RECOMMENDED GUIDELINES FOR PERINATAL CARE IN GEORGIA

Second Edition

THE COUNCIL ON MATERNAL AND INFANT HEALTH OF THE STATE OF GEORGIA

May 1999

THE COUNCIL ON MATERNAL AND INFANT HEALTH OF THE STATE OF GEORGIA 1997-1999

Carol Ann Dalton, Executive Director
Council on Maternal and Infant Health
Division of Public Health
2 Peachtree Street, NW
Atlanta, GA 30303-3186
FAX 404.657.2771
www.ph.dhr.state.ga.us/org/m&icouncil.htm

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Louis Levy, MD, Chairman
Roberta M. Brown
Wilma Brown
Lloyd Hofer, MD
Schley Gatewood, Jr., MD
Eugene H. Jackson, MD
Mary Johnson
William P. Kanto, Jr., MD
Lawrence Price, MD
Hugh W. Randall, Jr., MD
William R. Sexson, MD
Debbie Sibley
Charles T. Stafford, MD
Richard A. Wherry, MD
Nance White
Irma Works

GAWINN (Georgia Women and Infants Nurses Network)
Margie Hunter

Georgia Division of Public Health
Kim Bugg
Lynne Feldman, MD
Virginia D. Floyd, MD
Ray Gangarosa, MD
Lee Tanenbaum
Carol Hadley
Mary Ann Henson
Betty Jones
Carol Macgowan
Cathy Carroll
Peggy Monkus
Dianne Norris
Roger Rochat, MD
Cathy Rowheder
Ed Tierney
Pat White

Georgia Department of Medical Assistance
Marge Smith
Jackie Foster Rice
Dona Cole
Lisa Norris

Georgia Hospital Association
Allison Luke
Karen Waters

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Pat Cota

Georgia Obstetrical and Gynecological Society
Chester Lane
Sam Goodrich, MD
Anne Patterson, MD
Ramon Suarez, MD
Bruce Work, MD

Georgia Perinatal Association
George Bugg, MD
Debbie Liipfert
Janet Thigpen

Healthy Mothers Healthy Babies Coalition
Jared Fogg

March of Dimes
Lorie Mayer
Jocelyn Wheaton

Maternal and Child Health Institute
Charlotte Wilen

Regional Center Directors/Outreach Educators

Albany: James McCaul, MD Linda Rajik Art Shepard, MD Colleen Whatley	Atlanta: Alison Berry Ann Critz Francine Dykes Jack Huddleston, MD Luella Klein, MD Linda McCollum	Augusta: Jatinder Bhatia, MD Mary Lynn Goforth Debbie Sibley Johnny Wilson Bruce Work, MD
Columbus: Sherrie Churchill Louis Levy, MD Anne Morin Robert Stauffer, MD	Macon: Mark Boddy, MD Janet Campbell Edward Conners, MD Connie Styons Laura Thomas	Savannah: Judy Layden Gary Oakes, MD Roberta Smith, MD Linda Termotto

State Health Planning Agency

Karen Butler Decker
Stephanie Taylor

WHO Collaborating Center

Alfred Brann, MD
Brian McCarthy, MD

Others

Debbie Annis
Vince Brawley, MD
William LaForce, MD

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Guidelines for Perinatal Care, 3rd and 4th editions
American Academy of Pediatrics,
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and March of Dimes Birth Defects Foundation

Toward Improving the Outcome of Pregnancy,
The 90s and Beyond
March of Dimes Birth Defects Foundation

INTRODUCTION TO THE SECOND EDITION

Over the years the Council on Maternal and Infant Health has issued guidelines for perinatal care under various titles. This document, the Recommended Guidelines for Perinatal Care in Georgia, is the most comprehensive version to date. It is the culmination of intensive research, review of the literature and consultation with Georgia medical societies and the Georgia Hospital Association. The work was done by members and staff of the Council on Maternal and Infant Health aided by dedicated volunteer experts. The first edition took two years to produce, and the Council continues to rely on perinatal experts throughout Georgia to revise the Guidelines and keep them current.

This is the second edition under the title Recommended Guidelines for Perinatal Care in Georgia. These Guidelines were designed so that sections could be updated without having to issue an entirely new document. However, so many updates and changes in formatting were made since the first edition was published that the Council decided to issue this complete second edition of the Recommended Guidelines for Perinatal Care in Georgia.

MISSION

Our mission is to create and implement a perinatal plan for all Georgians to assure that the reproductive process results in the best possible outcome for families, mothers and infants.

The Council is not a licensing agency, and the Recommended Guidelines for Perinatal Care in Georgia are not a substitute for the rules and regulations of the Office of Regulatory Services, the Board of Medical Examiners, or the State Health Planning Agency. This is not a legal document but a set of recommendations which perinatal care facilities and practitioners may use for self-evaluation. Each medical facility and practitioner must make the best decisions possible within the limitations of any particular situation. Furthermore, all are invited to make suggestions for improving this document.

The Guidelines are intended to be a blueprint for a state perinatal health care system, a system that will improve the quality of reproductive health care for women and perinatal health care for pregnant women and infants in Georgia. The Council on Maternal and Infant Health recognizes the need to develop a system that integrates the resources and energies of both the public and the private sectors. This system must provide for coordination and direction at the state level and for responsibility for problem solving at the local level. It must account for all births in Georgia, and it must include preventive strategies that promote perinatal wellness.[1] Public Authority (County or City) hospitals, private hospitals and physicians in private practice should be encouraged to participate voluntarily in a state perinatal system.

[1] For a more complete discussion of the perinatal system, see Georgia Perinatal Program - The Regional Perinatal Health Care Delivery System: Assessment and Recommendations, World Health Organization Collaborating Center in Perinatal Care, Dr. A.W. Brann, Jr., Director, 69 Butler Street, S.E., Atlanta, GA 30335.

Meanwhile, the Council recommends that those who provide perinatal health care to Georgia's women and infants adopt the basic precepts of this document as part of their standard of practice. Hospitals and local health care networks are encouraged to develop their own policies, procedures and protocols that are not only compatible with these Guidelines, but also conform to and enhance the health care system for the entire state and not just the local network.

The Guidelines are central to the Council's work. The Council on Maternal and Infant Health was established in 1972 by legislation sponsored by the late Rep. Sidney Marcus and signed into law by Governor Jimmy Carter. This legislation had been a major objective of citizen advocates for maternal and child health since 1965 when a committee appointed by Governor Carl Sanders recommended the creation of such a Council as part of a plan to prevent mental retardation.

The law (Official Code of Georgia Annotated, Title 31, Chapter 4) provides that the Council shall serve in an advisory capacity to state agencies in all matters relating to maternal and infant health, particularly:

1. Making recommendations concerning the establishment and maintenance of an adequate program of maternal and infant health care in the state of Georgia;

2. Creating standards for the services provided in a program of maternal and infant health care, such standards to include the designation of facilities and equipment requirements as well as the quality of medical and hospital care to be provided;

3. Overseeing that standards for all maternal and infant health care services are maintained;

4. Aiding state agencies in coordinating programs of maternal and infant health care with local communities, their physicians and hospitals, and the general public;

5. Establishing indices to determine the effectiveness of maternal and infant health programs; and

6. Ensuring that regular, adequate, and accurate reports are submitted to the Council by the component parts of the maternal and infant health program and that the publication of regular reports is made regarding the Council's activities and the adequacy of the program of maternal and infant health care.

The Council members are appointed by the Governor and include pediatricians, obstetricians, family practitioners, nurses, hospital administrators, educators and consumers.

Comments and suggestions may be sent to:

Carol Ann Dalton, General Editor
The Council on Maternal and Infant Health
Division of Public Health
2 Peachtree Street, NW
Atlanta, GA 30303-3186
FAX 404-657-2771

More information about the Council can be found on our Internet site:
www.ph.dhr.state.ga.us/org/m&icouncil.htm

Section One - STRATEGY FOR ACTION

I. RATIONALE

In spite of twenty years of steady progress, Georgia continues to have a higher infant mortality rate than almost all other states; and preventable maternal deaths still occur. For every infant who dies, many more suffer serious illnesses or permanent disabilities. Few families have the resources to pay the full cost of health care and special education for these children. The taxpayers are subsidizing a significant portion of the cost. Better organization of the State's perinatal health care system would result in fewer infant deaths, fewer maternal deaths, and better infant health and development.

II. GOALS

Georgia should have a system of perinatal health care (including health education) in which every woman of child-bearing age receives preconception care, every pregnant woman receives prenatal care, every birth takes place at a facility with the appropriate level of care, and every postpartum family and every infant receives the appropriate follow-up care.

III. ADMINISTRATIVE ISSUES

A. Structure

1. A State Perinatal Board should be established.

2. Regional Perinatal Boards should be established.

B. Accountability

1. The Perinatal Boards should develop a multidisciplinary approach that addresses not only the health problems of pregnant women and infants but societal and environmental problems that affect their health. The boards should seek commitment to the task of improving maternal and infant health from all parties, including payers.

2. A structure for perinatal care should include open communication and integrated decision making at all levels. There should be a cooperative relationship between the Perinatal Boards and governmental agencies.

3. There should be a formalized system that designates responsibility and accountability for health care for all births.

4. There should be a mechanism for designation and certification of facilities for level and competence of perinatal care. The designation of the level of care for facilities should be based on meeting established standards.

C. Data, Documentation and Evaluation

1. An ongoing perinatal information system should be developed for use in the design and implementation of programs to improve maternal and infant health.

2. Indicators for both process (e.g., how many women begin prenatal care in the first trimester) and outcomes (e.g., how many births are premature) must be identified to monitor the system of perinatal care. The monitoring system should allow for comparisons over time as well as among similar perinatal hospitals, health districts, perinatal regions and other states.

3. A process should be developed to supervise the quality and completeness of data generated in all hospitals.

4. The evaluation of perinatal outcomes must include all births and all infants.

D. Financing Perinatal Care

1 Needs assessment and cost/benefit analyses of the perinatal care system should be done.

2. A prioritization process should be developed to determine how resources should be allocated, based on the needs assessment and the cost/benefit analyses.

3. An analysis of the cost of implementing a state perinatal plan, versus not implementing a state perinatal plan, should be developed.

4. Financial support for perinatal health programs should be provided based on the prioritized needs and the cost/benefit analysis.

5. All programs should be monitored for effectiveness using objective criteria; state money should be allocated to provide this evaluation.

IV. HEALTH EDUCATION ISSUES

A. Health promotion and health education should be developed as a collaborative process with families, communities and health professionals.

B. Health promotion and health education strategies should be age-specific and culturally appropriate.

C. Men and women should be educated about strategies to lower the risk of poor pregnancy outcomes; these strategies, at the most general level, include:

1. For women, periodic health assessment emphasizing preconception care and early prenatal care
2. For men and women, maintaining a healthy lifestyle
3. Family planning

V. PATIENT CARE ISSUES

A. People should have access to care, both out-patient and in-patient, in spite of medical and/or social problems such as lack of transportation or inability to speak English.

B. Outreach programs are needed.

1. Outreach programs for women should target teens and low-income women.

2. Outreach programs (e.g., Children 1st) which make contact with the family of every newborn should be coordinated to ensure that no infant is missed and that services are not duplicated.

C. Access to outpatient/ambulatory care is essential to improving maternal and infant health.

1. Women of child-bearing age should have access to:

a. Preconception care, including timely access to family planning services
b. Early verification of pregnancy and basic pregnancy care
c. Risk assessment and medical specialty referrals when necessary
d. Parenting education or referrals for parenting education
e. Referrals for bereavement counseling in cases of spontaneous abortion (miscarriage), fetal death (stillbirth) or infant death
f. Referrals for social problems, e.g., domestic violence
g. Case management and follow-up

2. Every neonate/infant should have a medical home capable of providing:

a. Well-child and preventive care, e.g., immunizations
b. Acute problem care
c. Medical specialty referrals when necessary
d. Referrals for early intervention (e.g., speech therapy, physical therapy) to prevent developmental delays
e. Case management and follow-up

D. Access to the appropriate level of inpatient perinatal care should be assured.

1. All perinatal care facilities should have guidelines in place consistent with these Guidelines.

2. All perinatal care facilities should be integrated into a system.

a. All perinatal care facilities should be classified by level of care.

b. Every hospital providing perinatal services should have a written policy regarding consultation for pregnant women and neonates and the transport of pregnant women and neonates to a facility with the appropriate level of care: suggested medical criteria to consider are contained in Appendix A.

c. The six Regional Perinatal Centers designated by the Georgia Division of Public Health are a subset of the state's Subspecialty Perinatal Services. They are under contract with the Division to provide coordination of transport services as well as to conduct continuing education throughout their regions (See Appendix D for a map of the Regions). The Regional Perinatal Center Core Requirements can be obtained from the Perinatal Unit Manager, Women's Health Section, Division of Public Health, 2 Peachtree Street, Atlanta, GA 30303-3186.

3. Every hospital with perinatal services should establish a policy for early newborn discharge.

   a. Implementation of this policy should be documented.

   b. The criteria for selection of newborns for early discharge contained in Appendix B should serve as guidelines.

E. Availability of perinatal health care providers should be assured.

1. An appropriate mix of perinatal providers should be assured.

2. Distribution of providers should be assessed.

F. Social work services should be available to all perinatal patients and their families as part of the interdisciplinary team providing perinatal care.

1. The perinatal social workers should be able to:

   a. Consult directly with the patient
   b. Do a psychosocial evaluation of the patient
   c. Provide information and referral to programs, e.g., Babies Can't Wait
   d. Do multidisciplinary planning and coordination
   e. Provide information on financial assistance or enroll the patient in Medicaid
   f. Consult on protection of the patient's rights

2. Perinatal care facilities should have a sufficient number of qualified personnel available on a 24 hour basis to provide emergency perinatal social work services.

3. Social workers experienced in perinatal services should be available for patient referrals from perinatal health care providers.

4. The perinatal social service provider should have the responsibility and the freedom to find cases, i.e., the provision of social work services should not be dependent upon, nor limited to, referrals.

Section Two - PRECONCEPTION AND INTERCONCEPTION HEALTH CARE

I. RATIONALE

The leading single cause of infant mortality in the United States is birth defects. Most birth defects occur between 17 and 56 days after conception, often before recognition of pregnancy and the first prenatal visit. To have a significant positive impact on the health of women and infants, emphasis must be shifted from early prenatal care to preconception and interconception care.

II. GOALS

The goals of preconception health promotion are:

A. To prevent unintended pregnancies

B. To identify risk factors

C. To intervene appropriately BEFORE pregnancy

III. RECOMMENDED COMPONENTS OF PRECONCEPTION AND INTERCONCEPTION CARE

A. Patient assessment should include:

1. Individual medical, family and reproductive histories
2. Nutritional status/adequacy of diet
3. Drug exposures, including alcohol and tobacco
4. Social problems, e.g., domestic violence/abuse

B. Lab tests should include (the last two are especially important):

1. Hemoglobin
2. Hematocrit
3. Rh status
4. Urine screen for protein and glucose
5. Papanicolaou cervical cytology (“Pap smear”)
6. Tests for sexually transmitted diseases (STDs)
7. Tuberculosis skin test

C. All patients should be strongly encouraged to be tested for Human Immunodeficiency Virus (HIV).

1. If positive, counseling and partner testing should be offered along with treatment.

2. If negative, HIV prevention strategies should be reviewed: safe sex practices and avoidance of intravenous drugs.

D. Immunity to rubella and hepatitis should be determined and immunizations provided as indicated.

E. In order to prevent neural tube defects such as spina bifida, it is of singular importance to advise women to get adequate amounts of folic acid supplementation in the periconceptional period.

