUROLOGICAL EXAMINATION:
1. Mental status_____
2. Cranial Nerves_____
3. Sensory System_____
4. Motor System_____
5. Deep Tendon Reflexes_____
_____
6. Superficial Reflexes_____

COMMENTS:
_____
_____
_____
_____
_____
_____
DIAGNOSIS/FINDINGS_____
_____
ORDERS/INSTRUCTIONS:
_____
_____
_____
_____
_____
_____

_____
Signature Date

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

SEIZURE CLINIC FLOWSHEET*

Georgia Department of Corrections

Diagnosis/Seizure Type _____.
( ) Seizure Clinic Database completed.

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
Neurological Symptoms/ Seizure Activity (List frequency and severity.)	( )	( )	( )	( )	( )	( )	( )
Physical Findings Gingival Exam. Other (Specify)							
Medication Compliance							
Laboratory and Diagnostics Serum Med. Level Other E.E.G. C.T./M.R.I.	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )
Education							
Comments (Specify work limitations, special housing, bunk, etc.)							
Staff Signature /Credentials							

***All entries on flowsheet are to correspond to clinical documentation in Progress Notes, S.O.A.P. format.**

SEIZURE ACTIVITY FLOWSHEET

NAME_____ ID#_____

GUIDELINES: Nursing assessment monthly until seizures are controlled (as determined by Medical Director)

Obtain baseline chemistry profile. Repeat every 6 months. After stability is obtained, do blood levels x 1 month, then every month x 6 months. If medicated with Valproic Acid (Depakene) - get chemistry profile every 2 weeks x 1 month, then every month x 6 months, then every 3 months.

Drug levels initially every month until therapeutic, then every 6 months.

Other: _____

_____

_____ _____

PHYSICIAN'S SIGNATURE DATE

Date	Base-Line										
NURSING ASSESSMENT											
WEIGHT											
BLOOD PRESSURE											
SIGNIFICANT HISTORY (See progress notes)											
GINGIVAL HYPERTROPHY											
NUMBER OF SEIZURES SINCE LAST VISIT											
REFERRAL TO PHYSICIAN INDICATED											
MEDICAL ASSESSMENT											
PHYSICAL EXAM (See progress notes)											
DATE MEDICATIONS REORDERED											
COMPLETED BY: (INITIALS)											

PATIENT INFORMATION

SEIZURE DISORDERS

DO'S

Take your seizure medication regularly. This will help reduce the number and severity of seizures.

Keep a record of events surrounding seizures. Write down the number and durations of seizures, time of occurrence, sleeping and eating patterns. Be sure to include your activity prior to the seizure. This will help determine proper therapy to control seizures.

If possible, avoid taking medication on an empty stomach.

Brush teeth frequently and massage gums to prevent infection.

Practice regularity and moderation in your daily activities; eat, exercise, rest, and avoid seizure stimulating stresses, as possible.

Report any significant changes in your health status, such as, easy bruising, bleeding gums, fever, infections or abnormal skin condition.

Participate in activities, both physical and mental (activity tends to inhibit, not stimulate seizures). Moderation is the key.

PATIENT EDUCATION GUIDE FOR SEIZURE DISORDER

INMATE NAME:	ID#:	LOCATION:	SEX:	DOB:

PATIENT CAN DESCRIBE OR EXPLAIN:

DATE	BASE										
Describes brain's role in seizure activity											
States differences in petit-mal and grand-mal seizure activity											
Explains seizure warning signs or aura											
Explains what to do when experiencing an aura											
Describes action of anti-seizure medication											
Describes S/S of medication toxicity											
Explains need to maintain therapeutic blood levels of medication											
Describes EEG											
COMPLETED BY: (INITIAL)											

COMMENTS: _____

SEIZURE PROTOCOL

SEIZURE DISORDER

I. DEFINITION

A seizure disorder describes chronic recurring paroxysmal disturbances of behavior and/or consciousness that result from abnormal active neurons firing together in a burst and is a symptom of brain dysfunction.

II. ETIOLOGY

Unknown etiology comprises the single largest group of individuals of all age groups diagnosed with a seizure disorder. The most common identified causes in young adults (18-45 years) are drugs and drug and alcohol withdrawal, tumor and/or trauma. In older adults, tumor, trauma and cerebrovascular etiologies are more commonly identified. Determining the etiology is facilitated when the seizure has a focal component.

III. CLINICAL FEATURES

A. Subjective:

1. History to include:

- **Description of attack from both patient and observers;**
- **Family history of seizures or CNS disorders;**
- **Description of frequency, duration, variability of events;**
- **Presence of aura;**
- **Identification of precipitants - chronic alcohol use, sleep deprivation, menstruation, drug abuse**

Seizures and seizure disorders are classified according to their clinical presentations and their electroencephalographic (EEG) characteristics. The international Classification of Seizures and Epilepsies is summarized in an abbreviated form as follows:

1. Partial Seizures

   a. Simple partial seizures involve:

      - A focal region of the brain, with motor, sensory, automonic, or psychic symptoms reflecting the area from which the seizure originates.

      - Do not produce a change in level of consciousness.

   b. Complex partial seizures are the most common seizure disorder in adults and are varied in their presentation. Most seizures:

      - Begin with motionless state, preceded with an aura or warning (unpleasant sensation, vague epigastric sensation, feelings of deja vu, or olfactory hallucinations, etc.)

      - Consciousness is impaired or lost, associated with lip smacking, swallowing or chewing movements, fumbling with clothes or other items.

      - Degree of impairment of consciousness during the seizure is quite variable.

2. Primary Generalized Seizures

   a. Generalized tonic-clonic seizures (formerly called "grandmal") are associated with:

      - Abnormal electrical discharges in widespread areas of the brain.

      - Loss of consciousness

      - Tonic-conic contraction of all extremities.

      - Loud vocalization, tongue biting and incontinence.

      - Occasional cyanosis

      - Urinary incontinence may occur

- Clonic phase follows the tonic phase and is associated with repetitive clonic motor activity of all extremities. This phase followed by a longer postictal period in which the level of consciousness progresses from unresponsiveness, to stupor/confusion, to full alertness.

- May complain of muscle soreness 1 to 2 days after seizure.

b. Absence seizures (formerly called "petit mal") are characterized by:

- Brief, less than 30 second episodes of staring and unresponsiveness, and occur primarily in children.

3. Partial seizures evolving to secondarily generalized seizures.

These seizures begin as partial seizures and progress to generalized tonic-clonic seizures. Adult onset generalized seizures are commonly secondarily generalized from focal brain areas.

B. Objective:

1. Physical examination:

a. Evaluation for focal neurological signs/deficits.
b. Evidence of drug toxicity (i.e., nystagmus with Dilantin).
c. Evidence of side effects (gingival gyperplasia with Dilantin).

2. Laboratory studies:

a. CBC, serum chemistries to detect metabolic abnormalities (hypoglycemia, hyponatremia, hypocalcemia, uremia, and hepatic insufficiency).

3. EEG - 10% are WNL in patients with seizure disorders.

4. MRI (required in any adult with new onset of seizures), are more sensitive in detecting lesions that cause seizures than CT scan.

5. Lumbar puncture (LP) - If not contraindicated, for patients with new onset of seizures to detect low grade infections, neoplasia, or vasculitis.

C. Assessment: Seizure Disorder or Evidence of Closed Head Injury

D. Plan:

1. Educate patient regarding the test results, diagnosis, medication and precautions needed to prevent injury.

2. Educate regarding the avoidance of precipitation factors.

3. Special consideration in job assignments and dorm/cell assignments.

4. Pharmacologic Agents and the need for regular follow-up.

Primary Generalized Tonic-Clonic Seizures and Partial Seizures:

- Phenytoin (Dilantin), 300 to 400mg./day qHS or

- Carbamazepine (Tegretol), 100 to 600mg./day bid taken with food

- Serum levels indicated to identify therapeutic efficacy and to rule out toxicity.

References:

Dornbrand, Laurie, Axalla J. Hoole, C. Glenn Pickard, Jr. (eds.). Manual of Clinical Problems in Adult Ambulatory Care. 2nd ed. Boston, Little, Brown and Co., 1992.

Ramsey, Paul G., Eric Larson. (eds.). Medical Therapeutics. 2nd ed. Philadelphia, W. B. Saunders, 1993.

TUBERCULOSIS INFECTION CLINIC PROCEDURES

TUBERCULOUS INFECTION CLINIC PROCEDURES

I. CLINIC GOALS

A. To accurately diagnose tuberculous infection or disease in order to initiate appropriate therapeutic regimens.

B. To prevent tuberculous infection and disease through the implementation of the U.S. Public Health Service guidelines.

C. To provide patient education to promote a better understanding of the cause, transmission, symptoms and treatment of tuberculous infection and the importance of compliance with therapeutic regimen.

II. ESTABLISHING THE DIAGNOSIS AND ENROLLMENT INTO THE TB INFECTION CLINIC

A. All inmates with the following diagnoses will be enrolled in the Tuberculous infection clinic:

New or recent PPD skin test conversion
History of a previously positive skin test and inadequate INH prophylaxis
Close contacts of an active case of tuberculosis

EVALUATION OF TUBERCULOUS INFECTION AT INTAKE

A. All inmates entering a GDC facility will be evaluated for TB infection or disease as a component of the diagnostic process. Inmates should be asked questions designed to elicit a previous history of exposure to tuberculosis or known TB infection or disease. Included in these questions are the following:

1. Have you ever been exposed to a person with active tuberculosis?
2. Have you ever tested positive for the TB germ or told that you had tuberculosis?
3. Have you ever taken medicine to kill the TB germ?

Each of these questions has an accompanying set of questions which should be asked in order to obtain a complete history (see attachment 1).

B. Information given by the patient regarding previous positive skin tests

results and prophylaxis should be verified by calling the facility where testing was conducted or TB Control in Rome, Georgia (706) 295 6292. This information should be documented in the progress notes. If the skin test results cannot be verified, the patient should be retested to confirm results. Exceptions to this policy may be made on an individual basis with the agreement of the institutional physician.

C. **If previous positive test results can be verified, and the patient indicates that (s)he was treated with prophylactic therapy and was compliant, the patient's case should be closed and it is not necessary to enroll the patient in the TB infection clinic. However if adequate therapy was not received, and the patient agrees to therapy, the patient should be enrolled in the clinic.**

D. **Status of positive skin test results and previous chemoprophylaxis should be recorded on the problem list.**

TUBERCULIN SKIN TESTING

A. **Tuberculin skin testing is the standard method of identifying persons infected with *Mycobacterium tuberculosis*. The intradermal Mantoux test, not a multiple puncture test, should be used to determine if tuberculous infection has occurred. The proper technique of this procedure may be reviewed by viewing the videotape of Tuberculin Skin Testing, produced by the U.S. Public Health Service, Centers for Disease Control and Prevention.**

1. **The Mantoux test is performed by the intradermal injection of 0.1 ml of PPD containing 5 TU (tuberculin units) into either the volar or dorsal surface of the left forearm. The injection should be made with a disposable tuberculin syringe. After the arm is prepared with alcohol disinfection, the injection should be made just beneath the surface of the skin, with the needle bevel facing upward to produce a discreet, pale elevation of the skin (a wheal) 6mm to 10mm in diameter. If the test is incorrectly administered, it should be repeated in the opposite arm and noted in the medical record.**

2. **Inmates who indicate upon admission that they have HIV infection should be tested using a control to establish whether or not they are anergic (the inability of the immune system to demonstrate a positive skin test in the presence of TB infection). Anergy testing should be done using two control tests (0.1 ml of mumps antigen and 0.1 ml of tetanus toxoid) in the right forearm. Any amount of induration in the control test is considered a positive test, and would suggest that the immune system is capable of responding if TB**

infection is present. Although no test is 100% accurate, the results of the TB skin test should then be considered as reliable. (see attachment II, Anergy Testing).

