Pediatric Primary Care

FOURTH EDITION

Practice Guidelines for Nurses

Beth Richardson

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Practice Guidelines for Nurses

Edited by

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Preface

Pediatric Primary Care: Practice Guidelines for Nurses, Fourth Edition can be used as a resource for a variety of diagnoses, including differential diagnoses and treatment strategies. It is divided into two sections. The first section includes taking a medical history with a family seen for the first time, taking an interval history, newborn rounding, and breastfeeding. Well-child visits are included, along with information about nutrition, elimination, sleep patterns, growth and development, and injury prevention. The second section is organized by body system and is written in outline format, making it easy to read and find information quickly. Common medical conditions are presented with information about etiology, occurrence, clinical manifestations, physical findings, diagnostic tests, differential diagnosis, treatment, follow-up, complications, and patient/family education.

—Beth Richardson

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SECTION ONE

Child Health Care

Obtaining an Initial History

Beth Richardson

I. INTRODUCTION

A. The complete health history taken at the first visit is an opportunity for the practitioner to establish a relationship with the child and family, gain insight into family relationships, and obtain pertinent health information.

II. INITIAL INFORMATION

A. Parent(s).
   1. Name(s).
   2. Age(s).
   3. Health status.

B. Sibling(s).
   1. Age(s).
   2. Health status.

III. REASON FOR CURRENT VISIT

A. Current problem or illness.
   1. Background information.
      a. When did it start?
      b. What are the symptoms?
      c. Are others in the family ill with similar symptoms?
      d. What has been done to treat symptoms?

IV. PAST HISTORY

A. Prenatal history and care if child younger than 5 years.
   1. Was pregnancy planned?
   2. Did the mother smoke? Drink alcohol? Take any medications or drugs?

3. Any maternal health problems such as:
    a. Vaginal infection?
    b. Kidney infection?
    c. High blood pressure?
    d. Diabetes?
    e. Edema?
    f. Bleeding?

B. Natal history and care.
1. Labor and delivery.
    a. Where was infant born?
    b. Type of delivery?
    c. Length of labor?
    d. Anesthesia used during labor?
    e. Any problems with mother or infant after birth?
    f. Infant's birth weight? Length? Head circumference? Gestational age?
    g. Did infant go home with the mother?
2. Feeding.
    a. Baby fed by bottle or breast?
    b. Type of formula used?
    c. Frequency of feedings?
    d. Pattern of weight gain?
3. Childhood illness.
    a. Rheumatic fever, chickenpox, number of ear infections, strep throat, respiratory syncytial virus (RSV), whooping cough, mononucleosis, sexually transmitted infections (STIs).
4. Hospitalizations.
    a. Dates, names of hospitals, diagnoses.
    b. Any accidents during pregnancy?
5. Surgeries.
    a. Dates, names of hospitals, diagnoses, complications.
6. Immunizations
    a. Dates, reactions.
7. Screening tests.
    a. Vision, hearing, speech, hemoglobin, urine, tuberculosis skin test, X-rays, other laboratory tests.
8. Allergies.
    a. Medications, environment, foods.
9. Transfusions.
    a. Dates, number of units transfused, reactions.

10. Medications.
    a. Current/recent medications (prescription, over the counter, herbal) including dosage, length of time taking medication, adverse reactions/side effects.

V. REVIEW OF SYSTEMS

A. History.
    1. Head, eyes, ears, nose, throat.
        a. Head: Headaches or head injuries?
        b. Eyes: Tearing, strabismus? Has child had vision test? Does child wear glasses/contacts?
        c. Ears: Ear infections? Drainage? Has child had hearing test?
        d. Nose: Allergies? Frequency of colds? Does child snore, have nosebleeds, or have postnasal drip?
        e. Throat: Sore throat, dental hygiene, lymph glands, hoarseness?
    2. Cardiovascular.
        a. Heart murmur.
        b. Congenital heart disease.
        c. Cyanosis.
        d. Edema.
        e. Activity tolerance, shortness of breath, syncope.
    3. Respiratory.
        a. Pneumonia, bronchitis.
        b. Asthma.
        c. Cystic fibrosis.
        d. Croup, cough.
    4. Gastrointestinal.
        a. Diarrhea, constipation.
        b. Vomiting, reflux, upset stomach, abdominal pain.
        c. Bloody stools, rectal bleeding.
        d. Fissures, ulcer.
        e. Jaundice.
    5. Genitourinary.
        a. When did child achieve night dryness?
        b. Frequency of urination, urinary tract infections, dysuria, polyuria.
        c. Hematuria.
        d. Menstrual history (pain, flow), vaginal drainage.