1. Women of child-bearing age should be advised to consume 0.4 mg of folic acid daily.

2. Women who have had a prior conception with such a defect should consume 4.0 mg of folic acid daily.

F. Patients should be instructed in the use of a menstrual calendar.

G. It is imperative to stress the need for regular and consistent use of family planning methods to allow for pregnancies to be anticipated; the patient and her partner should be encouraged to chose a method which is consistent with their values and lifestyle. The patient and, whenever possible, her male partner should be informed about and encouraged to ask questions about:

1. Options for contraception/family planning
2. The importance of early and regular prenatal care should a pregnancy occur
3. Risk factors associated with birth defects and congenital illness (for the incidence of abnormalities as a function of the age of the mother, see the chart, “Chromosome Abnormalities in Liveborns” on pages 2:3 and 2:4)

H. Patient education and specialty referrals should be based on risk factors and the patient’s needs: a sample screening chart can be found on page 2:5.

IV. THE ROLE OF HEALTH CARE PROVIDERS IN PRECONCEPTION AND INTERCONCEPTION CARE

A. Preconception health promotion should be done by every provider of general and reproductive health care services and/or information for women of child-bearing age.

B. Creative opportunities to recruit women into preconception care include actions such as:

1. Advising patients with a negative pregnancy test about preconception care
2. Advising patients having evaluation of irregular menses about preconception care
3. Advising patients that any sexually active woman of child-bearing age may be a candidate for preconception care

C. Public awareness campaigns to create consumer demand for preconception and interconception care should be encouraged.

Chromosome Abnormalities in Liveborns

Maternal Age	Risk for Down's Syndrome	Total Risk for Chromosomal Abnormalities
20	1/1,667	1/526
21	1/1,667	1/526
22	1/1,429	1/500
23	1/1,429	1/500
24	1/1,250	1/476
25	1/1,250	1/476
26	1/1,176	1/476
27	1/1,111	1/455
28	1/1,053	1/435
29	1/1,000	1/417
30	1/952	1/385
31	1/909	1/385
32	1/769	1/322
33	1/602	1/286
34	1/485	1/238
35	1/378	1/192
36	1/289	1/156
37	1/224	1/127
38	1/173	1/102
39	1/136	1/83
40	1/106	1/66
41	1/82	1/53
42	1/63	1/42
43	1/49	1/33
44	1/38	1/26
45	1/30	1/21
46	1/23	1/16
47	1/18	1/13
48	1/14	1/10
49	1/11	1/8

Chromosome Abnormalities in Liveborns

Source: Hooks, et. al. Table 3.2, "Chromosome Abnormalities in Liveborns," in *Guidelines for Perinatal Care*, 3rd edition, American Academy of Pediatrics, American College of Obstetricians and Gynecologists, and March of Dimes Birth Defects Foundation.

Contact: Genetics Consultant, Child Health Unit, Family Health Branch, Division of Public Health, 2 Peachtree Street, Atlanta, GA 30303-3186

PRECONCEPTION REPRODUCTIVE HEALTH SCREENING

PATIENT'S NAME:		
Reproductive Awareness	**DONE**	**REFERRED**
Use of a menstrual calendar		
Options for pregnancy prevention		
Non-infectious Diseases (counsel regarding effects on pregnancy)		
Diabetes Mellitus		
Hypertension		
Epilepsy		
Other Chronic Disease		
Infectious Diseases (counsel, test, refer)		
Sexually transmitted infections		
Human Immunodeficiency Virus (AIDS)		
Hepatitis B (immunize if patient is high risk)		
Rubella (test; if nonimmune, immunize)		
Tuberculosis		
Teratogens/genetics (counsel regarding effects on pregnancy)		
Environmental exposure to teratogens		
Medication and vitamin use, e.g., isoretinoin/vitamin A, tetracycline		
Self or prior child with congenital defect		
Family history of genetic disease/defect, e.g., hemoglobinopathy		
Age of mother		
Behavior (counsel regarding effects on pregnancy)		
Alcohol		
Tobacco		
Illegal drugs, e.g, cocaine/"crack", methamphetamine/"crank"		
Social Support		
Family, friends		
Safety, e.g., domestic abuse/violence		
Personal resources, e.g., education, money, housing		
Nutrition		
Folic acid to prevent Neural Tube Defects		
Dangers of extreme dieting/anorexia/bulimia		
Special dietary needs, e.g., total vegetarians need B-12 supplements, phenylketonurics need to avoid phenylalanine		

PRECONCEPTION REPRODUCTIVE HEALTH SCREENING

Source: Based on Table 1-2, p.10, Guidelines for Perinatal Care, 4th Edition. American Academy of Pediatrics, American College of Obstetricians and Gynecologists, and March of Dimes Birth Defects Foundation.

Section Three - ANTEPARTUM CARE

I. RATIONALE

Access to prenatal care has long been associated with reductions in infant and maternal mortality and morbidity. Encounters between a pregnant woman and her health care provider are "teachable moments" when a foundation can be laid for continued good health habits which will benefit both mother and infant.

II. GOALS

A woman's health should be maintained or improved during her pregnancy both for her benefit and so that her infant will be as healthy as possible at birth.

III. PATIENT EDUCATION

A. Each obstetric health care provider should afford the patient the opportunity to discuss the features of her care and to include the father of her infant in these discussions, which should include, but are not limited to:

1. The normal and expected course of pregnancy
2. Laboratory tests and when they will be performed
3. Danger signs in pregnancy, including signs and symptoms of premature labor
4. Frequency of visits to her health care provider
5. Childbirth and parenting classes
6. Options for labor and delivery, including analgesia and anesthesia
7. Diet, weight gain, exercise, rest, and fatigue
8. Avoidance of alcohol, tobacco and any drugs, including "natural" remedies or OTCs, not approved by the obstetric health care provider
9. Working and the associated environment's potential to affect the pregnancy
10. After reaching 26 - 28 weeks, plans for admission to the hospital
11. How to recognize labor and what to do once it begins
12. Special regimens for women with certain conditions or diseases, e.g., diabetes, HIV
13. Analgesia and recovery from labor as well as diet, weight loss, exercise, rest and fatigue following the birth

B. Obstetric care providers should encourage prospective parents to make plans for the ongoing care of their infant.

1. Parenting resource materials should be available along with referrals for parenting classes or support groups.

2. Permanent smoking cessation should be urged for prospective parents.

3. Parents should be provided with information on the pros and cons of circumcision.

4. Breast-feeding should be encouraged where appropriate. Benefits to both the mother and the infant should be discussed. Adequate preparation and evaluation can result in a more successful breast-feeding experience.

   a. Antepartum breast assessment:

      1) Examine breasts for abnormalities or potential problems, e.g., inelastic breasts are more prone to engorgement and may require intervention.

      2) Examine areolas and nipples for anatomic features that may need intervention, e.g., nipple inversion or lack of protrusion, previous reduction or augmentation surgeries, gross malformations.

      3) Assess the patient for contraindications to breast-feeding, e.g., HIV+ status, long term drug therapy with a drug known to be transmitted through breast milk and dangerous to the infant, an active disease state that must be treated before the infant can safely breast-feed (tuberculosis, active herpes).

   b. Education:

      1) Assess the mother's knowledge and attitudes about breast-feeding and provide appropriate education, e.g., assuring the mother that breast milk alone will meet her infant's needs for the first 4-6 months and that there is no relation between breast size and ability to breast-feed.

      2) Refer the mother to appropriate sources for information and support, e.g., a lactation consultant.

   c. Determination of Nutritional Status:

      1) Assess the mother's nutritional status through her weight gain pattern, iron status and diet.

      2) Encourage appropriate dietary intake and educate on additional needs during lactation.

IV. SURVEILLANCE

A. At the first prenatal visit the patient's database should be established (if not established prior to conception), and should include:

   1. General medical history
   2. Gynecological/obstetrical history, including the date of the last menstrual period (LMP)
   3. A social profile/history
   4. Nutritional assessment including pregnancy weight and Body Mass Index (BMI)
   5. The estimated day of delivery (EDD) determined by the last menstrual period if known; if the date is not known or a size-date discrepancy exists, an ultrasound examination should be performed before 20 weeks.

B. The number of visits is predicated on the needs of the individual patient: complicated patients will require more visits than uncomplicated ones.

C. The following is a suggested schedule of medical tests for the pregnant patient:

Suggested Tests	
6-8 weeks	Urinalysis and culture Hemoglobin and hematocrit Blood type and Rh type Antibody screen Rubella immunity Hepatitis B screen (HbsAg) Cervical cytology HIV screen Syphilis serology Gonorrhea and chlamydia cultures Oral glucose tolerance testing when there is history of macrosomic infant, malformed infant, or fetal death; or first degree family history of diabetes
15-20 weeks	Maternal serum alpha-protein (MSAFP) (or triple screen: MSAFP, serum estriol, and HCG)
26-28 weeks	Hemoglobin and hematocrit Glucose challenge test Antibody screen if Rh negative Rh_o immune globulin therapy (300 µg) as indicated Repeat serology
35-37 weeks	Group B streptococcus test; there are two equally acceptable strategies for testing and treatment based on 1) late prenatal culture and 2) clinical risk factors. (See chart following page 6:3)

V. RISK ASSESSMENT

A. General Considerations:

1. All pregnant patients should be periodically assessed for medical risk indicators for adverse outcomes for the mother and/or the infant.

2. A subset of patients will have a medical history of obstetric risk indicators.

3. Some pregnant patients will experience social-behavioral-economic events that are frequently associated with adverse outcomes.

    a. Social risk indicators should not be viewed as isolated events, but should be regarded as having a synergistic adverse effect on the pregnancy whether in combination with medical risk indicators or in combination with other social risk indicators.

    b. All patients should be periodically assessed for these events and managed according to their unique pattern of risk indicators.

4. All pregnant patients should be assessed for allergic or adverse reactions to latex products. The findings should be communicated to the Labor and Delivery unit prior to admission, where possible, or as soon after admission as practicable.

B. Medical and general risk indicators:

1. Infections:
    a. Reproductive tract infections, e.g., bacterial vaginosis
    b. Chronic infections, e.g., urinary tract infections
    c. Sexually transmitted diseases (STDs)
    d. Human Immunodeficiency Virus (HIV)
    e. Tuberculosis

2. Diabetes mellitus
3. Cardiovascular disease, e.g.,hypertensive disorders, valvular heart disease
4. Pulmonary disease, e.g., asthma
5. Hepatic disease
6. Collagen disease
7. Metabolic disorders
8. Endocrine disorders
9. Convulsive/neurologic disorders
10. Isoimmune thrombocytopenia
11. Hemoglobinopathies
12. Severe anemia
13. Alternative diets, e.g., vegans (complete vegetarians) need B-12 supplements
14. Nutritional disorders, e.g., hyperemesis, anorexia
15. Inappropriate weight gain

16. Substance abuse
17. Trauma, resulting from abuse or accidents
18. Psychiatric disorders, e.g., clinical depression

C. Risk indicators in the patient's obstetric history:

1. Poor obstetric history
2. Multiple gestation
3. Baby with congenital anomalies
4. Low birth weight baby
5. Premature labor (< 37 weeks)
6. Rupture of membranes > 24 hours before the birth, regardless of gestational age
7. Bleeding after 20 weeks
8. Pregnancy induced hypertension
9. Uterine structural anomalies
10. Abnormal amniotic fluid volume
11. Intrauterine growth restriction
12. Fetal cardiac arrhythmias
13. Abnormal fetal lie
14. Isoimmunization
15. Chorioamnionitis

D. Socio-economic risk indicators:

1. Minority ethnic identity
2. Unemployment
3. Low income employment
4. Household income < 150% federal poverty level
5. Patient unable to make co-payments
6. Patient has no telephone

E. Socio-behavioral risk indicators:

1. Social isolation/lack of social support
2. Maternal education < 12 years
3. Unintended pregnancy
4. Failure to prepare for birth
5. No prenatal care before 28 weeks
6. Single parent with no father identified
7. Mother < 17 years old at conception
8. One or more children < 2 years old
9. Conception interval < 6 mo.
10. Maternal alcohol/drug use
11. Maternal smoking
12. Gestational depressive episodes
13. Inexperience in child care
14. Partner abuse/violence
15. Spouse/family member death

16. Occupation loss, patient/partner
17. Residential move
18. Multiple sex partners
19. Sex partner at high risk for HIV: multiple sex partners or IV drug use

VI. RISKS OF GENETIC DISEASE/BIRTH DEFECTS

As genetic conditions assume more frequent association with untoward outcomes of pregnancy, it is essential that assessment for them be more thorough. Advances in medical research are providing means both to identify and possibly to treat genetic diseases and birth defects antepartum.

A. Perinatal care providers should be prepared to provide evaluation and either genetic counseling or referral to a genetic consultant when there is a significant risk of genetic disease or birth defect.

B. Risk factors include:

1. Advanced maternal age: 35 or older at Estimated Date of Delivery (EDD) (See pages 2:3 and 2:4 for a chart on risk of abnormalities as a function of maternal age)
2. Repetitive spontaneous abortions or unexplained fetal deaths
3. Presence of birth defect, chromosomal abnormality or genetic disease (e.g., congenital heart disease, Down's Syndrome, muscular distrophy, cystic fibrosis) in either parent or in a previous offspring or other near relative of either parent
4. Family history of:
   a. Autosomal recessive diseases, e.g., Tay-Sachs disease, sickle and thalassemia hemoglobin types
   b. Autosomal dominant diseases, e.g., Huntington's Chorea
   c. Gender or X-linked diseases, e.g., hemophilia

C. Procedures that are available for detecting genetic disease or defects, e.g., mental retardation/autism, fragile X chromosome, most metabolic disorders, etc., in the fetus include:

1. Ultrasound (U/S)
2. Amniocentesis with various analyses as indicated
3. Percutaneous Umbilical Blood Sampling (PUBS)
4. Chorionic Villus Sampling (CVS)

VII. FETAL SURVEILLANCE

Patients requiring more investigation or study for risk evaluation and monitoring may be advised to have one or more of the following procedures for fetal assessment:

A. Nonstress test (NST)
B. Amniotic fluid volume assessment
C. Contraction stress test (CST)
D. Biophysical Profile (BPP)

VIII. IMMUNIZATION DURING PREGNANCY

Immunization should be managed with established guidelines and recommendations for immunization therapy for the pregnant patient; one of the six Regional Perinatal Centers can be consulted on this.

IX. PRETERM LABOR

The percentage of births which are premature has not decreased significantly in twenty years in spite of reductions in infant mortality; prematurity remains a major cause of infant mortality and morbidity. More premature infants are surviving due to the advances in neonatal care, but they are at high risk of developmental disabilities. Various techniques and procedures are advocated but no consensus exists for the early diagnosis of preterm labor. Likewise, there are numerous therapies recommended but no consensus on which is best.

A. To the limited degree that preterm labor can be prevented or, at least, anticipated, it requires the active cooperation of the patient: she must be taught the signs of preterm labor.

B. Treatment before delivery with corticosteroid appears to benefit the neonate delivered from a premature labor; regimens for corticosteroid administration are available from the Regional Perinatal Centers.

Section Four - INTRAPARTUM CARE

I. RATIONALE

Through most of history, childbirth was a leading cause of death among women. Many infants did not survive the process. Science has afforded modern medicine the means to make maternal mortality from childbirth rare and to reduce infant mortality to a minimum in some segments of the population.

