

Guidelines for the Care of Children for Family Medicine Residents

Preamble

Family physicians must develop knowledge and skills appropriate to manage the medical, physical, social and emotional problems of infants and children. They need to build rapport with children and their families over time, to counsel the child and family in health promotion, to recognize and evaluate abnormal findings, and to know when to refer to pediatric subspecialists and what to manage themselves.

Family physicians have a unique opportunity to treat all members of the family and to appreciate the influence that family and siblings have on an individual infant or child. The family physician has a responsibility to monitor the development of each child to help her reach her full potential and to improve the health of children and their families in the community in a proactive and responsive manner.

The current curriculum guideline is organized into two sections. The first summarizes the primary curricular goals for each of the four key areas of care for children (prenatal care and the care of the newborn, well child care, acute care, and care of the child with chronic conditions) by ACGME competency (patient care, medical knowledge, interpersonal skill and communication, practice based learning, professionalism, and systems based practice). The purpose of section 1 is to provide a minimum standard for competency for all graduating family medicine residents.

The second section provides detailed curricular skills for each area broken down by competency. Residency programs are encouraged to use the detailed skills to create program-specific curricula to meet specific needs. While not every skill listed may be necessary for successful completion of a residency, these skills can serve as a basis for curriculum development and resident evaluation. This section is a “living document” that can and should be updated as the care of children evolves and the competencies required to care for them adapts to both resident education and future practice.

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Section 1: Primary Curricular Goals

Care of the Newborn

- Patient Care: Competently manage the normal newborn and recognize and stabilize infants who require more than routine care. Engage in discussion with families about the medical, psychosocial and family/community dynamic issues associated with a new infant. Perform appropriate screening for and provide appropriate anticipatory guidance about these issues. Medical Knowledge: Demonstrate knowledge of prenatal and perinatal risk factors, newborn physiology, management of common newborn problems, infant nutrition, family centered newborn care, and management of neonatal emergencies.
- Interpersonal Skills and Communication: Provide appropriate education to prepare families prior to birth and at the time of discharge of their newborn. Communicate effectively and empathetically concerning newborn problems and illnesses.
- Practice Based Learning: Recognize potential personal and system areas for improvement in providing care for the normal newborn and initiate appropriate interventions for achieving and evaluating those improvements.
- Professionalism: Act with integrity, respect, and high ethical standards towards patients and families, colleagues, and other members of the health care team involved in the care of newborns. Provide culturally effective care and education to parents about their newborn.
- Systems Based Practice: Effectively and efficiently use resources available to maximize newborn outcomes and minimize errors.

Health Supervision/Well Child Care

- Patient Care: Perform health promotion (well child care) visits at recommended ages based on nationally recognized periodicity schedules (e.g., Bright Futures, GAPS) including:
 - Providing age-appropriate anticipatory guidance and injury prevention counseling
 - Performing and interpreting age-appropriate screening tests
 - Performing age-appropriate developmental screening and surveillance
 - Administering scheduled immunizations
- Medical Knowledge: Demonstrate knowledge of normal growth and development, child behavior, age appropriate nutrition guidelines, the evidence base for screening and prevention practices, immunization schedules, and common parenting advice.
- Interpersonal Skills and Communication: Provide developmentally relevant, effective education, including reassurance and anticipatory guidance, for parents and patients during well child care.
- Practice Based Learning: Implement standardized guidelines for well child care into practice, adapt them to the individual needs of specific patients, and evaluate key

practice performance measures. Regularly consult expert sources of well child care to maintain up to date well child practices.

- **Professionalism:** Demonstrate respect and sensitivity for non-traditional family structures and cultural differences in regards to health practices. Observe age appropriate confidentiality guidelines in accordance with state law and ethical guidelines. Demonstrate commitment, responsibility, and accountability for continuity of care.
- **Systems Based Practice:** Identify key aspects of health care systems (e.g., public and private insurance) and community organizations that serve children (e.g., schools) as they apply to the primary care provider.

Acute Care (Outpatient and Inpatient)

- **Patient Care:** Competently diagnose, manage, and appropriately refer common acute illnesses in children in the inpatient and outpatient settings.
- **Medical Knowledge:** Demonstrate the ability to acquire, critically interpret, and apply established and evolving biomedical, clinical, epidemiological, and social-behavioral knowledge needed for the diagnosis and treatment of acute childhood illnesses in the inpatient and outpatient settings.
- **Interpersonal Skills and Communication:** Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families, and professional associates to competently care for children with acute illnesses.
- **Practice Based Learning:** Utilize acute care pathways to improve compliance with quality outcomes (e.g., asthma core measures). Demonstrate knowledge, skills, and attitudes needed for continuous self-assessment and improvement.
- **Professionalism:** Demonstrate personal accountability for the well being of patients (e.g., following-up lab results, writing comprehensive notes, and seeking answers to patient care questions). Observe age appropriate confidentiality guidelines in accordance with state law and ethical guidelines. Serve as an active and valuable member of the acute illness health care team, showing respect for and the ability to work effectively with all other members of the team.
- **Systems Based Practice:** Understand how to practice high-quality, cost-effective health care and advocate for patients within the context of acute illness in the inpatient and outpatient setting.

Care of Children with Chronic Diseases

- **Patient Care:** Provide and coordinate care as necessary for children with chronic conditions or special health care needs, including mental health and behavioral disorders throughout the continuum of care.
- **Medical Knowledge:** Apply current medical information and scientific evidence effectively for the care of common pediatric chronic illnesses and be able to access sources of information necessary to understand complex pediatric disorders.

- Interpersonal Skills and Communication: Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care. Utilize communication strategies that enhance patient adherence to optimize medical and psychosocial outcomes.
- Practice Based Learning: Utilize published guidelines for the care of common chronic pediatric illnesses and know how to evaluate practice performance for key measures.
- Professionalism: Provide family-centered, continuous, accessible and empathetic care in the context of the medical home to children with chronic conditions. Consistently use compassion and empathy in one's role as a physician. Serve as an active and valuable member of the chronic illness health care team, showing respect for and the ability to work effectively with all other members of the team.
- Systems Based Practice: Coordinate care with specialists, insurance companies, ancillary health care providers, and effectively utilize community resources for children with chronic illness.

Section 2: Detailed Curricular Skills

Care of the Newborn

GOAL: Demonstrate competence in providing care for newborns and their families in the delivery room, normal newborn nursery, and, when necessary, in the critical care nursery.

