Newborn and Infant Assessment and Care Up to Two Months of Age

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Objectives

- Describe important elements of care for newborns and infants up to two months of age during well visits
- Identify red flags from the history and physical examination of these infants

Definitions

Newborn
- An infant less than 28 days of age

Preterm or Premature
- Infant born with a gestational age of less than 37 weeks

Late Preterm
- Infant born with a gestational age between 34 weeks and 36 weeks and 6 days

Term
- Infant born with a gestational age of between 37 weeks and 41 weeks and 6 days

Post Term
- Infant born with a gestational age of 42 weeks and greater

Some Comments About Late Preterm Infants

- Physiologically and metabolically immature
- At increased risk for readmission due to medical complications
- Need for close monitoring and surveillance of growth and development
- May need follow up with special infant care clinic and other specialists for eye exams, Synagis, cardiology, bronchopulmonary dysplasia (BPD), etc.


nc Health Check Billing Guide: Recommended Periodicity Schedule

<table>
<thead>
<tr>
<th>Periodic Schedule for Screening Assessments</th>
<th>9 or 15 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 1 month</td>
<td></td>
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<tr>
<td>2 months</td>
<td>12 months</td>
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<tr>
<td>4 months</td>
<td>18 months</td>
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<tr>
<td>6 months For children ages 2 through 20, annual visits are recommended</td>
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</table>

Source: 2013, NC Health Check Billing Guide
Initial Well Child Visit

- In the past the first well visit was at 2-4 weeks of age
- Bright Futures Recommendations for Preventive Pediatric Health Care include an initial visit at 3-5 days of age (followed by a visit within the first month, and again at two months of age)
- Purpose of initial visit
  - Evaluate newborn for "jaundice, feeding difficulties (hydration problems, excessive weight loss), sepsis, and significant congenital malformations that are not apparent on the initial exam but become symptomatic in the first weeks of life"
  

Timing of Initial Well Child Visit

- National recommendations
  - If the well baby nursery length of stay was ≤ 48 hours, then the baby should have a visit within 48 hours of hospital discharge
  - If the well baby nursery length of stay was > 48 hours, then the baby should have a visit within 3-5 days
  - It is less likely for a newborn to be readmitted if the visit occurs within the recommended timeframes (but only 15% in one study followed the recommendations)
  

Purpose of Early Well Child Visit

- Repeat or secure hearing and metabolic screening follow-up
- Screen for maternal postpartum depression
- Identify social determinants of health
- Provide appropriate anticipatory guidance
- Prevent or reduce most common reasons for readmission in the first week of life which are feeding problems and jaundice
- Follow-up on concerns from the nursery or any referrals and/or care to address special health care needs of the infant

  You need the discharge summary from the nursery at this visit!!

Bright Futures Core Elements

- History: review the Pre-Visit Questionnaire
- Measurements: weight, length, head circumference, vitals as needed, BP if indicated
- Sensory screening: assess risks for vision and hearing issues and check on results of newborn hearing screening
- Developmental/behavioral assessment: surveillance and formal screening if concerns or risks are identified on surveillance

Bright Futures Core Elements (cont.)

- Physical Examination/Assessment
- Procedures: newborn metabolic screening, CCHD screening, immunizations (and TB screening if risks)
- Anticipatory Guidance: based on parent priorities and Bright Futures recommended priorities when possible

Bright Futures Visit Documentation Form Elements: History

- Prenatal and birth history (review the discharge summary from the nursery and the Initial Child Health History form)
  - Any risks or concerns during the pregnancy (i.e., mental health, substance use, domestic violence)
  - Maternal labs (i.e., group B strep, GC, chlamydia, RPR, rubella status, Hepatitis B surface antigen status)
  - Birth weight, gestational age (term vs. preterm), history of LGA, SGA or IUGR, complications at birth, Apgars
History (cont.)

