Introduction to Pediatrics

Evolution of Child Health Care in the US

Colonial USA (18th, 19th century)

Hazards to health included:
- Common epidemics
- Few well-trained physicians
- Untrained midwives
- Limited texts on health care
Father of Pediatrics
Abraham Jacobi (1830-1919)
• Established Pediatrics Units in general hospitals
• Founded American Pediatric Society in 1888
• Investigated childhood illnesses
• Established “milk stations”

First Public Health Nurse
Lillian Wald (1867-1940)
• Founded Henry Street Settlement in NYC
• Focused on social welfare of children
• Established role of School Nurse

First White House Conference on Children (1909)
• Focused on care of dependent children
• Focused on deplorable working conditions of children
Child Welfare Services (1935)

Established services for:
• Maternal/child health
• Caring for children with chronic conditions
• AFDC-Financial Aid to Poor Families

Federal Programs Developed for the Care of Children

Medicaid
• Reduces financial barriers to health care
• It is the largest maternal health care program
• Financial eligibility varies state to state
Aid to Families with Dependent Children (AFDC)
- A cash grant program to enable states to aid needy children without fathers

Women, Infants, and Children (WIC)
- Provides nutritious foods and formula to low income pregnant, postpartum, lactating women and children up to 5 years of age

Head Start Program
- Promotes health, nutrition, education, and social services to young child prior to school (3 to 4 years)
Education of the Handicapped
PL 99-457
• Provides education to all handicapped children 0-21 years. The number of children with development disabilities is increasing

Healthy People 2010

How will the goals of Healthy People 2010 differ from Healthy People 2000?
• Increase not only the *longevity* of life but the *quality* of life
• Eliminate racial ethnic disparities
Healthy People forecasts what can be achieved through prevention efforts per Dr. David Satcher

- Increase daily *physical* activity
- Get regular check-ups, B/P and cholesterol
- Quit smoking
- Reduce excess body weight
- Eat a balanced diet
- Practice good hygiene by brushing teeth and washing hands

Persistent Health Problems in the 21st Century

- Obesity
- Inactivity
- Tobacco use
- Substance abuse
- Asthma

A Century of Progress

- Immunizations
- Motor-vehicle safety
- Safe work places
- Infection control
- Declines in death from heart disease and stroke
- Safer and more healthful food
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water
- Recognition that tobacco is a health hazard
Elements that Contribute to a Family’s Value System

- Religion and social beliefs
- Presence and influence of the extended family
- Communication patterns
- Beliefs and understanding about the concepts of health and illness
- Permissible physical contact with strangers
- Education

Interventions to assist families of different cultures when their child is hospitalized

- Aware of and knowledgeable about the predominate groups in their work community
- Identify and include “key” family members in teaching
- Avoid directly criticizing traditional health cultural beliefs and practices as wrong or harmful or implying that the hospital treatment is always the only correct way to treat illness

Developmental Theories

Erikson

- **Psychosocial** theory of personality development that emphasizes a healthy personality as opposed to a pathologic one. The child goes through age-related stages during which specific changes are assumed to take place. The child strives to master core conflicts during critical periods in personality development. Each stage is built upon the previous one.
Freud
- **Psychosexual**: early childhood experiences form the unconscious motivation for actions in later life

Piaget
- **Cognitive/Intellectual**: Piaget believes there are four major stages in the development of *logical* thinking. Each builds on the previous stage in a continuous, orderly process. Piaget describes development in *sequential intellectual stages*.

Kohlberg
- **Moral development**
  - Preconventional Level (4-7 yrs.)
  - Conventional Level (7-11 yrs.)
  - Postconventional Level (12 yrs+).
Social Forms of Play
- **Unoccupied Behavior**
  - No play activity
  - Crawl, climb, follow, stand

- **Solitary Independent Play**
  - Plays alone
  - No acknowledgement of others

- **Parallel Play**
  - Independent activity
  - Plays alongside but not with
  - Play of toddlers

**Conditions and Circumstances that affect Growth and Development**
- Heredity
- Physiological function
- Sex of the Child
- Disease
- Physical Environment
- Nutrition
- Interpersonal relationships
Approaching the Child

• Provide a **comfortable** environment - will vary for each group
• Exam must be done quickly
• Child’s modesty **must** be respected - begins with the preschooler
• Nurse should take advantage of opportunities for assessment as they arise
  
  *The "systems" approach "Head to toe" is often not feasible with children*

Physical Assessment

• Begin with the general survey which is an overall impression of the child
• Obtain measurements of ht and wt
• Measure head circumference
• Take vital signs (T, HR, BP, RR)

Techniques for Physical Assessment

• Inspection
• Palpation
• Percussion
• Auscultation
Developmental Assessment

- **Purpose**
  - Identification of delays
  - Provide intervention
  - Teaching

- **Screening Tools-Denver II**
  - Used from birth to 6 years
  - Assess development
    - a) personal-social
    - b) Fine motor
    - c) Gross motor
    - d) Language

The Nature of Illness in Children

- Acute illness
- Chronic illness
- Required surgical intervention
- Elective surgical intervention

Reactions to Illness and Hospitalization

- Anxiety
- Developmental level
- Culture
Alleviating Anxiety

- Preparation
- Atraumatic care

The child's anxiety and fear often will be reduced if the nurse explains what is going to happen and demonstrates how the procedure will be done.
Factors Supporting Coping