Competency: Patient Care

Skills:

1. Use a logical and appropriate clinical approach to the care of newborns, applying principles of evidence-based decision-making and problem-solving.
2. Provide sensitive support to patients and their families in the delivery room and level I and II newborn nurseries.
3. In the delivery room:
 - a. Explain risk factors at delivery that warrant having a provider dedicated to the care of the baby in attendance.
 - b. Describe the necessary medical equipment for neonatal resuscitation and demonstrate its proper use.
 - c. Accurately assess and manage normal and high-risk newborns immediately following delivery, including:
 - i. Assessing the need for immediate resuscitation.
 - ii. Assigning the 1-minute, 5-minute and subsequent Apgar scores.
 - iii. Using appropriate technique for suctioning the nose and mouth.
 - iv. Demonstrating at least two steps to reduce radiant heat loss.
 - v. Demonstrating bag and mask ventilation.
 - vi. Demonstrating intubation and ventilation.
 - vii. Performing cardiac compression.
 - viii. Placing an umbilical venous catheter.
 - ix. Demonstrating appropriate use of medications during neonatal resuscitation.
 - x. Interpreting cord blood gases.
 - xi. Rapidly inspecting for signs of major malformations.
 - d. Be Neonatal Resuscitation Program (NRP) certified.
 - e. For these common conditions, demonstrate delivery room assessment and management; and manage newborns independently; and list criteria for consultation or transfer to a level II or III nursery:
 - i. Meconium stained fluid
 - ii. Respiratory depression and other common effects of maternal anesthesia, medications, or substance use/abuse
 - iii. Complicated labor (e.g., decelerations, maternal hypertension)
 - iv. Complicated delivery (e.g., problems with Cesarean Section, instrument-assisted deliveries, breech presentation, cord prolapse, placenta abruption, oligo- or polyhydramnios, precipitous deliveries)
 - v. Cyanosis, respiratory distress, or heart murmur

- vi. Cardiorespiratory depression or abnormal blood gases
 - f. Discuss immediate breastfeeding and early bonding between baby and family and describe how hospital routines can facilitate or impede these natural processes.
 - g. Describe how obstetricians and non-delivering family physicians can communicate and work together as a team to improve outcome at high-risk deliveries.
4. In the nursery:
- a. Obtain and interpret information relevant to newborn health including:
 - i. Maternal medical, prenatal and obstetric history
 - ii. Family history
 - iii. Results of maternal screening tests
 - iv. Maternal medication use or substance use/abuse
 - v. Results of prenatal ultrasound testing
 - b. Obtain and interpret a social history to assess the physical and psychosocial environment in the infant's home.
 - c. Describe the rationale and use of eye prophylaxis, vitamin K1 administration, and hepatitis B vaccine and HBIG.
 - d. Understand and demonstrate appropriate timing for newborn exams and define the key reasons for doing the exams
 - e. Perform a neonatal physical examination and identify normal and abnormal findings related to:
 - i. Gestational age assessment and growth category
 - ii. Vital signs and measurements
 - iii. General appearance and identification of anomalies
 - iv. HEENT (red reflex, palate, frenulum, skull [head size and shape, caput, cephalohematoma, suture movement], ears)
 - v. Neck and clavicles
 - vi. Neurologic system (symmetry, tone, reflexes, suck, behavioral state, spine)
 - vii. Respiratory effort
 - viii. Skin
 - ix. Chest and breasts
 - x. Heart
 - xi. Lungs
 - xii. Abdomen (including umbilical cord)
 - xiii. Genitalia
 - xiv. Femoral and brachial pulses
 - xv. Hips
 - xvi. Extremities
 - f. Describe normal physiologic changes in neonatal transition, signs of abnormal responses and strategies for their management.
 - g. Recognize, describe clinical significance of, and develop a strategy to evaluate, manage and/or refer newborns with these common newborn signs and symptoms:
 - i. Large birth marks (mongolian spots, hemangiomas, port wine spots)

- ii. Rashes and markings secondary to birth trauma
 - iii. Papular and pustular rashes (erythema toxicum, pustular melanosis, staph. pustulosis, milia)
 - iv. Peripheral and central cyanosis
 - v. High or low temperature
 - vi. Tachypnea
 - vii. Heart murmur-asymptomatic and symptomatic
 - viii. Abdominal distension and masses
 - ix. Two vessel umbilical cords
 - x. Abnormal findings on the Barlow and Ortolani maneuver
 - xi. Swollen breasts
 - xii. Vaginal bleeding
 - xiii. Subconjunctival hemorrhages
 - xiv. Corneal opacities or absent red reflex
 - xv. Facial palsy
 - xvi. Fractured clavicle
 - xvii. Brachial plexus injury
 - xviii. Cephalohematoma or caput
 - xix. Ear tags, pits
 - xx. Palate abnormalities (cleft, submucous cleft)
 - xxi. Polydactyly
 - xxii. Syndactyly
 - xxiii. Plethora
 - xxiv. Pallor
 - xxv. Respiratory distress
 - xxvi. Abnominal mass
 - xxvii. Genitourinary abnormalities (ambiguous genitalia, hypospadias, undescended testicle)
 - xxviii. Microcephaly
 - xxix. Macrocephaly
 - xxx. Sacral dimple, pit, hair tuft
- h. Recognize, describe clinical significance of, and develop a strategy to evaluate, manage and/or refer newborns with the following common newborn clinical situations:
- i. Large and/or small for gestational age babies
 - ii. Infant of a diabetic mother
 - iii. Infant of substance abusing mother
 - iv. Child with ABO/Rh incompatibility
 - v. Polycythemia
 - vi. Premature/postmature infant
 - vii. Jitteriness
 - viii. Transient metabolic disturbances (hypoglycemia, etc.)
 - ix. Delayed urination
 - x. Delayed stooling
 - xi. Vomiting feeds/bilious emesis
 - xii. Poor/delayed suck

