Nursing Care of Children and their Families
Pediatric Growth and Development: Infancy through Adolescence
Definitions

- **Growth**
  - *Increase in body size*
  - *Height and weight*

- **Development**
  - *Gradual increasing capacity to function at more advanced levels*
Patterns of Growth and Development

- **Cephalocaudal**
  - Head to tail
  - Development occurs along the body’s axis

- **Proximodistal**
  - Progress from center of body to extremities

- **Mass to Specific**
  - Child master’s simple operations before complex
Theories of Growth and Development

- **Freud (Psychosexual)**
  - Sexual instincts significant in the development of personality
  - Oral, anal, phallic, latency, Genital

- **Piaget (Cognitive)**
  - 4 stages of development for logical thinking
  - Each stage builds on previous stage
Theories of Growth and Development (continued)

- **Kohlberg (Moral)**
  - Based on cognitive development
  - Preconventional, conventional and post conventional

- **Erickson (Psychosocial)**
  - Crisis- favorable vs. unfavorable
  - Integration of personal needs, skills with social and cultural expectations
Factors Influencing Development

- Genetics
- Nutrition
- Prenatal and Environmental Factors
- Family and Community
- Cultural
Infants

**Growth**
- Normal wt 6-8 lbs.
- Triples weight in one year
- Height increases 50% by 1 year
- Ant. Font closes by 12-18 mos
- Post. Font closes by 2-3 mos
Infant Gross Motor Skills

- 4 - 6 months
  - Gains head control
  - Rolls back to side (4)
  - abd-back(5) and back-abdomen (6)

- 8-10 months
  - Sits without support (8)
  - Stands holding furniture (9)
  - Crawls (10)

- 10-12 months
  - Creeps and cruises then walks
Infant Fine Motor Skills

- Involuntary Grasp (3)
- Two hand voluntary (5)
- Holds bottle (6)
- Transfers hand to hand (7)
- Pincer grasp established by (10)
- Neat pincer grasp; thumb/finger (12)
Infant Sensory Development

- Smiles and turns head to sound (2)
- Responds to name (7)
- Able to follow moving objects (12)
Infant Nutrition

- Breast milk for first year; iron fortified formula for bottle feeding
- Introduce solids at 6 mos
- Teeth erupt around 5-6 mos
- Introduce fruits, veggies then meats
- Junior foods @ 12 mos
- No more than 32oz formula in 24 hrs
- Avoid honey until 12mos (infant botulism)
Language/Socialization

- Coos (1-2); da-da and ma-ma at (8)
- Understands “no” (9)
- Recognizes familiar faces (3)
- Stranger anxiety (6-8)
- Shows emotion (12)
- Vocalizes 4 words by 1 year
Infant Safety

- Rear facing in car seat until 20lbs
- Side rails up in crib at all times
- Check temp of bath water, formula, foods
- Avoid giving bottle at naps/bedtime; do not prop bottles
- Never leave infant unattended on table, bed or bathtub
Anticipatory Guidance

- Injury prevention
  - Falls
  - Aspiration/choking
  - Suffocation
  - Poisonings
  - Burns

- Immunizations up to date
- SIDS preventive measures
Infant reaction to hospitalization

- Nonverbal generalized body responses to pain (grimacing, crying)
- Older infants will withdraw from painful stimuli along with anger and physical resistance
- Separation anxiety from parent
Nursing care of the Hospitalized Infant

- Allow parents to participate in care
- Keep home schedule
- Provide sensory stimuli
- Keep warm, dry and fed
- Maintain consistent staffing
- Promote sense of security
Toddlers (age 1-3 years)

- **Growth**
  - Step like patterns - spurts and lags
  - Protruding abdomen resulting from underdeveloped muscles
  - Weight 4x birth wt. by 2 ½ years – 27lbs
  - H.C. equals Chest Circ at 1-2 years
Toddler Gross Motor Skills

- **Gross Motor**
  - Walks (15)
  - Jumps (18)
  - Upstairs (24)
  - Runs fairly well (24)

- **Fine Motor**
  - Uses cup (15)
  - Builds tower of two blocks (15)
  - Hand finger coordination (24 – 30)
  - Copies a circle (3 yr)
Sensory Development

- Follows simple directions 2 years
- Uses short sentences by 18 mos
- Remembers and repeats 3 numbers by 3 years
- Able to speak 200 words by 2 yrs
- Binocular vision by 15 mos
Toddler Development

- **Object permanence**
  - Knowledge that a person or object continues to exist when not seen felt, heard or felt

- **Ritualism**
  - Ritualistic behavior
  - Need to maintain sameness and reliability to maintain sense of comfort
Nutrition

- Decreasing nutritional needs
- Physiologic anorexia, food jags, picky eaters
- Food aspiration risk
- Limit milk to no more than 1 quart
- Feeds self
- Prefer small more frequent meals
- 20 deciduous teeth by 3 yrs
- First dental visit by 2.5 years
Sleep