3. To prevent needlestick injuries, needles should not be recapped, purposely bent or broken by hand. After they are used, disposable needles and syringes should be placed in puncture-resistant containers for disposal. Gloves are not necessary for this procedure.

4. The Mantoux test should be read 48 to 72 hours after the injection. However, if the patient doesn't show up for the scheduled reading, positive reactions may still be measurable up to one week after testing. The reading should be based on measurement of induration, not erythema. The diameter of induration should be measured transversely to the long axis of the forearm and recorded in millimeters, and not as 'positive' or 'negative'.

5. Tuberculin skin tests which are not measured within the standard time period should be repeated in the patient's other arm and measured in 48 to 72 hours (unless the previous test can be measured as positive up to a week from the time of administration).

B. Results of skin testing should be documented in the progress notes and on the laboratory form in the space for PPD skin test results. <u>If the test is positive, it should be documented on the problem list.</u>

CLASSIFICATION OF THE TUBERCULIN REACTION

A. A tuberculin reaction of 5 mm or more is classified as positive in the following individuals:

1. persons who have had recent contact with a patient with infectious tuberculosis.
2. persons who have chest radiographs with fibrotic lesions likely to represent old healed tuberculosis.
3. persons with known or suspected HIV infection.

B. A tuberculin reaction of 10 mm or more is classified as positive in persons who do not meet the above criteria but who have other risk factors for tuberculosis. This includes inmates and staff working in correctional facilities.

C. Absence of a reaction to the tuberculin skin test does not exclude the diagnosis of tuberculosis or tuberculous infection. Immune system responses such as tuberculin reactions may decrease during any severe or febrile illness, including active pulmonary tuberculosis and HIV infection.

D. If the skin test results are equivocal, (8 or 9 mm of induration in an HIV negative patient), patients should be retested in one week, carefully noting the location of the previous test. If the results are the same, retest in six months.

E. Patients with a positive skin test shall be interviewed for signs and symptoms of tuberculosis, a baseline serum chemistry, and chest x-ray shall be obtained within 72 hours.

G. A patient shall not be placed on TB prophylaxis until the patient has been interviewed and a chest x-ray obtained to rule out active tuberculosis.

DISTINGUISHING BETWEEN TB INFECTION AND TUBERCULOSIS

A. Active pulmonary tuberculosis should be suspected in persons with a productive prolonged cough (over three weeks duration), fever, chills, night sweats, easy fatigability, loss of appetite, weight loss, and hemoptysis. Persons with suspected tuberculosis should be referred for an appropriate examination by an advanced clinical provider. A chest x-ray may be helpful in making the diagnosis but is never diagnostic for TB. A positive bacteriologic culture is essential to confirm the diagnosis of TB.

B. Health care providers who suspect a patient with tuberculosis may order a chest x-ray if it can be expeditiously obtained; however, no institution other than ACMI is to order sputum production procedures as this may pose a risk to staff or other inmates of acquiring TB infection. Patients who are suspected of having active disease should be transferred to ACMI immediately.

C. Consultation regarding individual cases may be obtained by calling the medical director or designee at ACMI, Health Services in Central Office, or TB Control in Rome, Georgia (706 295 6292).

D. If, for any reason, ACMI is unable to accept the patient, arrangements should be made to transfer the inmate to a facility with respiratory isolation capability (prison or hospital) until ACMI can accept the patient.

E. A patient who is not suspected of having active tuberculosis (ie., no symptoms and normal chest x-ray), but is a new skin test converter or has previously skin tested positive but has not received adequate prophylaxis

should be considered as a candidate for the clinic. A physician's order should be obtained enrolling the patient in the clinic.

IV. THE INITIAL VISIT

A. The initial clinic visit must be conducted by a physician or advanced level provider.

B. At the initial clinic visit the following information should be reviewed by the provider and the TB infection clinic intake form should be filled out:

1. The medical history and physical examination to rule out the possibility of active tuberculosis, acute or active liver disease of any etiology and previous isoniazid associated hepatic injury ;
2. Medication history, including previous treatment for TB infection, current medications which may be hepatotoxic, including over-the-counter (OTC) meds;
3. Any known drug allergies;
4. Results of laboratory work, particularly liver function tests, including SGOT (and serum pregnancy tests for women);
5. Chest x-ray report;
6. Physical findings, including weight and vital signs;
7. Completion of clinic intake form and flow sheet;
9. Documentation of encounter, including patient education, in the progress notes;
10. Listing the diagnosis of tuberculous infection on the problem list.

C. Following the initial clinic visit, TB clinics may be conducted by a registered nurse, however chart review by a physician or advanced provider should occur again at three months (and six and nine months if the patient is HIV positive), and when therapy is completed. Therapy information should be included on the problem list.

PREVENTIVE THERAPY REGIMEN

A. Preventive therapy substantially reduces the risk of developing clinically active tuberculosis in infected persons. Certain groups within the infected population are at greater risk of developing tuberculosis than others. The current preventive therapy regimen is six months of daily isoniazid therapy (10 mg/kg up to 300 mg/day) for patients who are not HIV infected and twelve months for HIV infected patients. Patients must be monitored monthly (or more frequently, if necessary) for symptoms of toxicity, as well as to ensure compliance.

B. Close contacts of infectious tuberculosis patients culture positive for isoniazid-resistant organisms should be considered for preventive therapy with rifampin (600 mg daily for one year).

C. For pregnant women who are found to be tuberculin positive upon routine screening, or who have had inadequate treatment in the past, preventive therapy should be delayed until after delivery. However, for pregnant women likely to have been recently infected, isoniazid therapy should begin when the infection is documented, but after the first trimester.

D. The patient should be counseled regarding the benefits and risks of INH therapy and consent obtained. (S)he should be told that compliance with INH therapy is important to prevent the development of tuberculosis. Patients should also be educated regarding the side effects of INH which include symptoms of hepatitis, which are fatigue, anorexia, nausea, abdominal pain, dark urine and jaundice. Patients should be told that if these symptoms develop they should stop taking the medication and report to the medical section as soon as possible.

E. If the patient agrees to INH therapy, an order for Isoniazid 300 mg one per day x 30 days shall be written on the physician order sheet with a reorder up to six months. For providers who wish to initiate a directly observed therapy program for INH prophylaxis, patients may be prescribed 900mg twice weekly (eg. Monday-Thursday schedule). The importance of taking every dose is essential to the success of this type of dosing schedule.

F. Patients on INH therapy must be evaluated in the clinic every 30 days to monitor medication compliance and for the presence of side effects. Patients should be instructed to bring their blister packs with them to clinic. The number of missed doses in each 30 day period should be recorded on the TB Infection Flow Sheet and in the progress notes with the patient's explanation for the missed doses.

G. The patient should be scheduled for the next appointment and instructed when to return to the clinic.

IV. MONITORING THE PATIENT

A. Patients on INH therapy must be seen in clinic monthly primarily to monitor medication compliance and side effects. Serum SGOT levels must be drawn monthly while patients are on INH. It is recommended that SGOT levels be drawn a few days prior to the scheduled clinic visit so

results are available to the provider for the encounter.

B. Each follow-up clinic visit shall include the following:
   1. Review of signs and symptoms of possible side effects of INH therapy;
   2. Compliance with medication, and number of missed doses (blister packs should be examined to determine whether the patient's assessment of compliance matches the number of doses remaining);
   3. Review of SGOT results;
   4. Assessment and review of patients knowledge of TB infection and therapeutic regimen;
   5. Patient education regarding any scheduled laboratory or diagnostic tests;
   6. Reorder of medications;
   7. Reschedule next appointment;
   8. Completion of the INH flow sheet;
   9. Documentation of 1 through 7 in the progress notes.

MANAGING ABNORMAL LIVER FUNCTION TESTS

A. Following initiation of INH therapy, it is not uncommon to note increases in serum SGOT levels. If the elevation is minimal, and the patient exhibits no signs or symptoms of medication side effects (anorexia, nausea, vomiting, abdominal pain, dark urine or jaundice), make no changes in the dosing and monitor the patient monthly.

B. If SGOT levels have increased 2-3 times normal or baseline levels, refer to a physician for evaluation regardless of the presence or absence of symptoms. Patients may be kept on INH at the discretion of the physician up to 3 to 5 times normal limits; however these patients should be monitored more frequently (weekly or biweekly)

C. If SGOT levels are increased, and the patient demonstrates symptoms of INH-related toxicity, the medication should be held and the patient referred for evaluation. Strong consideration should be given to discontinuing medication if the symptoms are assessed to be INH related.

D. Once INH therapy is completed, this should be documented in the medical record and the patient informed that no further treatment is needed. Patients do not need to have chest x-rays following completion of therapy unless symptoms of active tuberculosis develop.

E. The Georgia TB Control program should be notified when patients complete the course of INH therapy or if therapy is discontinued for any reason. The 'pink card' (attachment III) should be used to notify TB control of completed therapy or transfer to another institution.

DATA COLLECTION AND MONITORING

A. Each institution shall maintain skin testing records of staff and inmates. All skin test results shall be kept on the Tuberculin Skin Test Log (attachment IV). A separate log shall be kept for staff and inmate skin testing. The log sheet for staff shall include any previous skin testing conducted or a notation as to whether this is a new employee. A log shall also be kept of patients on anti-tuberculous therapy (attachment V).

B. On a monthly basis, data should be compiled to include the number of skin tests conducted, and the number of negative and positive tests. This infomation shall be provided to the Infectious Disease Coordinator in Health Services in central office on a quarterly basis (attachment VI and VII).

VI. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the TB Infection clinic for the following reasons:

1. The patient has completed the prescribed prophylactic regimen and requires no further follow-up.

2. The patient experiences side effects from INH prophylaxis warranting discontinuation from the drug. The patient shall be monitored until side effects resolve and then discontinued.

3. The patient is to be released from GDC. Discharge planning shall include providing the patient with a discharge summary sheet documenting PPD skin test results, dates of testing and duration of INH prophylaxis. The patient should be given a one month supply of medication. Patients shall be counseled regarding the need for follow-up health care and provided a referral to the public health department if at all possible.

4. The patient, after being diagnosed and advised of the treatment options, the risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This process shall also be well documented in the progress notes and a refusal of treatment form completed.

B. A physician's order shall be written to discontinue patients from the TB Infection Clinic.

VI. BASELINE DATA AND FLOW SHEETS

VII. PATIENT EDUCATION MATERIALS

References: U.S. Department of Health and Human Services. Public Health Service. Centers for Disease Control. Core Curriculum on Tuberculosis. The American Lung Association. April 1991.

U.S. Department of Health and Human Services. Public Health Service. Centers for Disease Control. Purified Protein Derivative (PPD)-Tuberculin Anergy and HIV Infection: Guideline for Anergy Testing and Management of Anergic Persons at Risk of Tuberculosis. MMWR 1991; 40: pp. 27-33.