- xiii. Respiratory distress with feedings
- xiv. Jaundice
- xv. Infant with risk factor for developmental dysplasia of the hip (girl breech, +family hx)
- xvi. Infant with abnormalities on prenatal ultrasound (abnormal renal scan, hydronephrosis, choroid- plexus cyst)
- xvii. Dysmorphic infant or infant with known chromosomal abnormality (e.g., trisomy 21)
- xviii. Multiple births (near and at term)
- xix. Eye discharge
- xx. Abnormal newborn hearing screen results
- xxi. Infant born to a mother with a significant medical condition (lupus, seizure disorder, obstetrical condition such as HELLP syndrome)
- i. Recognize and manage jaundice in the newborn period including:
 - i. Interpreting maternal history for factors contributing to jaundice (Rh, blood type, gestational age, infection, family history of jaundice in infants, etc.).
 - ii. Interpreting infant's history for possible etiologies of jaundice (e.g., infrequent or ineffective feeding, poor urine or stool output, acholic stool, blood type, risk factors for infection, metabolic disease).
 - iii. Performing a physical exam to assess for jaundice or other evidence of hepatic dysfunction (e.g., skin color, sclerae, bruising, cephalohematoma, organomegaly).
 - iv. Demonstrating use and interpretation of transcutaneous bilirubin monitoring.
 - v. Obtaining laboratory tests judiciously for management of the jaundiced infant (blood type/Coombs, total, fractionated bilirubin, Hct, peripheral blood smear).
 - vi. Correctly interpreting test results to evaluate jaundice in the clinical setting.
 - vii. Interpreting the significance of a total serum bilirubin level in the context of early discharge of newborns, with reference to normative data based on age in hours.
 - viii. Describing indications for phototherapy and exchange transfusions.
 - ix. Describing the use of phototherapy in both the hospital and the home and explain risks (e.g., dehydration, eye injury, and disruption of breastfeeding routines).
 - x. Encouraging and supporting breastfeeding in the jaundiced infant.
- j. Use and/or interpret clinical tests commonly used in Newborn Nursery setting, such as:
 - i. Physiologic monitoring (HR, RR, pulse oximetry, blood gas, Doppler BP measurement)
 - ii. Ballard exam for gestational age assessment, premature and term infant growth curves
 - iii. CBC, ABO typing and Coombs testing, blood glucose/glucometer, bilirubin (serum and transcutaneous), maternal cord blood antibodies

- iv. Radiographs of chest, abdomen, extremities, etc.
 - v. Ultra sound of kidneys/bladder, head, hips, lower spine
- k. Assess a newborn's nutritional status based on maternal medical and obstetrical history and infant's history (e.g., illness, feeding, stools, urination) and physical exam (e.g., weight expected for gestational age, subcutaneous fat, hydration, neurologic or oral/facial anomalies) and implement appropriate feeding plans.
- l. Recognize and manage these conditions:
 - i. Common problems for breastfeeding infants and mothers
 - ii. Maternal use of medications that are transmitted via breast milk
 - iii. Maternal infections and risk of transmission (hepatitis B, hepatitis C, HIV)
 - iv. Preserving breastfeeding while managing jaundice
 - v. Newborn who is a poor feeder
 - vi. Feeding plans for the SGA or premature infant
 - vii. Feeding plans for the infant of a diabetic mother
 - viii. Feeding plans for the infant with a cleft palate
 - ix. Feeding plans for neurologically depressed/abnormal newborn
- m. Identify newborns at risk for bacterial sepsis by history, physical exam, and laboratory studies
- n. Recognize and manage:
 - i. Newborn with signs of sepsis (e.g., fever, poor feeding, tachypnea, low temperature)
 - ii. Infant born to mother with fever
 - iii. Infant born to mother with a history of a perinatal infectious disease (e.g., group B strep, chlamydia, syphilis, HSV)
 - iv. Infant born to mother with prolonged rupture of membranes
 - v. Infant born to mother who received antibiotic during delivery
- o. Discuss methods for screening and, where appropriate, preventive treatment of mother and infant (chlamydia, CMV, gonorrhea, group B strep, hepatitis B, hepatitis C, HSV, HIV, tuberculosis, HPV, parvovirus, rubella, syphilis, toxoplasmosis, and varicella).
- p. Demonstrate the immediate management of infants born to mothers with abnormal prenatal screening tests
- q. Describe current standards for newborn screening, including:
 - i. National recommendations for universal newborn hearing screening
 - ii. State neonatal blood-screening program, including diseases screened for, timing, testing procedures and process for notification of abnormal results
 - iii. Current recommendations for maternal Group B Streptococcus screening and the evaluation of exposed neonates
 - iv. Appropriate use of other screening tests or protocols and their indications (e.g., blood type and Coombs, glucose, hematocrit)
 - v. Appropriate use of testing to identify prenatal exposure to substances of abuse

- r. Describe the rationale behind various nursery and delivery routines and how these affect the health and well-being of families and newborns (e.g., rooming in, on-demand feeding, 24 hour discharge of the newborn)
 - s. Describe appropriate care of the umbilical (Dry cord care is now recommended in the US)
 - t. Provide anticipatory guidance and prevention counseling throughout hospital stay and at time of discharge, according to recommended guidelines.
 - u. Practice accepted policies for infection reduction in the newborn nursery.
 - v. Describe the normal infant sleeping cycle.
 - w. Describe the normal infant feeding cycle including both formula and breastfed infant.
 - x. Describe normal infant elimination patterns.
5. Home Delivery:
- a. Describe the care and treatment of an infant following delivery that occurred unexpectedly at home or in transit to hospital.
 - b. Discuss prevalence and infant health issues of home deliveries by nurse midwives in one's own community.
 - c. Recognize the risks and liabilities of home birth, as well as ways the nurse midwife and family physician can work together to benefit the infant born at home.

Competency: Medical Knowledge

Skills:

1. Demonstrate an understanding of the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a family practitioner; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.
2. Demonstrate a commitment to acquiring the knowledge needed for the care of newborns in the delivery room and level I and II nurseries.
3. Demonstrate the ability to access medical information efficiently, evaluate it critically, and apply it to newborn care appropriately.
4. List common assessment tools and studies used by obstetricians to assess normal pregnancies and infant well-being close to term and during the labor and delivery process.
5. Identify common and important perinatal infections.
6. Describe common post-delivery obstetrical issues that mothers face, and how these affect their recovery and ability to care for their newborn:
 - a. C-section delivery
 - b. Retention of placenta
 - c. Post-partum hemorrhage
 - d. Post-partum depression
 - e. Post-partum infections
 - f. Hypertension

Competency: Interpersonal and Communication Skills

Skills:

1. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
2. Provide effective patient education, including reassurance, for condition(s) common to the newborn nursery.
3. Communicate and work effectively with staff, health professionals, specialists, referring and primary care providers to create and sustain information exchange and teamwork for patient care.
4. Develop effective strategies for teaching students, colleagues and other professionals.
5. Maintain accurate, legible, timely, and legally appropriate medical records for newborns (summary of maternal record, labor and delivery note, admission note, daily progress notes, consultant notes and discharge summaries).
6. Effectively communicate with the mother's obstetrician during the hospital stay and her primary care provider prior to the infant's discharge.
7. Communicate effectively with parents and family in a professional and caring manner that honors family values and enhances their parenting skills and confidence.
8. Discuss care and communication issues for an infant being placed for adoption (including both birth and adoptive parents).
9. Counsel parents about feeding choices and assess for potential risks/difficulties.
10. Counsel and support mothers who are breastfeeding.
11. Counsel and support mothers who are formula feeding.
12. Counsel parents about recommendations on routine hepatitis B vaccination, including risks, benefits, alternatives, and common side effects.
13. Counsel parents about types of jaundice (physiologic, insufficient breastfeeding, breast milk, hemolytic, etc.) , their natural history, ways to improve jaundice at home (e.g. frequent feedings, exposure to sunlight, etc.), and when to be concerned about jaundice (e.g., icterus beyond the face and chest, poor feeding, fever, irritability).
14. Discuss priorities for anticipatory counseling, especially in face of time constraints due to "early discharge."
15. Provide routine counseling on topics such as:
 - a. Routine follow-up appointment time (as per guidelines)
 - b. How and when to contact the office for advice or earlier appointment.
 - c. For infants discharged prior to 24 hours: warning signs of jaundice, infection, dehydration, and feeding problems; interaction with visiting nurse, need to do repeat newborn screening blood tests.
 - d. Needed medical, social, and WIC services
 - e. Normal infant behaviors related to crying, sleep, and wakefulness and how to deal with common problems (hiccups, sneezes, vaginal bleeding, breast masses/discharge, care of umbilical cord, care of penis)

- f. Postpartum adjustment including the need for rest and support, and the potential for postpartum "blues" (e.g., depression, anxiety, feelings of inadequacy, fear, resentment)
 - g. Uniqueness of each infant's temperament and how to identify and respond to this
 - h. Potential for sibling rivalry and management strategies should it occur
 - i. Injury prevention (e.g., car seat use, crib safety, water temperature settings, smoke alarm, constant supervision of newborn with siblings or pets, sleep position, environmental exposures like cigarette smoke [TIPP])
 - j. Significance of increasing jaundice, feeding problems, or fever in this age group and the rapidity with which medical care should be sought
16. Provide written discharge instructions, documentation of immunization (HBV) given, and results of hearing screen.

Competency: Practice-based Learning and Improvement

Skills:

1. Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.
2. Use scientific methods and evidence to investigate, evaluate, and improve patient care practice in the nursery setting.
3. Identify standardized guidelines for diagnosis and treatment of conditions common to the newborn nursery, and adapt them to the individual needs of specific patients.
4. Identify personal learning needs, systematically organize relevant information resources for future reference, and address plans for lifelong learning about newborn care.

Competency: Professionalism

Skills:

1. Act with integrity, respect, and high ethical standards towards patients and families, colleagues, and other members of the health care team involved in the care of newborns.
2. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
3. Demonstrate personal accountability to the well-being of patients (e.g., following-up on lab results, writing comprehensive notes, and seeking answers to patient care questions).
4. Demonstrate a commitment to professional behavior in interactions with staff and professional colleagues.
5. Adhere to ethical and legal principles and be sensitive to diversity.

Competency: Systems-based Practice

Skills:

1. Demonstrate an understanding of how to practice high-quality health care and advocate for patients within the context of the health care system.
2. Demonstrate sensitivity to the costs of clinical care in the nursery, and take steps to minimize costs without compromising quality.
3. Recognize and advocate for families who need assistance during the hospital stay and after discharge.
4. Recognize one's limits and those of the system; take steps to avoid medical errors.
5. Explain the role of the family physician in the level I nursery and how it relates to the continuum of office health supervision care.
6. Identify the role and scope of practice of general pediatricians, neonatologists, perinatologists, obstetricians, family physicians, nurse midwives, lactation consultants, primary care nurses for OB/Newborn, and social workers in relation to the normal nursery; and work collaboratively with these professionals in the care of newborns.
7. Refer mothers to WIC and other resources for assistance with food purchase, nutrition education, and breastfeeding support equipment.
8. List resources that can be used to supplement counseling by the physician.

Diagnostic and screening procedures.

GOAL: Describe the following tests or procedures, including how they work and when they should be used; competently perform and interpret those commonly used in the newborn nursery.

1. Hearing screening
2. Monitoring interpretation: pulse oximetry
3. Radiologic interpretation: chest, extremity, abdomen, etc.
4. Bladder catheterization
5. Breast pump use
6. Capillary blood collection (PKU, hct, TSH)
7. Circumcision
8. Conjunctival swab

Technical and therapeutic procedures.

GOAL: Describe the following procedures, including how they work and when they should be used; competently perform those commonly used by the family physician in practice

1. Gastric tube placement (OG/NG)
2. Lumbar puncture
3. Medication delivery: IV/IM/SC/ID

4. Pulse oximeter: placement
5. Suctioning: nares, oropharynx, trachea

Health Supervision/Well Child Care

GOAL: Provide comprehensive health promotion, screening and disease prevention services to infants, children, adolescents and their families in the ambulatory setting.