   e. Penis or testes abnormalities.
   f. STIs, sexual activity.
6. Musculoskeletal.
   a. Painful joints, swelling, strains, sprains, fractures.
   b. Deformities.
   c. Activity tolerance.
7. Neurologic.
   a. Headaches.
   b. Seizures, epilepsy.
   c. Fainting, dizziness, tremors.
   d. Clumsy, uncoordinated.
   e. Attention-deficit/hyperactivity disorder (ADD/ADHD), learning disability, developmental delay.
8. Endocrine.
   a. Sexual maturation.
   b. Diabetes.
   c. Thyroid or adrenal diseases.
9. Skin.
   a. Rashes, birth marks.

VI. FAMILY HISTORY

A. History of any of following in family members:
   1. High blood pressure.
   2. Heart disease, stroke.
   3. Diabetes.
   4. Cataracts, glaucoma.
   5. Anemia.
   6. High cholesterol levels.
   7. Asthma, allergies.
   8. Kidney infections.
   9. Colitis, ulcers.
   10. Cancer.
   11. Thyroid problems.
   12. Epilepsy.
   13. Dysplasia of hip.
   14. Mental disability.
   15. Alcoholism or substance abuse.

VII. DISEASE HISTORY

A. Disease/problem.
   1. When was patient diagnosed?
   2. How was patient treated? Response to treatment?
   3. How have symptoms changed? How is patient doing now?
   4. Is patient taking medications to treat problem?

VIII. SOCIAL HISTORY

A. Parents'/guardians' employment site(s) and hours worked.
B. Child care.
   1. Daycare or sitter?
   2. Preschool or after-school programs?
C. Family relationships.
   1. How do family members get along?
D. Home life.
   1. Does home have a yard where child can play?
   2. Stairs in house?
   3. City, well, or bottled water?
   4. Is home in safe neighborhood?
E. School life.
   1. How is child's progress?
      a. What are child's grades?
      b. What are child's strengths and weaknesses in learning? Does child need extra help in learning?
      c. What type of classroom (advanced, regular, learning disability)?
   2. Behavior.
      a. Does this child bully others or is child a victim of bullying?
      b. What is child's behavior in learning situations?
      c. History of absenteeism or truancy?
   3. Classmates/friends.
      a. How does child relate to and play with those in classroom, daycare, or preschool?
      b. Does child have a best friend?
      c. What does child like to play?

IX. DEVELOPMENT

A. For child younger than 2 years ask when first:
   1. Smiled.
   2. Rolled.
   3. Sat without assistance.
   4. Crawled.
   5. Walked without assistance.
   6. Said 2 words.
   7. Fed self.
   8. Said 10 words.

B. Behavior.
   1. Temper tantrums, whining.
   2. Thumb sucking.
   3. Sleep patterns.
   4. Temperament.

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Duderstadt KG. *Pediatric Physical Examination: An Illustrated Handbook.* 2nd ed. St. Louis, MO: Mosby; 2014.

CHAPTER 2

Obtaining an Interval History

Donna Hallas

I. THE INTERVAL HISTORY

A. Definition.
   1. Interval history: Data collection that occurs at subsequent visits to one in which comprehensive history and physical examination were completed.
   2. Amount of information reviewed and collected for interval history depends on age of pediatric, adolescent, or young adult (up to age 21 years) and length of time since comprehensive history was obtained and/or prior appointments in which interval history was updated.
   3. General guideline for obtaining interval history: Review and update data (e.g., emergency department and urgent care visits; changes in personal or family history every 6 months for infants, toddlers, and preschoolers, and every year for school-age children, adolescents, and young adults).

B. Significance of interval history.
   1. Although comprehensive history is used to establish initial health promotion plans, analysis of data collected during interval history is often to:
      a. Continue established health promotion plan.
      b. Identify new healthcare problems and establish new health promotion.
      c. Plan health promotion strategies based on new data obtained in the interval history.
      d. Identify treatment plan to resolve presenting problems.
      e. Change health promotion plan to meet immediate and future needs of child and family (e.g., child has new diagnosis of chronic illness).