Tuberculin Skin Test Data Base Sheet

Demographics

Name: _____ EF# _____

Address: _____ City-State: _____ Zip Code: _____

County Code: _____Age: _____ Sex: _____Race: _____Country of Orgin:_____

Subjective Medical History

Previous PPD.[ ] yes [ ] no Reading _____ mm Date of Test _____

History of INH Therapy: [ ] yes [ ] no Place of treatment _____

Date and length of treatment: _____to_____ Months: _____

History of Active TB Disease: [ ] yes [ ] no Place of treatment:

Date and length of treatment: _____to_____Months_____

Verification of Subjective History (check one of the following)

[ ] Unable verify to subjective history , please explain _____

_____

[ ] Verified subjective history, please give source of verification _____

_____

Symptoms of Tuberculosis: (check all that apply)

[ ] weight loss [ ] loss of appetite [ ] night sweats
[ ] hemoptysis [ ] fatigue [ ] cough
[ ] fevers [ ] no symptoms

[ ] other symptoms, explain _____

Possible complications with INH Therapy:

[ ] Dilantin or Tegretol Therapy [ ] Significant history of alcohol and/or drug abuse, give explanation of substance abuse and length of abuse _____

[ ] History of chronic liver disease, explain_____

Previous reaction to INH medication [ ] yes [ ] no If yes, please explain _____

_____

[ ] Renal dysfunction [ ] Other complications: _____

_____

Objective Medical Findings

Current PPD. test result _____mm Date of PPD. _____

Current weight _____lbs. height _____

Remarks:

Chest X-ray evaluation:

Date of x-ray: _____ Results: _____

Lab results:

Date of SGPT _____ results _____ U/L

Date of SGOT _____ results _____ U/L

Date of HIV _____ results _____

Assessment and Plans

Assessment for T.B. Infection: (check one of the following)

[ ] Positive PPD. (greater or equal to 10 mm with induration within 48 to 72 hours) with no symptoms, normal chest x-ray, no risk factors, and is not a recent converter.

[ ] Recent converter (Skin change from negative to positive or increase to 6 mm or more in two years).

[ ] Close contact with a negative PPD., repeat tuberculin skin test in 12 weeks, If skin test is negative discontinue INH.

Plan for T.B. Infection: (check all that apply)

[ ] Give and explain T.B. preventive - patient education sheet

[ ] Schedule INH follow-up clinic for one month

[ ] Order INH _____ mg _____ months

[ ] Notify T.B. control

[ ] Chronic liver disease, previous reaction to therapy, elevated SGOT, or refusal of therapy, refer to M.D.

[ ] Pregnancy, will follow-up on client after delivery.

Assessment for Suspected T.B. Disease (check all that apply)

[ ] Chest x-ray showing old inflammatory disease

[ ] Positive PPD. with symptoms, list symptoms _____

[ ] Chest x-ray with possible T.B. or Infiltrates

[ ] Client HIV (+) with symptoms of tuberculosis

Plan for Suspected T.B. Disease (check all that apply)

[ ] Give and explain T.B. prevention- patient education sheet

[ ] Admit to infirmary for isolation and mask patient

[ ] Notify MD as soon as possible

[ ] Notify MD/PA and arrange for transfer to ACMI

[ ] Notify T.B. control

Health Care Provider Name :

Health Care Provider Signature :

Institution and Code :

Date:

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

TB CLINIC FLOWSHEET*

Georgia Department of Corrections

Date Medication Initiated _____. ( ) **INH** ( ) **Other**_____.
Anticipated Date of Medication Completion _____.
( ) **Completion Dated Extended. Specify Reason** _____.
Date of Medication Extension _____.

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
SIDE EFFECTS (Check if applicable.) Absent	( )	( )	( )	( )	( )	( )	( )
Nausea/Vomiting	( )	( )	( )	( )	( )	( )	( )
Abdominal Pain	( )	( )	( )	( )	( )	( )	( )
Fatigue/Lethargy	( )	( )	( )	( )	( )	( )	( )
Dark Urine	( )	( )	( )	( )	( )	( )	( )
Joint Pain	( )	( )	( )	( )	( )	( )	( )
Jaundice	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Medication Compliance List # missed dose/mo.							
Laboratory S.G.O.T./date	( )	( )	( )	( )	( )	( )	( )
Other	( )	( )	( )	( )	( )	( )	( )
Radiology Chest X-Ray/date		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Education							
Staff Signature /Credentials							

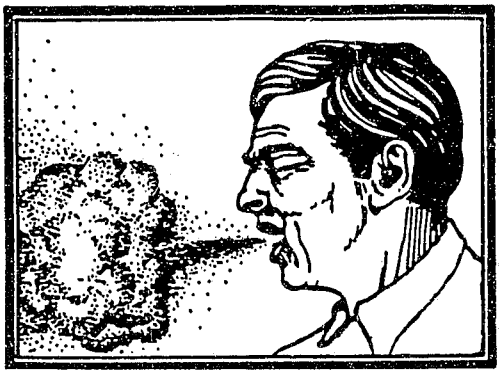
( ) **Notification of INH Treatment Cards completed (GDOC Form #PI-3011).**
( ) **Tuberculosis Assessment Questionnaire/PPD Database completed.**

***All entries on flowsheet are to correspond to clinical documentation in Progress Notes, S.O.A.P. format.**

TUBERCULOSIS FACTS

TB and HIV (The AIDS Virus)

What is TB?

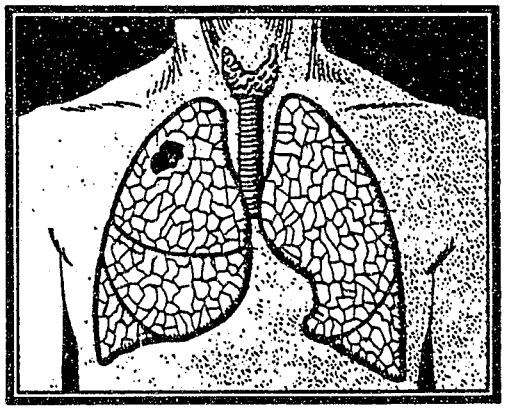


"TB" is short for a disease called tuberculosis. TB is spread by tiny germs that can float in the air. The TB germs may spray into the air if a person with **TB disease** of the lungs or throat coughs, shouts, or sneezes. Anyone nearby can breathe TB germs into their lungs.

TB germs can live in your body without making you sick. This is called **TB infection**. Your immune system traps TB germs with special germ fighters. Your germ fighters keep TB germs from making you sick.

But sometimes, the TB germs can break away. Then they cause **TB disease**. The germs can attack the lungs or other parts of the body. They can go to the kidneys, the brain, or the spine. If people have **TB disease**, they need medical help. If they don't get help, they can die.

How does HIV infection affect TB?



HIV (human immunodeficiency virus, the AIDS virus) helps TB germs make you sick by attacking the germ fighters in your body. If you are infected with HIV and with TB germs, you have a very big chance of getting **TB disease**. The TB germs are much more likely to attack your lungs and other parts of the body. You can be cured, but it takes longer to cure someone with **TB disease** who also has **HIV infection**.

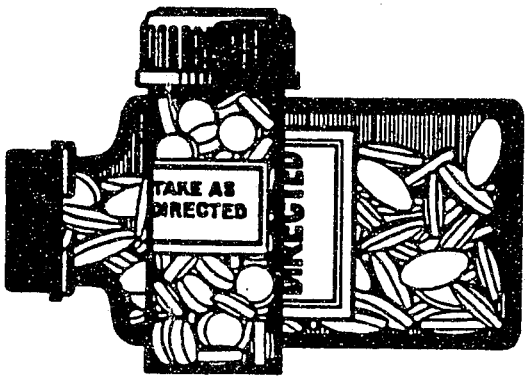
*If you think you might have **HIV infection**, talk to your doctor about getting an HIV test. If you have **HIV infection** and **TB infection**, the sooner you start taking anti-TB medicine, the better your chances to stay healthy for many years.*

(over)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
Atlanta, GA 30333

00-5982

TB and HIV (The AIDS Virus) - continued

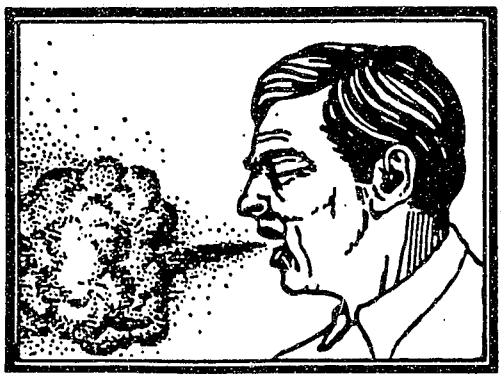


If you have **HIV infection**, it is very important to get tested for **TB infection** at least once a year. Anti-TB drugs are strong. They can prevent or cure **TB disease** even in people with **HIV infection**.

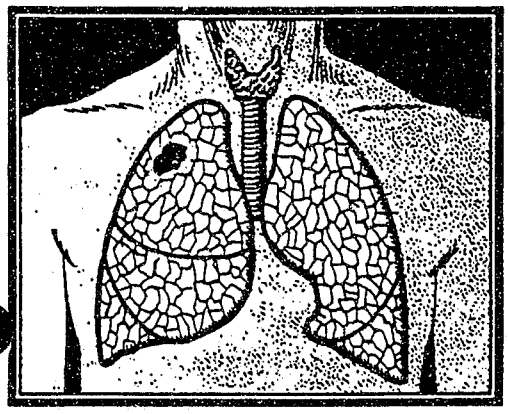
REMEMBER, ANTI-TB DRUGS ONLY WORK WHEN YOU TAKE THEM!

TUBERCULOSIS FACTS --The TB Skin Test

What is TB?



"TB" is short for a disease called tuberculosis. TB is spread by tiny germs that can float in the air. The TB germs may spray into the air if a person with **TB disease** of the lungs or throat coughs, shouts, or sneezes. Anyone nearby can breathe TB germs into their lungs.

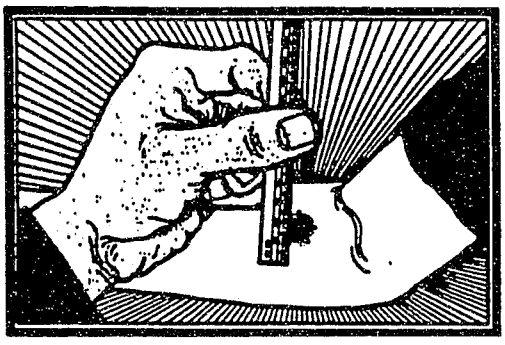


TB germs can live in your body without making you sick. This is called **TB infection**. Your immune system traps TB germs with special germ fighters. Your germ fighters keep TB germs from making you sick.

But sometimes the TB germs can break away. Then they cause **TB disease**. The germs can attack the lungs or other parts of the body. They can go to the kidneys, the brain, or the spine. If anyone has **TB disease**, they need medical help. If they don't get help, they can die.

How do I know if I have TB infection?

A skin test is the only way to tell if you have **TB infection**. This test is usually done on the arm. A small needle is used to put some testing material, called tuberculin, under the skin. In two or three days, a health worker will check to see if there is a reaction to the test.



The test is "positive" if a bump about the size of a pencil eraser or bigger appears on your arm. This bump means you probably have **TB infection**. You may need medicine to keep from getting sick.

(over)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
Atlanta, GA 30333

00-5884

TB Skin Test - continued

If you are infected with human immunodeficiency virus (HIV, the virus that causes AIDS), your body may not react to a TB skin test. The health worker may give you other tests.

The TB skin test should be done when you first enter jail or prison. If it is "negative", then it may be repeated every year. If anyone in the facility gets sick with **TB disease**, you may be tested more often to be sure you don't have **TB infection**.

