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CHILD HEALTH NURSING



BT BASAVANTHAPPA

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Chapter

2

Assessment of Pediatric Client

INTRODUCTION

Assessment of the child's health status involves many components, the health interview and history—observation of the parent-child interaction, physical examination and the child's emotional, physiological, cognitive and social development. The nurse's skills are vital in the success of the assessment process. The nurse must:

- Establish rapport and trust
- Demonstrate respect for the child and the parent or caregiver
- Communicate effectively, by actively listening, demonstrating empathy and providing feedback
- Observe systematically
- Obtain accurate data
- Validate and interpret data accurately.

Assessment is an ongoing process and is repeated to varying degrees at every encounter. Expert nurses are constantly evaluating all of these in their care, whether directly or indirectly a as, part of conversation and play. Indeed, some of the subtlest developmental signs may express themselves only during relaxed and casual interaction with a child. Nurse can observe gait while watching a child run down the hall; assess fine motor skills and social adaptation while playing a board game; or observe balance and coordination when bouncing a ball. Playful activities such as tickling a child can give the nurse the feedback related to upper body strength when the child attempts to push the nurse's arms away. Nurses must also learn to perform a comprehensive and thorough examination of child in an efficient manner.

A thorough and thoughtful assessment of a child is the foundation upon which a nurse determines the needs and plan of care for the patient. Nothing can replace it for giving the nurse a snapshot of the life and health of the child. A comprehensive history, a thorough examination and developmental, functional, or cognitive testing as appropriate will provide practical information about the health of a child and guide the nurse's plan of care. The history and physical examination also provide time for health education, teaching about expected growth and development and discussing healthy lifestyle choices. The nurse uses critical thinking skills to analyze the data and establish priorities for nursing intervention or follow-up.

Whether the setting is a hospital or other healthcare facility, it is important to gather information regarding the child's history and current status. Although data collection is continuous throughout a child's care, most data are collected during the interview, the physical examination and from the results of diagnostic tests and studies.

Information spoken by the child or family is called subjective data. Interviewing the family caregiver and child allows the nurse to collect information that can be used to develop a plan of care for the child. Communicating with the child and family caregiver requires knowledge of growth and development and an understanding of communication techniques.

Most subjective data are collected through interviewing the family caregiver and the child. The interview helps establish relationships between the nurse, the child and the family. Listening and using appropriate communication techniques helps promote a good interview. Using focused questions and allowing time for answering will help the child and family feel comfortable.

The nurse should be introduced to the child and caregiver and the purpose of the interview must be stated. A calm, reassuring manner is important to establish trust and comfort. Past experiences with health care may influence the interview. The caregiver and the nurse should be comfortably seated and the child should be included in the interview process. The child may sit on the caregiver's lap or if a crib is available, the child can be placed in the crib, with the side rails up. This will help to ensure the safety of the infant or child during the interview.

JAYPEE BROTHERS

HEALTH INTERVIEW

Preparing for the Health Interview

Appropriate materials and a suitable environment are needed when performing a thorough health history. Take into account the family roles and values. Consider the age and developmental stage of the child, so that nurse can approach the child appropriately and possibly involve him or her in the health history. Observe the child-parent interaction. Determine the extent of the health history that is needed in a given situation. Being well-organized and staying flexible will help ensure success. Nurses should gather materials for taking the health history. Before they begin, make sure that they have materials to record client history data (either a computer or chart paper and a pen), a private space with adequate lighting, chairs for adults and the nurse and a bed or examination table for the child. The space should be safe for the patient's developmental stage and must allow uninterrupted time for examination. Sit down for as much of the history taking as possible, to demonstrate a relaxed and welcoming manner.

Interviewing Family Caregivers

The family caregiver provides most of the information needed in caring for the child, especially the infant or the toddler. Rather than simply asking the caregiver to fill out a form, the nurse may ask the questions and write down the answers; this process gives the opportunity to observe the reactions of the child and the caregiver as they interact with each other and answer the questions. In addition, this eases the problem of the caregiver who cannot read or write. The nurse must be non-judgmental, being careful not to indicate disapproval by verbal or non-verbal responses. While gathering information about the child's physical condition, the nurse also must allow the caregiver to express concerns and anxieties. If a certain topic seems uncomfortable for the caregiver to discuss in front of the child, that topic should be discussed later, in the absence of child.

While approaching the parent or a caregiver, nurses should greet the parent or caregiver by name. While interviewing the parent, provide toys or books to occupy the child, allowing the parent to concentrate on your questions. Use open-ended questions and avoid making judgmental comments. Show respect by remaining approachable. Remember that the structure of the family and its roles and dynamics will affect how the family communicates and how they make decisions about health care. Demonstrate patience and help the parent stay on track, when there are several children in the family. Throughout the interview, refer to the child by name and use the correct gender when referring to the child, demonstrating interest and competence.

Interviewing the Child

When approaching the child, nurses always show a professional demeanor, while still being warm and friendly to the caregivers and child. A white examination coat or all-white uniform may be frightening to children, who may associate the uniform with painful experiences or find it too unfamiliar. The nurse can wear a variety of professional-looking outfits, whether colorful uniform tops, aprons, or smocks worn over white uniforms or everyday clothing, depending on the setting of the nurse's practice. Make eye contact if possible and address the child by name. Use slow deliberate gestures, rather than very quick or grand ones, which may be frightening who are shy children.

It is important that the preschool child and the older child be included in the interview. Use age-appropriate questions when talking with the child. Showing interest in the child and what the child says help both the child and caregiver to feel comfortable. By being honest when answering the child's questions, the nurse establishes trust with the child. Using stories or books written at a child's level helps with understanding what the child is thinking or feeling. The child's comments should be listened to attentively and the child should be made to feel important in the interview.

