

# GROWTH & DEVELOPMENT OF ADOLESCENT



# ADOLESCENCE:

- ▶ Adolescence begins with the onset of puberty. It is defined by the **UNICEF** as “ the sequences of events by which the individual is transformed into a young adult by a series of biological changes”
- ▶ Acc.to WHO, Adolescence is the period of life that extends from 10 years to 19 years.
- ▶ It is divided in three phases Early Adolescence
- ▶ Middle Adolescence
- ▶ Late Adolescence



### **PRE-PUBERTY OR THE PRE-PUBESCENT PERIOD:**

It refers to the period of rapid physical growth when secondary sex characteristics appear.

### **PUBERTY OR PUBESCENT PERIOD:**

Occurs when the girl begins to menstruate and the boy to produce spermatozoa.

### **MENARCHE:**

It refers more specifically to the time of the first menstrual period.

### **ADOLESCENT:**

It begins when the secondary sex characteristics appear and ends when somatic growth is completed and the individual is psychologically mature, capable of becoming a contributing member of society.



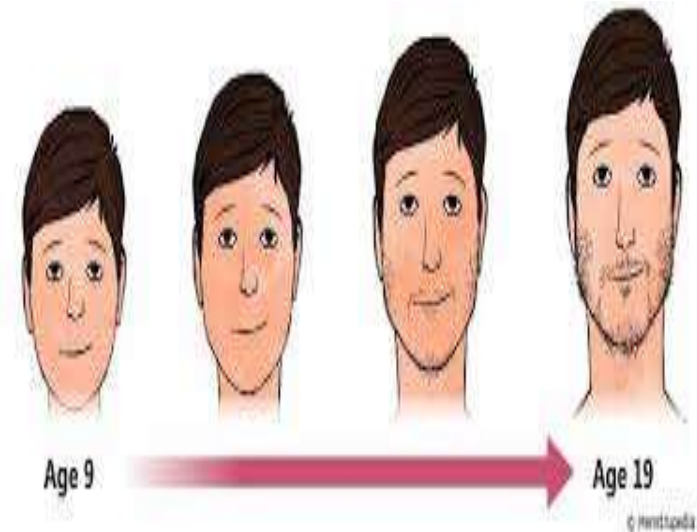
# IMPORTANT PUBERTY CHANGES IN GIRLS:

- ▶ Accelerated growth in weight & height gain.
- ▶ Breast changes like pigmentation of areola and enlargement of breast tissue and nipple.
- ▶ Increase in pelvic girth mainly the transverse diameter.
- ▶ Appearance of axillary sweat gland.
- ▶ Appearance of axillary hair.
- ▶ Onset of menstruation (menarche) first bleed occurs. The average age for menarche is 12.5 to 12.8 years.
- ▶ Abrupt slowing of gain in height.



## IMPORTANT PUBERTY CHANGES IN BOYS:

- ▶ Increase in weight and height gain
- ▶ Increase in size of external genitalia.
- ▶ Appearance of pubic hair followed by hair in axilla, upper lip, groin, thigh and between symphysis pubis and umbilicus.
- ▶ Appearance of facial hair, two years after the pubic hair.
- ▶ Changes in voice as cracking then deepening.
- ▶ Discharge of semen during sleep.
- ▶ Abrupt slowing in height gain.





## Tanner Stages:

- ▶ Conceptually, pubertal maturation can be described in terms of sequence, timing, and tempo (Puberty consists of a series of predictable events, and the sequence of changes in secondary sexual characteristics has been categorized by several groups.
- ▶ The staging system utilized most frequently is that published by **Marshall and Tanner** and the sequence of changes, commonly referred to as "**Tanner stages**", is described below.

## TANNER'S STAGES IN THE DEVELOPMENT OF GENITALS AND SECONDARY SEX CHARACTERISTICS

### MALE:

STAGE	GENITALS	EXTRAGENITAL
I	Prepubertal	Prepubertal
II	Long, fine, straight hair at base of penis; testes larger; penis thicker; scrotal skin thinning.	Axillary and facial hair absent; voice childlike.
III	Hair longer, coarser, spreading laterally; testes larger; penis growing longer; scrotal skin thin.	Facial hair on upper lip; axillary hair may be present; voice cracking.
IV	Coarse, curly hair at base of penis; testes nearly adult; varicocele may be present; penis nearly adult.	Upper lip hair coarse; chin hair present; perianal hair present; axillary hair starting; voice deepening.
V	Adult	Adult