Competency: Patient Care

Skills:

1. Perform health promotion (well child care) visits at recommended ages based on nationally recognized periodicity schedules (e.g., AAP Health Supervision Guidelines, Bright Futures, GAPS).
2. Perform age-appropriate developmental and behavioral surveillance and screening based on nationally recognized guidelines, school performance monitoring and job performance monitoring.
3. Perform physical exam with special focus on age-dependent and patient or family concerns.
4. Order or perform and interpret additional age-appropriate screening procedures, using nationally-recognized periodicity schedules and local or state expectations (e.g., newborn screening, lead, hematocrit, hemoglobin for sickle cell, blood pressure, cardiovascular risk assessment, vision, hearing, dental assessment, reproductive-related concerns).
5. Perform age-appropriate immunizations using nationally-recognized periodicity schedules.
6. Provide age-appropriate anticipatory guidance to parent(s) or caregiver(s), and the child or adolescent, according to recommended guidelines (e.g., AAP TIPP program, Bright Futures, GAPS). Address topics including:
 - a. Promotion of early reading aloud
 - b. Injury and illness prevention
 - c. Promotion of healthy nutritional choices (starting with breastfeeding)
 - d. Oral health
 - e. Age-appropriate medical care
 - f. Promotion of social competence
 - g. Promotion of positive interactions between the parent and infant/child/adolescent
 - h. Promotion of constructive family communication, relationships and parental health
 - i. Promotion of community interactions
 - j. Promotion of responsibility (adolescence)
 - k. Promotion of school achievement (middle childhood, adolescence)
 - l. Sexuality (infancy, early and middle childhood, adolescence)
 - m. Prevention of substance use/abuse (middle childhood, adolescence)
 - n. Physical activity and sports
 - o. Interpretation of screening procedures
 - p. Prevention of violence

7. Work collaboratively with professionals in the medical, mental-health, educational and community system to optimize preventive health services for children.
8. Identify logistical barriers to the provision of health supervision care (e.g., financial, social, environmental, health service, insurance systems) and suggest strategies to overcome these for specific families.
9. Arrange appropriate referral or ongoing care for concerns identified during well child care visits
10. Order or perform appropriate additional screening procedures based on patient and family concerns (e.g., sports involvement, positive family history for specific health condition, behavioral concerns, depression, identified risk for lead exposure).
11. Critically observe interactions between the parent and the infant, child, or adolescent.
12. Demonstrate practical office strategies that allow provision of comprehensive and efficient health supervision (e.g., share tasks with office staff; develop and use structured records, computerized information, websites, questionnaires, patient education handouts, books, videos; develop office policies for such things as consent and confidentiality, request for transfer of medical records, school information).

Competency: Medical Knowledge

Skills:

1. Demonstrate the ability to acquire, critically interpret and apply established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed to provide health promotion, screening and disease prevention services to infants, children, adolescents and their families

Competency: Interpersonal Skills and communication

Skills:

1. Provide effective patient education, including reassurance, for conditions common to the outpatient setting.
2. Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.
3. Develop effective strategies for teaching students, colleagues and other professionals.
4. Maintain accurate, legible, timely, and legally appropriate medical records in this clinical setting.

Competency: Practice based learning

Skills:

1. Identify standardized guidelines for diagnosis and treatment of conditions common to outpatient care, and adapt them to the individual needs of specific patients.

2. Establish an individual learning plan, systematically organize relevant information resources for future reference, and plan for continuing acquisition of knowledge and skills.
3. Recognize and use resources to keep up to date with changes in recommendations for vaccines, preventive health and screening in the pediatric age group.

Competency: Professionalism

Skills:

1. Demonstrate respect for non-traditional family structures and cultural differences in regards to health practices. Observe age appropriate confidentiality guidelines in accordance with state law and ethical guidelines
2. Demonstrate personal accountability to the well being of patients (e.g., following-up lab results, writing comprehensive notes and seeking answers to patient care questions).
3. Demonstrate a commitment to professional behavior in interactions with staff and professional colleagues.
4. Adhere to ethical and legal principles and be sensitive to diversity.
5. Adhere to legal requirements for reporting child abuse, handling adolescent confidentiality and laws about the treatment of minors.

Competency: Systems based practice

Skills:

1. Identify key aspects of health care systems (e.g., public and private insurance) as they apply to the primary care provider, such as the role of the PCP in decision-making, referral, and coordination of care.
2. Work with health care team members to assess, coordinate, and improve patient care in the outpatient setting.
3. Demonstrate sensitivity to the costs of clinical care in the outpatient setting, and take steps to minimize costs without compromising quality.
4. Recognize and advocate for families who need assistance to deal with system complexities, such as lack of insurance, multiple medication refills, multiple appointments with long transport times, or inconvenient hours of service.
5. Recognize one's limits and those of the system; take steps to avoid medical errors.
6. Adapt national guidelines for immunization, screening and well child care, to the needs of your local patient population.

Diagnostic and screening procedures.

GOAL: Describe the following tests or procedures, including how they work and when they should be used; competently perform and interpret those commonly used ambulatory procedures in the pediatric age group.

1. ADHD home and school questionnaires (e.g., Vanderbilt questionnaire)
2. Behavioral screening questionnaires (including mental health and substance abuse screening)
3. Developmental screening tests (Ages & Stages, PEDS, etc.)
4. Hearing screening
5. Lead screening

6. Lipid screening in childhood
7. PPD: placement and interpretation
8. Tympanometry evaluation: interpretation
9. Vision screening
10. Breast pump use
11. Medication delivery: IM/SC/ID
12. Medication delivery: inhaled (e.g., metered dose inhaler and spacers)
13. Peak flow meter
14. Spirometry

Acute Care (Outpatient and Inpatient)

GOAL: Demonstrate high standards of professional competence while working with patients in the office and hospital.

Competency: Patient Care

Skills:

1. Provide family-centered patient care that is development- and age-appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.
 - a. Use a logical and appropriate clinical approach to the care of patients, applying principles of evidence-based decision-making and problem-solving, demonstrating:
 - i. Careful data collection and synthesis
 - ii. Well thought-out assessment and plans
 - iii. Good clinical judgment and decision-making
 - iv. Careful follow-up (patient education, follow-up evaluation and health care maintenance, or discharge plans for inpatients/nursery infants)
2. Evaluate and manage the common **signs and symptoms** that present in the context of acute medical care in the inpatient or outpatient setting (examples given):
 - a. General: Constitutional symptoms and vital signs (excessive crying/colic, failure to thrive, fatigue, fever, weight loss or gain), apparent life-threatening event (ALTE), constitutional symptoms, hypothermia, excessive crying, failure to thrive, fatigue, fever without localizing signs, hypothermia, weight loss
 - b. Infancy: hip clicks, skin rashes, birthmarks, jitteriness, hiccups, sneezes, wheezing, heart murmur, umbilical cord concerns, breast tissue, breast drainage, sleep disturbances, difficulty feeding, frequent infections, abnormal head shape or size, evidence of abuse or neglect, abnormal muscle tone
 - c. Cardiorespiratory: apnea, chest pain, cough, cyanosis, dyspnea, heart murmur, hemoptysis, hypertension, hypotension, inadequate respiratory effort, rhythm disturbance, shock, shortness of breath, stridor, syncope, tachypnea, respiratory failure, wheezing
 - d. Dermatologic: Congenital nevus and other birth marks, ecchymoses, petechiae, pigmentary changes, purpura, rashes, urticaria, vascular lesions, edema