Some young children will warm up when given time to be invisible in the room, such as hiding behind a parent before they tentatively appear. Make physical contact with the child in a non-threatening way at first. Briefly cuddling a newborn before returning it to the caregiver, warmly shaking the hand of older children and teens and laying your hand on the head or arm of toddlers and preschoolers will convey a gentle demeanor. A joke, a puppet, a silly story or even a simple magic trick may coax the child into warming up. Being at the same eye level as the child can also be more reassuring than standing over the child. This may require having extra seating for the nurse at the same level as the child and parent/caregiver. Aim to be seen as a trustworthy adult, who is the child's partner in making the child feel better and stay healthy.

Elicit the child's cooperation by allowing control over the pace, the order or anything else that the child can control, while still allowing nurse to obtain the information needed. All of this establishes a personal relationship with the child and helps gain his or her cooperation.

Interviewing Adolescent

Adolescents can provide information about themselves; interviewing them in private often encourages them to share information that they might not contribute in front of their caregivers. This is especially true when asking questions of sensitive nature, such as information regarding drug use or the adolescent's sexual practices.

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When communicating with the child during the health history, the child should be given opportunities to actively participate in the health history and assessment process. For young children such as toddlers and preschoolers, ask them to point where it hurts and allow them to answer questions. Validation of information by the parent/caregiver is essential because of limited comprehension and language use of children at these ages. The school-aged child can be more accurate because of his or her increased language skills and maturity level. Initially, address the child and obtain as much information from him or her as possible. School-aged children should be able to answer questions about interactions with friends and siblings and school activities they enjoy or are involved in. Ask the parent/caregiver whether any additional information or observations should be included.

Adolescents may not feel comfortable addressing health issues, answering questions or being examined in the presence of the parent/caregiver. The nurse must establish a trusting relationship with the adolescent, to provide him or her with optimal health care. Ask adolescents whether they would be more comfortable answering questions alone in the examination area or whether they prefer for their parents to be present. Either way, the parent/caregiver will have an opportunity to talk with the nurse after the health history and assessment are completed. Demonstrate an interest in the teen, by asking questions about school, work, hobbies or activities and friendships. Begin with these topics to make the teen feel comfortable in communicating with you. Communicate honestly with the adolescent and explain the rationale for various aspects of the health history. Teens are very sensitive to non-verbal communication, so be very aware of your gestures and expressions. Once a rapport has been established, move on to more emotionally charged questions that relate to sexuality, substance use, depression and suicide. Always assure the teen that complete confidentiality will be maintained to the extent possible. Current state law will determine the types of information that may be withheld from parents. If the information that the nurse receives indicates that the teen may be in danger, then the nurse must inform the teen that the information will be shared with other providers and/or the parents.

When nurses observe the parent-child interaction, they should make observation of the parent-child interaction that begins during the focused conversation of the health interview and continues throughout the physical examination. Explore the family dynamics, not only through questions, but also by observing the family for behavioral clues. Does the parent make eye contact with the infant? Does the parent anticipate and respond to the infant's needs? Are the parents ineffective when dealing with a toddler's temper tantrum? The plan of care needs to be adjusted to teach appropriate responses to the infant's needs or toddler's behavior. Do the parents' comments increase the school-age child's sense of self-worth? Behavioral observations are crucial for the proper assessment of the family's needs.

Does the parent seem to be coping with the health issue or does he or she appear overwhelmed? Is the parent's/caregiver's behavior appropriate? Does the child look at the parent/caregiver before answering? Does the child seem relaxed and happy with the parent/caregiver, or is the child tense? The infant will appear calm and relaxed if his or her needs are generally met. Crying may occur when the baby is ill or frightened but may also indicate discomfort with the parent or caregiver. Use a calm and comforting voice with the infant. Infants respond well to higher-pitched and soothing voices.

When observing the relationship between the adolescent and the parent/caregiver, does the parent/caregiver allow the adolescent to speak or does he or she frequently interrupt? Does the parent/caregiver contradict what is being said? Observe the body language of the adolescent. Does the adolescent seem relaxed or tense? Since adolescents are between childhood and adulthood, they have unique needs. They are in a time of multiple physical and emotional changes, many of which they cannot control. They need to know that the nurse is interested in what they have to say. The use of open-ended questions allows the adolescent to talk. "Tell me about your...." or "What have you noticed about...." are comfortable phrases to use to elicit the information needed. Be aware of your reactions to the adolescent's questions or behaviors, such as your non-verbal and facial expressions. Talk with the adolescent using accurate language that is developmental and age-appropriate.

Nurses should make determining the type of history needed, i.e. the purpose of the examination will determine how comprehensive the history must be. If the healthcare provider rarely sees the child or if the child is critically ill, a complete and detailed history is in order, no matter what the setting is. The child who has received routine health care and presents with a mild illness may need only a problem-focused history. In critical situations, some of the history taking must be delayed until and after the child's condition is stabilized. Evaluate the situation to determine the best timing and the extent of the history. Also, be sensitive to repetitive interviews in hospital situations and collaborate with physicians or other members of the healthcare team to ensure that a family which is already under stress does not need to undergo, prolonged or repetitive questioning.

Performing a Health Interview

Health interview is the foundation of an accurate health assessment. Information about the child's health will come not only from a physical examination, but also from a

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careful conversation or interview with the child and/or the caregiver. Depending on the intent of the health assessment, many of the questions will be direct and many will require the caregiver or child to answer simply yes or no. In other than emergency situations, asking open-ended questions offers an excellent opportunity to learn more about the patient's life. For example, "Are you happy at school?" may elicit a brief nod of the head, whereas "Tell me what it is like on your school play ground" may result in a story about the child's friends the kind of activities they enjoy, any bullying that goes on and so forth. These stories will provide the nurse with clues to the child's stage of physical, emotional and moral development, as well as his or her functional status.

Establish a therapeutic relationship with the child and family. Without the trust that comes from this therapeutic relationship, the family may not reveal vital information due to fear, embarrassment or mistrust. Use therapeutic communication techniques such as active listening, open-ended questions and eliminating barriers to communication. Establishing a medical home where ongoing health supervision occurs, encourages the formation of trust through continuity of care and the family's continuing relationships with healthcare providers.