- Average 12 hours sleep daily
- Nap 1 x day
- Sleep problems common- fears of separation
- Bedtime objects and rituals helpful
Socialization

- Ritualism, negativism and independence
- Separation anxiety peaks
- Tantrums should be ignored; time out
- Fears
  - Loss of parents
  - Stranger anxiety
  - Loud Noises
  - Going to sleep
  - Large animals
Safety

- Continue use of car seat
- Supervised play

Injuries
- Falls
- Aspiration
- Poisonings
- Suffocation
- Burns
- MVA/Accidents
Anticipatory Guidance

- **Childproof home environment**
- **Falls**
  - Side rails up, gate stairs, windows, balconies and walkers
- **Suffocation**
  - Water safety, balloons, plastic bags
- **Burns**
  - Teach hot, use of table clothes, secure outlets
  - Ovens, heaters, sunburn, water and food temp
- **Aspiration/poisonings**
  - Out of reach, safety caps, poison control number by phone
- **MVAs**
  - Correct use of car seat, firearms, crossing street
Toilet Training

- Major task of toddler hood (18 – 24 mos)
- Child may have accidents up to age 4-5 yrs
- Signs of Readiness
  - Stays dry for 2 hours
  - Can sit, walk, squat
  - Verbalize desire to “go”
  - Exhibits willingness to please parents
  - Wants dirty diapers changed immediately
Toddler’s Reaction to Hospitalization

- Regression
- Loss of control
  - Physical restriction
  - Routines/rituals
  - Dependency, fear of bodily injury/pain
- Separation Anxiety
  - Protest
  - Despair
  - Detachment
Nursing Care of the Hospitalized Toddler

- Allow parents rooming in
- Use of transitional object
- Continue with potty training

- Maintain routines, rituals
- Provide appropriate play toys
- Promote independence
Preschooler (3-6 yrs)

- Major development in fine motor skills
- Growth
  - Weight gain 4-5 lbs/yr - 37 lbs
  - Height 2-3 inches/year
  - Slender graceful, agile with good postures
Gross and Fine Motor Skills

- **3 yrs**
  - Tricycle
  - Upstairs alternating feed

- **4yrs**
  - Skips/hops one foot
  - Catch ball

- **5 yrs**
  - Balances on alternate feet
  - Throws and catches ball

- **3yrs**
  - Build a 9 block tower

- **4yrs**
  - Lace shoes, copy a square,
  - Trace a diamond, 3 parts to a stick figure

- **5yrs**
  - Ties shoes, use scissors
  - Print first few letters of name
Nutrition/Sleep

- Demonstrates food preferences; fussy
- Fluid requirement based on activity level
- Influenced by other’s eating habits
- Focus on social aspects of eating
- Requires 11-13 hours a night
- May still require nap
- Bedtime rituals
- Nightmares, terrors, difficulty settling down after a busy day
Socialization/Language

- Increased radius of significant others
- Development of social skills through interaction with others same age
- Knows 2100 words by 5 years, will talk incessantly
- May tell exaggerated stories, sing simple songs
Play/Safety

- Imaginative/dramatic play
- Imitates same sex role play
- Associative/cooperative
- Tricycles, blocks, crayons, dolls, clothes, puppets
- Able to learn safety habits
- Imitate safety habits of parents
- Monitor video games and TV watching
Anticipatory Guidance

- **Discipline**
  - Firm and consistent
  - Simple explanations on why behavior is inappropriate
  - Time out - to regain control, think about behavior

- **Injury Prevention**
  - Traffic safety
  - Strangers
  - Fire prevention
  - Water safety
Preschoolers Reaction to Hospitalization

- Magical thinking
- Fears
  - dark, being left alone, dogs, ghosts
- Body mutilation
  - pain and objects and people associated with painful experiences
- Regression - loss of control
- Interpret hospitalization as punishment
Nursing Care of the Hospitalized Preschooler

- **Therapeutic play**
  - Use puppets, dolls
  - Appropriate terms
  - Use band aids
  - stay with child during procedures
  - give rewards

- **Provide physical comfort/safety**

- **Encourage independence**
  - Self care
  - Allow rituals
The School Age Child (6-12 yrs)

- Growth
  - Slower pace of growth but steady
  - Wt. 5lbs a year; ht. 1-2 inches/yr
  - Averages- ht. 45-59”, wt. 46-88 lbs
  - Girls will grow faster than boys
  - Immune system more efficient
Sensory/Motor Skills

- **Gross**
  - Bicycling
  - Roller skating, skateboarding
  - Swimming
  - Improved running and jumping

- **Fine**
  - Printing then cursive
  - Increased dexterity for video games and crafts
  - Manual skills for typing and computer
Motor/Sensory (cont.)