NOTE: IF YOU HAVE EVER HAD A "POSITIVE" REACTION TO A TB SKIN TEST OR IF YOU HAVE BEEN TREATED WITH TB DRUGS, TELL THE HEALTH WORKER.

Attachment I

SCREENING QUESTIONS FOR TUBERCULOUS INFECTION OR TUBERCULOSIS

During the medical intake screening process the patient should be asked whether (s)he:

1. **Has ever been exposed to a person with active tuberculosis? If so:**
   - **a When did this exposure occur?**
   - **b. How old were you?**
   - **c. How did you learn you had been exposed to TB?**
   - **d. Who were you exposed to (what relationship to patient)?**
   - **e. Were you ever skin tested for the TB germ?**
   - **f. Where were you tested (name of health department, physician or previous correctional institution)?**
   - **g. What was the test result (record in mm if known)?**
   - **h. Were you prescribed medicine? If so, what was it's name?**
   - **i. If prescribed medicine, how long did you take it? Did you miss any pills? About how many pills did you miss each month?**
   - **j. Have you ever had symptoms of TB (cough, fever, weight loss, night sweats)?**
   - **k. Have you ever been told that you had tuberculosis?**

2. **Has ever tested positive to the skin test for the TB germ? If so:**
   - **a. When were you tested?**
   - **b. Where were you tested (name and address of health care provider or prison)? Did you have a chest x-ray?**
   - **c. Were you prescribed medicine? What was it's name?**
   - **d. If prescribed medicine, long did you take it ? Did you miss any pills? About how many pills did you miss each month?**
   - **e. Did you have any trouble taking the medicine? If so, what kind of trouble (nausea, abdominal pain, jaundice, dark urine, skin rash, numbness and tingling of hands and feet)?**
   - **f. Have you ever had problems with your liver (yellow jaundice, hepatitis, problems from drinking alcohol)?**
   - **f. Have you ever been tested for HIV antibodies? What was your test result? Do you have AIDS?**
   - **g. Do you have a cough, fever, weight loss or excessive sweating at night?**

3. **Has ever taken medicine to help kill the TB germ? If so:**
   - **a. Was this due to a positive skin test, exposure to a person with active tuberculosis, or participation in a clinical research trial?**

ANERGY TESTING IN HIV-INFECTED PERSONS AT INCREASED RISK FOR LATENT OR ACTIVE TUBERCULOSIS

What is anergy?

Anergy is the inability to mount a delayed-type hypersensitivity (DTH) response to a battery of common skin test antigens. Anergy represents suppression of cellular immunity.

Why should we be concerned about anergy?

Recent reports have suggested that the sensitivity of the tuberculin (PPD) skin test may be substantially reduced in asymptomatic persons with human immunodeficiency virus (HIV) infection. More than 10% of TB/HIV dually-infected persons may have a negative skin test when tested with tuberculin. These "false negative" responses make decisions concerning tuberculosis preventive therapy problematic. Because of this, the Centers for Disease Control is now recommending that persons infected with HIV, and at increased risk of infection with M. tuberculosis, be evaluated for DTH anergy in conjunction with PPD testing.

What can cause anergy?

While we are primarily concerned with anergy in persons infected with HIV, other diseases or conditions also can cause suppression of DTH responses. These include:

- viral infections (measles, mumps, chickenpox)
- bacterial infections (typhoid fever, pertussis, brucellosis, leprosy, overwhelming tuberculosis)
- live virus vaccinations (measles, mumps, polio)
- chronic renal failure
- malnutrition
- drugs (corticosteriods and other immunosuppressive agents)
- diseases affecting lymphoid organs (Hodgkin's disease, lymphoma, chronic lymphocytic leukemia, sarcoidosis)
- aye (newborn or elderly patients)
- stress (surgery, burns, mental illness)

How can we test for anergy?

Anergy is usually assessed by testing with a panel of skin-test antigens to which most healthy people would be sensitized and expected to react. These include bacterial, viral, and fungal antigens, such as: tuberculin, histoplasmin, mumps antigen, tetanus toxoid, Candida antigen, coccidioidin, and trichophyton. The most

Candida antigen; CDC recommends testing with at least two DTH skin-test antigens, in addition to tuberculin. Tests administered by the standard Mantoux technique are recommended.

What is the Mantoux technique?

The Mantoux skin test is preformed by the intracutaneous injection of 0.1 ml of antigen into either the volar or dorsal surface of the forearm. The use of a skin area free of lesions and away from veins is recommended. Alternate sites such as the upper back or shoulders my be used when the arms are not suitable. The injection is made with a short (1/4 to 1/2 inch), bluntly beveled, platinum (26-gauge) needle with a glass or plastic tuberculin syringe. The injection should be made just beneath the surface of the skin, with the needle bevel upward. A discrete, pale elevation of the skin (a wheal) 6mm to 10mm in diameter should be produced when the prescribed amount of fluid (0.1 ml) is injected intracutaneously. Multiple tests given on the same arm should be placed at least 5 to 6 cm (2 to 2-1/2 inches) apart.

When do you read skin tests?

Tests should be read on the second or third day after injection (48 to 72 hours), the time when the induration is usually most evident. Definite palpable and measurable induration of >5mm may be read up to one week following testing.

How do you read skin tests?

Readings should be made in good light, with the forearm slightly flexed at the elbow. The basis of reading is presence of absence of induration, which may be determined by inspection (from a side view against the light as well as by direct light) and by palpation. The diameter of induration should be measured transversely to the long axis of the forearm and recorded in millimeters, not just "positive" or "negative" (i.e., no reaction would be 00mm). Disregard erythema, since this is not an indication of delayed-type hypersensitivity (DTH).

What is induration? The DTH induration is an immune response to a particular antigen involving lymphocyte sensitization and cellular infiltration. It is a firm, raised, usually round bump at the site of the injection.

What is erythema? Erythema is an acute inflammatory reaction, caused by vasodilation and congestion of the capillaries (redness).

How do you define a positive test?

Most manufacturers of skin test antigens suggest induration of 5mm or greater as the definition of a 'positive' test. White this degree of induration represents

"normal" DTH function, responses between 2 and 5mm should be considered evidence of some DTH competency. For example, an individual with 3mm induration to tetanus toxoid would have diminished DTH function, but would not be considered anergic.

What other factors could influence a skin test response?

- Tester variation--Persons performing the skin tests should be trained in the Mantoux technique. If the needle is inserted too deeply, the reaction will be difficult to palpate or see. If it is inserted too shallow, the antigen will leak out, and the amount given is insufficient. If either occurs, the test must be repeated at another site. In addition, antigens injected too close to one another my result in overlapping areas of induration, thus making accurate measurement of reaction sizes difficult.

- Reader variation--The reader must know the difference between induration and erythema, read the test at the appropriate time (48 to 72 hours), and record the reaction in millimeters of induration. Recording "positive" or "negative" in not acceptable!

- Poor storage and handling of the products--All antigens should be stored according to the manufacturers' instructions. This is usually a cool dark place such as a refrigerator. Antigens should be drawn into the syringe just prior to use to avoid contamination or absorption of the antigen onto the plastic syringe.

How do I handle testing with multiple antigens?

It is important to establish a consistent scheme for administering the antigens. For example, always give the same antigen in the same location (i.e., PPD in the left arm, the others on the right). To avoid mixing up the antigens, give the test immediately after drawing the antigen into the syringe. If you need to load all of the syringes at one time, be sure that the syringes are properly labeled.

What antigens are recommended for anergy testing?

Tetanus toxoid

DTH reactivity to tetanus toxoid is dependent on prior immunization with the toxoid. This antigen is particularly useful, as it is given as part of the standard immunization schedule in the United States. The antigen may have limited use if testing individuals born in countries where such vaccination practices are not followed.

Antigen: Fluid toxoid should be used for DTH testing; Aluminum phosphate absorbed toxoid is not recommended. Tetanus toxoid is not specifically licensed for DTH testing, therefore, information concerning such testing will not be available from the manufacturer. However, the antigen is known to elicit DTH responses and can be used for anergy testing.

Concentration: 1:5 dilution in human serum albumin diluent (one part toxoid to four parts diluent). Once diluted, the shelf life for the toxoid is 90 days.

Evidence of DTH: Induration >2mm.

Percent Reactors: Up to 75% of immunocompetent immunized persons have cutaneous DTH responses to tetanus toxoid

Comments: Immediate reactions (within 30 minutes) may occur in up to 50% of immunocompetent persons. This "wheel and flare" reaction is an allergic response and may persist for up to 2 hours. Immediate hypersensitivity does not interfere with the subsequent development of DTH responses (induration) at 48-72 hours. Systematic side effects such as fever and anaphylaxis are rare with tetanus toxoid.

Candida antigen

DTH reactivity to Candida antigen is dependent on prior infection with the yeast, Candida albicans.

Antigen: Candida antigen is prepared from sterile culture filtrates of Candida albicans. Some antigens are licensed for diagnostic purposes only, i.e., for testing whether an individual is infected with Candida albicans. The antigen is known to elicit DTH responses and can be used for anergy testing.

Concentration: The antigen is prepared for skin testing by several companies. The antigens currently available are licensed for diagnostic purposes; a 1:100 dilution of these products should be used for DTH testing. Antigens may soon become available which are licensed for DTH testing. If the antigen has been licensed for DTH testing, follow the manufacturers' instructions as to the proper dosage.

Evidence of DTH: Induration >2mm.

Percent Reactors: At least 80% of immunocompetent persons will have DTH responses to Candida antigen.

Comments: Immediate reactions (within 30 minutes) may occur in some individuals. This "wheal and flare" reaction is an allergic response and may persist for up to 2 hours. Immediate hypersensitivity does not interfere with the subsequent development of DTH responses (induration) at 48 - 72 hours. Systemic side effects such as fever and anaphylaxis are rare with Candida antigen.

Mumps antigen

DTH reactivity to mumps skin test antigen is dependent on prior disease or immunization with the vaccine. This skin test is useful since most persons in the United States have been exposed to mumps or vaccinated against the disease.

Antigen: The mumps skin test antigen is a sterile suspension of killed mumps virus.
Concentration: The antigen is prepared for skin testing by several companies. It is usually supplied in a 1ml vial (10 doses).
Evidence of DTH: Induration >2mm.
Percent Reactors: Up to 86% of immunocompetent persons have DTH responses to mumps skin test antigen.
Comments: This product should not be administered to anyone with a history of hypersensitivity (allergy) to eggs or egg products.

As with other antigens and skin test materials, in rare instances, anaphylactic shock could occur following testing. Epinephrine should be available for such emergencies!

This document is not meant to supersede any existing recommendations, but to serve as simple, "user friendly" guide to understanding anergy and how to test for it.

For additional information concerning anergy testing, contact your local TB Control program or the Division of Tuberculosis Elimination (Mailstop E-10), National Centers for Prevention Services, Centers for Disease Control, Atlanta, GA 30333.

