

- Pre-pubescence and Adolescence
- 4235
- 8-08
- Introduction
- Adolescence spans ages 11 – 21
 - Tasks and sexual maturation may overlap with school age child
 - Is transition from childhood to adulthood
 - Peer group of utmost importance
 - Rapid physical growth second only to that of infancy
 - We are going to discuss some of the most important topics related to adolescence
- Adolescent Growth and Development
- Physical
 - Physical growth directly related to sexual maturation and is predictable
 - Girls
 - Development begins with budding of breasts
 - Then comes pubic hair, menses appears last, between ages 9-15, average is age 12 ½
 - Growth spurt after breast development, growth done about 2-2 ½ years after menarche
 - More fat deposit
 - Boys
 - Testicular enlargement first, second is pubic hair, then penile growth

- Timing of growth spurt varies between 10 ½ - 16 and ceases between 13 ½ and 17 ½ , growth then slows and stops between ages of 18-20
- More muscle mass

● Cognitive

- Cognition moves from concrete to abstract during three phases of adolescent development
 - Early adolescence (11-14)
 - Tends to group together by same sex
 - Are very egocentric and self conscious
 - Feel invulnerable
 - Lack ability to realize consequences of actions
 - Middle adolescence (15-17)
 - Become even more introspective and narcissistic
 - Becomes more important to conform with peer group, leads to conflicts between teens and parents
 - Transition from same sex friendships to interest in opposite sex
 - Sexual activity often r/t peer pressure and self esteem issues
 - Middle adolescence cont
 - Decisions about sexual activity impulsive with little regard to consequences
 - Late adolescence (18-21)
 - Has ability to think abstractly, conceptualize verbally and express thoughts and feelings
 - Idealistic about love, social issues, ethics, and lifestyles until experience modifies beliefs
 - Conformity less important, able to resist group pressure
 - Achieve independence and identity
 - Relationships more mature

- Adolescent Health Promotion

- Safety

- Injuries claim more lives during adolescence than all other causes of death combined

- Reasons

- Physical growth coupled with insufficient physical coordination
 - Energy
 - Impulsivity
 - Inexperience
 - Peer pressure
 - Feeling of invulnerability
 - Inability to see consequences to behaviors
 - Use of drugs and alcohol that impair judgment

- Car safety

- Driving is complex activity requiring skill, judgment and experience
 - Adolescents' lack of judgment, opposition to authority and need to express independence result in disregard for safety.
 - Risk taking behaviors play major role
 - » Drive faster
 - » No seat belts
 - » Under the influence of drugs and alcohol
 - » Distractions – other teens in car, using cell phones, texting, eating and applying make up while driving

- Violence towards others

- Homicide 4th leading cause of death in children 10-14, second leading cause ages 15-19

- Violence is learned behavior

- Blamed on media, violent games, family response to anger and conflict resolution
- Availability of firearms r/t violent acts
 - Used impulsively by teens

● Head trauma

- Refers to injury of scalp, skull, meninges or brain as result of mechanical force with a pathologic result
- Types of injuries
 - Closed – no break in integrity of barrier between environment in intracranial cavity
 - Open - a break in integrity of barrier between environment in intracranial cavity, infection major concern
 - Missile – penetrating injuring usually caused by bullet
 - Impalement – penetrating injury caused by something sharp
- Contusions and concussion
 - Contusion is petechial hemorrhages along superficial aspect of brain
 - Concussion is transient and reversible neuron dysfunction with instant loss of awareness and responsiveness
- Intracranial hemorrhage
 - Epidural – blood accumulates between durra and skull, usually d/t arterial damage
 - Subdural – blood accumulates between dura and cerebrum
- Common causes
 - MVA, fall, sports injuries, beatings and gunshot wounds
- Classified as minor, moderate or severe as correlated with Glasgow coma scale
 - Manifestations of minor injury
 - Change in LOC
 - Confusion

- Irritability
- Vomiting
- Sleepiness
- Headache

- Manifestations of moderate to severe injury

- Altered mental state
- Changes in vital signs
- Signs of increased ICP
- Retinal hemorrhage
- Hemiparesis
- Papilledema

- Diagnosis

- CT scan or MRI

- Management

- Assess ventilatory function, neurologic status
- Long term outcome r/t GCS score

- Nursing considerations

- Initial assessment is ABC
- Immobilize neck
- Obtain baseline VS, history and neuro exam including cranial nerves
- Assess fluid and electrolyte balance since injury can alter ADH production
- Record hourly I & O, may be on fluid restriction

- Spinal cord injury

- Causes

- MVA, falls, diving accidents, sports injuries, gunshot or knife wounds, and attempted suicide

- Manifestations

- Loss of some or all movement or sensation below level of injury
- Respiratory depression or apnea
- Hypotension
- Bradycardia
- Hypothermia
- Neck pain

- Diagnosis

- MRI or x-ray

- Management

- Steroid therapy within 8 hours of injury
- Halo traction until surgical stabilization

- Nursing care

- Goal is to minimize potential for further injury, promote maximal recovery
 - Immobilize spine immediately
 - Assess ABC
 - Maintain body temp
 - Assess neurologic status – mobility, sensation, reflexes
 - Assess for trauma to other areas

— Nursing care

- Client at risk for respiratory complications secondary to immobilization and weak muscles
 - Assess pulse ox and respiratory status q 1-2 hours
 - Assess perfusion by assessing skin color and temperature, VS, and I & O
- Inspect skin frequently and reposition
- Initiate and maintain bowel regimen

● Common Health Problems of the Adolescent

● Epstein Barr virus (Mononucleosis)