II. GOALS

The goal of intrapartum care is to maintain or improve the mother's health status so that she will have a healthy infant and the birth will be without complications. Alternatively, the goal is to identify potential complications and take action to minimize the negative effects on the mother and her infant.

III. HOSPITAL STAFFING

A. Each delivery should be attended by an obstetrician, or a physician with obstetrical privileges, or a certified nurse midwife (all three are considered birth attendants).

B. The birth attendant should be present at the hospital or immediately available by telephone and able to arrive within 30 minutes of being summoned, under normal traffic conditions.

C. Anesthesia personnel should be present in the hospital at all times or immediately available by telephone and able to arrive within 30 minutes of being summoned, under normal traffic conditions.

D. There should be at least one registered professional nurse present whenever a patient is in the labor area.

E. All facilities performing surgery should conform to the Association of Operating Room Nurses (AORN) "Standards of Nursing Practice." Pertinent Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) standards should supersede AORN standards (see Appendix C for Internet sites).

F. Responsibility for identification and resuscitation of a distressed neonate should be assigned to a qualified health professional. A health professional trained in neonatal resuscitation should be available within the obstetrics unit for each delivery.

G. Each facility should have written plans for the perinatal department to follow in emergencies such as natural disasters, bomb threats or fire. These plans should include directions for communications and staffing in emergencies.

IV. PRENATAL RECORD

A. The hospital should require submission of a copy of the prenatal record, if available, for all patients registered to deliver at the hospital once the patient reaches 34 weeks.

B. Additionally, the hospital should request submission of a copy of the prenatal record, where possible, following the first prenatal visit or as soon as the patient determines where the delivery will occur.

C. These records should be accessible to the obstetrical department at all times.

V. ADMISSION

A. Pertinent information from the prenatal record should be recorded on the nursing admission note. Such information should include, but is not limited to:

1. Blood group, Rh
2. Presence of irregular antibodies or hepatitis B surface antigen
3. Results of syphilis and other diagnostic tests
4. Therapeutic measures prescribed
5. Medical status
6. Complications of pregnancy
7. HIV status

B. Other information which may be recorded on the nursing admission note includes, but is not limited to:

1. The reason for admission
2. Date and time of the patient's arrival
3. Date and time of notification of the birth attendant
4. Time seen by the birth attendant
5. Condition of both the mother and fetus
6. Labor and membrane status
7. Presence of bleeding
8. Fetal activity
9. History of allergies, including allergies or reactions to latex.
10. Time and content of the most recent meal ingested
11. Medication taken by the patient

C. A physical examination should be done upon admission and recorded within 24 hours and should include, but is not limited to:

1. Assessment of the blood pressure, pulse, respiration, temperature
2. Appropriate laboratory or point of care testing as defined by hospital policy
3. Frequency, duration, and quality of uterine activity, including uterine resting tone
4. Estimated fetal weight, fetal heart rate (FHR), and evidence of fetal well being

D. When indicated, and if there are no contraindications, e.g., bleeding, qualified nursing

personnel may perform the initial pelvic examination to evaluate cervical dilatation, effacement and station.

E. The use of analgesia/anesthesia should be discussed with the patient and consent for anesthesia should be obtained if the patient desires such measures.

F. Following the initial physical exam, the birth attendant should be informed of all findings including, but not limited to:

1. Contraction frequency, duration and intensity
2. Uterine resting tone
3. Fetal baseline heart rate and variability
4. Presence of accelerations
5. Status of membranes
6. Presence of bleeding
7. The patient's emotional status (such as how she is coping with labor/contractions) and her needs and desires

G. Orders regarding admission, diagnostic, and therapeutic measures should be given by the birth attendant.

H. All necessary consent forms should be signed, witnessed, and attached to the record.

VI. ANESTHESIA

A. The choice and availability of analgesia and anesthesia depends on the experience and judgement of the birth attendant, the circumstances of labor and delivery, and the personal preference of the patient.

B. Regional anesthesia should be administered only after:

1. The patient has been examined by a birth attendant or, when appropriate, qualified nursing personnel;
2. The maternal and fetal status and progress of labor have been evaluated by the birth attendant;
3. The birth attendant concurs with the initiation of the anesthetic and is readily available to supervise the labor and manage any complications that may arise.

C. The patient's vital signs should be assessed and documented at regular intervals by a qualified member of the health care team.

D. In consultation with the anesthesia service, the obstetrics department should establish policies and procedures governing the use of anesthetic agents for pain management. These should include, but are not limited to:

1. The qualifications and responsibilities of persons who administer the anesthetic agents for pain management
2. The use of patient monitoring equipment

3. Identification of the types and levels of agents which may be used for pain management

VII. TERM LABOR

A. A birth attendant should see the patient within a reasonable amount of time, as determined by the patient's obstetric and medical conditions.

B. Appropriate licensed nursing personnel should be responsible for:

1. Observing the patient
2. Following the progress of labor
3. Monitoring and recording the patient's vital signs and fetal heart rate
4. Documenting this information (a labor flow sheet or graph may be used)

.

C. The method and frequency of fetal heart rate monitoring during labor should be based on risk factors and delineated by obstetric department policy.

1. It has been shown that with a 1:1 nurse/patient ratio, intermittent auscultation during labor is equivalent to continuous electronic FHR monitoring.

a. When electronic fetal heart rate monitoring is selected as the method of fetal assessment, the birth attendant and other obstetric personnel attending the patient should be qualified to identify and interpret abnormalities.

b. In the event of differences in interpretation, an established hospital protocol for the resolution of such a conflict should be followed.

2. There are no data to demonstrate optimal time intervals for intermittent auscultation of the low-risk patient.

a. According to American College of Obstetricians and Gynecologists (ACOG) publications, the fetal heart rate should be evaluated and recorded every 30 minutes when the patient is in the first stage of labor and at least every 15 minutes during the second stage of labor.

b. If continuous electronic fetal monitoring is employed for the low risk patient the fetal heart rate should be evaluated and recorded at the same intervals described above.

3. The at-risk or high-risk patient may be monitored intermittently or continuously.

a. If intermittent auscultation is chosen, the fetal heart rate should be evaluated and recorded every 15 minutes during the active phase of labor and every 5 minutes during the second stage of labor.

b. Continuous fetal monitoring using an electronic fetal heart rate monitor may be appropriate. It is necessary to assess the need to attach a fetal scalp electrode for the patient with HIV or other viral infections.

D. Obstetric department policies should define the fetus who is "at risk" or is "high risk." Risk factors may include, but are not limited to the following (Risk is further discussed in the Perinatal Consultation and Transfer Guidelines in Appendix A):

1. Cardiovascular, renal, collagen, pulmonary, hepatic, and infectious diseases, especially sexually transmitted diseases and HIV
2. Metabolic or endocrine disorders
3. Chronic urinary tract disorders
4. Maternal viral, bacterial or protozoal infections, especially tuberculosis
5. Diabetes mellitus
6. Isoimmune thrombocytopenia
7. Convulsive/neurologic disorders
8. Use of alcohol, drugs or tobacco during pregnancy
9. Nutritional disorders
10. Poor obstetric history
11. Maternal age under 16 or over 35 years
12. Previous congenital anomalies
13. Multiple gestation
14. Isoimmunization
15. Intrauterine growth restriction (IUGR)
16. Third trimester bleeding
17. Pregnancy induced hypertension
18. Uterine structural anomalies
19. Abnormal amniotic fluid volume
20. Fetal cardiac arrhythmias
21. Prematurity
22. Breech or transverse lie
23. Rupture of the membranes for longer than 24 hours
24. Chorioamnionitis
25. Fewer than 6 prenatal visits

VIII. INDUCTION AND AUGMENTATION

A. Labor should be induced or augmented only after:

1. A thorough examination of both mother and fetus has been done by the birth attendant;
2. The indications for and methods of induction or augmentation have been documented by the birth attendant.

B. A physician who has privileges to perform cesarean sections should be present in the hospital, or immediately available by telephone and able to arrive within 30 minutes of being summoned, under normal traffic conditions.

C. Personnel who are familiar with the effects of oxytocin and who are able to identify both maternal and fetal complications should be in attendance during the administration of oxytocin.

1. The birth attendant or designated representative should perform a cervical examination immediately prior to the initiation of the oxytocin.

2. When oxytocic agents are being administered, fetal heart rate and uterine contraction monitoring recommended for high-risk patients should be employed.

D. Hospitals should develop their own policies, procedures and protocols for determining indications and contraindications for the induction of labor and may include the following situations:

1. Indications:

a. Pregnancy induced hypertension
b. Premature rupture of membranes
c. Chorioamnionitis
d. Suspected fetal jeopardy as evidenced by biochemical or biophysical indications
e. Maternal medical problems such as diabetes mellitus, renal disease, chronic obstructive pulmonary disease
f. Fetal demise
g. Logistic factors such as risk of rapid labor, distance from hospital
h. Post-term gestation

2. Contraindications:

a. Placentae or vasa previa
b. Abnormal fetal lie
c. Cord presentation
d. Prior classical uterine incision
e. Active genital herpes
f. Pelvic structural deformities
g. Invasive cervical carcinoma
h. Presenting part above the pelvic inlet

E. Hospitals should develop policies and procedures regarding administration of uterotonic agents.

F. If amniotomy is chosen:

1. The station of the fetal head and its application to the cervix should be assessed by the birth attendant and cord presentation ruled out;
2. The fetal heart rate (FHR) should be assessed and documented prior to and immediately after the procedure.

G. Elective induction of labor, defined as the initiation of labor solely for convenience, is **not** recommended.

IX. CESAREAN DELIVERY

A. There should be the capability of starting a cesarean section within 30 minutes of the decision to perform such a delivery.

B. Qualified operating room nurses as well as the anesthesia, obstetric, and neonatal resuscitation personnel required must be either in the hospital or readily available.

C. Indications for an expeditious delivery (thirty minutes or less) may include, but are not limited to:

1. Severe fetal distress
2. Hemorrhage from placenta previa
3. Abruptio placenta
4. Prolapsed umbilical cord
5. Uterine rupture

X. VAGINAL BIRTH AFTER CESAREAN DELIVERY (VBAC)

A. Hospitals should develop policies and procedures for the care of patients with previous cesarean deliveries.

B. Unless there are contraindications to vaginal delivery, women who have had one previous low transverse cesarean delivery should be counseled during the prenatal period and encouraged to attempt labor in their current pregnancy.

C. A woman should not be forced to undergo a trial of labor.

XI. OPERATIVE VAGINAL DELIVERY

A. According to ACOG publications, indications for operative vaginal delivery are either fetal or maternal; they include:

1. Presumed fetal jeopardy
2. Indicated shortening of the second stage
3. Failure to deliver spontaneously after a prolonged second stage (occasionally, fetal malposition, deflexion and asynclitism may lead to arrest of descent or excessive prolongation of the second stage)

B. In the second stage of labor, when the following times are exceeded without continuing progress, the risks and benefits of allowing labor to continue should be assessed:

1. Nulliparas: > 3 hours with a regional anesthetic or > 2 hours without a regional anesthetic
2. Multiparas: >2 hours with a regional anesthetic or > 1 hour without a regional anesthetic

C. Maternal indications for operative vaginal delivery include, but are not limited to:

1. Patients who need to avoid voluntary expulsive efforts, e.g., those with certain cardiac or cerebrovascular diseases
2. Patients whose expulsive efforts are not adequate, e.g., those with certain pulmonary or neuromuscular diseases
3. Patients who are exhausted or uncooperative

D. Conditions necessary to attempt operative vaginal delivery include but are not limited to the following:

1. Adequate anesthesia
2. Appropriate maternal-fetal size relationship
3. Complete cervical dilatation, ruptured membranes and engaged fetal head
4. An experienced person performing or supervising the procedure
5. Empty urinary bladder except when outlet forceps are used
6. Appropriate position of patient
7. Presence of a person experienced in neonatal resuscitation

E. If vacuum extraction is the preferred method, the hospital should have a policy for the type of vacuum and its use; relative contraindications for vacuum extraction include:

1. Prematurity
2. Suspected macrosomia
3. Suspected fetal coagulation defect
4. Fetal scalp blood sampling recently performed
5. A non-vertex position

F. Indications for operative vaginal delivery, including the position and station of the vertex at the time of application, should be specified in a detailed operative description in the patient's medical record.

G. Operative vaginal delivery should be abandoned if it does not proceed easily.

XII. DELIVERY ROOM

A. A person credentialed in neonatal resuscitation, who has no other responsibilities, should be present or immediately available for each delivery.

B. Apgar scores should be obtained and recorded one minute and five minutes after delivery of the neonate. For the neonate whose Apgar score at five minutes is less than seven (7), repeat Apgar determination every five minutes until the score is seven (7) or greater or twenty minutes have elapsed.

C. Unquestionable means of identification should be applied to every infant before leaving the delivery room; such identification should remain on this infant until the infant leaves the hospital.

D. Transition of the neonate usually occurs within the first 6-12 hours after birth, during which time the condition of the neonate should be closely monitored.

1. It is not necessary for a neonate who appears healthy to leave the mother for this transition period if the facilities needed for their observation are in the mother's recovery or postpartum area and there are adequate nursing personnel to observe and document the status of the neonate.

2. The father and supporting persons may remain with the new mother during the immediate postpartum period; parents should be encouraged to interact with the neonate unless such interaction is precluded by maternal or neonatal complications.

3. Breast milk is the best source of nutrition for infants. Breast-feeding should be encouraged in the immediate postpartum period, unless one of the few but absolute contraindications to breast-feeding is present (See page 3:2). Putting the infant to the breast immediately upon delivery is the ideal. This must be attempted as much as possible, to encourage early bonding and a positive experience for the mother.

4. The healthy newborn should be placed on his/her back to sleep whether in the postpartum or recovery area with the mother or in the nursery**.**

Section Five - POSTPARTUM CARE

I. RATIONALE

Medical and other interventions are available to reverse or minimize the negative impact of health and developmental problems identified postpartum.

II. GOAL

Postpartum care should enable the mother and infant to recover from labor as quickly and comfortably as possible, and it should facilitate mother-infant bonding through family-centered care. It should prepare the family to care for the newborn at home, and it should link the family to follow-up medical care and to social support services when needed.

III. POSTPARTUM CARE

A. The mother should be encouraged to have as much physical contact with the infant as possible. Rooming-in should be encouraged.

B. Postpartum care of the mother should be based on patient acuity, type of delivery and physician and nursing judgement. (The following items should be included in discussions with the parents prior to the birth and educational materials should be provided for the parents to take home):

1. When a postpartum sterilization has been requested by the patient,

    a. Immediate postpartum sterilization may be performed if:

        1) There is a stable anesthetic effect;
        2) The mother's condition is stable;
        3) No maternal complications have occurred.

    b. If tubal sterilization necessitates induction of regional or general anesthesia, the patient's condition should be evaluated by the anesthesiologist.