C. Preparation for obtaining interval history.
   1. Prior to beginning data collection for interval history, review comprehensive history and any prior interval histories available on medical record.
      a. Helps nurse practitioner focus questions that will elicit data needed to complete interval history.
      b. Sample data contained in comprehensive history that may need further exploration during interval history is listed in **Table 2-1**.

Table 2-1 Focusing the Interval History from Details in the Comprehensive History

Comprehensive History	Interval History
Past medical history (PMH)	Any data in past medical history that are significant and require further clarification. Consider previous acute illnesses including emergency department (ED) and urgent care, infectious diseases, hospitalizations, injuries, accidents, surgeries, and chronic illnesses. Consider how PMH relates to current presenting symptoms or problems.
Review problem list, including prior diagnoses	If all prior problems are listed as resolved, then no further data needs to be elicited at this visit. If problems still exist, then ask questions specific to previously identified problem and current status of that problem.
Allergies	Always obtain update on allergies to all foods; medications, including over the counter (OTC); seasonal and environmental pollutants. Identify specific reaction (e.g., type and location of rash).
Developmental history: 6 years and younger	Review results of prior developmental screenings, including Denver Developmental Screening Test (DDST) or the Ages and Stages Questionnaires, and socioemotional screenings. Note achievement of developmental milestones at each interval visit. If delays are noted, question status of intervention services (early intervention for children up to 6 years old; occupational therapy (OT), physical therapy (PT), speech, special education services, behavioral therapies for all children).
7 to 12 years old	Screenings based on presenting problem: Pediatric symptom checklist SCARED for anxiety
Older than 12 years	Screenings based on presenting problem: Tobacco use or substance use HEEADSSS or SHADESS screen PHQ-2 and PHQ-9, if needed CRAFFT or Audit-C
Social history	Exercise and activity, wellness behaviors, behavioral issues at home or at school. Use of media and Internet, friendships, bullying (either being bullied or bullies others), aggressive behaviors, violent behaviors, gender identity, and lesbian, gay, bisexual, transgendered, or queer (LGBTQ)+ status.

Table 2-1 Focusing the Interval History from Details in the Comprehensive History (*continued*)

Comprehensive History	Interval History
Family history	Review family structure and family support systems. If data contained in comprehensive history suggest dysfunctional family, ask about present family structure and function. Review genogram and significant family history prior to interview. Pay particular attention to strong family history of conditions in which family lifestyle modifications can have significant impact (e.g., cardiovascular conditions, hypertension; close relative's sudden death at younger than 50 years; diabetes; obesity; behaviors including anger, depression, self-injury, or suicide ideation). Implementing lifestyle modifications in early childhood years may significantly affect health throughout lifetime.
Medication history	Prescription, OTC, homeopathic remedies, herbs, vitamins, minerals, other supplements.
Nutritional history	Timing and frequency of meals, including food choices if malnourished or obese; ethnic and cultural considerations in food choices.
Immunization history	Review immunization records at each visit. Review immunization catch-up schedule.
Mental health	Assess mental health status for children and adolescents at each interval visit. Fears, anxiety, depression, and behavior problems may occur at any age.

D. Elements of an interval history.
   1. Elements included in interval history should be age related.
   2. Major focus for interval history for each pediatric, adolescent, and young adult should include questions concerning eating, sleeping, bladder and bowel patterns, and any unusual behaviors or changes in behaviors. Additional questions are then age related.
   3. Infant, toddler, and preschool-age children.
      a. Ask questions related to achievement of developmental milestones.
      b. Denver Developmental Screening Test (DDST) or the Ages and Stages Questionnaire may be used as guide for questioning patterns

concerning achievement of developmental milestones. (Note: DDST no longer needs to be purchased for use. It is available free online.)

c. Toddlers and preschoolers: Assess information regarding speech and language development and development of socioemotional skills.

d. Use the Surveillance and Screening Algorithm: Autistic Spectrum Disorders for toddlers at 16-, 21-, and/or 24-month-old episodic visit if it has not been completed at a maintenance health visit.