— Caused by herpes like virus, EBV

— Incubation 4-7 weeks, unknown infectious period

— Transmission – saliva, intimate contact, blood

— Manifestations

- Occurs most commonly in older children and young adults
 - Fever, lymphadenopathy, pharyngitis, enlarged spleen
 - Malaise, headache, fatigue, nausea, abd pain
- Usually lasts 2-4 weeks then gradual recovery
- Prognosis excellent if no complications such as splenic rupture or compromise of respirations by swelling of the pharynx and tonsils

— Management

- Illness is self limiting, treatment is supportive

— Nursing considerations

- Obtain history including signs and symptoms
- Assess temperature and hydration



Scoliosis

- Typically occurs in adolescent girls and progress more rapidly with growth spurts
 - Familial tendency as well
- Defined as lateral curvature of spine
 - Also causes rib cage to become deformed
- Is graded by percentage of curve
 - 10-20 is slight curve
 - More than 40 requires surgery
 - More than 80 degrees compromises respiratory function and is considered severe
- Manifestations
 - Curve in spine
 - Rib hump when bending forward
 - Uneven pelvic and shoulder heights
 - Asymmetric rib cage
 - Prominence of scapula or hip
- Diagnosis
 - Often found during routine screening at school
 - X-ray confirms
- Management
 - Treatment complex; depends on severity, age, projected growth, presence of complications
 - Includes observation, bracing, spinal fusion surgery
 - Exam regularly over long term for worsening of curve



Hodgkin's disease

- Cause unknown, but associated with herpes, CMV, EBV
- Manifestations
 - Painless, firm adenopathy in cervical and supraclavicular regions most common
 - Night sweats, fever, weight loss, enlargement of spleen and liver, fatigue
 - Mediastinal involvement 2/3 of time
- Diagnosis
 - Biopsy of involved lymph node
 - CBC, renal liver function tests, ESR, serum copper and ferritin levels
 - Gallium scan done to look for extent of disease, assist with staging
 - Prognosis depends on staging
 - Chest x-ray and CT of chest, abdomen and pelvis
- Management
 - Depends on age at diagnosis, stage and histologic type
 - Usually treated with chemotherapy alone or in conjunction with low dose radiation
- Nursing considerations
 - Thorough lump node assessment
 - Assess for respiratory status if mediastinal disease



Acne

- Is disorder of sebaceous hair follicles
- Usually begins during puberty, lasts into early adulthood
- Can cause significant anxiety and emotional pain

— May leave permanent scars, both physical and emotional

— Etiology

- Overgrowth of normal bacteria, heredity, hormonal factors and stress
- Not related to foods or general cleanliness of skin
- More common in boys, tends to flare in winter

— Manifestations

- Acne consists of closed whiteheads, blackheads, papules, pustules, nodules and cysts
- Most often affects face, neck, back, shoulders and upper chest

— Management

- Goal is to prevent scarring and promote positive self-image
- Varies based on severity, types of lesions and gender
- Topical therapy primary treatment
 - Benzoyl peroxide and tretinoin (Retin – A) used on alternate days
- Can also use topical or oral antibiotics
- Oral isotretinoin (Accutane) dramatically improves severe acne
 - Suppresses sebum production and sebaceous gland activity
 - Side effects
 - » Cataracts, dry skin, pruritis, conjunctivitis, nosebleeds and depression
 - » Causes severe birth defects
 - Women on Accutane should
 - Use effective form of contraception,
 - Have negative pregnancy test before starting medication

— Nursing considerations

- Obtain history about how long acne lesions have been present and the effect of menses, stress on severity
- Establish use of
 - Treatments used previously
 - Use of cosmetics
 - How often teen washes skin and hair along with type of cleansing agents utilized
- Notes lesions present r/t location and depth of tissue involvement
- Assess adolescent's feelings about appearance and self image

— Nursing considerations

- Educate client
 - Treatment is long term, improvement takes several weeks
 - Exacerbations common
 - Explain cause, involve teen in treatment
 - » Use water based cosmetics
 - » Shampoo hair daily
 - » Wash face twice daily
 - » Avoid vigorous scrubbing, picking, squeezing
 - Teach use of topical or oral meds
 - Encourage healthy lifestyle by r/t sleep, diet and exercise

● Alterations in Sexual Maturation

● Precocious puberty

— Refers to early onset of puberty

- Before age 8 in girls

- Before age 9 in boys
- Recommendation to re-look at this since normal puberty age is declining

— Major consequence is rapid bone growth, resulting in early closure of growth plate, ultimate short stature as adult

— Etiology

- Can be idiopathic or caused by CNS tumors, head trauma or cranial radiation
- Peripheral causes include abnormalities or tumors of adrenal glands, ovaries or testes
- Occurs more frequently in girls

— Diagnosis

- Begins with history of onset of sexual characteristics, physical exam
- Lab tests for elevated levels of LH, FSH, testosterone and estrogen
- Use x-ray to look at bones age
- CT and MRI to look for CNS lesions
- Pelvic and abdominal U/S for evidence of adrenal or ovarian tumors

— Management

- Goal is to stop or reverse development of secondary sexual characteristics and maximize adult height
- Administer GnRH blocker to decrease production of pubertal hormones
- If due to peripheral cause, then treat underlying problem

— Nursing considerations

- These children often feel more comfortable with older children rather than peers
- May suffer from teasing about bodies and height with boys becoming aggressive
- Increases risk for sexual abuse
- Educate
 - Child on his/her level about body changes

- Teach family about medication routine, teach child coping strategies to use during injections
- May need referral for psychologic counseling