ANERGY TESTING AGENTS

MUMPS

Manufacturer: Connaught
Phone Number: (717) 839-7187
Product Name: MSTA (Mumps Skin Test Antigen)
How Supplied: 1ml vial (10 tests)
Product cost: $28.55
Item Code #: 240-10

CANDIDA

Manufacturer: Miles Allergy Products
Phone Number: 1-900-992-1120
Product Name: Candida Skin Test Antigen (1:00)
How Supplied: 10 ml bulk vial (100 tests)
Product cost: $27.67
Item Code #: 5053GK (Phenol preservative)

TETANUS TOXOID
(fluid toxoid, without adjuvant, diluted 1.5)

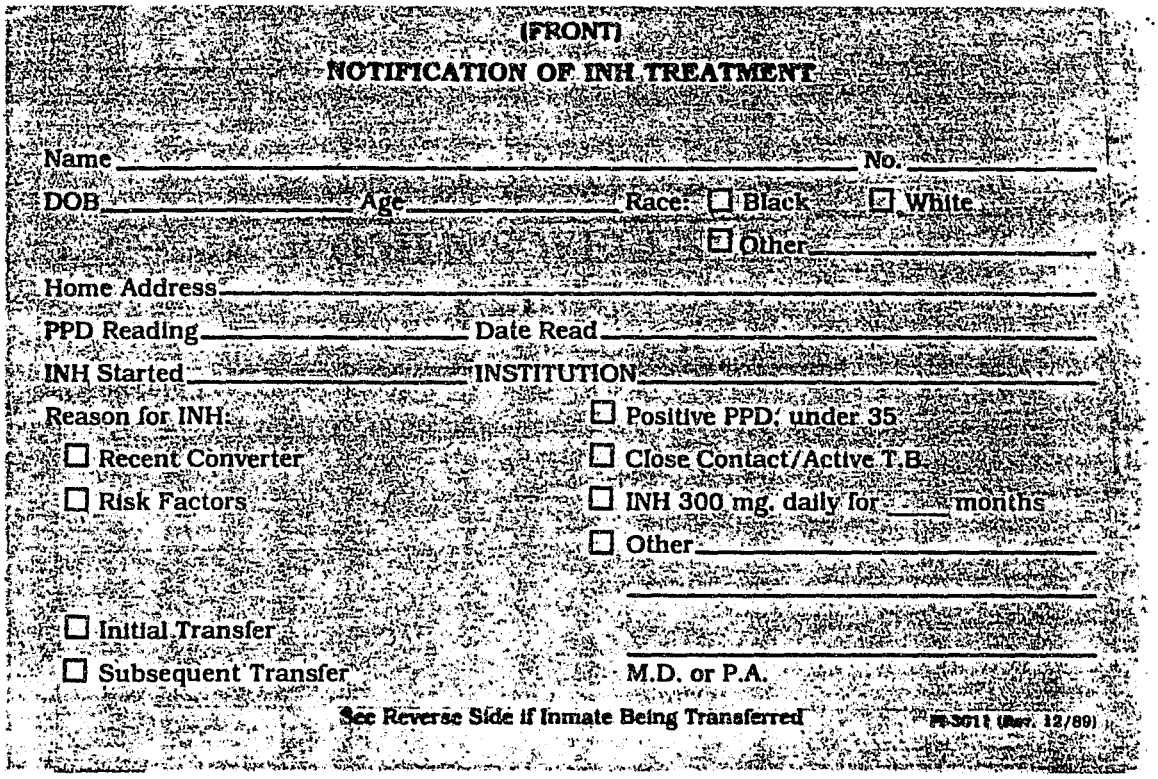
Manufacturer: Connaught
Phone Number: (717) 839-7187
Product Name: Tetanus Toxoid USP (fluid)
How Supplied: 7.5ml vials (dilute 1.5)
Product cost: $9.80
Item Code #: 812-84

Manufacturer: Wyeth
Phone Number: (212) 688-4400
Product Name: Tetanus Toxoid USP (fluid)
How Supplied: 7.5ml vials (dilute 1.5)
Product cost: $8.13

HUMAN SERUM ALBUMIN (30 ml of diluent is needed to dilute 7.5 ml of the toxoid)

Manufacturer: Miles Allergy Products
Phone Number: 1-800-992-1120
Product Name: Diluent: Albumin-Saline/Phenol
How Supplied: 100 ml bottle
Product cost: $6.41
Item Code #: 77162A

ATTACHMENT IIIA



(FRONT)

NOTIFICATION OF INH TREATMENT

Name _____ No. _____

DOB _____ Age _____ Race: ☐ Black ☐ White

☐ Other _____

Home Address _____

PPD Reading _____ Date Read _____

INH Started _____ INSTITUTION _____

Reason for INH:

☐ Recent Converter

☐ Risk Factors

☐ Positive PPD; under 35

☐ Close Contact/Active T.B.

☐ INH 300 mg. daily for ____ months

☐ Other _____

☐ Initial Transfer

☐ Subsequent Transfer

M.D. or P.A.

See Reverse Side if Inmate Being Transferred

PS-3011 (Rev. 12/89)

(REVERSE)

TRANSFERRING INSTITUTION _____

Transferred To: _____

Date: _____ ☐ 30 days INH sent

[redacted]

[redacted] INH - Other Institution - Still Known

To be completed by receiving institution:

☐ Record Received and Reviewed

Date: _____

Medical Reviewer

After completion of this card

Send to: Georgia T.B. Control Program
Building 512
1305 Redmond Road
Rome, Georgia 30161-1393

[redacted] for continuation of INH.

ATTACHMENT IIIB

INSTRUCTIONS FOR COMPLETING THE NOTIFICATION OF INH TREATMENT CARD (PI-3011)

A. FRONT

1. Complete the identifying information for the patient: name, EF-number, date of birth, age and race.

2. Put in the home address of the patient if (s)he will be returning there upon parole or discharge.

3. Under PPD reading, document the test result of the patient in millimeters. Do not write 'previous positive' or 'known positive'. PPD results must be documented in millimeters of induration.

4. Document the date of the test results.

5. Document the date INH is initiated. It is not necessary to wait for TB Control to send INH before initiating treatment.

6. Name of the institution where INH is being initiated.

7. Check the reason for the INH and the number of months INH is being prescribed. Under "other" indicate whether or not you wish for TB control to send the medication. If you intend to provide INH through an institutional or local pharmacy, please write DO NOT SEND MEDICATION. If you do not write this on the card, TB Control will send the INH to the institution.

8. The card should be signed by a physician or advanced level provider.

B. REVERSE

1. When the patient is to be transferred to another facility, the sending institution should notify TB Control that the INH should be sent to that facility. If the patient is transferred without notice, the receiving institution should complete the card. This is only necessary if TB Control is providing the medication.

2. At the completion of INH treatment, or discontinuation of treatment for whatever reason, this card should be completed and sent to TB Control.

Attachment IV

TUBERCULIN SKIN TEST LOG SHEET

NAME AND I.D. NUMBER	RACE SEX	BIRTH DATE	DATE TESTED	DATE READ	READ BY	RESULTS	PREVIOUS REACTION	
							DATE	MM

Attachment V

INH TRACKING LOG

NAME & I.D. NUMBER	D.O.B.	RACE SEX	DATE INH DISPENSED Each Month								DATE D/C'd	REASON

Attachment VI

GEORGIA DEPARTMENT OF CORRECTIONS

TUBERCULIN SCREENING SUMMARY SHEET

Facility Name:_____

Date Submitted:_____ Submitted By:_____

Reporting Period:_____

Reason For Testing: Routine Screening_____

T.B. Exposure_____

Other_____

Inmate Test Results

Total Number of Inmates at Institution (on date of report)	
Number of Inmates tested during reporting period	
Negatives	
Positives	
Number of Previous Positives (Report for intake center and contact investigation only)	
Number of Inmates who Refused Test	
Number of Inmates who started INH Therapy	
Number of Inmates currently on INH Therapy	
Number of Inmates discontinued from INH Therapy	
Inmates completed INH therapy	
Total	

Attachment VII

GEORGIA DEPARTMENT OF CORRECTIONS

TUBERCULIN SCREENING SUMMARY SHEET

Facility Name:_____

Date Submitted:_____ Submitted By:_____

Reporting Period:_____

Reason For Testing: Routine Screening_____

T.B. Exposure_____

Other_____

Staff Test Results

Total Number of Employees at Institution			
Number	Medical	Non-Medical	Other
Number of Employees tested during reporting period			
Negatives			
Positives			
Number of Previous Positives (Contact investigation only)			
Number of Employees who Refused test			
Total			

WOMEN'S WELLNESS CLINIC

WOMEN'S WELLNESS CLINIC

I. CLINIC GOALS

A. To provide routine health assessments for women during the reproductive, menopausal and postmenopausal years.

B. To provide continuity of care for women with gynecological health conditions requiring periodic monitoring.

C. To provide education and counseling to women regarding their health in order to promote healthy behaviors.

II. GENERAL POLICIES

A. All women entering our facilities will be enrolled in at least one of two clinics:

1. Women who are essentially healthy will be enrolled in the annual health assessment clinic or;

2. Women with gynecological diseases or conditions requiring increased monitoring will be enrolled in the women's wellness clinic.

3. In addition, women diagnosed with other chronic illnesses such as hypertension will be enrolled in the respective chronic care clinic.

B. All women presenting the following diagnoses will be enrolled in the wellness clinic for more frequent monitoring:

Abnormal breast lumps, mammograms or a history of breast cancer
Abnormal pap smears (or diagnoses which increase the risk for abnormal paps such as HIV and Human Papilloma Virus (HPV)
Bartholin's Duct Abscess
Endometriosis
History of DES exposure (personal or family)
Menopausal women on estrogen therapy
Menstrual abnormalities including amenorrhea, dysmenorrhea, menorrhagia, or metrorrhagia
Pelvic inflammatory disease
Pregnancy (for reproductive counseling only)
Reproductive cancers (cervical, uterine, ovarian etc.)
Sexually transmitted diseases (HIV, syphilis)
Other diagnoses of a chronic gynecological nature

III. ENROLLMENT INTO THE ANNUAL HEALTH ASSESSMENT OR WOMEN'S WELLNESS CLINIC

ANNUAL HEALTH ASSESSMENTS

A. **Following the diagnostic and intake process, an inmate is profiled to reflect her health status. At the time the inmate is profiled by the physician, the chart will be reviewed for any diagnosis of a gynecological/reproductive nature. If none is found, the woman will be enrolled for annual health assessments. A physician's order shall be written to enroll the woman in this clinic.**

B. **Annual health assessments shall be resynchronized to take place in the birth month of the inmate. A grace period of two months is permitted to facilitate this process. For example, an inmate whose birth month is in January, but who enters GDC in November, may be scheduled for her annual health assessment 14 months later to take place in January of the following year. Similarly, an inmate whose birth month is in January but who enters GDC in March shall have her health assessment scheduled 10 months later to again take place in January.**

C. **At each annual health assessment, the following activities shall take place:**

1. **The medical record shall be reviewed for significant health events of an acute or chronic nature.**

2. **A general inquiry shall be made regarding any new health concerns.**

3. **The following measures or tests shall be repeated unless there is a contraindication:**

   Blood pressure
   Weight
   Tuberculin skin test
   Breast exam
   Pap smear and pelvic exam
   Mammogram (if indicated according to established guidelines)
   Other measures as indicated by history, exam or other guidelines

4. Women shall be instructed not to douche or use any vaginal creams for several days prior to having a pap smear. Patients are to be rescheduled if menses occurs.

5. Laboratory requisition forms for pap smears should be filled out completely and include: patient name, EF number, birthdate, age, date of last menses, hormonal supplementation if any, notation of previous abnormal pap smear results or GYN surgery or radiation.

6. All laboratory results are to be dated when received, initialed by a registered nurse or advanced level provider and an entry made into the progress notes. This shall occur regardless of whether the test results are normal or abnormal.