2. Immediate (first hour after delivery) care consists of the following**:**

    a. Evaluating the amount of vaginal bleeding and uterine tone
    b. Observing for hematoma and hemorrhage
    c. Administering agents to prevent postpartum hemorrhage and atony
    d. Monitoring blood pressure and pulse every 15 min. X 1 hour
    e. Providing appropriate analgesia as ordered
    f. Initiating breast feeding, when appropriate and desired

3. After the first hour, the following care and evaluation should be provided:

    a. Permitting bed rest only briefly and encouraging early ambulation, initially with assistance, to decrease incidence of thrombophlebitis
    b. Allowing a shower after ambulation and food as the patient desires
    c. Teaching appropriate perineal care

d. Assessing the adequacy of voiding
e. Evaluating the mother's temperature, and, if elevated, notifying the birth attendant and the nursery
f. Relieving pain with analgesia, and supervising and monitoring all narcotic administration
g. Providing breast care and facilitating breast feeding:
    1) For the non-breast-feeding mother, support breasts with a well fitted brassiere or use breast binder and, if engorgement occurs, treat with ice packs and/or appropriate doses of analgesics.
    2) For the breast-feeding mother, assess "latch on" and encourage frequent feedings (See F below for more detail on breast-feeding).
h. Administering Rh_o immune globulin (300 µg) to the unsensitized Rho (D) negative woman who delivers an Rho (D) or Du positive infant
i. Assessing infectious disease immunity:
    1) Determine the rubella status of the patient, and immunize the rubella susceptible patient with the rubella vaccine in the postpartum period.
    2) If hepatitis B (HbsAg) test is positive (testing should be documented in the patient's chart or ordered as soon as possible), inform the patient and give specific information about the baby (test and vaccinate), household contacts (vaccinate), and sexual contacts (vaccinate).

C. The newborn should be screened for metabolic disorders and hemoglobinopathies.

1. Ideally the blood sample should be collected between 48 and 72 hours after birth.

2. If the infant is discharged prior to 48 hours:

    a. The hospital must still collect a blood sample for newborn screening before discharge regardless of the age of the infant;
    b. Hospital staff should give the parents written and verbal instructions to have the baby retested by 7 days of age. (Pamphlets about this can be obtained from the Genetics Consultant in the Family Health Branch of the Division of Public Health.)

D. If early discharge is desired, the Georgia Guidelines for Early Newborn Discharge, found in Appendix B, are recommended.

E. Follow-up plans for mother and infant should be confirmed with their care providers: follow-up usually occurs at 4-6 weeks post-delivery with a medical review and physical examination.

F. The responsibility for instructing the mother and father and/or predominant care-providers, about care of the infant at home should be assigned to certain staff members. The following items should be included in discussions with the parents and educational materials should be provided for the parents to take home:

1. The physical needs of the infant:

    a. Feeding techniques (See F below for details on breast-feeding)
    b. Bathing and skin care, including cord care, and how to minimize the risk of scalding or drowning
    c. Temperature assessment and measurement with a thermometer

d. Assessment of neonatal well being/ recognition of illness
e. Safe transport/car safety seats for infants
f. Safe sleep environment and reducing the risk of Sudden Infant Death Syndrome (SIDS):
    1) Place the baby on his/her back on a firm, tight-fitting mattress in a crib that meets current safety standards.
    2) Remove pillows, quilts, comforters, sheepskins, stuffed toys and other soft products from the crib. Consider using a sleeper, with no other covering, as an alternative to blankets .
    3) If using a blanket, put the baby with his/her feet at the foot of the crib. Tuck a thin blanket around the crib mattress, only as far as the baby's chest.
    4) Make sure the baby's head remains uncovered during sleep.
    5) Do not place the baby on a waterbed, sofa, soft mattress, pillow or other soft surface to sleep. A one page Safety Alert ("Soft Bedding May Be Hazardous To Babies") is available in English (http://cpsc.gov/cpscpub/pubs/softbed1.html) and in Spanish (http://cpsc.gov/cpscpub/spanish/softbeds.html). These make excellent handouts for parents and include the latest recommendations.

2. Roles of the obstetrician, pediatrician, family physician and other members of the health care team concerned with the continuous medical care of the mother and baby
3. Instructions to follow in the event of a complication or an emergency
4. The need for spacing children and the options for contraception
5. Follow-up visits to medical providers by the mother and/or infant (Appointments should be confirmed for the first post-hospital visits.)
6. Anticipatory guidance (what to expect) and community resources for new parents along with any necessary referrals to programs:

    a. Visiting nurse or home visitor service (first 28 days after discharge),e.g., Children 1st
    b. Social services, e.g., Temporary Assistance to Needy Families (TANF), Medicaid, WIC
    c. Mental health services
    d. Teen support services
    e. Breast-feeding support, lactation consultant
    f. Parenting support services
    g. Early intervention services, e.g., Babies Can't Wait
    h. Respite care services
    i. Family planning services

G. The mother should be encouraged and assisted to continue breast-feeding. Instruction is necessary, particularly for first time mothers. This should include:

1. Positioning
2. Offering the breast and removing the baby from the breast
3. Frequency of feeding
4. Length of feeds
5. Signs of satiety
6. Feeding on demand
7. Breastmilk stools

8. Nutritive suckling versus sucking for comfort
9. Meeting the unique needs of the baby
10. Breast care:
    a. Breast care creams are not routinely needed during pregnancy or while breast-feeding.
    b. If nipples are sore or tender after nursing is started, they should be air dried. If soreness persists beyond the first week, an ultra-fine grade of lanolin may be used.
    c. Contact with soap or any drying substance should be avoided. Nipples should be patted dry, not rubbed.

H. In cases of miscarriage, stillbirth, or infant death, the parent(s) can be referred for bereavement counseling.

Section Six - PERINATAL INFECTIONS

I. RATIONALE

Infections may affect the mother or the neonate or both during the perinatal period. The perinatal care teams should practice and promote meticulous surgical and patient care techniques. Women who have had a complicated pregnancy and/or labor, or a cesarean delivery are at higher risk for infection. Therefore, communication among the providers of care is essential.

II. GOAL

Prevention is the ultimate goal in dealing with perinatal infection. Specific diseases and risks require prompt diagnosis and diligent treatment to minimize the impact on the mother and her newborn.

III. INFECTION PREVENTION AND CONTROL

A. All patient care and environmental services personnel should be instructed in and required to adhere to the following general hospital policies and procedures:

1. Infection control, especially hand washing
2. Employee health and safety
3. Medical waste management plan and exposure control
4. Centers for Disease Control and Prevention's Universal Precautions (CDC-UP)

B. All patient care and environmental services personnel should observe the hospital's obstetrical department dress code.

1. Personnel coming on duty in the obstetrical department should put on clean scrub clothing.

2. Float personnel should change to clean scrub clothing on returning to the obstetrical delivery areas or wear appropriate clothing when leaving the unit.

3. Personal protective equipment should be used in accordance with CDC Universal Precautions when there is a risk of exposure.

4. Head covers, masks, protective eye wear or eyeglasses should be worn in surgical areas.

C. The risk of maternal infection is correlated with length of labor and number of vaginal examinations performed.

1. Vaginal examinations should be kept to a minimum and conducted with careful attention to clean technique.

2. Vaginal examinations should be performed using sterile gloves and sterile water soluble lubricant; “two sterile glove” technique is recommended.

D. Electronic intrauterine pressure and fetal heart rate monitoring require special attention.

1. Intrauterine catheters and spiral electrodes should be placed according to the manufacturers directions using sterile technique.

2. If fluid filled IUPCs are used, all fluid pathways in the pressure monitoring system should be sterile.

3. Caution should be used to avoid contamination during procedures such as amnioinfusion.

E. Proper sterile technique in the delivery area can reduce the risk of infection.

1. The delivery area should be considered a sterile area, especially when cesarean deliveries and tubal ligations are done in the same room in which vaginal deliveries are performed.

2. Before surgery, the operative field should be prepared and draped.

3. Shaving, when necessary, should be done no earlier than 2 hours before surgery.

F. Prophylactic antibiotics should be reserved for the following cases:

1. Patients who may undergo a surgical procedure and who have a high risk of infection
2. Patients in whom the consequences of infection would be life threatening
3. Patients having a cesarean birth after labor has commenced

G. Prenatal screening for infections should be done:

1. In conjunction with admission assessment, antepartum records should be reviewed for the results of tests for STDs, hepatitis B (HBsAg), HIV (if performed), and GBS colonization (if performed - see charts on GBS at end of this Section).

2. For patients with no prenatal care, these screening tests should be performed as part of admission assessment.

3. Neonatal care providers should be advised of abnormal findings from these tests.

H. Special precautions should be taken with patients with known or suspected infections.

1. Pregnant patients, who have transmissible infections and who need to be admitted to the hospital should be segregated in a private room in accordance with established CDC-UP infection control policies.

2. Laboring patients with a known or suspected infectious process should be admitted to a private labor room in accordance with established infection control policies and CDC-UP.

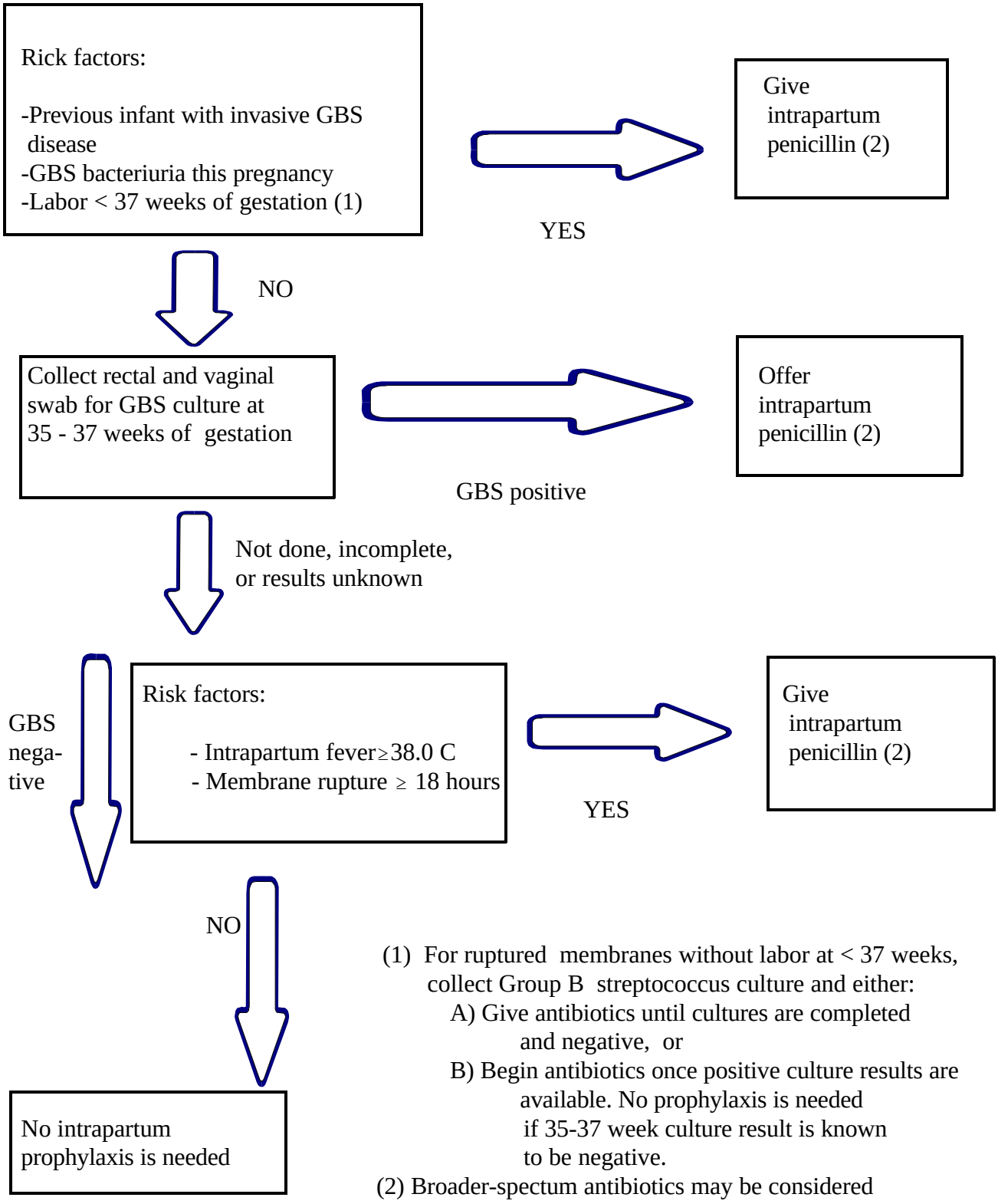
3. Perinatal patients with a known or suspected infection should be managed with established recommendations and guidelines for specific perinatal infections, including Regional Perinatal Center consultations where indicated.

4. Clean GYN cases may be admitted to antepartum/postpartum beds in accordance with established infection control policies.

I. The following clinical perinatal infections are frequently encountered and associated with increased incidence of infectious morbidity for the parturient and/or the newborn. Department guidelines for management of these patients should be adopted based on established recommendations and consultations with the Regional Perinatal Centers:

1. Pyelonephritis
2. Premature rupture of amnion
3. Clinical choriamnionitis
4. Group B streptococcal disease (see charts following this page)
5. Tuberculosis
6. Bacteremia
7. Endometritis
8. Mastitis
9. Epidemic puerperal sepsis
10. Septic pelvic thrombophlebitis
11. HIV (See the National Institute of Health Guidelines: 11/98, Maternal HIV Risk Reduction)

Prevention Strategy for Group B Streptococcus Disease Using Perinatal Screening

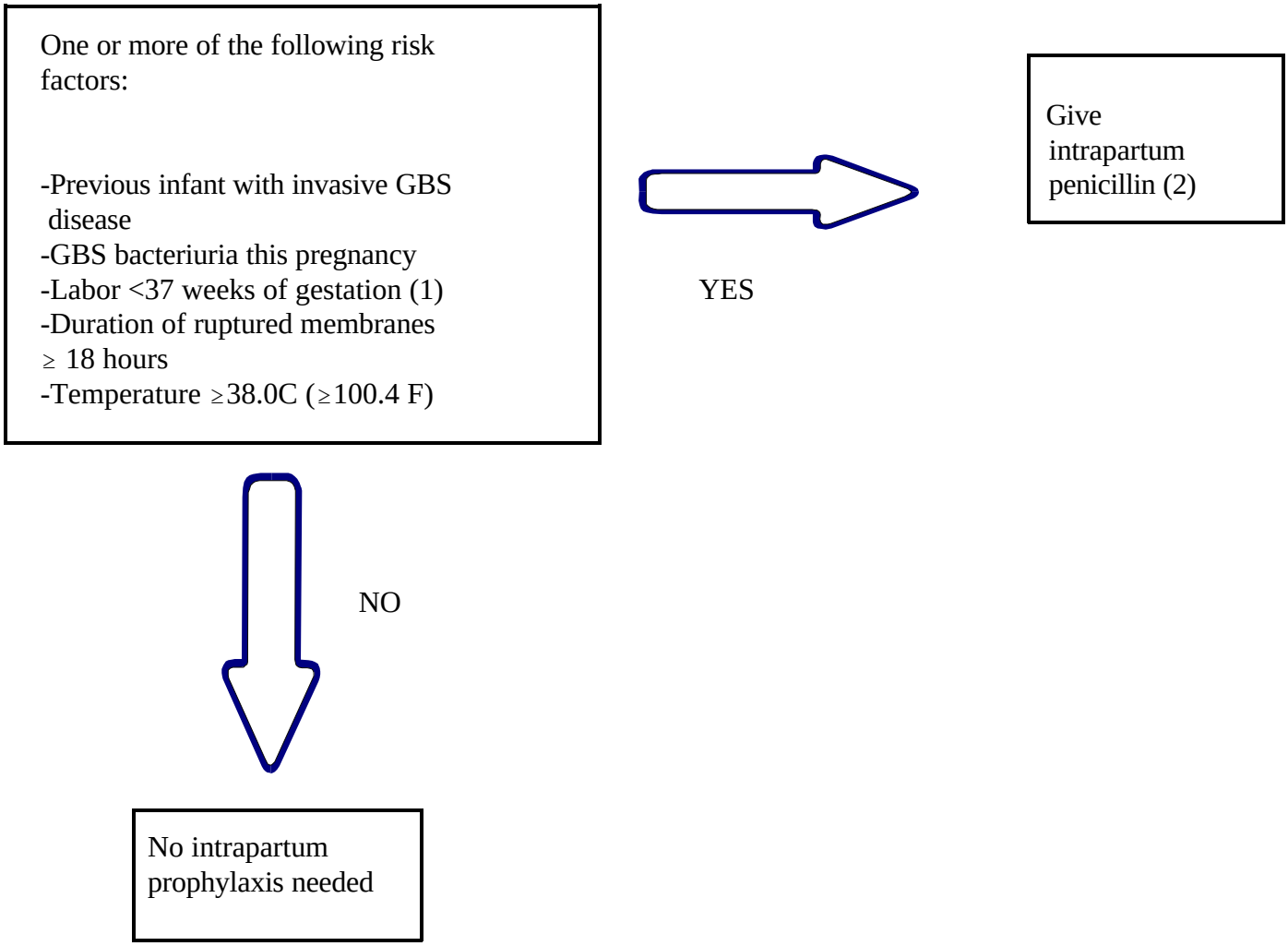


(1) For ruptured membranes without labor at < 37 weeks, collect Group B streptococcus culture and either:
A) Give antibiotics until cultures are completed and negative, or
B) Begin antibiotics once positive culture results are available. No prophylaxis is needed if 35-37 week culture result is known to be negative.