4. School-age children.

a. Should also include questions related to sociobehavioral development with peers and progress in school.

b. If female school-age child has secondary sex characteristics, ask about menstrual cycle: Age of onset, frequency, length of cycle, any discomfort prior to or during menstruation.

c. Children older than 10 years of age should be asked: Have they or their friends tried alcohol or drugs? Use brief alcohol/drug-screening tool at each episodic visit.

- What is their diet?
- Happy with appearance/weight?
- Thought about harming themselves or others?
- Sexually active?
- Pediatric symptom checklist.

5. Adolescents.

a. HEADSSS assessment (home, education/employment, activity, drugs/alcohol, sexuality, suicide/depression, safety and exposure to violence).

b. SSHADESSS assessment (strength of interests, school, home, activities, drugs/substance use, emotions/depression, sexuality, safety)

c. Adolescent female: Ask questions related to menstrual cycle.

d. Ask about high-risk social behaviors: Smoking; alcohol/drug use; sexual activity, including diagnosis and treatment of sexually transmitted infections (STIs); driving motor vehicle in reckless manner; use of guns; etc. Many of these questions are included in HEEADSSS or SHADESS assessments.

e. Audit-C or CRAFFT Tool: The CRAFFT tool is preferred for adolescent population.

E. Review of systems (ROS).

1. Age-appropriate ROS: Conduct in head-to-toe manner as identified in comprehensive physical examination (**Table 2-2**).

Table 2-2 Review of System (ROS) in an Interval History

System	ROS—Gathering the Interval History[a]
On a regular basis, do you have problems with:	
Head and neck	Headaches
	Blurred vision or vision problems
	Earaches
	Nosebleeds
	Sore throats
	Difficulty swallowing
	Any lumps in head or neck area
	Infant or toddler who does not like rocking (consider migraine headache)
Chest and lungs	Chest pain
	Heart beating fast in chest (palpitations)
	Shortness of breath
	Syncope
	Frequent cough: Early morning, daytime, and/or nighttime
Abdomen	Nausea
	Vomiting
	Diarrhea
	Urine and bowel habits
	Abdominal pain (location, frequency, intensity, what relieves the pain)
	Menstruation
	Testicular pain
Musculoskeletal	Leg pain or cramps
	Stiffness, swelling, bone deformities
	Skin, hair, and nails
	Rashes

(*continues*)

Table 2-2 Review of System (ROS) in an Interval History (*continued*)

System	ROS—Gathering the Interval History[a]
	Moles
	Darkened or discolored areas
	Abnormal hair growth
	Clubbing of nails (also seen in cardiovascular disorders)
	Bruising easily
	Range of motion
Sexual history	History of sexually transmitted infections (STIs)
	Number/gender of partners
	Use of protection and/or birth control

[a] This information is gathered in addition to the details related to eating, sleeping, bladder, and bowel patterns.

II. INTERVAL HISTORY FOR ATHLETIC CHILD OR ADOLESCENT

A. Pre-participation sports history and physical have well-established guidelines; follow explicitly.
B. Interval history is integral part of assessment.
    1. Question parent and child about significant family history changes (e.g., sudden death of relative who was younger than 50 years old from cardiovascular condition). Include questions that elicit information about significant episodes (red flags) of chest pain, dyspnea, syncope, palpitations, loss of consciousness, history of concussions (**Table 2-3**).

III. FOCUSED HISTORY

A. Focused history: Used to collect data about a specific problem, usually chief complaint identified by parent/child (**Table 2-4** and **Table 2-5**).
B. Focus all questions on eliciting data about chief complaint.
C. Focused history usually limited to one or two systems.

Table 2-3 Red Flags: The Interval History for the Athletic Child or Adolescent

Interval History Questions That May Elicit Red Flag Data	System	Red Flag Data
Any relatives < 50 years of age die as result of sudden unexpected cardiac death? Does the child report chest pain or palpitations, syncope during or after exercise?	Cardiovascular	Change in family history Sudden death of relative < 50 years of age Chief complaint from child: Chest pain, palpitations, syncope
Does the child report any breathing problems during or after exercise?	Respiratory	Chief complaint from child: Dyspnea, wheezing, shortness of breath, cough
Child had any episodes of dizziness, syncope, fainting, concussion?	Neurologic	Chief complaint from child: Syncope, loss of consciousness, headache, blurred vision, clear or blood-tinged drainage from ear

Table 2-4 Sample Focused History: Medical

Subjective Data	Questions to Focus the History
"My child has a chronic cough."	What can you tell me about your child's chronic cough?
"My child begins coughing each night. I cannot remember the last time he didn't cough at night."	Does child cough during day or just at night? What time of night does child begin coughing? Describe the cough. Is cough productive or nonproductive? Does cough affect child's sleeping pattern? Any products currently being used in household that were not being used before child began having this "chronic" cough? Pets in household? Did you change the pillow your child uses?