The structure of the health interview is determined by the nature of the visit. At an initial visit, large amount of historical data are collected. Having the family fill a questionnaire can save time, but questionnaire is not a substitute for the health interview. The questionnaire may serve as a springboard to begin structured conversations between the family and the nurse. At subsequent visits, the health interview can focus on the pertinent issues of that visit, as well as any health issues that are being monitored.

Techniques of Obtaining Client History

health history provides the nurse with an overall picture of what the child has experienced, highlighting area of concern such as recurrent upper respiratory infections or headaches. This not only helps the nurse to assess those specific areas more comprehensively, but also provides the opportunity to ask focused questions and identify the area where education may be needed. The time used to obtain the health history also gives the nurse an opportunity to interact with the child in a non-threatening manner, while the child watches the interactions between the nurse and the primary caregiver. The health history includes demographics, chief complaints and history of present illness, past health history, review of systems, family health history, development history, functional history and family composition, resources and home environment. When a child is brought to any healthcare setting, it is important to gather information regarding the child's current condition, as well as medical history. This information is used to develop a plan of care for the child. In obtaining information from the child and caregiver, the nurse is developing a relationship, as well as noting what the child and family know and understand about the child's health. Observations of the caregiver-child relationship can also provide important information.

1. **Demographics:** To begin obtaining a client history, the nurse collects and records identifying information about the child, including the child's name, address and phone number, as well as information regarding the caregiver. This information is the part of legal record and should be treated as confidential. A questionnaire often, is used to gather information, such as the child's nickname, feeding habits, food likes and dislikes, allergies, sleeping schedule and toilet-training status. Any special words the child uses or understands to indicate needs or desires, such as words used for urinating and bowel movements would be included on the questionnaire. Questions should start with simple and non-intrusive one; once a rapport between the nurse and patient has started, sensitive questions can be asked. First obtain data such as the child's name, nickname, birth date, and gender. Determine the child's race or ethnicity, the language the child understands, and the language the child speaks. Record the child's address and home telephone number and the parent's or caregiver's work telephone number. Identify who the historian is (the child or the parent or caregiver) and note how reliable this source of information can be consider. Do not assume that an adult with the child is the child's parent. Establish the relationship of the adult to the child and ask who cares for the child if that person does not. Determine the composition of the household, including other children and other family members or other persons who live there.
2. **Chief complaint:** Next, ask about the chief complaint (reason for the visit). The reason may not always be apparent to you. A question such as, "What can I help you with today?" or "What did you notice in your baby/child that you wanted to have checked today?" is very welcoming. The response from the child or parent may be a functional problem, a developmental concern, or a disease. The reason for the child's visit to the healthcare setting is called the chief complaint. In a well-child setting, this reason might be a routine checkup or immunizations, whereas an illness or other condition might be the reason in another setting. The caregiver's primary concern is his or her reason for seeking healthcare for the child. To best care for the child, it is important to get the most complete explanation of what brought the child to the health-care

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setting. Repeating the caregiver's statement regarding the child's chief complaint will help to clarify that the nurse has correctly heard what the caregiver has said. Record the chief complaint in the child's or parent's own words.

3. **Present illness:** Next, address the history related to the present illness. For each concern, determine its onset, duration, characteristics and course (location, signs, symptoms, exposures and so on), previous episodes in patient or family, previous testing or therapies, what makes it better and what makes it worse and what the concern means to the child and family. Inquire about any exposure to infectious agents. To help the nurse discover the child's needs, the nurse elicits information about the current situation, including the child's symptoms, when they began, how long the symptoms have been present, a description of the symptoms, their intensity and frequency and treatments to this time. The nurse should ask the questions in a way that encourages the caregiver to be specific. This is also the time for the nurse to ask the caregiver about any other concerns regarding the child.
4. **Past illness:** Ask about the prenatal history (any problems with pregnancy), perinatal history (any problems with labor and delivery), past illnesses or any other health or developmental problems. Document the child's prior history of illnesses (recurrent, chronic or serious) and any accidents or injuries in the past. Inquire about any operations or hospitalizations, the child has had. Document the child's diet. Note the child's allergies to foods, medications, animals, environmental or contact agents or latex products. Determine the child's reaction to the allergen, as well as its severity. Determine the child's immunization status. Record any medications the child is taking, the dosage and schedule, as well as when the last dose was given. In preadolescent and adolescent females, determine menstrual history. Information regarding the mother's pregnancy and prenatal history are included in obtaining a health history for the child. Any occurrences during the delivery can contribute to the child's health concerns. The child's mother is usually the best source of this information. Other areas the nurse asks questions about include common childhood, serious or chronic illnesses; immunizations and health maintenance; feeding and nutrition; as well as hospitalizations and injuries.
5. **Family health:** Obtaining information about the family's health is a key part of a health interview. Some diseases and conditions are seen in families and are important in prevention, as well as detection, for the child. The caregiver can usually provide information regarding family health history. The nurse uses this information to do preventative teaching with the child and family. Certain risk factors in families contribute to the development of healthcare concerns; risk factors addressed early in a child's life can after family health history. This information may be documented in a genogram. Asking about the age and health status of mother, father, siblings and other family members helps to identify trends and specific health issues. For example, do the grandparents have early-onset coronary artery disease? If they do, the child may benefit from additional health screening. Siblings may exhibit a genetic disease or carry a trait for the disease. This family health information helps to guide future health planning.
6. **Developmental history:** Determine the age when landmarks in gross motor control were achieved, such as sitting, standing walking, pedaling, and so on. Ask whether the child has attained fine motor skills such as grasping, releasing, pincer grasp, crayon or utensil use and handwriting skills. Note the child's age and extent of language acquisition. Document speech problems such as a lisp or stuttering. The rate of developmental skill acquisition may vary from child to child, but the sequence of skill attainment should remain the same. Inquire about self-care ability (e.g., tying shoes, dressing, brushing teeth) and in the younger child, how toilet training is progressing. Assess feeding skills, including how well the child drinks from a cup and uses utensils or whether the child has any special requirements. Inquire about social skills and comfort articles (e.g. blankets, stuffed animals). Note whether the child has a habit of thumb or finger sucking or using a pacifier. Document daycare attendance and preschool or school adjustment and achievements.
7. **Functional history:** The functional history should contain information about the child's daily routine. Inquire about:
   - Safety measures (e.g. car seats and their placement, use of seat belts, smoke detectors, bike helmets)
   - Routine health care and dental care (including dates of dental care and what was done)
   - Nutrition, including a 24-hour dietary recall or week-long food diary, use of supplements and vitamins, feeding pattern and satisfaction with diet, amount of 'junk food' consumed, food likes and dislikes and the parent's perception of the child's nutrition
   - Physical activity and organized sports, play and recreation
   - Television and computer habits
   - Sleep behavior and bedtime
   - Elimination patterns and any concerns
   - Hearing or vision problems (dates of last screenings and results)
   - Relationships with other family members and friends, coping and temperament, discipline strategies, attention or school behavior problems