(2) Broader-spectum antibiotics may be considered at the discretion of the physician based on clinical indications.

(Centers for Disease Control and Prevention. "Prevention of perinatal GBS disease: a public health perspective," Morbidity & Mortality Weekly Report 1996; 45[RR-7]:1 - 24)

Prevention Strategy for Group B Streptococcus Disease Using Risk Factors



(1) For ruptured membranes without labor at <37 weeks, collect GBS culture and either:
A) Give antibiotics until cultures are completed and negative, or
B) Begin antibiotics once positive culture results are available.

(2) Broader-spectrum antibiotics may be considered at the discretion of the physician based on clinical indications

(Centers for Disease Control and Prevention. "Prevention of perinatal GBS disease: a public health perspective," Morbidity & Mortality Weekly Report 1996; 45[RR-7]:1 - 24)

Section Seven -
HOSPITAL BASED PERINATAL GUIDELINES

DEFINITIONS

BASIC PERINATAL HOSPITAL SERVICES	SPECIALITY PERINATAL HOSPITAL SERVICES	SUBSPECIALTY PERINATAL HOSPITAL SERVICES
Basic Perinatal Hospitals have the facilities and equipment and the medical and support staff necessary to: • Provide basic inpatient care for pregnant women and newborns without complications; • Manage perinatal emergencies, consult with physicians at specialty and subspecialty hospitals and refer perinatal patients to them when necessary; • Identify high-risk pregnancies as early as possible and consult with physicians at specialty or subspecialty hospitals and refer such patients when necessary; • Participate in a system which provides follow-up care for new mothers and infants; • Provide professional continuing medical education; • Provide public/community education on perinatal health.	Speciality Perinatal Hospitals meet the criteria of a Basic Perinatal Hospital plus the Specialty Perinatal Hospitals have the facilities and equipment and the medical and support staff to: • Manage certain high-risk pregnancies, including maternal referrals from basic care hospitals; • Care for moderately ill newborns; • Provide consultation and accept referrals.	Subspecialty Perinatal Hospitals meet the criteria for Speciality Perinatal Hospitals plus they have the highest level of technological capability available in the state as well as the additional specialty medical and support staff to provide the following: • Care for all maternal and fetal complications either on-site or by referral; • Neonatal Intensive Care Units (NICUs) equipped to treat critically ill neonates; The state is divided into six perinatal regions and within each region a Subspecialty Perinatal Hospital is designated by the state Division of Public Health as a **Regional Perinatal Center**: Grady Health System, Atlanta Phoebe Putney Memorial Hospital, Albany Medical College of Georgia Hospitals, Augusta The Medical Center, Columbus The Medical Center of Central Georgia, Macon Memorial Medical Center, Savannah

ORGANIZATIONAL SYSTEMS/STRUCTURE		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
Basic Perinatal Hospitals should have policies that medical staff will: • Admit patients regardless of race, creed, place of residence, national origin, or ability to pay; • Admit patients directly and as transfers from other counties and hospitals. Basic Perinatal Hospitals should have a written policy for early newborn discharge that conforms to the Georgia Newborn Baby and Mother Protection Act (See Appendix B). Basic Perinatal Hospitals should participate in the regional perinatal network: • Relationships with other hospitals, including Regional Perinatal Centers, should be defined in writing. • There should be a written policy regarding medical consultation for pregnant women and neonates and the transport of pregnant women and neonates to the appropriate level of care. Obstetrical care decisions should be commensurate with the level of care provided by the neonatal unit, i.e., the pregnant woman should be transported, if possible, to a hospital with the appropriate level of care when her baby is expected to need a higher level of neonatal care than the hospital can provide. • A written policy should define which cases of back transport can be accepted. • The Basic Perinatal Hospital staff should: - Develop a system of coordination and consultation with appropriate staff in other hospitals, local health departments, and community services, as well as with other health care providers; - Ensure medical follow-up for all new mothers and neonates as well as well-child follow-up post discharge. - Collect, collate and review mortality and morbidity data quarterly and annually to assist in evaluating and improving quality of care; this data may also be employed in the development of a regional and/or state data base.	In addition to the duties listed under the Basic Perinatal Hospital, the Specialty Perinatal Hospital should provide: • A maternal-fetal medicine specialist* for consultation and, if necessary, referral to a Subspecialty Perinatal Hospital for certain maternal/fetal complications; • A neonatologist* for consultation and, if necessary, referral to a Subspecialty Perinatal Hospital; all infants requiring ventilator assistance for more than six hours should be considered for transport to a Subspecialty Perinatal Hospital. *The neonatologist or the maternal/fetal medicine specialist may be on the staff of the Specialty Perinatal Hospital and be available to the Basic Perinatal Hospitals in the network or may be at a Subspecialty Perinatal Hospital which consults with the Specialty Perinatal Hospital. There should be an established relationship, defined in writing, at all three levels.	In addition to the duties listed for the Basic and Specialty Perinatal Hospitals, Subspecialty Perinatal Hospital medical staff should provide maternal-fetal and neonatal specialist consultation to Basic and Specialty Perinatal Hospitals. The Subspecialty Perinatal Hospital medical staff may consult with physicians at another Subspecialty Perinatal Hospital or transfer a patient to another Subspecialty Perinatal Hospital if the expertise there is more relevant to the patient's condition. Among the Subspecialty Perinatal Hospitals the six **Regional Perinatal Centers** should provide: • Coordination of transport services; • Continuing medical education throughout their regions; • Leadership in the development and evaluation of the perinatal system.

CARE CAPABILITIES		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
Basic Perinatal Hospitals should have an array of services, staff and equipment, as outlined in Guidelines for Perinatal Care, 4th Edition. Perinatal medical care providers at a Basic Perinatal Hospital should: • Do risk assessment of the pregnant woman or newborn based, when necessary, on consultation with physicians at Specialty or Subspecialty Hospitals; • Manage perinatal emergencies and refer/transport the pregnant woman or newborn, when necessary, to the Specialty or Subspecialty Perinatal Hospital best able to provide treatment for that particular patient; • Care for uncomplicated pregnancies, labor and deliveries; • Care for newborns with uncomplicated conditions and those who require emergency resuscitation and/or stabilization for transport. A Basic Perinatal Hospital should provide: • Resuscitation and stabilization of infants in the delivery room 24 hours a day, 7 days a week, by personnel trained in a formal education program such as the Neonatal Resuscitation Program or an equivalent; • A system to ensure medical follow-up for all new mothers and neonates as well as well-child follow-up post discharge.	Specialty Perinatal Hospitals should have the same care capabilities as Basic Perinatal Hospitals plus services and management for patients with selected complicated conditions such as the following: • Moderately ill newborns with problems which are expected to resolve rapidly; • Extremely ill newborns needing stabilization prior to transport; • Recovering neonates who can be safely transferred back from the Subspecialty Perinatal hospital; • Certain maternal/fetal complications. There is an expected variance of specialization among these hospitals: inpatient obstetric capabilities may be at a different level than neonatal care capabilities. A neonatal service is not required or necessary at every location where a maternal-fetal medicine service exists. However, if a pregnant woman is expected to deliver a newborn with problems beyond the capability of the neonatal service at the specialty hospital, the mother should be transported for delivery at a subspecialty hospital, even if a neonatologist is available at the specialty hospital.	Subspecialty Perinatal Hospitals should have the same care capabilities as Specialty Perinatal Hospitals, plus: • Medical staff to care for any maternal/fetal complications either on-site or by referral; • A Neonatal Intensive Care Unit (NICU) staffed and equipped to treat critically ill neonates plus a sufficient intermediate care capacity for convalescing and moderately ill neonates; • Assurance of follow-up medical care for perinatal patients requiring special medical care: - A discharge planning process to coordinate home medical care, follow-up medical care of the medically fragile perinatal patient and neuro-developmental assessments of neonatal patients at risk for handicaps; - Coordination with the local Health Department, HealthCheck, WIC (Women, Infants and Children) and other community, state and federal health programs providing services appropriate to the needs of infants.

FACILITIES for NEWBORNS

BASIC PERINATAL HOSPITAL SERVICES	SPECIALTY PERINATAL HOSPITAL SERVICES	SUBSPECIALTY PERINATAL HOSPITAL SERVICES
NEWBORN NURSERY The nursery should be close to the postpartum area. In a multi-floor maternity unit, there should be a newborn nursery on each floor. There should be thirty (30) sq. ft. of floor space for each neonate and at least 3 ft. between bassinets in all directions. One pair of wall-mounted electrical outlets is recommended for each two neonatal stations. One oxygen outlet, one compressed air outlet, and one suction outlet are recommended for each five or six neonatal stations. Equipment and supplies required should be available in the continuing care area. The walls and floors in the nursery should be constructed of materials that are easily washable. The storage area should be located to allow access to items without entering corridors. Adequate work space for handling clean and soiled materials and equipment should be available in two rooms, one for clean and one for dirty items. A separate storage area for janitorial supplies and equipment should be provided.	**NEWBORN NURSERY** The facilities at a Specialty Perinatal Hospital should be the same as at a Basic Perinatal Hospital with the following changes: • There should be 40 sq. ft. of floor space for each patient station and approximately 4 ft. between basinetts or isolettes. • There should be eight electrical outlets, two oxygen outlets, two compressed air outlets, and two suction outlets for each neonatal station.	**NEONATAL INTENSIVE CARE UNIT** The Subspecialty Perinatal Hospital should have, in addition to basic and intermediate newborn facilities, a Neonatal Intensive Care Unit (NICU). **NICU LOCATION WITHIN THE HOSPITAL** The NICU should be a distinct area within the health care facility, with controlled access and a controlled environment. When possible, the neonatal intensive care area should be near the delivery/cesarean birth room and should be easily accessible from the hospital's ambulance entrance. **NICU UNIT CONFIGURATION** The NICU design may range from an open ward to an individual cubicle or room configuration. Measures should be taken to individualize the care giving environment and services for each infant and family. **NICU MINIMUM CLEARANCES** There should be a minimum clear space of 3 ft. on each of the three sides of the patient bed for work space and parental access. The minimum clearance should exclude space for headwalls, sinks, charting areas, and other fixed equipment in the patient care area, and should not overlap with other patient care space or aisles. There should be an aisle for circulation adjacent to each patient care space with a minimum width of 3 ft.

FACILITIES for NEWBORNS (continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
Cabinets and counters should be available within the newborn care area for the storage of routinely used supplies, such as diapers, formula, and linens. If circumcisions are performed in the nursery, an appropriate table with adequate lighting and provisions for thermo regulation are required. Electrical outlets to power portable X-ray machines are highly recommended. There should be a scrub sink with hot and cold running water. It should be operated with controls other than hand controls and there should be dispensers for disinfecting soaps and for paper towels. There should be covered waste receptacles with foot controls. **UTILITIES** Lighting should be sufficient for easy detection of jaundice and cyanosis. Controls for the regulation of heat and humidity in the nursery suite should be separate from control systems for other areas in the hospital. The nursery temperature should be maintained at 24-26 degrees centigrade (75-80 degrees F) with a relative humidity of thirty (30) to sixty (60) percent. Air from any other area of the hospital should not be recirculated into the nursery. Ventilation of the nursery suite should provide the equivalent admixture of a minimum of twelve (12) total air changes per hour. Seven (7) recirculation changes of inside air are permitted so long as filters having 90 percent efficiency are installed in the system and this efficiency is maintained.		**ELECTRICAL, GAS SUPPLY, AND MECHANICAL NEEDS** Mechanical requirements at each patient care bed, such as electrical and gas outlets, should be organized to ensure safety, easy access and maintenance. There should be at least 20 simultaneously accessible simplex electrical outlets (or 10 duplex). There should be at least 3 air, 3 oxygen and 3 vacuum simultaneously accessible gas outlets. There should be a mixture of emergency and normal power outlets per National Fire Protection Association (NFPA) recommendations. **ISOLATION ROOM(S)** When an isolation room is provided, it should have a separate hand washing sink. **NICU ENTRY SCRUB AREA** At the NICU entrance, there should be a scrub area that can accommodate all individuals entering the area. It should have hands-free operated sinks large enough to contain splashing. **SINKS IN PATIENT CARE AREA** Where individual rooms are used, a hands-free hand-washing sink should be provided within each patient care room. In an open bed configuration, every bed position should be within 20 ft. of a hand-washing sink. All supply and medical equipment rooms should have convenient access to at least one sink.

FACILITIES for NEWBORNS (continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
The following electrical power safeguards should be followed: • Emergency on-site single-phase electrical power with an automatic transfer switch should be provided to serve critical equipment in the newborn nursery. • A common ground should be provided for all electrical outlets serving an infant station. • Extension cords, cheater plugs and multiple outlet adaptors should NOT be used. • Evaluation checks should be made of all elements of electrical power distribution systems, including receptacles, following new construction and renovation or replacement and at least annually thereafter. Documented records of evaluation checks should be maintained. **RESUSCITATION AREA** Newborn units should be located near delivery room(s). If not immediately adjacent to the delivery area, an infant stabilization area (meeting special care requirements with four electrical outlets, one oxygen and one suction outlet with 40 sq. ft. of space) should be located in, or adjacent to, the delivery room.		**GENERAL SUPPORT SPACE** Distinct facilities should be provided for clean and soiled utilities, medical equipment storage, and unit management services. **TRANSITION ROOM** A transition room should be provided in proximity to the NICU that allows parents and infants extended private time together. This room should have direct, private access to sink and toilet facilities, a bed for parents, telephone or intercom linkage with the NICU staff, and sufficient electrical and gas outlets. The room can be used for other family educational, counseling, or demonstration purposes when not needed as a transition room. **STAFF SUPPORT SPACE** Space should be provided within the NICU to meet the professional, personal and administrative needs of the staff. Rooms should be sized to provide privacy and to satisfy their intended function. Locker, lounge and on-call rooms are required at a minimum. **ANCILLARY NEEDS** Distinct support space should be provided for respiratory therapy, laboratory, pharmacy, radiology, and other ancillary services when these activities are routinely performed on the unit. **BREAST-FEEDING ROOM** A room that has a primary purpose for breast-feeding, lactation training, and use of a breast pump should be provided in proximity to the NICU. A telephone or intercom link to the NICU should be available. **FAMILY SUPPORT SPACE** Space should be provided in or immediately adjacent to the NICU for the following functions: family waiting area, lockable storage, and family consultation, counseling and education.