(*continues*)

Table 2-4 Sample Focused History: Medical (*continued*)

Subjective Data	Questions to Focus the History
	Did you use any over-the-counter or prescription medications to treat this cough?
	Has child been evaluated for asthma or allergies?
	Anything make cough better or worse?
	Is cough seasonal?
	Did cough happen last year?
	Did your child receive DTaP or Tdap vaccine (age dependent)?

Table 2-5 Sample Focused History: Mental Health

Subjective Data	Questions to Focus the History
"My child's behavior has become so difficult at home."	Describe what you mean by "difficult behavior."
	Does anything trigger these behaviors?
	What do you do when this behavior becomes "so difficult"?
	What is your child's response?
	Does this behavior pattern occur at school or outside the home, such as at a friend's house, relative's home, or in public places (e.g., shopping malls)?
	Has there been a change in your family lifestyle, such as parents arguing at home, parental separation, new family member living in the home?
	Has there been any change in your child's physical abilities, such as change in cognitive or psychomotor skills?
	Does your child complain of headaches?
	Is your child aggressive at home or school?
	Is your child cruel to animals?
	Does your child refuse to do things that you ask?

IV. APPLYING DATA OBTAINED IN INTERVAL HISTORY TO CLINICAL PRACTICE

A. After completing interval history and physical examination, compare findings in comprehensive history to data obtained in interval history.
   1. If no significant changes found in interval history, advise parent, infant/child to continue to follow established health promotion plan.
   2. If significant changes are found in interval history, revise health promotion plan.
      a. Example: If interval family history reveals family members have diabetes mellitus, evaluate and make recommendations for family/child exercise and dietary patterns.
   3. If significant changes are found in interval history in relation to child's health, establish new health promotion plan with parent and child/adolescent as active participants.
      a. Example: If interval history reveals significant change in frequency of coughing and upper respiratory symptoms, complete a detailed focused history, provide new diagnosis, and establish new health promotion plan.

V. WHEN TO REFER

A. Referral to specialists are made when child's or adolescent's presenting problem results in differential diagnosis or diagnosis that is either acute illness, such as acute surgical abdomen or systemic infection for which child needs hospitalization, or new-presenting chronic illness, such as type 2 diabetes mellitus, in which child and family would benefit from receiving care from specialists (endocrinologist and nurse practitioner who specializes in endocrinology) and interprofessional team (nutritionist, exercise physiologist, pharmacist, social worker).

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CHAPTER 3

Performing a Physical Examination

Mary Jo Eoff and Beth Richardson

I. INTRODUCTION

A. Pediatric physical assessment is a continual process that includes interviews, inspection, and observation of children.
B. Physical growth, motor skills, and cognitive and social development change as child matures.
C. The assessment of pediatric patient must include what is considered to be normal within child's age limits.
D. Children will differ among themselves at various stages of development.
E. Following is an outline that can be used as a guide in doing a comprehensive physical assessment.

II. PEDIATRIC PHYSICAL EXAMINATION

A. Growth measurements.
    1. Length/height.
        a. Recumbent (< 2 years).
        b. Standing height.
    2. Weight.
    3. Head circumference (occipital frontal circumference [OFC]).
    4. Chest circumference (up to 1 year).
    5. Skinfold thickness.
B. Vital signs.
    1. Temperature, heart rate, respirations, blood pressure.
C. General appearance.
    1. Cleanliness, posture, hygiene.
    2. Nutrition.

3. Behavior, ability to cooperate.
4. Development.
5. Alertness.

D. Skin.
1. Color: Pallor, cyanosis, erythema, ecchymosis, petechiae, jaundice.
2. Texture.
3. Temperature.
4. Turgor.
5. Describe size, shape, and location of rashes, eruptions, and lesions.
6. Sweating.