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- Religious involvement and other spiritual practices
- Use of adaptive and assistive devices such as eyeglasses or contact lenses, hearing aids, walker, braces, wheelchair
- Sexual practices

8. **Family composition, resources and home environment:** Determine the marital status of the parents. Does the child live with the parents, a step-parent or other family member? Is the child adopted or in foster care? Are parents the primary caretakers for the child? If not, the primary caretaker should be included in the interview process, if possible. Parents may not know some of the child's routines, if the child spends much of the time being cared for by someone else. Working parents may learn about health or behavior issues only after being alerted by the child's daycare center or babysitter. It may be helpful to expand the family history to include the grandparents and their interaction with the child.
   Determine the employment status of the parents and their occupations, as this could affect the child's overall well-being; for example, the parent's work schedule may not allow them to spend much time with the child. Assess family income and financial resources, including health insurance and food stamps or other governmental supplemental income. Major family changes can also affect how the parents and child interact, so evaluate for relationship problems or changes. Ask about the family's home and its age and the home environment. Is there a safe outdoor play area? If there is a pool, are safety features in place? Determine whether the home has electricity and an indoor water supply. Also determine whether the home has heating, air conditioning, and refrigeration. What pets does the family have? How are they housed? Are there infestations of insects or rodents in the home?
9. **Review of systems:** Inquire about current or past history of problems related to growth and development and systemwise review, as given below, by asking specific questions as in Table 2.1. Also can use any pediatric nursing assessment format as shown in sample of format as follows:

Table 2.1: Questions for the review of systems

Systems	Has the child experienced
Growth and development	Weight loss or gain, appropriate energy and activity levels, fatigue, behavior changes such as irritability; nervousness; anger or increased crying
Skin	Easy bruising or bleeding, rash, lesion, skin disease, pruritus, birthmarks or change in mole; pigment, hair or nails
Head and neck	Head injury, headache, dizziness, syncope
Eyes and vision	Pain, redness, discharge, diplopia, strabismus, cataracts, vision changes, reading difficulties, need to sit close to the board at school or close to the TV at home
Ears and hearing	Earache, recurrent ear infection; tubes in eardrums, discharge, difficulty hearing ringing, excess cerumen
Mouth, teeth and throat	Swollen gums, pain with teething, caries, tooth loss, toothache, sores, difficult with chewing or swallowing, hoarseness, sore throat, mouth breathing, change in voice
Respiratory system and breasts	Nasal congestion or discharge, cough, wheeze, noisy breathing, snoring, shortness of breath or other difficulty in breathing, problems with or changes in breasts
Cardiovascular system	Murmur, color change (cyanosis), exertional dyspnea, activity intolerance palpitations, extremity coldness, high blood pressure, high cholesterol
Gastrointestinal system	Nausea, vomiting, abdominal pain, cramping, diarrhea, constipation, stool-holding, anal pain or itching
Genitourinary system	Dysuria; polyuria; oliguria; narrow urine stream; dark, cloudy or discolored urine, difficulty with toilet training; bedwetting Boys: Undescended testicles, pain in penis or scrotum, sores or lesions, discharge, scrotal swelling when crying, changes in scrotum or penis size, addition of pubic hair Girls: Vaginal discharge, itching rash, problems with menstruation or menstrual cycle
Musculoskeletal system	Joint or bone pain, stiffness, swelling, injury (e.g. broken bones or sprains), movement limitation, decreased strength, altered gait, changes in coordination, back pain, posture changes or spinal curvature
Neurologic system	Numbness, tingling, difficulty learning, altered mood or ability to stay alert, tremors, tics, seizures
Endocrine system	Increased thirst, excessive appetite, delayed or early pubertal changes, problems with growth
Hematologic system	Swelling of lymph nodes, pale color, excessive bruising

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PEDIATRIC NURSING ASSESSMENT FORM

1. Name: _____ Date/Time of Admission: _____ Via: _____
2. Birth Date: _____ Information obtained from: _____ Relationship to child: _____
3. Child's legal guardian: _____ Child's Nickname: _____

VITAL SIGNS	Temperature	Apical Pulse	Radial Pulse	Respirations	BP	Height	Weight	Head Circumference

CURRENT CHIEF COMPLAINT/DIAGNOSIS: Symptoms and Duration	Child/Caregiver's Understanding of Condition:
PREVIOUS ILLNESS/INJURIES/DIAGNOSIS: Illness, Symptoms and Duration	Injuries or Surgery:
	Aneshtesia Complications?