FACILITIES for NEWBORNS(continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
		AMBIENT LIGHT IN PATIENT CARE AREAS Ambient lighting levels in newborn intensive care rooms should be adjustable, through a range of at least 10-600 lux (approximately 1 to 60 foot candles). Light sources should have controls that allow immediately darkening of any bed position sufficient for trans-illumination when necessary. Artificial light sources should have a special distribution similar to that of daylight and should avoid unnecessary ultraviolet or infrared radiation by the use of appropriate lamps, lenses, or filters. **PROCEDURE LIGHTING IN PATIENT CARE AREAS** Separate procedure lighting should be available to each patient care position, which provides no more than 1500 to 2000 lux (150 to 200 foot candles) of illumination to the patient bed. This lighting should minimize shadows and glare. It should be rheostat-controlled so lighting at less than maximal levels can be provided whenever possible, and light should be highly framed, so babies at adjacent bed positions will not experience any increase in illumination. **ILLUMINATION OF SUPPORT AREAS** Illumination of support areas within the NICU, including the charting areas, medication preparation area, and the reception desk and hand washing areas, should conform to Illuminating Engineering Society specifications. **NATURAL LIGHTING** At least one source of natural light should be visible from patient care areas. External windows in patient care areas should be glazed with insulating glass to minimize heat gain or loss and should be situated at least 2 ft. away from any part of a patient bed to minimize radiant heat loss from the baby. All external windows should be equipped with shading devices. **FLOOR SURFACES** Floor surfaces should be easily cleanable and should minimize the growth of micro-organisms. Floor should be durable to withstand frequent cleaning and heavy traffic.

FACILITIES for NEWBORNS(continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
		WALL SURFACES Wall surfaces should be easily cleanable and have protective devices at points where contact with movable equipment is likely to occur. **COUNTERTOPS, CASEWORK AND CABINETRY** Countertops, casework, and cabinetry, especially in the patient care areas, should be easily cleanable with the fewest possible seams. Exposed surface seams should be sealed. Casework and cabinetry should be of durable construction to withstand impact without significant damage from the variety of carts which will be present in the NICU. They should also be of sufficient moisture resistance to allow puddling of various liquids without deterioration. **CEILING FINISHES** Ceilings should be easily cleanable and constructed in a manner to prohibit passage of particles from the cavity above the ceiling into the clinical environment. Ceiling construction should not be friable. **AMBIENT TEMPERATURE AND VENTILATION** The NICU should be designed to provide an air temperature of 72F to 78F and a relative humidity of between 40% and 60% while avoiding condensation on wall and window surfaces. A minimum of six air changes per hour are required, with a minimum of two changes being outside air. The ventilation pattern should inhibit particulate matter from moving freely in the space, and intake and exhaust vents should be situated as to minimize drafts on or near the patient beds. Ventilation air delivered to the NICU should be filtered at 90% efficiency. Fresh air intake should be located at least 25 ft. from exhaust outlets of ventilating systems, combustion equipment stacks, medical/surgical vacuum systems, plumbing vents, or areas that may collect vehicular exhausts or other noxious fumes. Prevailing winds or proximity to other structures may require greater clearance. **NOISE ABATEMENT** The patient bed area should be designed to minimize the impact of noise on the infant and staff. The design of the unit, selection of equipment, and operational policies should keep peak noise levels below 95 decibels on the A level and mean levels below 75 decibels.

FACILITIES for NEWBORNS(continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
		INTERMEDIATE NEONATAL CARE The neonatal intermediate care area should be close to the delivery/cesarean birth room and the intensive care area, and away from general hospital traffic. An estimated 50 sq. ft. of floor space is needed for every patient station. Space needed for other purposes (e.g., for desks, counters, cabinets, corridors, and treatment rooms) should be added to the space needed for patients. Neonates receiving intermediate care may be housed in a single large room or in two or more smaller rooms. Eight electrical outlets, two oxygen outlets, two compressed air outlets, and two suction outlets should be provided for each patient station.

EQUIPMENT		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
Basic Perinatal Hospitals should have the following equipment: **ENVIRONMENTAL CONTROL**: • In house transport units • Infant warmers • Soiled linen receptacles and waste receptacles with covers controlled by foot lever and with removable plastic liners: one of each for every six infants • Emergency communication system **DIAGNOSTIC:** • Cardiopulmonary monitoring equipment • Doppler blood pressure equipment suitable for newborns • Portable X-ray • Pulse oximeter • Blood glucose monitoring system • Oxygen analyzer • Set of examination instruments • Thermometers • Scale tared to 10 grams • Pediatric stethoscope **TREATMENT:** • Infusion pumps • Phototherapy units • Umbilical vessel and peripheral vessel cutdown tray • Umbilical catheter 3.5, 5F • Regulated suction equipment • Resuscitation equipment, as defined in the National Resuscitation Program • Thoracotomy tray	Specialty Perinatal Hospitals should have the same equipment as Basic Perinatal Hospitals plus the following: **DIAGNOSTIC:** • EKG • Ultrasound • Invasive arterial blood pressure monitors • Maternal uterine activity and fetal heart rate monitors **TREATMENT:** • Microinfusion pumps • Mechanical ventilator • Macroinfusion pumps	Subspecialty Perinatal Hospitals should have the same equipment as Specialty Perinatal Hospitals plus the following: **DIAGNOSTIC:** Diagnostic radiologic equipment should include: • CT/MRI • Fluoroscopy • Echocardiography • Ultrasound for mother and infants

PERSONNEL		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
NURSING SERVICES		
A Basic Perinatal Hospital should have the following nursing staff: • A registered nurse whose responsibility includes the organization and supervision of nursing services in the antepartum, intrapartum and newborn care areas; • One or more registered nurse(s), or licensed practical nurse(s), with demonstrated knowledge and experience in the nursing care of mothers, fetuses, and newborns during labor and/or delivery and in postpartum and neonatal periods; • A registered nurse responsible for initial and ongoing assessment, care, education, preparation for discharge and follow up for mother and newborn: this nurse should have training and experience in the recognition of normal and abnormal physical and emotional characteristics of the mother and newborn. The recommended nurse/patient ratio for maternal and neonatal care services should comply with Guidelines for Perinatal Care, 4th edition. See “Hospital Staffing” on page 4:1 of this document.	A Specialty Perinatal Hospital should have the same nursing staff as a Basic Perinatal Hospital plus the following: • Registered nurses with education or clinical experience in neonatal nursing and experience in care of ill newborns; • Registered nurses with education and experience in high-risk maternity care; • Personnel experienced in airway management and emergency intervention in-house on a 24-hour basis if a patient is on mechanical ventilation. All nurses caring for ill newborns should possess demonstrated knowledge in the observation and treatment of these newborns including techniques of cardiorespiratory monitoring. Nurses in the specialty perinatal center are also responsible for providing support for mothers/families with infants requiring intensive care as well as facilitating visitation and communication with the neonatal intensive care unit.	A Subspecialty Perinatal Hospital should have the nursing staff recommended for a Specialty Perinatal Hospital plus the following: • A supervisor of nursery services who possesses a baccalaureate degree with training and clinical competence in neonatal nursing, with responsibility to manage the unit and supervision of direct inpatient care; • Nursing staff (RN or LPN) with specialty certification or advanced training and experience in: - The nursing management of high risk infants and their families, - Caring for unstable neonates with multisystem problems, and - Specialized care technology.

PERSONNEL (continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
PHYSICIAN, CERTIFIED NURSE MIDWIFE AND NURSE PRACTITIONER SERVICES		
In a Basic Perinatal Hospital all deliveries should be attended by an obstetrician, a physician with obstetrical privileges, or a certified nurse midwife. All newborns should have a physical examination from an appropriately accredited physician or nurse practitioner, and an assessment as appropriate before discharge (See Appendix B). See "Hospital Staffing" page 4:1.	Specialty Perinatal Hospitals should meet the same criteria as Basic Perinatal Hospital plus: It should have an appropriately trained * pediatrician with a special interest in neonatology or a neonatologist to serve as director of any extended care neonatal services. The director should maintain a consultive relationship with subspecialty center neonatal intensive care physicians. Responsibilities of this individual include defining and establishing appropriate procedures for the nursery and neonatal follow up and integrating and coordinating the following: • A system for consultation and referral, • In-service education programs, • Communication with other members of the perinatal team. A pediatrician may supervise CPAP, emergency ventilation prior to transfer and care of selected newborns not requiring a higher level of care. Extended ventilation should be supervised by an appropriately trained* neonatologist. An appropriately trained* obstetrician should be appointed to be responsible for delivery services and assist with matters of referral and consultation with maternal-fetal medicine specialists as appropriate. Physician consultation for other services should be coordinated through the Regional Perinatal Center within the regional network.	Subspecialty Perinatal Hospitals should meet the same criteria as Specialty Perinatal Hospitals plus they should have an appropriately trained neonatologist with the following responsibilities: • Integrating and coordinating a system for consultation, • Integrating and coordinating in-service education, • Maintaining close coordination and communication with referring hospitals and other perinatal centers, • Working with members of the perinatal team to define and establish appropriate procedures for care of all neonatal patients. The Director of the NICU should have responsibility for treatment of infants in the unit who are not under the care of other physicians. Physicians with specialties in surgery, pulmonary disease, infectious disease, hematology, cardiology, etc., should be readily available for consultation. There should be an arrangement for referral elsewhere for any subspecialty care not available on site. Maternal-fetal medicine specialists may be involved in subspecialty services. Such specialists are required for Regional Perinatal Center designation.

*Appropriately trained refers to the successful completion of an approved residency or fellowship.

PERSONNEL (continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
NEONATAL COORDINATION SERVICES (PHYSICIANS AND NURSES)		
		The Medical Director and Transport Coordinator should be responsible for staffing and scheduling neonatal transport and for training neonatal transport personnel. A Discharge Planning Coordinator should: • Coordinate post-discharge medical care and screening evaluations for neurodevelopmental assessments for patients at risk for handicaps; • Establish linkages with local health departments and other public and private community, state, or federal health programs which provide services appropriate to the needs of infants. This includes referral to *Children 1st* or other appropriate tracking programs. There should be a Director of Follow-up Clinics**.**

PERSONNEL (continued)		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALITY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
ALLIED HEALTH SERVICES		
A Basic Perinatal Hospital should have the following allied health staff: • Adequate personnel for clinical laboratory, blood bank, x-ray and ultrasound services; • Registered dieticians with knowledge of maternal and infant nutrition and who can support breast feeding; • A medical social worker.	In addition to staff recommended for a Basic Perinatal Hospital, a Specialty Perinatal Hospital should also have a respiratory therapist, a certified lab technician/blood gas technician, and an X-ray technologist in-house on a 24-hour basis when a neonate is being managed on mechanical ventilation or when a high-risk pregnant patient is being managed. If premature infants who need parenteral support are cared for, a nutritionist with perenteral experience should be on staff.	A Subspecialty Perinatal Hospital should have the following staff: • Respiratory therapist(s), certified lab technicians/blood gas technician(s), radiology technician(s) in-house on a 24-hour basis; • A registered dietician with knowledge of parenteral nutritional management; • Perinatal social workers; • Personnel with appropriate training and support to conduct a continuing education program; • An engineer with expertise in biomedical electronic monitoring; • Pharmacology personnel with interest and experience in perinatal pharmacology and total parenteral nutrition; • Physical therapists with special training and interest in perinatal medicine; • Blood Bank personnel on a 24-hour basis.

LABORATORY AND DIAGNOSTIC SERVICES		
BASIC PERINATAL HOSPITAL SERVICES	**SPECIALTY PERINATAL HOSPITAL SERVICES**	**SUBSPECIALTY PERINATAL HOSPITAL SERVICES**
Clinical laboratory, blood bank, x-ray and ultrasound services should be available or on call on a 24-hour basis with the capability to perform studies necessary for maternal and newborn care; micro technique is preferable.	In addition to services provided at a Basic Hospital, **portable** X-ray and ultrasound services should be available on a 24-hour basis.	In addition to services available at a Specialty Perinatal Hospital, Subspecialty Perinatal Hospitals should provide diagnostic radiologic equipment such as CT, MRI, and radioisotope scanning. Fluoroscopy and other dye studies should be available in-house or by consultation with another subspecialty perinatal center.

PATIENT AND COMMUNITY EDUCATION

ALL PERINATAL HOSPITAL SERVICES

All Perinatal Hospitals should:

- Provide patient education and discharge planning with special attention to mothers and neonates with special health care needs;
- Assume the role of primary and preventive perinatal care provider by developing strong perinatal education programs and interconception and antepartum services in a community forum.

APPENDIX A

Perinatal Consultation and Transport Guidelines, Georgia 1995

Suggested Parameters for Implementing Guidelines for Neonatal/Maternal Transport

Suggested Medical Criteria to Consider When Determining the Need for Consultation or Transport of the Perinatal Patient

Source: Council on Maternal and Infant Health

Contact: Perinatal Unit Manager, Women's Health, Division of Public Health (404)657-3138

PERINATAL CONSULTATION AND TRANSPORT GUIDELINES GEORGIA, 1995

DEVELOPED AND ADOPTED BY
THE COUNCIL ON MATERNAL AND INFANT HEALTH
MAY 1995

These guidelines are being implemented by the Regional Perinatal Directors in concert with their Regional Hospitals.

Every hospital with perinatal services shall have a written policy regarding consultation for pregnant women and neonates and the transport of pregnant women and neonates to the appropriate level of care.

Such policy shall provide:

A) medical criteria for consultation and transport;

B) mechanism for transport services;

C) identification of hospital(s) to which consultation and transport may be made with documentation and mutual consent between the participating institutions.

Each regional perinatal center shall be responsible for documenting the presence of this policy in hospitals within its region and report the presence of this documentation to the appropriate office in the Department of Human Resources.

SUGGESTED PARAMETERS FOR IMPLEMENTING GUIDELINES FOR NEONATAL/MATERNAL TRANSPORT

I. The appropriate medical staff of each hospital will develop medical criteria for consultation and referral of pregnant women and neonates.

Transport should be considered when the resources immediately available to the maternal, fetal or neonatal patient are not considered to be adequate to deal with the patient's actual or anticipated condition. There should be mutual agreement between obstetric and pediatric personnel in each hospital to assure internal consistency. The level of obstetrical care should not exceed the level of care for the newborn in a single institution. The criteria developed by each hospital for consult and referral should serve as a guide to support the physician's assessment in a specific case and are not intended to describe the standard of care.

Exceptions from the criteria are acceptable in those instances where qualified medical persons determine such an exception is appropriate and the basis for such determination is documented in the patient's record. Medical conditions of the pregnant women, fetus and the newborn which may indicate consultation or referral with a receiving hospital are noted in Appendix C.