- Neonatal (review the Initial Child Health History form and the discharge summary)
  - Determine if child has special health care needs (even if not in NICU)
  - Ask about what has happened at home since discharge, the rate of weight gain, medications, and allergies
  - Review infant labs (i.e., blood type if done, urine or meconium drug screening and bilirubin which may be transcutaneous or blood)
  - Review discharge weight, history of significant weight loss, and physical exam findings/concern
  - Review screening results (hearing, metabolic, and CCHD)
  - Review if immunizations were given in the hospital (and if got HBIG)

Social History

- Social history areas
  - Maternal depression screening (need processes in place to address concerns)
  - Work plans
  - Child care
  - Location, ages and number of family members or other people living in the home and involved or not involved with the infant

Social History (cont.)

- Parent and infant interactions (observation and discussion)
- Sibling(s) and infant interactions
- Major changes in the family (i.e., death, move, loss of job, divorce/separation)
Examples of Social History Red Flags

- Poor bonding and parental interactions with the infant
- Poor family adjustment to the infant
- Lack of family support
- Maternal depression
- History or current substance use or mental health condition in mother or another person living in the home
- Domestic violence

Family History

- Review the family history provided on the Initial Child History form
- Examples of family history red flags
  - History of infant hearing loss
  - History of sickle cell disease or trait
  - History of SIDS
  - History of developmental delays or disabilities
  - History of birth defects or genetic conditions
  - History of mental health or drug use (asked about on Initial Child Health History)

Review of Systems

- Nutrition: breast milk or formula, amount, support, tolerance, duration and frequency of feeding, source of water, vitamin D
- Elimination: urine output and bowel movements
- Sleep
- Behavior
- Developmental surveillance (review pre-visit questionnaire and formal screening if need)
- Tobacco use or second hand smoke exposure
**Support For Breastfeeding**
- Breastfeeding provides optimal nutrition for babies according to many other national organizations.
- Goal is exclusive breastfeeding for about six months and ongoing breastfeeding for a duration of at least one year and longer if both the mother and baby are willing.
- Fathers, family members, clinicians, and other professionals can help with the success of exclusive breastfeeding.

**Examples of Red Flags on Review of Systems**
- Difficulty feeding via breast or bottle.
- Difficulties with neurodevelopmental skills.
- Poor urine output and stooling (includes continuing to have black stools or no stooling).
- Increased sleeping (overly quiet baby) and not waking to feed.
- Appears not to hear or not trying to fix or follow.

**Physical Examination: Measurements**
- Measure and plot weight, length, and head circumference (adjust for gestational age for preterm infants).
- Plot weight for length.
- Vitals only if needed, BP if chronic condition or risk.

Source: Health Check Billing Guide
Preterm Infant Growth Charts (Olsen)

- For preterm infants born ≥ 4 weeks before the due date who have not yet reached 40 weeks corrected age, use the Olsen growth charts
  - Continue to use until 2 months chronological age
- Once preterm infants have reached 40 weeks corrected age, use the WHO growth charts
  - Plot growth using the corrected age until the infants have reached 24 months chronological age
AAP Intrauterine Growth Charts (Olsen)

SOURCE: https://www2.aap.org/sections/perinatal/GrowthCurves.pdf

Physical Examination: Normal, Abnormal Findings and Comments

- General (unusual facial or other features, difficulty breathing) and observations of infant
- Head/fontanelle (caput, cephalohematoma, positional skull deformities)
- Eyes (red reflex, icterus, fix and follow)
- Ears (position, ear canal, pits)
- Nose (patent, flaring)
- Mouth (palate, frenulum, lesions, moist)

Source: Bright Futures

Physical Examination (cont.)

- Lungs
- Heart (murmurs, rhythm, femoral pulses)
- Abdomen (cord, liver)
- Genitourinary rectum (circumcision, location of urethra, testes down, female bleeding or discharge, patent rectum)
- Back (dimple or hair tuft)

Source: Bright Futures
PE (cont.)

- Musculoskeletal/extremities (hip dysplasia, torticollis, range of motion, anomalies)
- Neurologic (tone, reflexes, strength, symmetry)
- Skin (color, hydration, rashes, jaundice, mongolian spots, congenital lesions)

Source: Bright Futures

Examples of PE Red Flags

- Weight loss (less than 10% of birth weight, not back to birth weight by 2 weeks)
- Jaundice
- Poor activity
- Poor hydration status
- Blister on skin

Examples of PE Red Flags (cont.)