E. Hair.
1. Color, texture, quantity, distribution, infestations (nits).

F. Nails.
1. Inspect color, texture, quality, distribution, hygiene.
2. Observe for nail biting.

G. Hands and feet.
1. Observe flexion crease on palm.
2. Assess for foot and ankle deformities.

H. Lymph nodes.
1. Palpate for nodes in following areas:
   a. Submaxillary.
   b. Cervical.
   c. Axillary.
   d. Inguinal.
2. Note size, mobility, or tenderness of any enlarged node.

I. Head.
1. Assess shape and symmetry.
2. Assess head control; should be well established by 6 months of age.
3. Palpate skull.
   a. Fontanels (up to 2 years of age).
   b. Suture ridges and grooves (up to 6 months of age).
   c. Nodes.
   d. Any swelling.
4. Examine scalp for hygiene, lesions, signs of trauma, loss of hair, discoloration.
5. Percuss frontal sinuses (children starting at 7 years of age).

J. Neck.
1. Palpate trachea for deviation.
2. Palpate thyroid, noting size, shape, symmetry, tenderness, nodules.
3. Palpate carotid arteries.

4. Palpate neck structure.
    a. Pain or tenderness.
    b. Enlargement of parotid gland.
    c. Weblike tissue.

K. Eyes.
1. Check peripheral vision.
2. Check visual acuity.
    a. Snellen E chart.
    b. Allen test.
3. Note whether eyelashes curl away from eye.
4. Note whether eyebrows are above eye and do not meet at midline.
5. Test for any strabismus.
    a. Hirschberg test.
    b. Cover–uncover test.
6. Observe for nystagmus or ptosis.
7. Inspect conjunctiva for drainage, redness, swelling, pain.
8. Inspect sclera, cornea, iris.
9. Check pupils equal, round, react to light.
10. Examine with ophthalmoscope.
    a. Optic disk, macula, arteriole/vein, fovea centralis, red reflex.
11. Inspect lachrymal ducts: Tears, drainage.
12. Inspect placement, alignment of outer eye: Palpebral slant, epicanthus, lids.

L. Ears.
1. Inspect placement and alignment of pinna.
2. Inspect auditory canal: Color, cerumen, patency.
3. Observe for skin tags and hygiene.
4. Examine middle ear with otoscope.
    a. Color of tympanic membrane, light reflex, bony landmarks.
5. Check hearing.
    a. Rinne test.
    b. Weber test.

M. Nose.
1. Observe mucosal lining for color, discharge, patency.
2. Observe color of turbinates and meatus.
3. Note if septum is midline.

N. Mouth and throat.
1. Observe internal structures.
    a. Hard and soft palate, palatoglossal arch, palatine tonsil, tongue, oropharynx, palatopharyngeal arch, uvula.

2. Palpate ethmoid, frontal, maxillary sinuses.
3. Observe lip edges.
4. Observe eruption of teeth.
    a. Number appropriate for age.
    b. Color and hygiene.
    c. Occlusion of upper and lower jaw.
5. Check salivation.
6. Check drooling.
7. Check swallowing reflex.
8. Note color, texture, or any lesions of the lips.
9. Observe gingiva and mucous membranes for color, texture, moistness.

O. Tongue.
1. Observe for smoothness, fissuring, coating, redness.
2. Tongue able to extend forward to lips?
3. Tongue interfere with speech?

P. Chest.
1. Observe shape of thorax.
2. Check costal angles; should be between 45° and 50°.
3. Check that points of attachments between ribs and costal cartilage are smooth.
4. Check movement.
    a. Inspiration: Chest expands, costal angle increases, diaphragm descends.
    b. Expiration: Reverse occurs.

Q. Lungs.
1. Evaluate respiratory movement: Rate, rhythm, depth, quality, character.
2. Auscultate breath sounds.
    a. Vesicular breath sounds.
    b. Bronchovesicular breath sounds.
    c. Bronchial breath sounds.
3. Note adventitious breath sounds.
    a. Crackles, wheezes, stridor, pleural friction rub.
4. Check for cough.
    a. Productive/nonproductive.
    b. Color of secretions.
5. Check retractions.
6. Check abdominal breathing.
7. Check thoracic expansion.
8. Palpate tactile fremitus.