Allergies and Reactions:	Immunizations Date: DTaP (DT)	Exposure to Infectious Disease (Chicken pox, measles, etc.) Date
	Polio	
	Hepatitis B	
	Hib (type)	
	MMR (measles, mumps, rubella)	
	TB skin test Result	

Medications: Name:	Dose	Frequency	Time of Last Dose

Child's reaction to previous hospitalizations: _____

_____

Special fears of child about hospitalization: _____

_____

Family History: (Check all that apply, indicate relationship to child)

_____ Cancer _____ _____ Seizures _____ _____ TB _____

_____ Heart disease _____ _____ Asthma _____ _____ Anesthesia complications _____

_____ Allergy _____ _____ Smoking _____ _____ Others (specify) _____

_____ Diabetes _____ _____ Hypertension _____ _____

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Living Facilities (check):

_____ House _____ Apartment _____ Trailer _____ Steps to travel? _____

Who does child live with? _____

Names, ages of siblings in home _____

Names, ages of other children in home _____

Other persons in home _____

Special interests, toys, games, hobbies: _____

_____

Security object: _____ Was it brought to hospital? _____

Bowel/Bladder Habits:

Toilet Training (if applicable):

Started _____ Yes _____ No

Completed _____ Yes _____ No

Diapers:

Day _____ Yes _____ No

Night _____ Yes _____ No

Potty chair: _____ Yes _____ No

Toilet: _____ Yes _____ No

Bedwetter: _____ Yes _____ No

Terms Used for:

Bowel movement _____ Urination _____

Frequency of bowel movement _____ Color _____ Consistency _____

Does child have problems with diarrhea or constipation? _____

_____

Does child have urinary frequency, burning, discomfort: _____ Yes _____ No

If yes, please explain: _____

_____

Patterns of sleep/rest:

Bedtime _____ Wakeup _____

Nap _____ Yes _____ No _____ When? _____

Activity:

Does infant roll over? _____

Does child stand/walk? _____

Does child climb? _____

Does child dress self? _____

Does child go up and down stairs? _____

Does child talk in formed sentences? _____

Eating Habits:

Does child: Feed self _____ Yes _____ No

Does child need help to eat? _____

Food and beverage:

Likes _____ _____

Dislikes _____ _____

Usual appetite? _____ _____

Appetite now? _____

Last time child had food or beverage: _____

Items brought to hospital:

Glasses	_____ Yes	_____ No
Contacts	_____ Yes	_____ No
Hearing aid	_____ Yes	_____ No
Dentures	_____ Yes	_____ No
Braces	_____ Yes	_____ No
Retainer	_____ Yes	_____ No
Special bottle	_____ Yes	_____ No
Own pacifier	_____ Yes	_____ No

Does child smoke or drink alcoholic beverages? _____ Yes _____ No

If yes, please give details _____ _____

Does child use street drugs? _____ Yes _____ No

If yes, please give details _____ _____

Other behavior habits of the child (Please check)

Thumbsucking _____; Nailbiting _____; Headbanging _____

Rituals (Explain) _____ _____

Disposition (Describe) _____ _____

Skin Assessment

_____ Jaundice _____ Cyanosis _____ Pallor _____ Redness

_____ Cool _____ Warm _____ Clammy _____ Dry

_____ Normal appearance

Describe: (Location and character)

Rash _____

Abrasions _____

Lacerations _____

Contusions _____

Respiratory Assessment

____ Clear ____ Stridor ____ Rales (____moist ____ dry) ____ Wheezing

____ Rhonchi ____ Retractions (type) _____

____ Coughing, Sneezing _____ Nasal Discharge (describe) _____

Child/Caregiver oriented to unit? _____ Yes _____ No; understanding verbalized by child _____, Caregiver _____

Reviewed safety measures with child _____, Caregiver _____; understanding verbalized by child _____ Caregiver _____

Additional information nursing staff should know:

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PHYSICAL EXAMINATION

Physical examination should focus on the chief complaint or any of the systems that engaged the nurse's critical thinking, while taking the history. The examination will reflect the nurse's general practice style, the developmental stage and age of the child, the temperament of the child and caregiver, and the health status of the child. A very ill child will not waste energy protesting the examination, so the nurse can move quickly in that situation. A healthy child, however, will express his or her normal developmental stage and will show varying degrees of resistance to the examination.

Creating Environment and Approaching Child for Physical Examination

When performing the physical examination, the nurse being prepared and organized ensures that he/she will obtain the needed information. The appropriate methods to use and ways to approach the child depend on the child's developmental stage. The nurse should create conducive environment, which includes the examination area and an examination table or the child's hospital crib or bed. Appropriate lighting is necessary for adequate observation and inspection. Gather the equipment necessary for the examination such as clean gloves, stethoscope, thermometer, sphygmomanometer, tape measure, reflex hammer, penlight, otoscope/ophthalmoscope, tongue depressor and cotton ball. An infant or adult scale is needed, as well as a stadiometer, for children capable of standing independently. Young children may be frightened by seeing a large amount of equipment, so take out only one equipment at a time. Some children can be very resistant to what they see as a threat or an invasion of their privacy, so it may help to have washable toys in the examination area, to use as distractions during the assessment.

Children and their parents may be able to sense any frustration or anxiety on the part of the examiner, so display a confident and matter-of-fact approach. If the child is not cooperative, do not become discouraged; more time and explanation will usually do the trick. Regardless of the child's age, if the examination room is cold, the child will be uncomfortable and possibly less cooperative. Provide appropriate covers to ensure the child's comfort or let the child remain dressed until the time of the examination.

For physical examination, caregiver or nurse should approach the child according to his or her developmental age and stage. If several children are to be seen at the same time, begin with the child who will be most cooperative. If the other children do not see anything scary and realize that their sibling was examined without a problem, it sets the stage for better cooperation from the younger ones.

Brief discussions about approaching the children according to age are as follows:

Newborns and Infants

If the infant is asleep, auscultate the heart, lungs and abdomen first while the baby is quiet. Count the heart rate and respiratory rate before undressing the baby. Completely undress newborns and infants down to their diaper, removing it just at the end, to examine the genitalia, anus, spine, and hips. It is best to examine the infant 1 to 2 hours before feeding. Having the parent or caregiver hold the child during the examination can help to alleviate fears and anxieties. Allow the parent or caregiver to be a nurturer, rather than assisting with painful procedures, unless there are no other choices available. Perform the assessment in a head-to-toe manner, leaving the most traumatic procedures, such as examination of the ears, nose, mouth and throat until last. Also delay eliciting the Moro reflex until the end of the examination, as the startling sensation may make the infant cry. Use firm, gentle handling while examining the infant. Make sure hands and the stethoscope are warm. Perform the assessment as quickly and completely as possible. Use a soft and crooning voice, smile and engage the infant in eye contact. If the baby is crying, a pacifier may be useful and brightly colored objects may help distract.