7. Abnormal findings will be documented and referred as indicated.

8. Following annual assessments the inmate will be reprofiled. If no significant changes have occurred, the profile will be updated to reflect the most recent assessment date. There are no data base or flow sheets for the annual health assessment. A thorough progress note should be made and the inmate reprofiled.

9. Patients will be counseled regarding the meaning of their test results and measures they can take for health promotion. Topics might include:
   a. Eliminating or reducing risk factors for heart disease(maintaining normal weight and blood pressure, importance of lowering dietary fat etc.).
   b. Smoking cessation.
   c. Health benefits of exercise.
   d. Monthly breast self exam.
   e. Recognition of symptoms suggestive of reproductive cancers.

10. If patients are approaching their release date, additional topics may include:
   a. Reproductive decision making and family planning.
   b. HIV risk reduction.
   c. Referral to health agencies, including alcohol and drug treatment and counseling agencies .

WOMEN'S WELLNESS CLINIC

A. Women who at any time present a diagnosis listed in IIB shall be enrolled in the wellness clinic for clinical monitoring. A physician's order will be written in the medical record.

B. An advanced level provider shall review the medical history, subjective complaints and objective findings to determine what further evaluation or studies are indicated. Any invasive studies, biopsies, or consultations will be ordered only after consultation with the institutional physician.

C. Baseline laboratory studies for the clinic are to be ordered as clinically indicated. The annual health assessment should be current.

IV. THE INITIAL VISIT

A. At the initial clinic visit the following information should be reviewed by the provider and the women's clinic baseline form filled out:

1. review of the medical history including previous evaluations and hospitalizations if any. Particular attention should be paid to the following:
   a. family or personal history of reproductive disorders or malignancies;
   b. menstrual and reproductive history;
   c. history of DES exposure
   d. abnormal pap smears or mammograms
   e. sexually transmitted infections.
2. review of medication history, including prescription and over-the-counter (OTC) drug use;
3. tobacco, alcohol and drug use;
4. any known drug allergies;
5. recent or current gynecological symptoms, their frequency and severity;
6. recent results of laboratory work (esp. serum pregnancy);
7. review of physical findings.

B. Following the initial review of the patient's record if the diagnosis remains unclear, the physician will be consulted as to what further steps should be taken to establish a diagnosis.

C. Any invasive studies or specialty consults will be ordered only after consultation with the institutional physician.

D. All consult requests shall be completed in full by a physician or advanced level provider with the physician's concurrence and signature.

E. Once the diagnosis is established, the patient shall be profiled to reflect the diagnosis, and any limitations. The diagnosis shall be listed on the problem list.

F. If medications are indicated, the appropriate drug shall be selected from the formulary and ordered for an initial period not exceeding 30 days. If the patient requires a nonformulary drug, a request form shall be filled out by the physician with appropriate justification and forwarded to the medical director in central office for approval.

G. The patient shall be counseled regarding the suspected or confirmed diagnosis, diagnostic and therapeutic measures which have been ordered, and when to return to the clinic. Each patient encounter shall be fully documented in the progress notes, including patient education.

H. A women's wellness baseline data and flow sheet shall be initiated.

I. Depending upon the clinical evaluation of the patient, a follow-up appointment shall be scheduled.

V. MONITORING THE PATIENT

A. Patients in the wellness clinic will be monitored as clinically indicated. As a general guideline it is recommended that patients be seen according to the following:

1. Monthly or more frequently
    a. Patients whose symptoms are not well controlled;
    b. Patients who are noncompliant with the therapeutic regimen or who require patient education regarding their diagnosis or test results.
2. Every three months
    a. Patients whose symptoms are recently controlled on the therapeutic regimen, who demonstrate good understanding of their illness and have demonstrated compliance with the treatment regimen;
    b. Patients due for repeat pap smears and mammograms;
    c. Patients on chronic medications.
3. Every six months

a. Patients whose symptoms are well controlled;
b. Patients due for repeat pap smears and mammograms.

B. Each follow-up clinic visit shall include the following:

1. Review of signs and symptoms;
2. Medication compliance and side effects;
3. Compliance with the therapeutic diet (if prescribed);
4. Assessment and review of patients knowledge of the diagnosis and therapeutic regimen;
5. Patient education regarding any scheduled laboratory or diagnostic tests;
6. Reorder of medications if appropriate;
7. Completion of the women's wellness flow sheet;
8. Reschedule next clinic appointment;
9. Documentation of 1 through 8 in the progress notes.

VI. DISCONTINUATION FROM THE CLINIC

A. Patients may be discontinued from the Women's wellness clinic for the following reasons:

1. The patient's condition has resolved completely and no longer requires an increased frequency of monitoring.

2. The patient is to be released from GDC. Discharge planning shall include providing the patient with a two week supply of medication and a prescription for up to a one month supply (at the discretion of the physician). Patients shall be counseled regarding the need for follow-up health care and provided a referral if at all possible. The patient should be provided with a discharge summary sheet with the diagnosis and list of medications.

3. The patient, after being diagnosed and advised of the treatment options, risks and benefits of therapy, and the health consequences of forgoing therapy, refuses all therapy and monitoring. This shall also apply to patients who refuse to be evaluated. This process should be well documented in the medical record.

B.. A physician's order shall be written to discontinue patients from the women's wellness clinic. The patient's name shall be removed and the patient enrolled into the annual health assessment clinic (unless the patient is being released from GDC).

VII. BASELINE DATA AND FLOW SHEETS

VIII. PATIENT EDUCATION MATERIALS

WOMEN'S WELLNESS DATA BASE

TO BE INSERTED AT A LATER DATE

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

WOMEN'S WELLNESS CLINIC

Georgia Department of Corrections

Clinic Enrollment:		
( ) Abnormal breast lump/mass or mammogram	( ) Pelvic Inflammatory Disease
( ) History of Breast Cancer	( ) Reproductive Cancer (Specify:)
( ) Abnormal PAP Smear	( ) S.T.D. (Specify:)
( ) Endometriosis	( ) Menstrual Abnormality (Specify:)
( ) Hormonal Replacement Therapy	( ) Other:

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs							
T-P-R							
Blood Pressure							
Weight							
Date of Last Menstrual Period							
GYNECOLOGICAL SYMPTOMATOLOG							
Vaginal Discharge	( )	( )	( )	( )	( )	( )	( )
Inflamation	( )	( )	( )	( )	( )	( )	( )
Breast Discharge/Tender.	( )	( )	( )	( )	( )	( )	( )
Breast Tissue Changes	( )	( )	( )	( )	( )	( )	( )
Pain	( )	( )	( )	( )	( )	( )	( )
Other (Specifiy)	( )	( )	( )	( )	( )	( )	( )
Physical Findings							
Breast Exam							
Pelvic Exam							
Other (Specify)							
Medication Compliance							
Laboratory							
Serum Pregnancy Test	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Diagnostics							
PAP Smear	( )	( )	( )	( )	( )	( )	( )
Mammography	( )	( )	( )	( )	( )	( )	( )
Biopsy (Specify)	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Education							
Self Breast Examination	( )	( )	( )	( )	( )	( )	( )
Recognition of Repro. CA	( )	( )	( )	( )	( )	( )	( )
Other (Specify)	( )	( )	( )	( )	( )	( )	( )
Consult./Referral A.C.M.I. (Specify)	( )	( )	( )	( )	( )	( )	( )
Follow-up Appt. Date or Time Frame							
Staff Signature /Credentials							

Name_____
State I.D.#_____
Date of Birth_____
Race_____Sex_____

PREGNANCY FLOWSHEET*

Georgia Department of Corrections

Criterion	Baseline	Month:	Month:	Month:	Month:	Month:	Month:
Date							
Vital Signs T-P-R Blood Pressure							
Weight							
Trimester (Circle appropriate)	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Physical Findings List symptom, freq. & severity of each.							
Diet/Nutrition Compliance							
Medication							
Laboratory F.S. Blood Sugar Urinalysis Other (Specify)	( ) ( ) ( )	( ) ( ) ( )	( ) ( ) ( )	( ) ( ) ( )	( ) ( ) ( )	( ) ( ) ( )	( ) ( ) ( )
Diagnostics Pelvic Ultrasound Other (Specify) N.S.T. Fetal Heart Tones	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )	( ) ( ) ( ) ( )
Education Smoking Cessation Exercise Common Discomforts During Pregnancy Nutrition/Weight Gain Other (Specify)	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )	( ) ( ) ( ) ( ) ( )
Consult./Referral							
Follow-up Appt. Date/Timeframe							
Staff Signature /Credentials							

ABNORMAL PAP SMEAR PROTOCOL

ABNORMAL PAPANICOLAOU (PAP) SMEAR

I. DEFINITION

The Pap Smear is a painless, reproducible screening test which examines exfoliated cells from the endocervix to detect pre-invasive lesions (e.g., dysplasia, carcinoma-in-situ), as well as invasive lesions.

II. ETIOLOGY

Pap Smear screening has significantly decreased deaths caused by cervical cancer. This early detection and eradication of the precursor lesion reduces the mortality from cervical cancer by detecting these lesions early. Pap Smears should be done routinely on all adult women, but especially on high risk individuals whose history includes:

1. Previous abnormal Pap
2. DES exposure in utero
3. Family history of cervical cancer
4. Human Papillomavirus (HPV) and venereal warts, or other sexually transmitted diseases
5. Multiple sexual partners
6. Smoking
7. History of sexual activity at an early age
8. Immunosuppressive therapy
9. HIV positive

III. CLINICAL FEATURES

A. Subjective:

1. Patient is generally asymptomatic

B. Objective:

1. **Generally, no specific abnormalities are visible on routine examination.**

2. **Cervix -- can show signs of inflammation.**

C. Assessment: Routine Papanicolaou Smear

D. Plan:

1. **Pap Smear completed, report pending.**

2. **Provide patient with information regarding the description and the importance of periodic Pap Smear examinations.**

3. **Use Bethesda System guidelines for follow-up**

WITHIN NORMAL LIMITS: No malignant, dysplastic, or atypical cells are identified. Repeat Pap Smear in one year.

INFECTIONS: Treat specific agent, i.e., candidiasis, trichomonas. All lesions should be cultured three months after successful treatment. Repeat Pap Smear after treatment.

REACTIVE AND REPARATIVE CHANGES: Nonspecific inflammatory changes are not significant unless patient is symptomatic. If patient is symptomatic (vaginal discharge, odor or irritation), treat the symptoms and repeat Pap Smear in 3 to 6 months. If not symptomatic, repeat Pap Smear in 1 year.

SQUAMOUS CELLS:

a. **Atypical cells of squamous type (including atypical cells of squamous metaplastic and immature squamous metaplastic types):**

- **Repeat Pap Smear every 3 months for 6 months. If atypia persists for 6 months, refer for colposcopy.**

- **If atypia changes are suggestive of HPV, a referral for colposcopy is still recommended.**

b. Cervical intraepithelial neoplasia (CIN) or HPV: Refer for colposcopy.

c. Squamous cell carcinoma. If present, needs immediate referral for further staging and treatment.

GLANDULAR CELLS:

a. Atypical glandular cells: Refer for colposcopy and for consideration for possible endocervical or endometrial biopsies.

b. Adenocarcinoma: An obvious lesion which should be referred for further staging and treatment.

c. Presence of endometrial cells: This finding is abnormal in women who have regular cycles. Clinical follow-up is needed for younger women and/or those with regular cycles. For women 35 years or older, additional diagnostic procedures are indicated (endometrial biopsy).