- Inner strengths, talents and attributes of the child
- Expertise of the nurse
- Support of child by caregivers
- Relationship between nurses and families
- Supportive climate on the pediatric unit
- Play as therapeutic
Preparation for Hospitalization
  • Care of children during admission
  • Preparation for surgery
    – Provide information
    – Encourage expression of emotions
    – Teach coping strategies

Facilitating Coping with Procedures
  • Developmental preparation
  • Role of nurse during the procedure

Communicating with Children
  • Clear
  • Honest
  • Understandable
Needs of Caregivers

- Relationships with nurses
- Information
- Trust
- Fear
- Teaching and guidance

Pediatric Medication Administration

Medication Administration

- Developmentally appropriate explanations
- Truthfulness
- Awareness of other medications (including herbal supplements)
Safe Administration

- Six rights: patient, drug, dose, route, time and refusal
- Proper identification
- Dose must be verified with size and weight

Dosage Determination

- Unit of drug per kilogram of body weight
- Unit of drug per body surface area
- Pediatric dose should not exceed the minimum adult dose

Administration

- Firm, matter-of-fact developmental approach
- Liquids: measured cup or spoon, oral syringe, dropper, nipples without bottle
- Infants: slowly into side of mouth
IV Medications

- Time of infusion
- Maximum concentrations
- Compatibility of drug solution and other IV medications
- Drug must be completely dissolved
- Prepared before entering child’s room
- Label
**IV Medication Administration**

- Syringe
- Infusion Set
- Buritrol
- Piggyback
- IV push

**IM Medications**

- Needle size
  - Based on child’s size, amount of subcutaneous fat and viscosity of medication
- Age-based guidelines for amounts injected
- Securely restrain infant and young child
- School-aged child may need assistance staying still

**IM Medications**

- Injection Sites for Infants & Toddlers
  - Vastus lateralis preferred
  - Rectus femoris acceptable
  - Dorsogluteal after child has been walking one year
  - Ventrogluteal
  - Deltoid: four-to five year olds and one-and-a-half year old immunizations
Subcutaneous Medications

- Anterior thigh, buttocks, upper arms and abdomen
- Restrain infant and young child

Rectal Medications

- Not desired route for pediatric patients
- Unpredictable absorption
- Upsetting to toddlers and preschoolers
- Fifth finger for infants and those under three years old
- Index finger for those over three years old
Otic Medication

• Under three years old: pinna pulled down and back
• Over three years old: pinna pulled up and back
Common Pediatric Misconceptions

• Infants do not feel pain
• Infants and children are more sensitive to opioids
• Pain is character building
• Children and adolescents will become addicted if treated with opioids
• Children who are playing, sleeping, or can be distracted are not in pain

Pain Assessment

• Assessment tools
  - Objective measures
  - Subjective measures
Neonatal pain expression

Management of Acute Pain

• Goals of acute pain management
• Nonpharmacologic pain management
• Pharmacological pain management
• Patient-controlled analgesia
• Local/regional anesthesia
• Epidural or intraspinal analgesia
• Conscious sedation
Death and Dying
Developmental Concepts

- **Infants and toddlers** have no concept of death, they have separation anxiety and react to change but have no concept of forever.

- **Pre-schoolers** often think of death as a temporary state, like sleep. Preschoolers are afraid of separation and may see death as a punishment.

Death and Dying
Developmental Concepts

- **School-age** children begin to understand that death is not reversible and may think of it as violent. They may understand that death is natural and is going to happen to everyone, but have difficulty understanding that they (themselves) may die.

- **Late School-age** children understand that death is final and may want to know the biological details and information about funerals and body preparation.

Death and Dying
Developmental Concepts

- **Adolescents** generally understand death, but continue to deny that they could die (anytime soon). Therefore adolescents tend to participate in high-risk behaviors. They often have difficulties when there is a death and may not be able to admit that they need the support of others.
THINKING CRITICALLY: QUESTIONS AND SUGGESTED ANSWERS

**Teaching Critically: The Child with Special Nutritional Needs**

John was diagnosed with cystic fibrosis at age six. The condition is characterized by a blockage of the ducts in the pancreas, which leads to malabsorption of nutrients and increase in mucus production. As a result, John requires a diet high in calories and fat to support his growth and energy needs. The school nurse has been working closely with the family to develop a meal plan that includes special nutritional supplements to meet John's needs.

**Question:** What is the role of the school nurse in managing John's special dietary needs?

**Answer:** The school nurse plays a crucial role in managing John's special dietary needs. They work closely with the family to develop a meal plan that includes special nutritional supplements to meet John's needs. They also monitor John's weight and growth to ensure he is receiving adequate nutrition. Additionally, they provide education to John's classmates and staff about his condition and dietary requirements. They also coordinate with the food service provider to ensure his meal plan is available in the school cafeteria.

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**Schedule Changes:**

Schedules should be adhered to even during exercise sessions. Supplies that are needed include: insulin (10 units), hand sanitizer, towels, gatorade powder for hydration, and an ice pack for cooling. The insulin should be refrigerated, and the gatorade should be kept in a cool, dry place. The hand sanitizer should be kept handy for cleaning hands before and after exercise. The towels should be used to dry off after exercise and to cool down. The ice pack should be used to cool the insulin during exercise, and the gatorade powder should be mixed with water to create a refreshing drink. All supplies should be kept in a secure location to prevent theft.

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**Health Tips:**

- Remember to stay hydrated during exercise, especially in hot and sunny conditions.
- Eat a balanced meal before exercising to provide energy.
- Wear appropriate clothing and shoes for the activity.
- Warm up and cool down properly to prevent injury.
- Listen to your body and stop exercising if you feel unwell.