## FEMALE:

STAGE	GENITAL	EXTRAGENITAL
I	Prepubertal	Prepubertal
II	Sparse, long, fine, straight hair on labia; labia majora thicken; vaginal epithelium thickens; vaginal pH falls.	Breast and papilla elevated; areola enlarges; axillary hair absent.
III	Coarse, curly hair over pubis; Uterus enlarging; vaginal pH low; labia enlarged; menses.	Breasts enlarged without separation of contours; axillary hair may be present.
IV	Adult hair over smaller area; vaginal rugae; uterus enlarging; ovulation.	Papilla and areola project and separation of breast contour begins; axillary hair begins.
V	Adult	Adult



# EARLY ADOLESCENCE- 12-13 YEARS

## Physical

## Motor& Self care

## Sensory

- **WEIGHT:**
- MALE: Approximately 38-60kg
- FEMALE: App. 40-60kg
- HEIGHT:**
- MALE: App.154-172cm
- FEMALE: App. 153-167cm
- PULSE:** 65+\_8 beats per min.
- RESPIRATIONS:** 19+\_3 breaths/min
- BLOOD PRESSURE:**
- MALE: 114/68+\_10/14.
- FEMALE: 112/66+\_10/12
- Dentition:** Eruption of second molars(12-13years)
- Secondary sex characteristics develop
- Individual differences in rate of physical growth & development of pubescent children of same chronologic age.

- Clumsiness occurs due to rapid physical growth
- Motor function comparable to adult.
- Eye-hand coordination at adult level.
- Possesses manual dexterity.



Visual acuity:20/20

# EARLY ADOLESCENCE- 12-13 YEARS

Psychosocial	Psychosexual	Spiritual Development
<ul style="list-style-type: none"><li>• Beginning of development of <b>sense of identity</b> (13-18 years). “ who am I ?”</li><li>• <b>Negative counterpart: Self-diffusion</b></li><li>• Egocentric- world centers around child</li><li>• Has intense loyalty to peer groups</li><li>• Shows mood swings and extremes of behavior</li><li>• Experiences sense of loss as begins to separate from parents</li><li>• Daydreams over heroes</li><li>• continues same-sex friendships.</li></ul>	<ul style="list-style-type: none"><li>• <i>Genital stage</i></li><li>• <i>Masturbation occurs</i></li></ul>	<ul style="list-style-type: none"><li>• Synthetic – Conventional faith.</li></ul>

# EARLY ADOLESCENCE- 12-13 YEARS

## Intellectual

### FORMAL OPERATIONAL THOUGHT(11years-Adulthood)

- Generates hypotheses
- Uses the scientific method for problem -solving



## Moral

### Post Conventional stage 5 (13+ years)

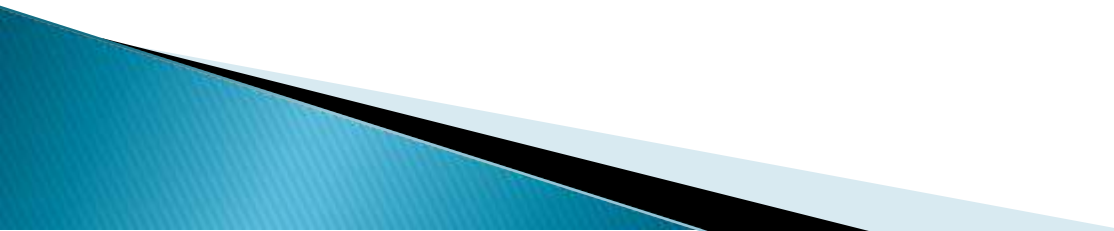
“ The individual conforms to maintain other`s respect”.

## Language, speech development

- Uses slang within and outside peer group.
- Uses distinct meanings for words.

# PLAY

## RECREATIONAL ACTIVITIES:

- ▶ Chooses activities according to individual interests.
  - ▶ Parties
  - ▶ Conversation
  - ▶ Helping others
  - ▶ Interest in world affairs
  - ▶ Expressive arts
  - ▶ Hobbies
  - ▶ Crafts
  - ▶ Social drinking
  - ▶ Drugs
- 

# MIDDLE ADOLESCENCE- 14-16 YEARS

## Physical

## Motor& Self care

## Sensory

• **WEIGHT:** Intensified appetite related to accelerated growth.