Toddlers and Preschoolers

Toddlers and preschoolers usually prefer to remove their clothing one item at a time, as needed for the examination. After one area is examined, the child may feel more comfortable replacing that item of clothing before removing another one. An examination gown is usually not necessary before school age. Again, make certain that the room temperature is comfortable. When the nurse enters the room, a child of this age is often sitting or standing by the parent. Incorporate play as appropriate during the health assessment. Remember your own facial expressions and tone. Use little touch at the beginning of the encounter with the child and the caregiver.

Introduce the equipment to be used slowly, explaining briefly what is going to happen. Let the child touch and hold the equipment whenever possible, even taking a parent's temperature or putting the blood pressure cuff on a teddy bear. The toddler will prefer to sit on the caregiver's lap. When the toddler must be supine for the abdominal examination, sit in your chair knee-to-knee with the caregiver, so that the toddler may lie back on the caregiver's and your laps.

Praise the child for being cooperative during the examination. "You did such a good job holding still, while I listened to your chest" and similar phrases give positive feedback to the child. If the child is uncooperative, assess as

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thoroughly as possible and move on to the next area to be assessed. The caregiver may need to place an arm around the toddler's body to provide restraint for invasive procedures. Use short phrases to tell the toddler what you are going to do, rather than asking if it is ok.

The preschooler may fear body invasion and mutilation and will withdraw from any procedure or assessment that is viewed as intrusive. Otherwise, the sense of initiative often leads the preschooler to be cooperative. The preschooler may be willing to undress completely, leaving just the underpants on. Use simple explanations to inform the child about each step of the examination, offering reassurance as and when appropriate. Allow him or her to 'help' by holding the stethoscope or penlight. If choices are available, offer them to the child. Again, always compliment the child on his or her cooperation.

School-age Children

The school-age child's thinking is still very concrete, but he or she can be objective and realistic. Avoid using medical jargon and words that may have a double meaning to a young child. Instead of "take your temperature," "take your blood pressure," "hit your knee," or "test," say, "Let's see how warm you are," "I want to listen to your breathe" and other phrases that describe, in words the child can understand, what you are preparing to do. The school-age child may be very interested in how things work and why certain things need to be done and will be responsive to truthful and simple explanations. Instruments that are colorful or look like toys are very helpful until adolescence, when teens are put off by childish things. Always respect a child's desire to avoid pain and insult. Allow children to wear their underpants under the examination gown, to provide a sense of security, until the genitalia needs, to be examined. Allow the child to replace his or her clothing as soon as possible. Privacy and respect for the child's feelings are important to children of this age.

Adolescents

Provide privacy while the adolescent is undressing and putting on a gown. Demonstrate an attitude of respect. Perform the assessment in a head-to-toe manner, exposing only the area to be examined. Provide information about physical changes in a matter-of-fact way, such as, "the hair on your legs is what is expected at this time." This provides information related to sensitive areas that the teen may be reluctant to ask about. It also provides the adolescent with information about the sexual development that is normal and expected. Allow opportunities for the teen to ask questions, without the caregiver being present. Assure the adolescent that there are no 'dumb questions' about the changes being experienced. Teenage girls should remove their bra so that breast examination can be done, teach breast self-examination, and check for scoliosis. If nurse is a male and the patient is an adolescent female, it is appropriate for a female staff member to be present during the breast and genital examination.

Performing Physical Examination of Children

The physical examination of children is just as for adults and begins with a systematic inspection: checking color, warmth, characteristics and texture visually and smelling for any odor. Palpation follows inspection to validate observations. Percussion is a useful tool for determining the location, size, and density of organs or masses. Tapping with the reflex hammer elicits deep tendon reflexes. Stethoscope is used to auscultate the heart, lungs and abdomen.

A complete examination includes assessment of general appearance, vital signs, body measurements, pain assessment, as well as examination of the head, neck, eyes, ears, nose, mouth and throat, skin, thorax and lungs, breasts, heart and peripheral perfusion, abdomen, genitalia and rectum, musculoskeletal system and neurologic system. The nurse in most settings will not be assessing the breasts, genitalia or eyes or ears in detail. Be aware of the role of nurse in different settings and how the nurse can facilitate the assessment process.

General appearance

Never discount first impressions. As you become more comfortable performing physical examinations, you will develop an ability to describe what you see and hear. Does the child give an impression of being ill or well? What is the child's expression and energy level? Note lethargy, listlessness, excessive activity or inappropriate attention span for the child's age. Observe the child's state of alertness and whether he or she is responding appropriately to the stress of the situation. Note the child's posture and positioning:

- The newborn's posture is flexed, with arms and legs tucked in.
- The older infant should have improving head and trunk control.
- The toddler demonstrates lordosis (swayback) and bowlegs, with a relatively large head and protuberant belly.
- The preschooler is more slender and upright in appearance.
- The school-age child and adolescent should demonstrate an upright, straight and well-balanced posture.

Note whether the child's development appears appropriate. Observing the child initially may yield a wealth of information about the child's development. Is the child

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active, moving about the room? Does the child's speech seem appropriate for his or her age? Notice whether the family interacts appropriately with one another and the child. Does the child appear clean and well cared for? Does the child appear well nourished or small for age or obese? Do you smell tobacco or alcohol on the family's clothing? Does the child have a toy or transitional object? Is there a baby bottle or pacifier nearby? Do the siblings appear equally well cared for? Is there tension in the room between adults or adolescents? This initial quick assessment of general appearance will serve the nurse well if it is objective; delay your interpretation of what you have assessed until you gather more data.