It is emphasized that the criteria for consultation and referral are based on the availability of facilities, equipment, and personnel appropriate to manage that patient at the receiving hospital. The criteria developed therefore for each perinatal hospital will be unique to that hospital. These criteria will be made available for review and documentation by the maternal and neonatal directors of the designated Regional Perinatal Center regardless of the hospitals involved in the referrals.

II. Each hospital should develop an identifiable mechanism for transporting the perinatal patient.

The transport policy should address a) pre-transport patient stabilization; b) co-ordination of appropriate communication between the referring and receiving physicians; c) identification of the appropriate transport services; and d) initiation of the transport services. All policies must comply with Emergency Medical Treatment and Active Labor Act (COBRA).

III. Each hospital should develop consultation and transport agreements.

These agreements may be completed under a letter of mutual consent between the referring and receiving hospitals. A sample written letter of agreement is provided at the

end of Appendix C.

A referring hospital's personnel may develop transport agreements with more than one receiving hospital. The selection of the receiving hospital is at the discretion of the personnel of the referring hospital. It is suggested that the most important determinant in the selection process should be the presence of available and accessible care at the receiving hospital appropriate to the patient's need. The presence of an agreement between a referring and receiving hospital does not mandate that an individual patient of necessity be transported to that particular hospital. Each regional perinatal center shall be responsible for documenting the presence of this policy in hospitals within its regional and report this documentation to the appropriate office in the Department of Human Resources.

IV. These policies should be reviewed every three years or as the capabilities of the involved facilities change. These changes should be communicated to the Regional Perinatal Center.

V. Assistance in implementing these guidelines is available by contacting personnel at the Regional Perinatal Centers and may be found in **The Guidelines for Perinatal Care, Third Edition, 1992,** published by the American Academy of Pediatrics and the American College of Obstetrics and Gynecology.

American Academy of Pediatrics
141 Northwest Point Road
Elk Grove Village, IL 60009-0927

American College of Obstetricians and Gynecologists
409 12th Street, SW
Washington, DC 20024-2188

SUGGESTED MEDICAL CRITERIA TO CONSIDER WHEN DETERMINING THE NEED FOR CONSULTATION OR TRANSPORT OF THE PERINATAL PATIENT

The following list of criteria are to be considered when determining the need for consultation or transport. It is recognized that each situation is unique and nothing can substitute for the individual physician's evaluation and judgement. These criteria are offered as a guide to support the development of consultation and transport criteria for an individual hospital.

I. Maternal Conditions

A. Obstetrical conditions

1. Premature rupture of the membranes (between 20 and 34 weeks)
2. Preterm labor (between 20 and 34 weeks)
3. Severe pre-eclampsia, eclampsia, or other hypertensive complications
4. Multiple gestation
5. Third trimester vaginal bleeding (20 to 34 weeks)

B. Medical Complications

1. Serious infection
2. Severe cardiovascular disease including poorly controlled chronic hypertension
3. Poorly controlled diabetes mellitus
4. Endocrine disorder including hyperthyroidism
5. Renal disease with deteriorating function or increasing hypertension
6. Drug overdose or addiction
7. Acute and chronic liver disease
8. Cancer in pregnancy
9. Neurological disorder (cerebral aneurysms, encephalitis, history of intracranial hemorrhage, etc.)
10. Collagen vascular disease
11. Maternal pulmonary disease
12. Coagulopathy
13. Maternal pulmonary disease complicated by pulmonary insufficiency

C. Surgical Complications

1. Trauma requiring intensive care of surgical correction or requiring a procedure that may result in the onset of premature labor
2. Acute abdominal emergency

II. Fetal Conditions

A. Need for antenatal fetal evaluation when there is a question about the fetal condition or welfare.

B. Congenital anomalies that may require surgery

C. Complicated antenatal genetic problems

D. Isoimmunization with or without hydrops

E. Intrauterine growth retardation, severe with oligohydramnios

III. Neonatal Conditions

A. Preterm infant at less than 32-34 weeks or less than 1,800-2,000 grams

B. Persistent respiratory distress

C. Respiratory failure from any cause

D. Conditions requiring sub-specialty consultations, special diagnostic procedures or surgery

E. Cardiac disorders requiring special diagnostic procedures or surgery

F. Suspected sepsis, meningitis or other serious neonatal infections

G. Hypoglycemia

H. Seizures refractory to usual treatment

I. Persistent sequelae of hypoxemia with evidence of multisystem involvement

J. Hemolytic disease, if exchange transfusion is required

K. Drug withdrawal.

SAMPLE

Perinatal Consultation/Transport Agreement

In accordance with the Perinatal Consultation/Transport Guideline: Georgia, 1995, we agree to accept on a case by case basis appropriate neonatal/maternal transports from (Hospital). Appropriate transfers include but are not limited to those which:

1. The (name of sending hospital) has provided treatment within its capacity to minimize the risks to the health of the patient and the unborn child.

2. The (name of receiving hospital) has available space and appropriate personnel to treat the condition and the physician has agreed to accept the transfer. The appropriate hospital transfer record will be completed as per policy prior to discharge including the name of the accepting physician.

3. Information has been given to (name of receiving hospital) regarding the patient's emergency condition, including observations, preliminary diagnosis, test results and treatment provided.

4. The transfer is effected through appropriate personnel and transportation equipment.

Sending Hospital		**Receiving Hospital**	
CEO/President	Date	CEO	Date
Obstetric Physician	Date	Obstetric Physician	Date
Pediatric Physician	Date	Pediatric Physician	Date

APPENDIX B

Georgia Guidelines for Early Newborn Discharge

Source: The Council on Maternal and Infant Health

Contact: Perinatal Unit Manager, Women's Health, Division of Public Health
(404)657-3138

GEORGIA GUIDELINES FOR EARLY NEWBORN DISCHARGE

DEVELOPED AND ADOPTED BY
THE COUNCIL ON MATERNAL HEALTH - MARCH 1995

These guidelines formed the basis of the "Newborn Baby and Mother Protection Act" passed by the 1996 Georgia General Assembly.

I. INTRODUCTION

Postpartum medical care and observation for the newborn within the hospital have proven to be beneficial. The hospital stay has provided for the stabilization and treatment of the infant after delivery, for the identification of immediate and potential medical problems, for the instruction of the parents in the home care of the infant and for a sufficient period of rest for the mother to recover. Traditionally, a forty-eight to seventy-two hour hospital stay is necessary to carry out these responsibilities.

The Council on Maternal and Infant Health recognized potential benefits of early newborn discharge (prior to 48 hours) including financial considerations and the return of the mother and baby to the comfort and security of their home and family. Although most newborns who are discharged early do well, studies show that some infants are at increased risk for medical problems requiring rehospitalization. Recent experience in Georgia's hospitals with perinatal services reflect that some newborns at high risk for medical problems related to early discharge are leaving the hospitals prior to twenty-four hours following birth.

The following guidelines for newborn discharge prior to forty-eight hours after birth have been developed to identify infants who may be candidates for early discharge and minimize the risk of medical problems resulting from this practice. It is recommended that the medical staff of every hospital with a perinatal service establish a policy for early newborn discharge and provide for appropriate documentation of the implementation of this policy. It is recognized that close coordination among the physician, nursing services and hospital administrative staff working in an orderly fashion is required to make the practice of early newborn discharge safe for the mother and infant. Additional hospital resources and personnel may be necessary to accomplish this. When an infant is not a candidate for early discharge, opportunity for maternal bonding and feeding should be assured for at lease forty-eight (48) hours. A mechanism should be provided for the mother to remain in residence during this time.

II. CRITERIA FOR EARLY NEWBORN DISCHARGE

The following criteria for selection of newborns for early discharge should serve as guidelines. Reasonable medical judgement by the newborn's physician may result in postponing discharge of infants who meet these criteria.

CRITERIA FOR SELECTION OF NEWBORNS FOR EARLY DISCHARGE
Antepartum, intrapartum, and postpartum course for mothers and fetus should be without significant complications
Gestational age of 37 complete weeks or greater
Birthweight > 2,500 grams
Apgars of 7 or greater at 5 minutes
Normal physical examination
Completion of normal transitional period usually requiring 6-12 hours including: • normal serial vital signs including stable body temperature • normal neurobehavior • absence of respiratory distress, significant jaundice, signs of infection and abnormal laboratory investigations
Absence of feeding problems
Normal voiding and stooling pattern
Stable social situation (reference section III)
Resources available for an evaluation within 72 hours of discharge
Presence of appropriate home care capabilities (reference section IV)
Collection or completion of appropriate laboratory tests, If ordered • infant metabolic disease screening • infant hemoglobinopathy screen test • infant blood type and direct coombs if mother's blood type is type O or RhO (D) negative, or maternal blood type is not known.

III. POSTPONING NEWBORN DISCHARGE: FACTORS TO CONSIDER

The presence of the following factors should prompt concern about the safety of early newborn discharge.

A. Maternal medical factors:

1. caesarean delivery
2. abnormal antepartum, intrapartum, or postpartum course for mother or fetus
3. medical illness
4. elevated temperature
5. sexually transmitted diseases
6. Group B streptococcal colonization AND
   a. preterm labor at <37 weeks gestation,
   b. premature rupture of membranes >18 hours,
   c. maternal fever
   d. a previous sibling diagnosed as having had Group B streptococcal disease in the newborn period

B. Maternal social factors:

1. no or poor prenatal care
2. known or suspected substance abuser
3. 16 years of age or less
4. poor family support system
5. mental retardation or psychiatric illness
6. planning adoption or foster placement
7. concern that follow up evaluation will not be accomplished

C. Infant factors:

1. preterm (less than 37 completed weeks)
2. small for gestational age
3. Apgar less than 7 at 5 minutes
4. abnormal physical examination
5. abnormal transition period
6. evidence of medical illness

D. Abnormal infant laboratory findings: (if obtained)

1. hypoglycemia
2. hyperbilirubinemia
3. polycythemia
4. anemia
5. abnormal CBC or abnormal differential

IV. PREPARATION FOR EARLY NEWBORN DISCHARGE:

The preparation for early newborn discharge involves:

A. The education of family members to prepare them for home newborn care to include a discussion of and written instructions for:

1. feedings
2. skin care
3. cord and circumcision care
4. normal voiding and stooling patterns
5. sleep cycle and sleep positions
6. signs of illness including jaundice, abnormal feeding patterns and respiratory distress
7. measurement and interpretation of the infant's temperature
8. the importance of follow up evaluation
9. the importance of repeat metabolic screening tests by 7 days of age
10. instruction for contacting the appropriate resource for continuing medical care (procedure for contacting services)

B. The completion of all newborn medical care including:

1. immunizations
2. eye care to prevent gonococcal ophthalmia
3. the prevention of hemorrhagic disease of the newborn(Vitamin K prophylaxis)
4. collection of infant metabolic disease screening test
5. collection of infant hemoglobinopathy screen test

C. Review of laboratory data to include:

1. maternal testing for syphilis
2. maternal testing for hepatitis B surface antigen
3. maternal testing for HIV (if obtained)
4. infant blood type and direct coombs if mother's blood type O, RhO (D), or maternal blood type is not known
5. evaluation of all other newborn laboratory data that may have been obtained

V. Follow-up Evaluation:

A provider should be identified and arrangements should be made for an infant evaluation within 72 hours following discharge. These arrangements should be clearly communicated to both the family members of the infant and the provider. If there is doubt that the follow up cannot be accomplished early discharge should be postponed.

NOTE: Draft copies of the document were sent to select physician and nurse perinatal staff and the CEO of each hospital with an obstetric service for their review and comment prior to publication.
These Guidelines were adapted from **Guidelines for Perinatal Care, 3rd edition, 1992** published by the American Academy of Pediatrics and the American College of Obstetrics and Gynecology.

APPENDIX C

Some Useful Internet Sites Related to Maternal and Infant Health

SOME USEFUL INTERNET SITES RELATED TO MATERNAL AND INFANT HEALTH

Maternal and Child Health Sites.....

American Medial Association's women's health page:
http://www.ama-assn.org/special/womh/womh.htm

Child development and health supervision guidelines for health professionals:
http://www.brightfutures.org

The Council on Maternal and Infant Health of the State of Georgia:
http://www.ph.dhr.state.ga.us/org/m&icouncil.htm

Developmental Disabilities:
http://www.add.org

Early childhood development:
http://www.zerotothree.org

Healthy Mothers Healthy Babies Coalition of Georgia (This is the organization which manages Georgia's POWERLINE under contract with the Georgia Division of Public Health; the POWERLINE is a hotline for pregnant women seeking medical care for themselves and for parents seeking medical care for their children. It provides no medical advice, but tries to link people to health care providers and services):
http://riverside.net\hmhb

March of Dimes Birth Defects Foundation:
http://www.modimes.org

National Women's Health Information Center:
http://www.4woman.gov

NIH National Institute of Child Health and Human Development:
http://www.nih.gov/nichd

National Center for Education in Maternal and Child Health:
http://www.ncemch.org

Obstetrics and Gynecology:
http://www.obgyn.net

Pregnancy and Infant Development:
http://www.babycenter.com

Risk Factor Sites.....

CDC National Center for Injury Prevention and Control:
http://www.cdc.gov/ncipc/ncipcchm.htm

Domestic violence:
http://www.usdoj.gov/vawo

Fetal Alcohol Syndrome:
http://www.well.com/user/woa/fsfas.htm

Georgia Council on Child Abuse:
http://www.gcaa.org

HIV and AIDS:
http://hivinsite.ucsf.edu

National Committee for the Prevention of Child Abuse:
http://www.childabuse.org/new.html

Nutrition:
http://www.ph.dhr.state.ga.us/test/manuals/wic/contents.htm

Office of Disease Prevention and Health Promotion:
http://odphp.osophs.dhhs.gov

Smoking, quitting:
http://www.autonomy.com/smoke.htm
http://www.drkoop.com

Substance abuse in women:
http://www.nwrc.org

Sudden Infant Death Syndrome:
http://sids-network.org

Health Professions Sites.....

American Academy of Pediatrics:
http://www.aap.org

American Acacemy of Pediatrics, Georgia Chapter:
http://www.GAaap.org

American College of Nurse Midwives:
http://www.midwife.org

Association of Women's Health, Obstetric and Neonatal Nurses:
http://www.awhonn.org

Association of Women's Health, Obstetric and Neonatal Nurses, Georgia Section:
http://www.awhonn-ga.org

Association of Operating Room Nurses:
http://www.aorn.org

Association of Post-Anesthesia Nurses:
http://www.aspan.org

Doulas of North America
http://www.dona.com

Georgia Academy of Family Physicians
http://www.gafp.org

National Association of Neonatal Nurses:
http://www.nann.org

Health Policy Sites.....

Agency for Health Care Policy and Research
http://www.ahcpr.gov

Alpha Center:
http://www.ac.org

Electronic Policy Network:
http://epn.org/idea/health.html

Georgia Policy Council for Children and Families/Family Connections:
http://www.pccf.state.ga.us/results

Health Affairs:
http://www.projhope.org/HA

Institute for Child Health Policy:
http://www.ichp.ufl.edu

Medicaid policy analysis:
http://www.familiesusa.org

General Health Research Sites

African-American health:
http://www.blackhealthnet.com

Alternative health:
http://www.altmedicine.com

American Public Health Association:
http://www.apha.org

Centers for Disease Control:
http://www.cdc.gov

Georgia Hospital Association:
http://www.gha.org

Georgia State Government, including the text of current laws (the Code) and information about the General Assembly as well as proposed bills and resolutions:
http://www.ganet.org

Joint Commission for Accreditation of Health Care Organizations:
http://www.jcaho.org

National Guidelines Clearinghouse (evidence-based treatment guidelines):
http://www.guidelines.gov

National Library of Medicine:
http://www.nlm.nih.gov

New England Journal of Medicine:
http://www.nejm.org

Primary Health Care Association:
http://www.primaryhealthcare.org

APPENDIX D

Maps of Georgia's Counties, Health Districts and Perinatal Regions

Maps of Georgia's Counties, Health Districts, and Perinatal Regions

There are three maps on the following pages.