- e. EENT: Acute visual changes; dysconjugate gaze; conjunctival injection; ear or eye discharge; ear, throat, eye pain, epistaxis; nasal foreign body; hoarseness; stridor
 - f. Endocrine: normal and abnormal timing of pubertal changes, polydipsia, polyuria, heat/cold intolerance
 - g. GI/Nutrition/Fluids: Abdominal pain, mass or distention; constipation; dehydration; diarrhea; dysphagia; encopresis; hematemesis; inadequate intake of calories or fluid; jaundice; regurgitation; vomiting, dehydration, melena, rectal bleeding
 - h. Genitourinary/Renal: undescended testicle, change in urine color, dysuria, edema, enuresis, frequency, hematuria, pain referable to the urinary tract, scrotal mass, pain or edema, trauma to urinary tract or external genitalia, undescended testicle,
 - i. GYN: Asymmetry of breast development, abnormal vaginal bleeding, pelvic or genital pain, vaginal discharge or odor; vulvar trauma or erythema, delayed onset of menses, missed or irregular periods
 - j. Hematologic/Oncologic: Abnormal bleeding, bruising, hepatosplenomegaly, lymphadenopathy, masses, pallor
 - k. Musculoskeletal: abnormal gait, abnormal spine curvature, arthritis or arthralgia, bone and soft tissue trauma, limb or joint pain, limp, variations in alignment (e.g., intoeing)
 - l. Neurologic and Developmental concerns Delays in developmental milestones, ataxia, change in sensorium, diplopia, headache, head trauma, hearing concerns, gait disturbance, hypotonia, lethargy, seizure, tremor, vertigo, visual disturbance, weakness
 - m. Psychiatric/Psychosocial: Acute psychosis, anxiety, behavioral concerns; conversion symptoms, depression, hyperactivity, suicide attempt, suspected child abuse or neglect
3. Evaluate and manage the common **conditions** and situations presenting in the context of **outpatient** visits.
- a. General: iron deficiency, lead exposure, strabismus, hearing problems, child care decisions, parental issues (financial stress, divorce, depression, tobacco, alcohol or substance abuse, domestic violence, inadequate support networks), oral health
 - b. Allergy/Immunology: Allergic rhinitis, angioedema, asthma, food allergies, recurrent infections, serum sickness, urticaria
 - c. Cardiovascular: heart murmurs, Kawasaki disease, palpitations, rheumatic fever, congenital heart disease, congestive heart failure, bacterial endocarditis, cardiomyopathy
 - d. Dermatology: abscess, acne, atopic dermatitis, cellulitis and superficial skin infections, impetigo, molluscum, tinea infections, viral exanthems, verruca vulgaris, other common rashes of childhood and adolescence
 - e. Endocrine/Metabolic: diabetes mellitus, growth failure or delay, gynecomastia, precocious or delayed puberty, thyroid disease, diabetes insipidus.

- f. GI/Nutritional: Appendicitis, blood in stool, constipation, diarrhea, encopresis, foreign body ingestion, gastroenteritis, gastroesophageal reflux, hepatitis, inflammatory bowel disease, nutritional issues, obesity, abdominal mass
 - g. GU/Renal: Electrolyte and acid-base disturbances (mild), enuresis, glomerulonephritis, hematuria, Henoch Schonlein purpura, nephrotic syndrome, obstructive uropathy, proteinuria, undescended testicles, UTI/pyelonephritis
 - h. Gynecologic: Genital trauma (mild), labial adhesions, pelvic inflammatory disease, vaginal discharge or foreign body, family planning, std prevention
 - i. Hematology/Oncology: anemia, hemoglobinopathies, leukocytosis, neutropenia, thrombocytopenia
 - j. Infectious Disease: Cellulitis, cervical adenitis, dental abscess with complications, laryngotracheobronchitis, otitis media, periorbital and orbital cellulitis
 - k. Musculoskeletal: growing pains, hip dysplasia, limp, metatarsus adductus, sprains, strains, tibial torsion, apophysitis, femoral retro- and anteversion, fractures
 - l. Pharmacology/Toxicology: Common drug poisoning or overdose, ingestion avoidance (precautions)
 - m. Neurology/Psychiatry: temper tantrums, biting, developmental delay, seizures (evaluation and adjustment of medications), ADHD, learning disabilities, substance abuse, (excessive thumb-sucking or pacifier use, sleep disturbances, difficult behaviors, variations in appetite, variations in toilet training, overactivity, somatic complaints, poor school performance, attention problems, fatigue, masturbation, anxiety, violence exposure and prevention), depression, anxiety, PTSD
 - n. Pulmonary: asthma, bronchiolitis, croup, epiglottitis, pneumonia; sinusitis, viral URI and LRI
 - o. Surgery: Initial evaluation of patients requiring urgent referral, pre- and post-op evaluation of surgical patients (general, ENT, orthopedic, urology, neurosurgical, etc.)
4. Evaluate and manage, with pediatric consultation as indicated, patients with **conditions** that commonly present to the **inpatient unit** (examples below):
- a. General: failure to thrive, fever of unknown origin
 - b. Allergy/Immunology: acute drug allergies/reactions, anaphylaxis, pneumonia.
 - c. GI/Nutrition: appendicitis (diagnosing), gastroenteritis (with/without dehydration), gastroesophageal reflux.
 - d. GU/Renal: urinary tract infection/pyelonephritis