Measurement of Vital Signs

Measure, document and interpret the vital signs of children using age-appropriate equipment and approaches. The child's age and size, as well as knowledge of underlying health conditions, will affect the analysis of vital signs. Vital signs include the temperature, pulse rate, respiratory rate, and blood pressure. In terms of vital signs, there is greater fluctuation in what is considered normal in children, compared to adults. Therefore, count the heart rate and respiratory rate for a full minute (this will require comforting an infant or distracting a young child). If possible, perform these measurements when the child is quiet; if the child is crying or otherwise active during the assessment, document this. Many acute care settings require continuous measurement of vital signs using specific monitoring equipment. Also assess the child's pain level when assessing the vital signs.

a. Temperature

Temperature is measured as it is in adults. Thermometers are available in glass, electronic and digital types. Use the same type of equipment consistently to allow reliable comparisons to be made and to permit tracking of temperatures during the course of illness. No matter which type of thermometer is used, ensure accuracy by carefully following the manufacturer's instructions.

The routes for taking the child's temperature are tympanic, temporal, oral, axillary and rectal. Evidence is conflicting as to which method actually correlates best with the child's core, bladder or arterial temperature, but recent studies support the use of tympanic temperature as the most accurate, if it is appropriately obtained. Take the child's temperature using the least-invasive method that is best accepted by the child, parent and healthcare provider.

Choosing a way of measuring temperature depends on what is available at the facility and the child's age and physical condition.

i. *Tympanic temperature:* Tympanic thermometers measure the temperature within seconds, so this route is ideal for most children. Tympanic temperature reflects the pulmonary artery temperature. Tympanic thermometers are now available with smaller speculums, more appropriate for the infant or young child's ear canal. The accuracy of a tympanic temperature reading depends on the user's technique. The tympanic method is not affected by the presence of ear wax, but it may be affected by vernix in the newborn's ear.
   - Note age of child. If younger than 3 years, pull the earlobe back and down.
   - Insert the tympanic thermometer gently into the ear canal, with the infrared sensor beam directed toward the center of the tympanic membrane, rather than the sides of the ear canal.
   - Push the button to take the temperature and hold until a reading is obtained. The length of time required for the temperature to register varies per manufacturer, but is only a few seconds at most.

ii. *Temporal scanning:* Temporal scanning is a newer method of temperature measurement that uses infrared scanning on the skin over the temporal artery, combined with a mathematical computation to determine the child's arterial temperature. The arterial temperature is considered the most accurate reflection of body temperature. Measure temperature on the exposed side of the head (not the side that has been lying on a pillow or covered by a hat). Slide the sensor tip externally in a horizontal line across the child's forehead, midway between the eyebrows and hairline and ending at the temporal artery. Hold it there until the device registers the temperature reading, which usually requires 1 second. Accuracy may be affected by excessive sweating.

iii. *Oral temperature:* Oral temperature is highly reliable, if the child can cooperate. By 4 years of age, the child can hold an electronic oral thermometer in the mouth, well enough to obtain a reading. Place the probe under the tongue. The child's mouth remains closed until the device registers the temperature. Have the child sit or lie quietly while the temperature is being taken. Electronic devices provide a temperature reading in as little as 4 seconds, but again the length of time varies with manufacturer. Oral intake, oxygen administration and nebulized medications or treatments may affect oral temperature.

iv. *Axillary temperature:* Axillary method works well for children who are uncooperative, neurologically impaired or immuno-suppressed or have injuries or surgery to the oral cavity. Place the tip of the electronic or digital thermometer in the axilla to obtain the reading. Make sure the tip is indeed in the axilla and

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not just between the arm and the child's side. Hold the thermometer parallel rather than perpendicular to the child's side, to obtain the most accurate reading. Keep the child's arm pressed down to the side until the thermometer registers, which will be as little as 10 seconds with certain electronic models but 2 or 3 minutes with digital models, commonly used at home.

v. *Rectal temperature:* Though long considered to reflect core temperature, the rectal route is invasive, not well accepted by children or parents and probably unnecessary, with the modem alternative methods now available. In addition to its intrusiveness, obtaining the rectal temperature runs the risks of damaging the rectal mucosa and inducing bradycardia in young infants. To take the rectal temperature, position the young infant supine, with legs flexed. The older infant or child should be prone or side-lying. Small children may lie across the parent's lap for additional comfort. Apply a water-soluble jelly to the covered probe, insert the thermometer past the anal sphincter, no more than 1 inch (2.5 cm) and hold it there until the temperature registers (as little as 15 seconds with certain electronic models but longer with digital models).

b. Pulse: Assess the heart rate while the child is resting or sleeping. The heart rate in infants is much faster than in adults. It also varies in infants and children who are anxious, fearful or crying. As the child grows, the heart rate slows and the range of normal values narrows. Table 2.2 lists heart rate ranges according to the child's age.

The radial pulse is difficult to palpate accurately, in children less than 2 years of age because the blood vessels lie close to the skin surface and are easily obliterated. For children younger than 2 years of age, auscultate the apical pulse with the stethoscope for a full minute. The point of maximum intensity (PMI), the point on the chest wall where the heartbeat is heard most distinctly, is just above and outside the left nipple of the infant at the third or fourth intercostal space. The PMI moves to a more medial and lightly lower area, until 7 years of age, when it is heard best at the fourth or fifth interspace at the midclavicular line (see the topic on chest examination in this chapter for more information). Apical pulse rate should also be taken if the child has a cardiac problem such as an irregular heart rate or a congenital heart defect, as well as before administration of certain medications such as digoxin. During this procedure with children, allow the young child to examine or handle the stethoscope to become familiar with the equipment. In older children, palpate the radial pulse for a full minute. Note any irregularities in strength or rhythm.