- Bone growth faster than muscle and ligament growth
  - Susceptible to green stick fractures
- Movements more limber and coordinated
- Increased stamina and energy
- Vision 20/20 by 6-7 yrs
Nutrition/Sleep for the School age Child

- Tendency to eat “junk”, risk of obesity
- Lose first deciduous teeth around 6 yrs
- By 12yrs will have all permanent teeth except molars

- Sleep requirements 8-10 hr
- Stick to routine
- Less sleep now than in adolescence due to slowed growth
- Secondary sex characteristics
Language/Socialization

- Learns to read
- Adult articulation patterns established by ages 7-9
- Can arrange words in terms of structure
- Social development centers on body and its capabilities
- Peer relationships gaining more importance- school is important
Safety

- Injury risk decreased - can learn prevention
- Teach proper use of sporting equipment
- Discourage risk taking behaviors, introduce sex education
- Teach Injury Prevention
  - Bike safety
  - Firearms
  - Smoking/drugs
School “agers” reaction to hospitalization

- Have difficulty with forced dependency
- Stressors include: immobilization, fear of mutilation and death
- Modesty
- Understand significance of illness and causes
- May demonstrate loneliness, boredom, isolation, and depression
- May exhibit aggression and irritability towards siblings
Nursing Care of the Hospitalized School Age Child

- Encourage verbalization of feelings
- Promote independence
  - self care/participate in care
- Encourage peer interactions
- Give model explanations
- Provide diversions
- Allow control over bodily functions
- Communicate open and honestly; explain rules
- Clarify misconceptions
Adolescents (12-18 yrs)

- Period of rapid growth
  - Increases in ht. and wt.
- Puberty- primary and secondary sex characteristics
  - Hormonal influences
  - Body mass reaches adult size
  - Sebaceous gland active/sweat glands
  - Hair growth
Nutrition/Sleep

- Balanced diet
- Milk/Calcium and protein important for bone and muscle growth
- Family eating patterns continue to influence diet
- Eat all the time; breaks from activities
- Females prone to negative dieting habits
- Rapid growth, overexertion in activities, tendency to stay up late interferes with increased requirements
- Play “catch up” often sleep late
Socialization of the Adolescent

- Period of rebellion - defining identity separate from parental authority
- Peers important in giving advice and support
- Acceptance and being attractive to the opposite sex important (self esteem)
- Group parties, dating, developing relationships
Anticipatory Guidance

- Avoidance of accidental firearm injuries
- Swimming and diving safety
- Respect for gasoline, electricity and fire
- Avoiding sports injuries
- Use of sunscreen
- Smoking, drug use, safe sex
- Problem solving techniques to decrease use of violence; anger management
Adolescent reaction to hospitalization

- Focus on body image, separation from peers, illness as punishment, restricted independence
- Defense mechanism - denial and displacement
- Loss of control - uncooperative, self assertion, anger or frustration
- Fear mutilation/sexual changes
Adolescent reaction to hospitalization

- Numerous questions, rejecting others, questioning inadequacy of care
- Psychosomatic complaints common
- Separation from peers and others may cause further withdrawal, loneliness and boredom
Nursing Care of the Hospitalized Adolescent

- Involve in the plan of care
- Support relationships with family and peers
- Relate to them on their level; be genuine and truthful
- Promote independence
  - Wear own clothes
  - Decorate room
  - Use telephone
Nursing Care of the Hospitalized Adolescent

- Respect privacy
- Set limits
- Give scientific explanations; can use abstract terms
- Accept emotional outbursts
- Promote communication with parents; family support
Play for the Hospitalized Child

- Is an important function in development
- Provides diversion, stress relief and relaxation
- Helps lessen separation anxiety from home, friends and family
- Allows child and active role in care, opportunity to make choices and gain control
Play for the Hospitalized Child

**Infant**
- Engages in solitary play
- Stimulates psychological development
- Provides diversional activity
- Means of communicating/expressing feelings
- Aids in development of sensorimotor skills

**Toddler**
- Parallel play
- Imaginative/make believe play
- Locomotion enhanced with push pull toys
- Short attention spans
- Blocks, wheel toys, dolls, crayons, housekeeping toys, finger paints
Play for the Hospitalized Child

- **Pre School**
  - Imaginative/dramatic play
  - Imitates same sex role play
  - Associative/cooperative
  - Tricycles, blocks, crayons, dolls, clothes, puppets

- **School Age**
  - Cooperative play
    - Understands rules and rituals
  - **Team Play** and athletics
    - Learn values/sense of accomplishment
  - Construction toys/hand eye coordination
  - Music, adventure stories, competitive activities
Play for the Hospitalized Child

- Adolescent
  - Videos games, CD players,
  - Telephone
  - Models and collectibles
  - Allow friends to visit