DYSPLASIA OR CIN: Mild, moderate, severe (CIN I, II, III): *With the Bethesda system, colposcopy may be recommended only for high grade squamous lesions; it is important therefore, to consider family history, risk factors and number of previous Pap Smear results with this designation).

Low Grade SIL (squamous intraepithelial lesions) encompass HPV, mild dysplasia, and CIN I. A single finding of SIL may initially require a repeat Pap Smear examination. Recurrent low-grade SIL requires colposcopy and biopsy.

a. This finding requires evaluation of cervical tissue to rule out the presence of invasive carcinoma or to determine cervical cancer precursors. The term CERVICAL INTRAEPITHELIAL NEOPLASIA has been implemented to denote these changes:

1. mild dysplasia CIN I

2. moderate dysplasia CIN II

3. severe dysplasia and carcinoma in situ CIN III

b. *CIN or early invasive carcinomas are not visible on routine examination and mandate colposcopic exam and biopsy.

c. Any visible lesion should be biopsied.

UNSATISFACTORY SPECIMEN: Few cells present, too thick for evaluation or absence of endocervical cells present: Repeat Pap Smear in 3 months (to allow squamous metaplasia to occur)

IT IS IMPORTANT FOR YOUR CLINIC TO BE FAMILIAR WITH THE CLASSIFICATION SYSTEM USED BY THE LABORATORY THAT INTERPRETS YOUR PAP SMEARS.

References:

Havens, Carol S., Nancy D. Sullivan, Patti Tilton. (eds.). Manual of Outpatient Gynecology, 2nd ed., Boston, Little, Brown and Co., 1991.

Hawkins, Joellen W., Diane M. Roberto, J. Lynn Stanley-Haney. Protocols for Nurse Practitioners in Gynecological Settings. 4th ed. New York, The Tiresias Press, Inc. p. 154-160. 1993.

Saigo, Patricia E., Yener S. Erozan, Robert V. P. Hutter. Understanding the Bethesda System. Patient Care. 27: 65-78. April 30, 1993.

GEORGIA DEPARTMENT OF CORRECTIONS

DRUG FORMULARY

AUTHORIZED BY
GDC
PHARMACY AND THERAPEUTICS
COMMITTEE

MARCH 14, 1994

INDEX

ALLERGY/ANTIHISTAMINES/COUGH/COLD/DECONGESTANTS

Benzonate 100mg	Tessalon perles
Brompheniramine/phenylprop. 12mg/75mg SR	Dimetapp extentab
Cetylpyridium Cl lozenges	Cepacol
Chlorpheniramine 4mg and 12mg	Chlor-Trimeton
Cyproheptadine 4mg	Periactin
Diphenhydramine 25mg and 50mg capsule	Benadryl
Diphenhydramine 50mg/ml injection	Benadryl
Guaifenesin 100mg tablet	Hytuss
Guaifenesin 50mg/ dextromethorphan 7.5mg	Robitussin cough calmers
Guaifenesin/dextromethorphan syrup	Robitussin DM
Lidocaine viscous 2%	Xylocaine 2%
Pseudoephedrine 30mg tablet	Sudafed
Pseudo 30mg/CPM 2mg/Acetaminophen 325mg	Sinutab

ANALGESIC/ANTIPYRETIC/NSAID/GOUT

Acetaminophen 325mg tablets	Tylenol 325mg tab
Acetaminophen 300mg/codeine 30mg tab	Tylenol #3
Acetaminophen 325/Phenyltoloxamine tab	Percogesic tab
Allopurinol 100mg & 300mg	Zyloprim
Aspirin tablets (asa) 325mg	Aspirin
Aspirin Enteric Coated 5gr (325mg)	Aspirin E.C.
Colchicine 0.6mg tablet	Colchicine
Ibuprofen 200mg & 800mg tablet	Advil/Motrin
Indomethacin 50mg capsule	Indocin
Indomethacin SR 75mg capsule	Indocin SR 75mg
Isomethp65/Dichloralp100/Acetamin 325	Midrin capsule
Ketorolac 10mg tablet (72 hour automatic stop order)	Toradol 10mg tablet
Ketorolac 30mg/ml injection 1ml	Toradol 30mg inj
Meclofenamate 100mg capsule	Meclomen 100mg
Naproxen 375mg tablet	Naprosyn 375mg
Phenazopyridine 100mg tablet	Pyridium 100mg
Salicylate 1000mg tablet	Trilisate 100mg

ANTACID/ULCER THERAPY/GI

Aluminum carbonate gel susp 360ml	Basaljel susp 350ml
Aluminum/Magnesium hydrox/Simethicone	Mylanta II susp
Belladona Alkaloid w PB tablet	Donnatal tablet
Belladona Alkaloid w PB Elixir	Donnatal elixir
Dicyclomine 10mg & 20mg	Bentyl
Famotidine injection 10mg/ml	Pepcid 10mg/ml inj
Famotidine 20mg and 40mg tablet	Pepcid
L-hyoscyamine So4 0.125mg tablet	Levsin
Metoclopramide 10mg tablet	Reglan
Misoprostol 200mcg tablet	Cytotec 200mcg
Omeprazole 20mg capsule	Prilosec 20mg capsule
Ranitidine 150mg & 300mg	Zantac tablet

ANTIBIOTICS/ANTIVIRAL/ANTIINFECTIVES

Acyclovir 200mg capsules	Zovirax 200mg
Amantadine 100mg capsules	Symmetrel 100mg
Amoxicillin 500mg capsules	Amoxicillin 500mg
Amoxicillin/clavulanate 500mg tablets	Augmentin 500mg
Azithromycin 250mg capsule	Zithromax 250mg
Cefpodoxime proxetil 100mg & 200mg	Vantin
Ceftriaxone sodium 250mg inj	Rocephin 250mg inj
Cephradine 500mg capsule	Velosef 500mg
Ciprofloxacin 500mg tablet	Cipro 500mg
Clotrimazole 10mg troche	Mycelex troche 10mg
Dapsone (DDS) 25mg tablet	Dapsone 25mg
Didanosine (ddi) 50mg & 100mg	Videx
Doxycycline 100mg tablet	Vibramycin 100mg
Erythromycin enteric coated 250mg	Erytab 250mg tablet
Ethambutol 400mg tablet	Myambutol
Fluconazole 100mg tablet	Diflucan 100mg tablet
Griseofulvin microsize 500mg	Grisactin 500mg
Isoniazid 300mg (INH) tablet	INH 300mg tablet
Ketoconazole 200mg tablet	Nizoral 200mg tablet
Lomefloxacin HCl 400mg	Maxaquin 400mg tablet
Metronidazole 500mg tablet	Flagyl 500mg
Nafcillin 500mg capsule	Unipen 500mg
Nitrofurantoin 100mg capsule	Macrodantin 100mg
Nystatin Oral susp 60ml	Nystatin Oral susp
Penicillin 500mg tablet	Penicillin 500mg
Penicillin G Benzathine inj	Bicillin LA 2.4 mu
Rifabutin 150mg capsule	Mycobutin 150mg
Rifampin 300mg capsule	Rifadin 300mg
Tetracycline 500mg	Sumycin 500mg
Trimethoprim 100mg	Proloprim
Trimethoprim 160mg/Sulfamethoxazole	800mg Septra D/S
Zidovudine 100mg capsule (AZT)	Retrovir 100mg

ANTICOAGULANT/ANTIPLATELETS

Aspirin 81mg tablet	Baby aspirin
Warfarin 2mg, 2.5mg, 5mg, 7.5mg, and 10mg tablet	Coumadin

6.
ANTICONVULSANTS

Carbamazepine 200mg tablet	Tegreto
Divalproex Na 250mg tablet	Depakote
Phenobarbital 30mg tablet	
Phenobarbital 60mg tablet	
Phenytoin 25mg/ml suspension	Dilantin susp.
Phenytoin 100mg capsule	Dilantin
Phenytoin 250mg injection	Dilantin
Primadone 250mg tablet	Mysoline

7.
ANTI-DIARRHEAL AGENTS

Kaolin/Pectin suspension	Kaopectate
Loperamide 2mg	Imodium

8.
ANTI-EMETICS

Dimenhydrinate 50mg tablet	Dramamine 50mg
Meclizine 25mg tablet	Antivert
Promethazine 25mg/ml inj.	Phenergan injection
Promethazine 25mg suppository	Phenergan suppository
Promethazine 25mg tablet	Phenergan tablet

9.
ANTI-FLATULENTS

Simethicone 80mg chewable tablet	Mylicon

10.
ASTHMA/COPD

Albuterol metered dose inhaler(oral)	Proventil/Ventolin
Albuterol 4mg sustained release tablet	Proventil repetab
Beclomethasone dipropionate inhaler(oral)	Vanceril/Beclovent
Cromolin Na aerosol(oral)	Intal
Ipratropium bromide oral inhaler	Atrovent
Metaproterenol sulfate inhaler(oral)	Alupent/Metaprel
Pirbuterol acetate inhaler(oral)	Maxair
Terbutaline 5mg tablet	Brethine
Terbutaline 1mg/ml injection	Brethine
Theophylline 200mg, 300mg, and 450mg timed release tablet	TheoDur
Theophylline 400mg in Dextrose 5% 500cc injection	

11.
CARBONIC ANHYDRASE INHIBITOR

Acetazolamide SR 500mg capsule	Diamox 500mg

12.
CARDIOVASCULAR/ ANTI-HYPERTENSIVE AGENTS

Amlodipine 5mg & 10mg	Norvasc tablet
Atenolol 50mg & 100mg tablet	Tenormin tablet
Benazepril 5mg, 10mg, 20mg, 40mg	Lotensin tab
Betaxolol HCl 10mg & 20mg	Kerlone tablet
Clonidine 0.1mg & 0.2mg	Catapres tablet
Digoxin 0.125mg & 0.25mg	Lanoxin tablet
Diltiazem 30mg & 60mg	Cardizem tablet
Doxazosin mesylate 2mg	Cardura 2mg
Enalapril 5mg & 10mg	Vasotec tablet
Furosemide 40mg tablet	Lasix 40mg tablet
Hydrochlorothiazide 25mg & 50mg	HCTZ tablet
Hydralazine 25mg tablet	Apresoline 25mg tab
Indapamide 2.5mg tablet	Lozol 2.5mg tablet
Isosorbide dinitrate 10mg (oral)	Isordil 10mg
Isosorbide dinitrate ER 40mg	Isordil Tembids 40mg
Isradipine 2.5mg & 5mg cap	Dynacirc capsule
Metolazone 5mg tablet	Zaroxylyn, Diulo
Metoprolol 50mg & 100mg	Lopressor tablet
Nadolol 40mg & 80mg tablet	Corgard tablet
Nifedipine 10mg capsule	Procardia 10mg
Nifedipine SR 30mg, 60mg & 90mg (phase out 12/29/93)	Procardia XL tablet
Nitroglycerin SL tablet 1/150gr	Nitrostat 1/150gr
Nitroglycerin Transdermal 5mg, 10mg & 15mg patch	Transderm-Nitro
Pentoxifylline 400mg tablet	Trental 400mg tablet
Prazosin 1mg,2mg and 5mg	Minipress
Procainamide SR 250mg, 500mg & 750mg	Procan SR tablet
Propranolol 20mg tablet	Inderal tablet
Ramipril 1.25mg, 2.5mg, 5mg & 10mg	Altace capsule
Triamterene 37.5mg/HCTZ 25mg tablet	Maxzide 25
Triamterene 75mg/HCTZ 50mg tablet	Maxzide
Verapamil SR tablet 180mg and 240mg	Calan/Isoptin SR