Finally, document the method used to obtain pulse measurement, as well as any activity of the child during the assessment and any action taken.

c. Respiratory rate: Assess respirations when the child is resting or sitting quietly, since respiratory rate often changes when infants or young children cry, feed or become more active. They also tend to breathe faster when they are anxious or scared. The most accurate respiratory rate is obtained before disturbing the infant or child. This can often be done easily when the parent/caregiver is holding the child before any clothing is removed. Count the respiratory rate for a full minute to ensure accuracy. Infants' respirations are primarily diaphragmatic, so count the abdominal movements. After 1 year of age, count the thoracic movements. Table 2.2 gives ranges of respiratory rate according to the child's age. Document the rate, activity of the child, any deviations from normal and any action taken.

d. Measuring oxygen saturation: Since the incidence of respiratory dysfunction is high in children who are ill, pulse oximetry is often routinely included in the vital signs assessment. This method is reliable and non-invasive. Pulse oximetry determines the oxygen saturation (SaO_2) in blood by using a sensor that measures the absorption of light waves as they pass through highly perfused areas of the body. The pulse rate on the oximeter should coincide with the apical pulse rate, to ensure that the oxygen saturation reading is accurate. Identify whether pulse oximetry monitoring will be continuous or intermittent (as with vital signs). Nursing Procedure with details of monitoring pulse using pulse oximeter is as follows:

Nursing procedure in pulse oximetry monitoring

- Explain the procedure to the child and family (use a penlight to show how the sensor 'looks through the skin').
- Attach the probe to the child and connect to the monitor.
- Set the parameters for the alarm, if monitoring pulse oximetry continuously.

Table 2.2: Heart rate and respiratory rate ranges by age group

	Newborn	Infant	Toddler	Pre-schooler	School-age	Adolescent
Heart rate	80–160	80–150	80–140	80–130	75–120	70–100
Respiratory rate	30–70	20–40	20–40	20–30	16–22	15–20

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- Observe and record pulse rate and oxygen saturation.
- Record the activity level of the child and the percentage of oxygen in use.
- Check skin condition and rotate the sensor position every few hours.

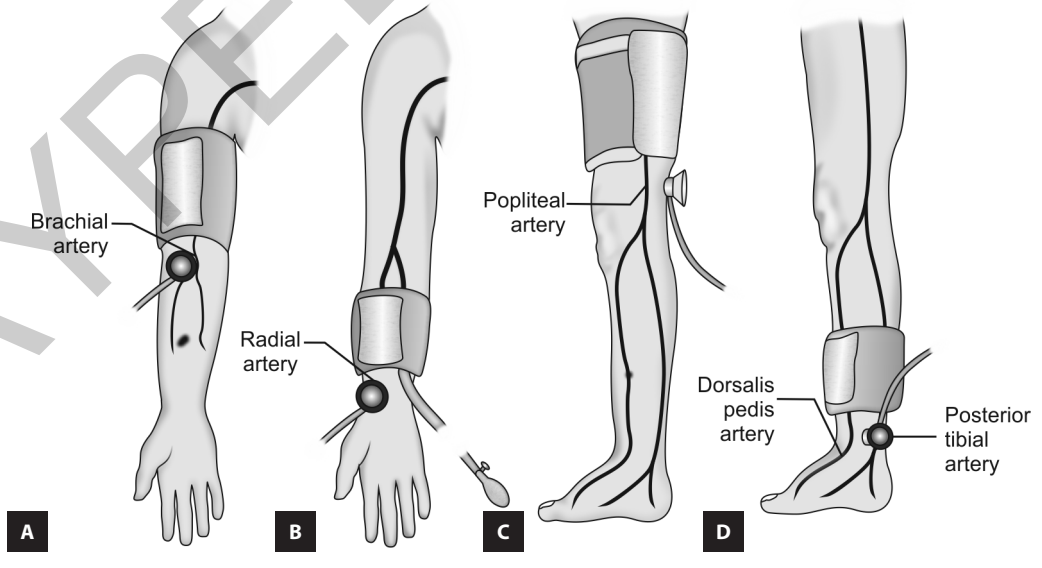
A few guidelines to follow when using pulse oximetry are as follows:

- The probe may be placed on the finger, toe, ear or foot. Avoid placing the probe on the same extremity with a blood pressure cuff or an intravenous or other type of line.
- Use the physician's orders or healthcare agency guidelines to set parameters for high and low pulse rate, as well as high and low oxygen saturation. Never turn off the alarm settings.
- Ensure that the probe is not applied too tightly, as this will prevent venous flow and cause inaccurate readings.

Potential sources of errors in pulse oximeter readings include abnormal hemoglobin value, hypotension, hypothermia, ambient light interference, motion artifact and skin breakdown. Falsely low readings may be associated with a non-secure connection (movement of child's foot or hand), cold extremities/hypothermia and hypovolemia. Falsely high readings may be associated with carbon monoxide poisoning and anemia.

e. Blood pressure: Measure blood pressure yearly at well-child visits. In the hospital or outpatient setting, when a child is ill or undergoing surgery or a procedure, the frequency of blood pressure measurement will depend on the child's physical status. Measurement of blood pressure can be frightening to a young child, so include an age-appropriate explanation and perform the procedure after obtaining the pulse rate and respirations. Accuracy of blood pressure measurement depends on the cuff size, as well as the operator's skill (if the heart sounds are auscultated) or accurate calibration of an electronic device. It has been recommended that the cuff bladder width must be at least 40 percent of the circumference of the upper arm at its midpoint. The cuff bladder length should cover 80% to 100% of the circumference of the upper arm. Various pediatric and infant cuffs are available, as well as larger thigh cuffs that may be used on an arm in an obese adolescent.

Measure blood pressure in the upper arm, lower arm, thigh, or calf/ankle. The size of the cuff should match the extremity used. The measurement should be taken in the same limb, at the same place and in the same position, with each subsequent measurement to ensure consistency in tracking the blood pressure. To measure blood pressure using the upper arm, place the limb at the level of the heart, place the cuff around the upper arm and auscultate at the brachial artery. When obtaining blood pressure in the lower arm, again position the limb at the level of the heart, place the cuff above the wrist, and auscultate the radial artery. For measurement in the thigh, place the cuff above the knee and auscultate the popliteal artery. To obtain blood pressure on the calf or ankle, place the cuff above the malleoli or at the midcalf and auscultate the posterior tibial or dorsal pedal artery. Figures 2.1A to D shows appropriate cuff placement and auscultation points for the various sites.



Figures 2.1A to D: Various sites of cuff placement and auscultation for obtaining blood pressure: A. Upper arm; B. Lower arm; C. Thigh; D. Calf/ankle

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ISBN 978-93-5152-900-2
9 789351 529002