- High or low temperature (on history or exam)
- Heart murmur or irregular rhythm
- Abnormal hip exam
- Respiratory distress or blue color to skin or lips
- Congenital abnormalities
Anticipatory Guidance

- Priorities of caregivers (mom, dad)
- Family readiness and parental well-being (family support, maternal wellness, transition, sibling relationships, family resources)
- Newborn and infant capabilities and behaviors (sleep/wake states, parent-infant relationship)
- Newborn transition (family adjustment, parent-infant bonding, early developmental referrals)

Anticipatory Guidance (cont.)

- Feeding and nutritional adequacy (feeding initiation, hunger/satiety cues, hydration, jaundice, feeding strategies, feeding guidance and routines)
- Safety (car safety seats, tobacco/smoke exposure, falls, home safety)
- Newborn and infant care (skin care, infant supplies, illness prevention, play)
- Special health care needs (i.e., prematurity, congenital condition, neonatal seizures)

Cultural Competency

- Important to address the values, beliefs and attitudes of the family
- Information should be shared so that families can obtain, process and understand the information in order to make appropriate decisions about their infant’s health
- Motivational interviewing strategies should be used to assess readiness and motivation to take actions related to infant feeding, diet/nutrition, safe sleep, duration of sleep, etc.
Assessment Example

- Well visit
- Term infant
- Breastfeeding
- Good interval growth

Plan

- List additional anticipatory guidance that was not already checked in the earlier section
- Immunizations if needed (at times parents refuse Hepatitis B in the nursery)
- Follow up if infant did not have a newborn hearing screening or did not pass the newborn hearing screening before one month of age and if abnormal hearing rescreen need diagnostic evaluation by three months of age
- If abnormal CCHD screening, need ECHO results and follow up
- Follow up on newborn metabolic screening result; refer if abnormal based on guidance or if need to repeat

Newborn Metabolic Screening

- Borderline results need to be repeated
- Abnormal results need to be evaluated further with consultation with your supervising provider
- Abnormal hemoglobin results need to be discussed with your supervising provider who should consider talking to a Sickle Cell Educator Counselor, Community Based Organization, the NC Sickle Cell Syndrome Program or a hematologist
  - May not need to just refer to hematologist
  - Ask for guidance for next steps
  - Important if infant has sickle cell trait to refer baby and parents for sickle cell trait counseling
Plan (cont.)

- Labs if needed
- Referrals if needed (i.e., vision referral if abnormal vision exam)
- Additional care when needed
- Support for breastfeeding exclusivity
- Next well visit

The Next Well Visit

- Bright Futures recommends a visit by one month of age
- All infants have a visit scheduled at two months of age
- A one month visit is not required but should be decided if medically appropriate for the needs of that infant and family
  - A visit may be needed by 4 weeks (after the 3-5 day visit) to address the needs of first time mother and infant around breastfeeding, jaundice or other issues

<table>
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<tr>
<th>State</th>
<th>Live Born</th>
<th>Breastfeed</th>
<th>Breastfeeding at 3 mos</th>
<th>Breastfeeding at 12 mos</th>
<th>Exclusive Breastfeeding at 3 mos</th>
<th>Exclusive Breastfeeding at 12 mos</th>
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<tbody>
<tr>
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<td>North Carolina</td>
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<td>29.9</td>
<td>13.2</td>
<td>9.9</td>
<td>6.7</td>
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</table>

- Need to use visits to support and help sustain exclusive breastfeeding
- Refer to WIC or regional lactation consultants for support early as needed
- Learn more about how to support mothers with exclusive breastfeeding as practitioners during the visit

Processes to Have in Place Before Starting to See Newborns

- Initial and ongoing communication with your local birthing hospitals to allow seamless sharing of nursery discharge summaries and scheduling of appointments
- Ongoing and timely communication with medical homes (if you are not serving as the medical home) about how information will be shared from newborn visits and how partnering to care for newborns is working
- Good relationships with your Sickle Cell Educator Counselor or CBO, Regional Immunization Consultant, Regional Early Hearing Detection and Intervention (EHDI) Consultant, and other public health consultants

Questions?
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