- e. Gynecologic: genital trauma, pelvic inflammatory disease, sexual assault
 - f. Infectious Disease: cellulitis (including periorbital and orbital), cervical adenitis, dental abscess with complications, laryngotracheobronchitis (croup), meningitis (bacterial or viral), pneumonia (viral or bacterial), sepsis/bacteremia (including newborns).
 - g. Pharmacology/Toxicology: common drug poisoning or overdose, dose adjustment for special conditions or serum drug levels
 - h. Neurology: developmental delay with acute medical conditions, febrile seizures.
 - i. Respiratory: asthma exacerbation, bronchiolitis, croup.
 - j. Surgery: pre- and post-op consultation and evaluation of surgical patients (general, ENT, orthopedics, urology, neurosurgical, etc.).
5. Recognize **conditions requiring management by pediatric subspecialist** that commonly present to the **inpatient unit** (examples below):
- a. Allergy/Immunology: recurrent pneumonia, serum sickness, severe angioedema
 - b. Cardiovascular: congenital heart disease, congestive heart failure, Kawasaki disease, rheumatic fever, cardiomyopathy
 - c. Endocrine: diabetes (including diabetic ketoacidosis), electrolyte disturbances secondary to underlying endocrine disease
 - d. GI/Nutrition: appendicitis, bleeding, cholangitis, complications of inflammatory bowel disease, gastroenteritis (with/without dehydration), severe gastroesophageal reflux, bowel obstruction, pancreatitis, severe malnutrition
 - e. GU/Renal: electrolyte and acid-base disturbances, glomerulonephritis, hemolytic-uremic syndrome, nephrotic syndrome.
 - f. Hematologic/Oncologic: abdominal and mediastinal mass, fever and neutropenia, thrombocytopenia, severe anemia, vaso-occlusive crises and other complications of sickle cell disease, common malignancies, tumor lysis syndrome
 - g. Infectious Disease: encephalitis, HIV, infections in immunocompromised hosts, late presentation of congenital infections (CMV, syphilis, tuberculosis, abscesses), line

- infection, meningitis (bacterial or viral), osteomyelitis, septic arthritis, tuberculosis
- h. Neurology: acute neurologic conditions (acute cerebellar ataxia, Guillain-Barre syndrome, movement disorders), non-febrile seizures, shunt infections
 - i. Respiratory: airway obstruction, bacterial tracheitis, epiglottitis
 - j. Rheumatologic: Henoch Schonlein purpura (HSP), juvenile rheumatoid arthritis (JRA), systemic lupus erythematosus (SLE)
6. Demonstrate how to competently perform and use common physiologic monitoring, therapeutic modalities, and special technology in the general inpatient setting, including indications for use, interpretation of results, and issues specific to care of the chronically ill child.
- a. Pulse oximetry
 - b. Cardiac monitoring
 - c. Monitoring of temperature, blood pressure, heart rate, respirations
 - d. Determination of which patients need continuous monitoring or special monitoring (e.g., neurological checks).
 - e. Universal precautions
 - f. Nasogastric tube placement
 - g. Administration of nebulized medication
 - h. Injury, wound and burn care
 - i. Oxygen delivery systems
 - j. I.V. fluids
 - k. I.V. pharmacotherapy (antibiotics, antiepileptics, etc.)
 - l. Transfusion therapy

Diagnostic and screening procedures.

GOAL: Describe the following tests or procedures, including how they work and when they should be used; competently perform and interpret those commonly used procedures in the inpatient or outpatient setting

1. Newborn metabolic disease screen
2. Lead
3. CBC with differential, platelet count, RBC indices
4. Blood chemistries: electrolytes, glucose, calcium, magnesium, phosphate
5. Renal function tests
6. Tests of hepatic function (PT, albumin) and damage (liver enzymes, bilirubin)
7. Serologic tests for infection (e.g., hepatitis, HIV)
8. C-reactive protein, erythrocyte sedimentation rate
9. Hemoglobin A1C
10. Lipid profile
11. Therapeutic drug concentrations

12. Coagulation studies
13. Arterial, capillary, and venous blood gases
14. Detection of bacterial, viral, and fungal pathogens
15. Urinalysis
16. Cerebrospinal fluid analysis
17. Gram stain
18. Wet prep
19. Stool studies
20. Other fluid studies (e.g. pleural fluid, joint fluid)
21. Electrocardiogram (perform and interpret)
22. Plain radiographs of the chest, extremities, abdomen, skull, sinuses
23. Other imaging techniques such as CT, MRI, angiography, ultrasound, nuclear scans, contrast studies (interpretation not expected)
24. Echocardiogram (interpretation not expected)
25. EEG (interpretation not expected)

Technical and therapeutic procedures.

GOAL: Describe the following procedures, including how they work and when they should be used; competently perform those commonly used by the family physician in practice

1. Pain management
2. Arterial puncture
3. Bladder catheterization
4. Chest physiotherapy
5. Gastric tube placement (OG/NG)
6. Intravenous line placement
7. Lumbar puncture
8. Medication delivery: IM/SC/ID/IV/rectal
9. Medication delivery: inhaled (e.g. metered dose inhaler and spacer)
10. PPD: placement
11. Pulmonary function tests: peak flow meter
12. Pulmonary function tests: spirometry
13. Pulse oximeter: placement
14. Rectal swab
15. Sterile technique
16. Suctioning: nares
17. Suctioning: oral pharynx
18. Venipuncture
19. Nursemaid elbow reduction
20. Subungual hematoma drainage
21. I and D simple abscess

Competency: Medical Knowledge

Skills:

1. Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a family physician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.
 - a. Demonstrate a commitment to acquiring the base of knowledge needed to care for children in the inpatient setting.
 - b. Demonstrate the ability to access medical information efficiently, evaluate it critically, and apply it to inpatient care appropriately.

Competency: Interpersonal Skills and communication

Skills:

1. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
 - a. Provide effective patient education, including reassurance, for condition(s) commonly seen on the inpatient service.
 - b. Participate and communicate effectively as part of an interdisciplinary team, as the primary provider (e.g., patient presentations, sign-out rounds, communication with consultants and primary care physicians of hospitalized patients).
 - c. Develop effective strategies for teaching students, colleagues, other professionals and laypersons.
 - d. Maintain accurate, legible, timely and legally appropriate medical records.

Competency: Practice based learning

Skills:

1. Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate and improve one's patient care practice.
 - a. Use scientific methods and evidence to investigate, evaluate and improve one's patient care practice in the inpatient setting.
 - b. Identify personal learning needs, systematically organize relevant information resources for future reference, and plan for continuing acquisition of knowledge and skills.

Competency: Professionalism**Skills:**

1. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
 - a. Demonstrate personal accountability to the well being of patients (e.g., following-up on lab results, writing comprehensive notes, and seeking answers to patient care questions).
 - b. Demonstrate a commitment to professional behavior in interactions with staff and professional colleagues.
 - c. Adhere to ethical and legal principles, and sensitivity to diversity while providing care in the inpatient setting.