•MALE: Approximately 50-60kg

•FEMALE: App. 42-64kg

•**HEIGHT:**

•MALE: App.164-180cm

•FEMALE: App. 155-169cm

•**PULSE:** 63+\_8 beats per min.

•**RESPIRATION:** 17+\_3 per minute.

•**BLOOD PRESSURE:**

•MALE: 116/70+\_12/14

•FEMALE: 114/70+\_14/12

•Motor function comparable to that of adult.

•Eye-hand coordination at adult level

•Possesses manual dexterity.


Visual acuity:20/20

# MIDDLE ADOLESCENCE- 14-16 YEARS

Psychosocial	Psychosexual	Spiritual Development
<ul style="list-style-type: none"><li>•sense of identity(13-18years). “ who am I ?”</li></ul> <p><b>Negative counterpart: Self-diffusion</b></p> <ul style="list-style-type: none"><li>•Egocentrism diminishes</li><li>•Separation from parents continues</li><li>•Heterosexual relationships and interests common</li><li>•Verbally attacks parents beliefs and values.</li></ul>	<ul style="list-style-type: none"><li>• <i>Genital stage</i></li></ul>	<ul style="list-style-type: none"><li>• Synthetic – Conventional faith.</li></ul>



# MIDDLE ADOLESCENCE- 14-16 YEARS

Intellectual	Moral	Language, speech development	PLAY
<p><b>FORMAL OPERATIONAL THOUGHT(11years-Adulthood)</b> Expresses concern for education vs vocational choice</p> <p><b>FORMAL OPERATIONAL STAGE</b> The adolescent can transcend the concrete situation and think about the future.</p>  <p>12-Adulthood</p>	<p><b>Post Conventional stage 5 (13+ years)</b> Possibly stage 6(adolescence to adulthood).</p>		<ul style="list-style-type: none"><li>•Engages in organized competitive sports.</li></ul>

# LATE ADOLESCENCE- 17-21 YEARS

## Physical

## Motor& Self care

## Sensory

- **WEIGHT:**
- MALE: Approximately 56-80kg
- FEMALE: App. 48-72kg
- HEIGHT:**
- MALE: App.163-182cm
- FEMALE: App. 156-170cm
- PULSE:** 70+\_10 beats per min.
- RESPIRATION:** 17+\_3 per minute.
- BLOOD PRESSURE:**126/70+\_26/16.
- Dentition* : Eruption of third molars (wisdom teeth), 17-21 years

- Motor function comparable to that of adult.
- Eye-hand coordination at adult level
- Possesses manual dexterity.

Visual acuity:20/20

# LATE ADOLESCENCE- 17-21 YEARS

Psychosocial	Psychosexual	Spiritual Development
<ul style="list-style-type: none"><li>•Sense of identity(13-18years). Sense of intimacy.</li></ul> <p>Negative counterpart: <b>Isolation</b></p> <ul style="list-style-type: none"><li>•Severs ties with parents.</li><li>•Establishes interdependent relationship with parents</li><li>•Has fewer but closer friends.</li><li>•Heterosexual relationships are the rule</li></ul>	<ul style="list-style-type: none"><li>• <i>Genital stage</i></li></ul>	<ul style="list-style-type: none"><li>• Individuating- Reflecting faith.</li></ul>

# LATE ADOLESCENCE- 17-21 YEARS

## Intellectual

### FORMAL OPERATIONAL THOUGHT(11years-Adulthood)

Pursues further education or enters the job market

## Moral

### Post Conventional stage – Stage 6

Orientation toward decisions of conscience: “ Universal ethical principles”

## PLAY

### RECREATIONAL ACTIVITIES:

- Chooses more passive spectator sports.

# Health Promotion And Anticipatory Guidance

- ▶ Communication Techniques
- ▶ Physical Examination
- ▶ Self Care–
- Nutrition
  - **Eating habits**– protein requirement is 12–14% of recommended basic nutritional requirements. During growth spurt, needs for calcium, iron and zinc increase.
  - **Prevention of long term illnesses**– fast foods, implicating with degenerative diseases.
    - **Alcohol abuse**– resulting in liver damage and cirrhosis.
    - **Anorexia nervosa**
- Dental Health
- Accident Prevention
- Prevention of Addictive Behavior
- Sex Education
- Contraceptive Counseling