DIABETIC PREPARATIONS

Dextrose 50% injection 50ml	
Glipizide 5mg and 10mg tablet	Glucotrol
Glyburide 5mg tablet	DiaBeta
Insulin NPH U-100 (beef and pork) PHASE OUT BY 12/29/93	Iletin NPH
Insulin Regular U-100 (beef and pork) PHASE OUT BY 12/29/93	Iletin regular
Insulin NPH U-100 Human	Humulin/Novolin
Insulin Regular U-100 Human	Humulin/Novolin
Insulin N/R 70/30 Human	Humulin/Novolin

14.
HORMONES

Esterified Estrogen 0.625mg and 1.25mg	Estratab
Levothyroxine Na 0.025mg, 0.05mg, 0.1mg, and 0.2mg	Synthroid
Medroxyprogesterone acetate 10mg	Provera 10mg tablet
Norethindrone/ethinyl estradiol tablet	Orhto Novum 1/35
Norethindrone/ethinyl estradiol tablet	Ortho Novum 7/7/7
Norethindrone/ethinyl estradiol c FE tablet	Loestrin Fe 1.5/30

15.
LAXATIVES/STOOL SOFTENERS

Bisacodyl 5mg tablet	Dulcolax
Bisacodyl suppository 10mg	Dulcolax
Docusate Calcium 240mg capsule	Surfak
Docusate Na 100mg/Casanthranol 30mg capsule	Peri colace
Lactulose syrup	Cephulac
Magnesium citrate 10oz	Magnesium citrate
Milk of magnesia suspension	
Mineral oil	
Psyllium powder	Hydrocil powder
Sod. Phosphate/sod. biphosphate enema	Fleets enema

16.
LIPID LOWERING AGENTS

Cholestyramine powder packets	Questran
Gemfibrozil 600mg tablet	Lopid 600mg
Lovastatin 20mg tablet	Mevacor
Simvastin 5mg & 10mg	Zocor tablet

MUSCLE RELAXANTS

Baclofen 10mg tablet	Lioresal 10mg
Methocarbamol 750mg tablet	Robaxin 750mg
Quinine 5gr (325mg) capsule	Quinine 5gr

18.
OPHTHALMOLOGIC AGENTS

Artificial tears	Tearisol Ophth 15ml
Atropine 1% Ophth Sol	Atropine ophth sol 1%
Bacitracin/Neomycin/Polymyxin ophth oint	Neosporin Ophth oint
Betazol 0.5% Ophth Sol	Betoptic Ophth sol
Cyclopentolate HCl Ophth sol 1%	Cyclogyl Ophth sol
Extraocular irrigating solution	Dacriose Ophth sol
Fluorescein sodium 9mg strip	Fluor-I-strip
Fluorometholone 0.1% ophth susp	FML 0.1% Ophth susp
Gentamicin Ophth Solution	Garamycin ophth sol
Gentamicin Ophth oint	Garamycin ophth oint
Metipranolol 0.3% ophth sol	Optipranolol 0.3%
Naphazoline Ophth sol	Vasocon 15ml
Naphazoline/antazoline ophth sol	Vasocon A, Albalon A
Neomycin/Polymyxin/Gramacidin ophth	Neosporin Ophth sol
Petrolatum ophth. oint.	Lacrilube
Pilocarpine Ophth Sol 1%, 2%, 3% & 4%	Pilocar Ophth sol
Polymyxin B/Bacitracin ophth oint	Polysporin Ophth oint
Prednisolone acetate 1% ophth susp	Pred-Forte Ophth susp
Sodium sulfacetamide 10% ophth sol	Sulamyd 10% ophth sol
Sodium sulfacetamide 10% ophth oint	Sulamyd 10% ophth
Sod. sulfacet 10%/prednisolone 0.2%	Blephamide Ophth susp
Tetracaine 0.5% ophth sol	Pontocaine ophth 1ml
Tetrahydrozoline HCl ophth sol 0.05%	Visine ophth sol

19.
OTOLOGIC AGENTS

Acetic acid 2%/propylene glycol 3%	Vosol otic soln.
Acetic acid 2%/propylene glycol 3%/HC 1%	Vosol-HC otic soln
Antipyrine/Benzo/Oxyquinoline/Glycerin	Auralgam otic
Neomycin/Polymyxin/HC otic solution	Cortisporin otic
Triethanolamine polypeptid oleate 10% otic	Cerumenex otic

20.
SYSTEMIC

Methylprednisolone dosepak 4mg #21	Medrol Dospak
Methylprednisolone acetate 80mg/ml	Depo-Medrol inj 5ml
Methylprednisolone Na Succ 125mg inj.	Solu-Medrol 125mg
Prednisone 10mg tablet	Prednisone 10mg

TOPICALS

Acyclovir 5% topical ointment	Zovirax 5% ointment
Al SO4/ Ca acetate topical powder	Domeboro powder
Antiseborrheic shampoo with tar	Vanseb- T
Bacitracin/Neomycin/Polymyxin oint	Neosporin
Benzoyl peroxide 5% gel (OTC)	
Betamethasone dipropionate 0.05% oint. and cream	Diprosone oint. 0.05% and cream
Betamethasone valerate 0.1% ointment and cream	Valisone oint 0.1% and cream
Calamine lotion	
Clindamycin 2% vaginal cream	Cleocin vaginal cream
Clindamycin 1% topical gel	Cleocin T
Clioquinol 3% / Hydrocortisone 1% Cream	Vioform HC cream
Clotrimazole 1% vaginal cream	Fem Care Vaginal Cream
Clotrimazole 1% cream	Lotrimin cream
Dibucaine topical oint	
Estrogen vaginal cream	Premarin vaginal cream
Hemorrhoidal suppository	Preparation H
Hydrocortisone suppository	Anusol HC suppository
Hydrocortisone 1% ointment(OTC) and cream(OTC)	
Hydrogen Peroxide 3%	
Ketaconazole 2% cream	Nizoral cream
Lindane 1% lotion	Kwell Lotion
Lindane 1% shampoo	Kwell Shampoo
Methyl salicylate/Menthol oint	Analgesic balm
Nystatin/Triamcinolone ointment and cream	Mycolog ointment and cream

21.
TOPICALS
(Continued)

Petrolatum jelly	Vaseline
Phenol/camphor topical solution	Campho phenique
Podophyllin 25% topical	
Salacylic acid plaster 40%	Mediplast 40%
Selenium sulfide 2.5% Lotion	Selsun Lotion
Silver nitrate stick	
Silver sulfadiazine cream	Silvadene cream
Sodium chloride nasal spray	Ocean spray
Sunscreen PF 15	Presun 15
Sulfa vaginal cream (triple)	Sultrin
Terbinafine HCl 1% cream	Lamisil 1% cream
Pharmacist note: dispense only after proof of first line therapy failure (Tinactin, Mycelex, etc.)	
Tolnaftate topical powder	Tinactin powder
Tolnaftate cream 1%	Tinactin cream
Tolnaftate topical solution 1%	Tinactin
Triamcinolone 0.1% ointment and cream	Kenalog ointment and cream
Zinc oxide ointment	

22.
VITAMINS/MINERALS

Ascorbic Acid 500mg tablet	Vitamin C 500mg
Ferrous Gluconate 5gr	Fergon
Ferrous Sulfate 325mg tablet	Ferrous sulfate 5gr
Folic acid 1mg tablet	Folic acid 1mg
Magnesium tablets	
Multivitamin with minerals	Multivitamin w Min
Potassium Chloride 10mEq capsule	Micro-K/Ten-K 10mEq
Pyridoxine 25mg & 50mg	Vitamin B-6 tablet

23.
MISCELLANEOUS

Activated charcoal suspension	
Ammonia inhaler	
Amylase/Protease/Lipase/Cellulase capsule	Ku-zyme or Creon
Amylase/Prot/Lipa/Cellu/Hyosc/Phentoly	Kutrase
Bromocriptine Mesylate 2.5mg tablet	Parlodel
Carbidopa 25mg	Lodosyn
Carbidopa/Levodopa	Sinemet
Dextrose 5% injection 1000cc bag	
Epinephrine 1:1000 injection	Adrenalin
Epinephrine 1:10,000 injection(CRASH CART ONLY)	
Ergotamine Tartrate 1mg/ Caffeine 100mg	Cafergot
Flu Vaccine	Fluzone
Hepatitis B vaccine	Engerix B
Hydrocortisone 100mg enema	Cortenema
Ipecac syrup USP	
Lactated Ringers injection 1000cc bag	
Lidocaine 1% and 2% injection	Xylocaine
Lidocaine with epinephrine 2% injection	Xylocaine with epi
Mebendazole 100mg chewable tablet	Vermox 100mg
Mumps skin test	
Oxybutynin 5mg tablet	Ditropan
Pneumococcal vaccine	PNU-IMMUNE 23
Propylthiouracil 50mg	
Sodium Chloride 0.9% injection 1000cc bag	
Tetanus toxoid (adult)	
Water for injection USP	

24.
MENTAL HEALTH AGENTS

Alprazolam tablet 0.25mg	Xanax 0.25mg
Amitriptyline 25mg & 50mg tab	Elavil tablet
Benztropine mesylate 1mg & 2mg tab	Cogentin tablet
Benztropine mesylate injection	Cogentin inj
Bupropion 75mg and 100mg tablet	Wellbutrin
Chlorpromazine 25mg, 50mg, 100mg & 200mg	Thorazine tablet
Chlorpromazine concentrate	Thorazine conc 240ml
Clonazepam 0.5mg & 2mg tablet	Klonopin tablet
Desipramine 25mg & 50mg tablet	Norpramin tablet
Diazepam inj. 5mg/ml	Valium inj. 5mg/ml
Doxepin 25mg, 50mg, 75mg & 100mg	Sinequan capsule
Fluoxetine 10mg & 20mg capsule	Prozac 20mg capsule
Fluphenazine decanoate inj 25mg/ml	Prolixin 25mg/ml 5ml
Fluphenazine 5mg tablet	Prolixin 5mg tablet
Haloperidol 0.5mg, 1mg, 2mg, 5mg, 10mg & 20mg tablet	Haldol tablet
Haloperidol concentrate 2mg/ml	Haldol conc 2mg/ml
Haloperidol injection 5mg/ml	Haldol inj 5mg/ml
Haloperidol dec. 50mg & 100mg	Haldol dec 1ml
Hydroxyzine 50mg/ml inj	Vistaril inj 50mg/ml
Hydroxyzine pam 25mg, 50mg & 100mg	Vistaril capsule
Imipramine HCl 25mg & 50mg tablet	Tofranil tablet
Lithium carbonate 300mg capsule	Lithium 300mg
Lithium carbonate SR 300mg	Lithobid 300mg
Lorazepam inj 2mg/ml	Ativan inj 2mg/ml
Loxapine 25mg & 50mg capsule	Loxitane capsule
Nortriptyline 25mg, 50mg & 75mg	Pamelor capsule
Paroxetine HCl 20mg tablet	Paxil
Perphenazine 2mg, 4mg & 8mg	Trilafon tablet
Sertraline 100mg tablet	Zoloft 100mg
Thioridazine 25mg, 50mg, 100mg, 150mg & 200mg	Mellaril tablet
Thiothixene 2mg, 5mg, 10mg & 20mg	Navane capsule
Thiothixene 5mg/cc injection	Navane injection
Trazodone 50mg tablet	Desyrel 50mg
Trihexyphenidyl HCl 2mg and 5mg tablet	Artane