The first map shows Georgia's 159 counties and 19 Health Districts. Georgia law provides for a Board of Health in each county. The Boards of Health are made up of local government officials, one or more local physicians, nurses and consumers. Health Districts are administrative districts established by the state Division of Public Health; each District is headed by a District Health Officer who is a physician. Sixteen Health Districts are made up of two or more counties. The other three are single county Health Districts: Fulton - 3-2; DeKalb - 3-5; and Clayton - 3-3.

The second map shows Georgia's 159 counties and six Perinatal Regions (Atlanta, Augusta, Macon, Columbus, Albany, and Savannah). The Perinatal Regions were established by the Division of Public Health in cooperation with six teaching hospitals: Grady Memorial in Atlanta, Medical College of Georgia in Augusta, the Medical Center of Central Georgia in Macon, The Medical Center in Columbus, Phoebe Putney in Albany, and Memorial Medical Center in Savannah. The Regions reflect the hospital referral patterns for high risk pregnant women and newborns. Each of the six hospitals has a Regional Perinatal Center which has contracts with the state and receives funding to care for high risk pregnant women and infants as well as to train staff from other hospitals in perinatal care, especially for high risk patients.

The third map shows Health Districts and Perinatal Regions. The Health Districts are numbered and the Perinatal Regions are shaded so that the viewer can see which Regions contain which Health Districts. Several Health Districts are divided between two or more Perinatal Regions.

The Atlanta Perinatal Region includes all of Health Districts 1-1; 1-2; 2; 3-1; 3-2; 3-3; 3-4; and 3-5 plus two counties from Health District 4, Henry and Fayette.

The Albany Perinatal Region includes all of Health District 8-2; about half of Health District 8-1; and two counties from Health District 7, Randolf and Clay.

The Augusta Perinatal Region contains all of Health Districts 6 and 10; and one county from Health District 5-2, Washington.

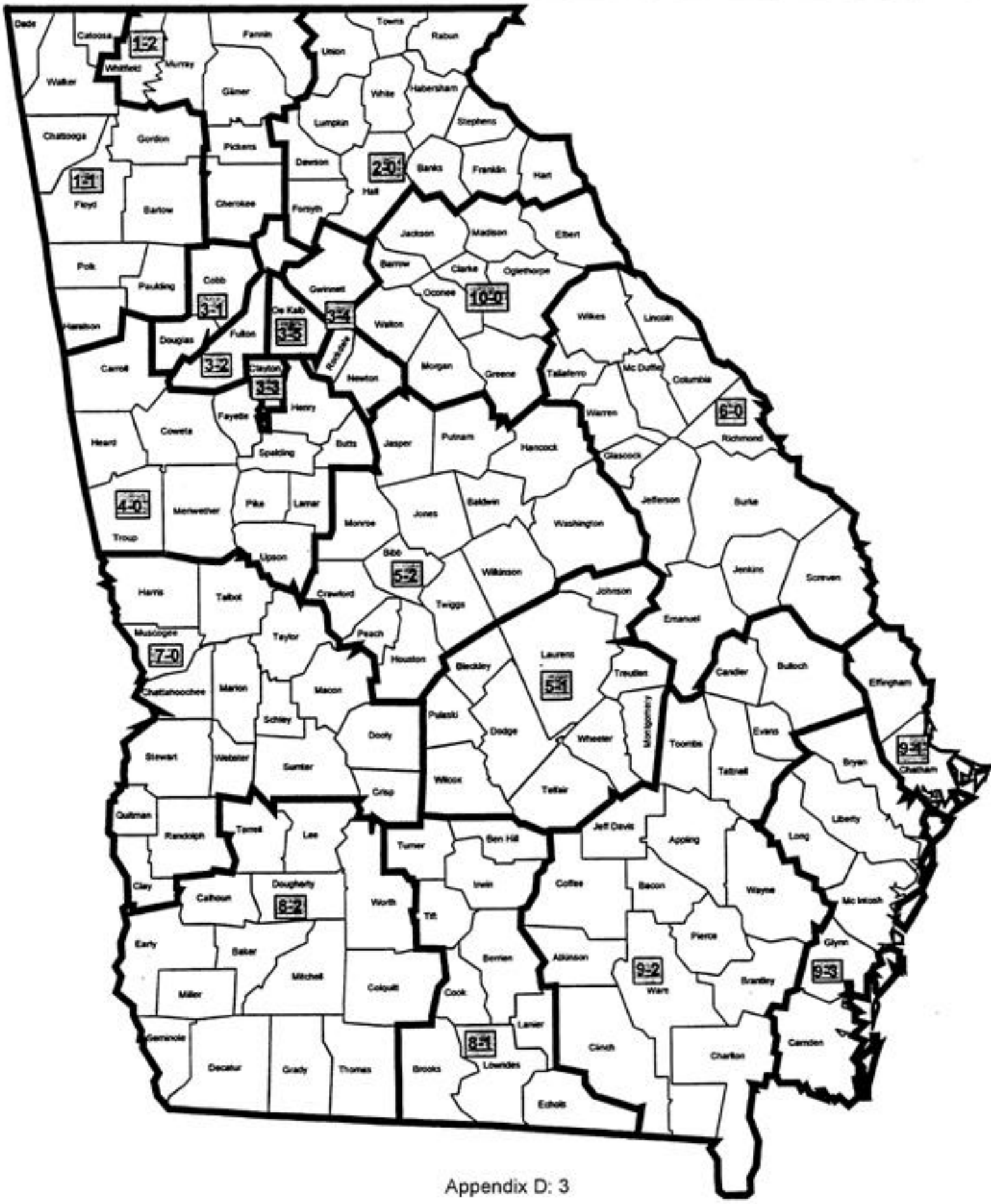
The Columbus Perinatal Region contains most of the counties from Health Districts 4 and 7.

The Macon Perinatal Region contains all of the counties in Health District 5-1; all but one county from Health District 5-2; two counties from Health District 7, Dooly and Crisp; four counties from Health District 8-1, Turner, Tift, Irwin and Ben Hill; and one county from Health District 4, Butts.

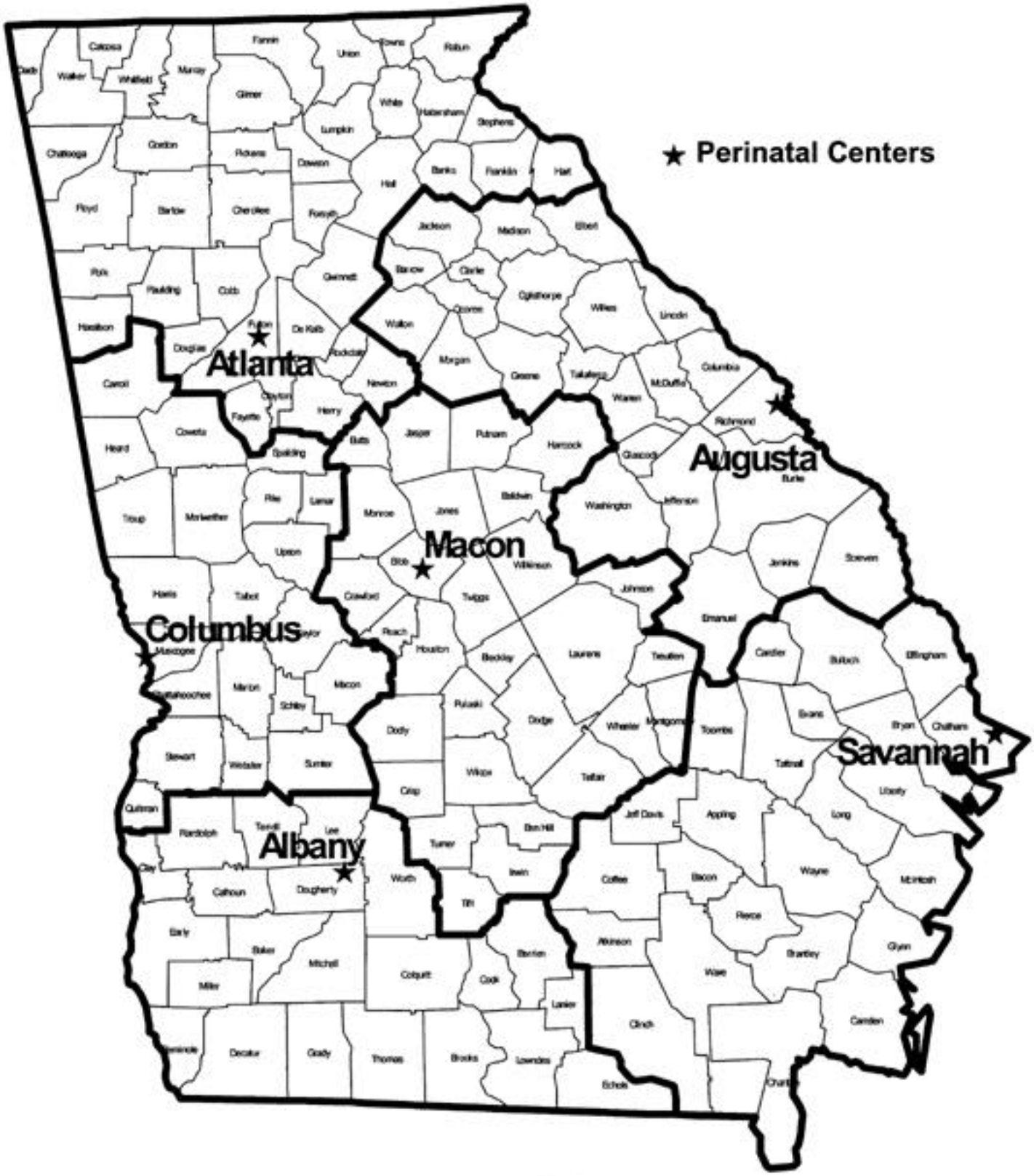
The Savannah Perinatal Region contains all of the counties in Health Districts 9-1; 9-2; and 9-3. It has no counties from any other Health District.

Any perinatal health planning process is somewhat complicated by the way the Health Districts are divided among the Perinatal Regions as well as by the division of responsibility between the state and the counties and the division of roles between the Division of Public Health and the Department of Community Health, which administers Medicaid, which now pays for more than half the births in the state.

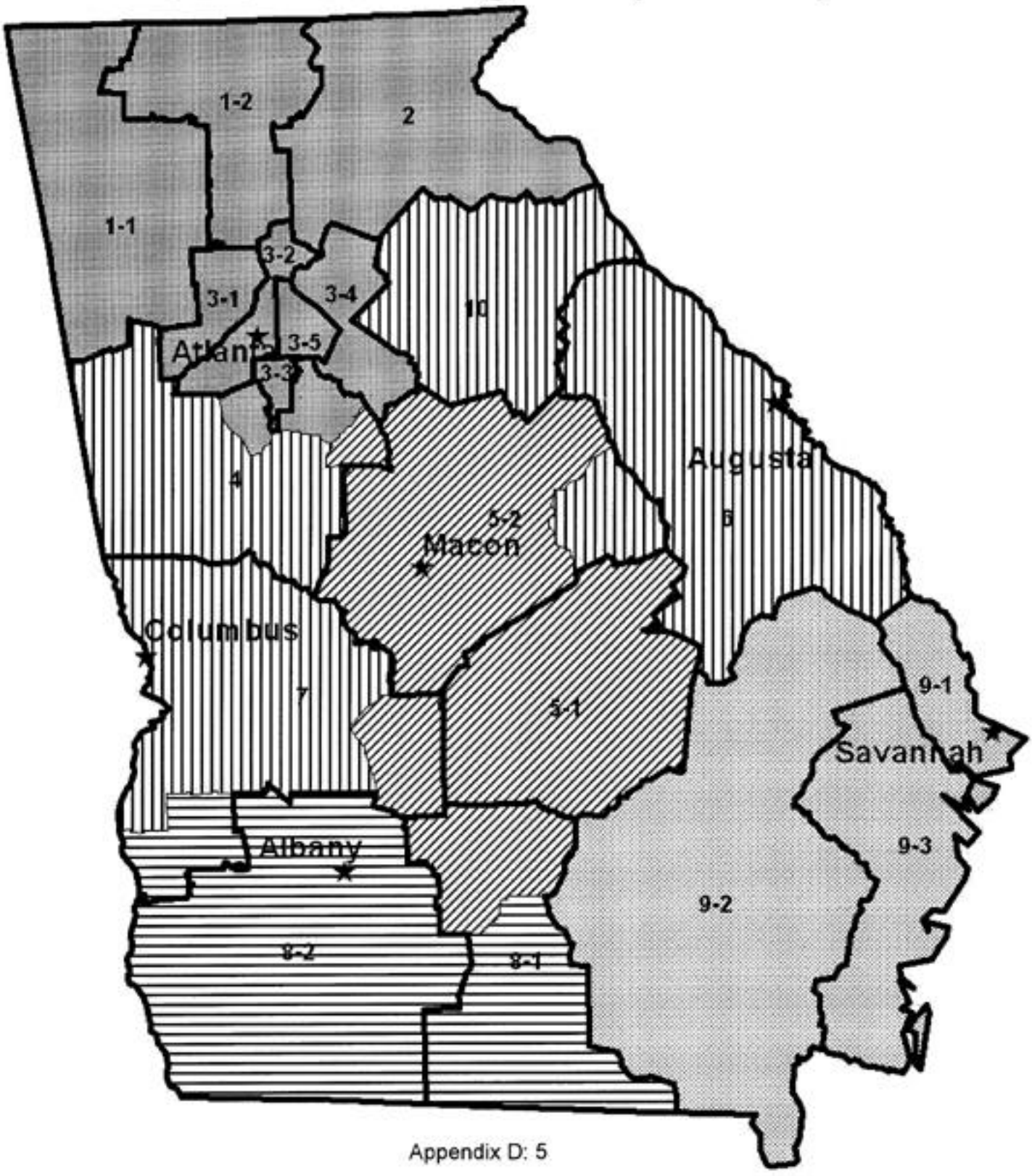
STATE OF GEORGIA- HEALTH DISTICTS AND COUNTIES



Georgia's Six Perinatal Regions



19 Health Districts (numbered) and 6 Perinatal Regions (shaded)



REGIONAL PERINATAL CENTERS

Albany - Phoebe Putney Memorial Hospital

Maternal Transport - 1-800-887-5224

Neonatal Transport - 1-800-633-9053

Atlanta - Grady Health System

Maternal Transport - 1-800-381-6661

Neonatal Transport - 404-325-6600 (Egelston Hospital)

Augusta - Medical College of Georgia

Maternal Transport - 1-706-721-2687

Neonatal Transport - 1-888-721-NICU (6428)

Columbus -The Medical Center

Maternal Transport - 1-706-571-1280

Neonatal Transport - 1-706-571-1019

Macon - The Medical Center of Central Georgia

Maternal Transport - 1-800-537-2285

Neonatal Transport - 1-800-732-1886

Savannah - Memorial Medical Center

Maternal and Neonatal - 1-800-422-5437