Competency: Systems based practice**Skills:**

1. Understand how to practice high-quality health care and advocate for patients within the context of the health care system.
 - a. Identify key aspects of health care systems, cost control, billing and reimbursement in the hospital inpatient setting.
 - b. When providing care in the inpatient setting, consider cost and resource allocation without compromising quality of care.
2. Take steps to avoid medical errors by recognizing the limits of one's knowledge and expertise; work with the health care team to recognize and address systems errors.

Care of Children with Chronic Diseases

GOAL: To demonstrate competence in providing care for children with chronic diseases in a knowledgeable and compassionate manner consistent with the needs of the child and the family.

Competency: Patient Care

Skills:

1. Demonstrate familiarity with the concept of the medical home for children with chronic disorders.
2. Demonstrate accuracy in information gathering to ensure accurate diagnoses.
3. Provide expert patient care for children with chronic disorders in various clinical settings (which may include any of the following):
 - a. The office setting, including incorporation of children with chronic disease into the resident's panel of patients.
 - b. A chronic care institution such as a children's home or a nursing home.
 - c. Acute care hospital.
 - d. At home.
4. Evaluate the health and mental health of family members of children with chronic diseases throughout the continuum of care.
 - a. Screen for health and mental health problems among family members of children with chronic diseases.
 - b. Treat or refer affected family members to specialty care as needed.
5. Show effective counseling and educational skills to allow patients and families to better with the rigors of chronic illness.

Competency: Medical Knowledge

Skills:

1. Demonstrate command of the knowledge necessary to care for children with chronic disorders in multiple settings
2. Demonstrate the ability to access sources of information necessary to provide care to those with chronic disorders.
3. Evaluate and manage the common **conditions** and situations presenting in the context of children with chronic disease:
 - a. Central nervous system disorders
 - i. Mental retardation
 - ii. Developmental disability
 - iii. Traumatic brain injury
 - iv. Mental illness
 - v. Epilepsy
 - vi. Cerebral palsy
 - vii. Behavioral disability (e.g., ADHD)
 - viii. Autism spectrum disorder
 - ix. Neurodevelopmental disorders
 - x. Congenital disorders including spina bifida

- xi. School dysfunction including learning disabilities
 - 1. Dyslexia
 - 2. ADHD
- b. Anatomical abnormality
 - i. Biliary atresia
- c. Cardiac conditions
 - i. Congestive heart failure
 - ii. Congenital heart conditions including:
 - 1. Atrial septal defect
 - 2. Ventricular septal defect
 - iii. Hypertension
- d. Pediatric cancer
 - i. Leukemia
- e. Endocrine conditions
 - i. Diabetes mellitus
 - ii. Thyroid Disorders
 - 1. Hypothyroidism
 - 2. Hyperthyroidism
- f. Allergic disorders
 - i. Asthma
 - ii. Atopic Eczema
 - iii. Allergic rhinitis
- g. Pulmonary conditions
 - i. Cystic Fibrosis
- h. Renal Conditions
 - i. Renal Failure
- i. Gastrointestinal conditions
 - i. Celiac Disease
 - ii. Irritable Bowel Syndrome
 - iii. Inflammatory Bowel Disease
 - iv. Functional Bowel Disorders
- j. Sensory system dysfunction
 - i. Hearing loss
 - ii. Visual loss
- k. Musculoskeletal disorders
 - i. Congenital bone anomalies
 - ii. Arthritis
- l. Skin
 - i. Acne
- m. Hematologic disorders
 - i. Sickle Cell Anemia
- n. Chromosomal disorders
 - i. Down Syndrome
- o. Other conditions
 - i. Low birth weight infants
 - ii. Cultural minorities

- iii. Foster care
- iv. Adoptive care

Competency Interpersonal Communication

Skills:

1. Demonstrate effective communication with children suffering from chronic disorders
2. Demonstrate effective communication skills with families of children with chronic disorders in particular, paying attention to:
 - a. Communications of plans
 - b. Education of families and patients
 - c. Counseling of patients and families
3. Demonstrate effective communication with staff and other health professionals to be certain that the optimal care is provided for each child and family suffering from a chronic disorder
 - a. Maintain appropriate accurate medical records.
 - b. Work as a member of the health care team.

Practice Based Learning and Improvement

Skills:

1. Demonstrate appropriate use of evidence based medicine in the care of children with chronic disorders.
 - a. Utilize the medical literature to stay current with the care of children with chronic disorders, including maintaining current knowledge of guidelines for the care of:
 - i. Diabetes mellitus
 - ii. Asthma
 - iii. Down syndrome
 - b. Utilize the medical literature to maintain current knowledge of the impact of childhood chronic illness on family members
 - c. Develop and maintain an understanding of the psychosocial and environmental context of care of children with chronic diseases and its impact on outcomes including:
 - i. Potential adverse health and mental health outcomes among family members.
 - ii. Financial impact of caring for a child with chronic disease.
 - iii. Impact of adverse family health and mental health on child outcomes.

Professionalism

Skills:

1. Provide compassionate, competent care for children with chronic diseases.
2. Espouse a commitment to professional care for children with chronic conditions and their families.
3. Demonstrate respect, compassion, and integrity.
4. Assume responsibility for assigned patients and their families

5. Provide sensitive support to the families of children with chronic disorders.

Systems Based Knowledge

Skills:

1. Demonstrate the ability to work with consultants and to coordinate care for chronically ill children.
2. Identify the patient's insurance.
3. Demonstrate the use of the appropriate formulary for prescription writing.
4. Code (ICD9) and bill (E&M code) appropriately for services rendered.
5. Ensure access to ancillary services as required.
6. Write skillful and accurate referral letters and communicate with other specialists.

Diagnostic procedures.

GOAL: Describe the following tests or procedures, including how they work and when they should be used; competently interpret those commonly used diagnostic procedures for children with chronic conditions.

1. Laboratory tests including:
 - a. Diagnostic tests for diabetes mellitus
 - b. Diagnostic test for cystic fibrosis
 - c. Diagnostic tests for celiac disease
 - d. Thyroid function tests
 - e. Diagnostic tests for renal failure
 - f. Diagnostic tests for hepatic failure
 - g. Anemia evaluation including sickle cell disease
 - h. Chromosome analysis
2. Radiological tests including:
 - a. CT scan brain
 - b. MRI brain
 - c. X-Rays
 - d. Bone Scan
 - e. VCUG
 - f. Abdominal Ultrasound

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