R. Heart.
   1. Auscultate heart sounds.
      a. Aortic area, pulmonic area, Erb's point, tricuspid area, mitral or apical area.
   2. Check S1–S2.
   3. Palpate for thrill.
   4. Record murmurs.
      a. Area best heard.
      b. Timing within S1–S2 cycle.
      c. Change with position.
      d. Loudness and quality.
      e. Grade intensity of murmur.

S. Vascular.
   1. Assess capillary refill; should occur in 1–2 seconds.
   2. Assess circulation.
      a. Color and texture of skin.
      b. Nail and hair distribution.
   3. Assess perfusion.
      a. Edema.
      b. Pulses (4–0).
   4. Assess collateral circulation.

T. Abdomen.
   1. Inspect contour and size of abdomen.
   2. Note condition of skin.
   3. Inspect umbilicus for hernias, fistula, discharge.
   4. Auscultate bowel sounds.
   5. Auscultate for any aortic pulsations.
   6. Percuss abdomen.
   7. Palpate outer edge of liver.
   8. Palpate spleen.
   9. Elicit abdominal reflux.
   10. Palpate femoral pulses.

U. Neurologic.
   1. Observe behavior, mood, affect, interaction with environment, level of activity, positioning, level of consciousness, orientation to surroundings.
   2. Check reflexes of infant.
      a. Rooting (present birth to 6 months of age).
      b. Sucking (present birth to 10 months of age).
      c. Palmar grasp (present birth to 4 months of age).

   d. Tonic neck (present at 6–8 weeks of age and lasts until 6 months).
   e. Stepping (present birth to 3 months of age).
   f. Plantar grasp (present birth to 8 months of age).
   g. Moro (present birth to 4–6 months of age).
   h. Babinski (child 15–18 months of age normally fans toes outward and dorsiflexes greater toe).
   i. Galant (present birth to 1–2 months of age).
   j. Placing (lack of response is abnormal).
   k. Landau (present 3 months to 2 years of age).
3. Test cranial nerves.
   a. I: Olfactory.
   b. II: Optic.
   c. III: Oculomotor.
   d. IV: Trochlear.
   e. V: Trigeminal.
   f. VI: Abducens.
   g. VII: Facial.
   h. VIII: Acoustic.
   i. IX: Glossopharyngeal.
   j. X: Vagus.
   k. XI: Spinal accessory.
   l. XII: Hypoglossal.
4. Test cerebellar functioning: Finger-to-nose test, heel-to-shin test, Romberg.
5. Test deep tendon reflexes (grading 4–0): Biceps, triceps, brachioradialis, patellar, Achilles.
6. Check sensory functioning: Pain, temperature, touch.

V. Musculoskeletal.
1. Inspect curvature and symmetry of spine.
2. Test for scoliosis.
3. Inspect all joints for size, temperature, color, tenderness, mobility.
4. Test for developmental dysplasia of the hips (DDH).
   a. Ortolani maneuver (evaluate up to 12 months of age).
   b. Barlow's maneuver.
   c. Trendelenburg's test (used after child is walking).
5. Examine tibiofemoral bones: Knock knee, bow legs.
6. Inspect gait: Waddling gait (DDH), scissor (cerebral palsy [CP]), toeing-in.
7. Note flexibility and range of motion of joints.
8. Elicit planter reflex.
9. Test motor strength of arms, legs, hands, feet (grading 4–0).

W. Breast.
    1. Pigmentation.
    2. Location.
    3. Tanner stages (sexual maturity rating).

X. Genitalia.
    1. Male.
        a. Inspect size of penis.
        b. Inspect glands and shaft for swelling, skin lesions, inflammation, veneral warts.
        c. Inspect uncircumcised male: Prepuce.
        d. Inspect location of urethral meatus, note any discharge.
        e. Inspect scrotum for size, location, skin, hair distribution.
        f. Palpate each scrotal sac for testes.
        g. Tanner stages (sexual maturing rating).
    2. Female.
        a. Palpate genitalia for any masses, cysts.
        b. Observe for any venereal warts.
        c. Inspect for location of urethral meatus, Skene glands, mons pubis, Bartholin gland, clitoris, labia majora, labia minora.
        d. Note any discharge: Color and odor.
        e. Tanner stages (sexual maturity rating).

Y. Anus.
    1. Inspect anal area for firmness and condition of skin.
    2. Elicit anal reflex.

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