7th Edition

Bestselling Review Book of Pediatrics

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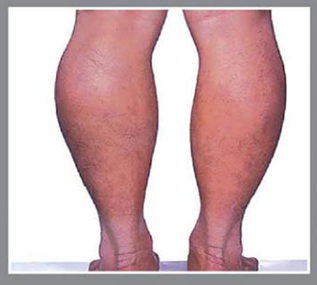
Review of PEDIATRICS & Neonatology

Most comprehensive and highly recommended Pediatrics book by the toppers, for quick revision and MCQ based exams on Pediatrics

Revised and updated from latest editions of Nelson 21/e, Ghai 9/e, Harrison 20/e and latest recommendations and guidelines



Highlights

- Fully colored book with >550 images
- Point-wise pretexts of all chapters for concept-building
- High-yielding points, Mnemonics & latest updates
- >3,200 MCQs with authentic, explanatory answers
- Important Annexures for last-minute revision

Explained answers
All Recent Questions up to Dec **2021** Including NEET/DNB pattern questions, INI-CET, and JIPMER

Exclusive feature: Ⓜ for quick identification of topics/ questions important for NMC/FMGE exams

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Apurv Mehra

JAYPEE

Contents

Most Important*****
Very Important****
Important***

CHAPTER 1

Normal and Abnormal Growth

NORMAL GROWTH (M)

- Growth refers to **increase in physical size** of an organ or body
- **Anthropometric parameters** are used to assess growth like: **Weight, Height, Head circumference**, body mass index, skin fold thickness
- To know whether growth of a child is appropriate for his age or not, we need to **compare it with a standard** (expected value).

Devices used for assessment of growth (M)

Name of parameter	Device used
Length	**Infantometer**[Q]
Height	**Stadiometer**[Q]
Head circumference	Non-stretchable measuring tape
Skin fold thickness	**Harpenden Callipers**[Q]

Question 1

What is this instrument used for?

a. Measure weight
b. Measure height
c. Measure length
d. Measure upper segment: lower segment ratio

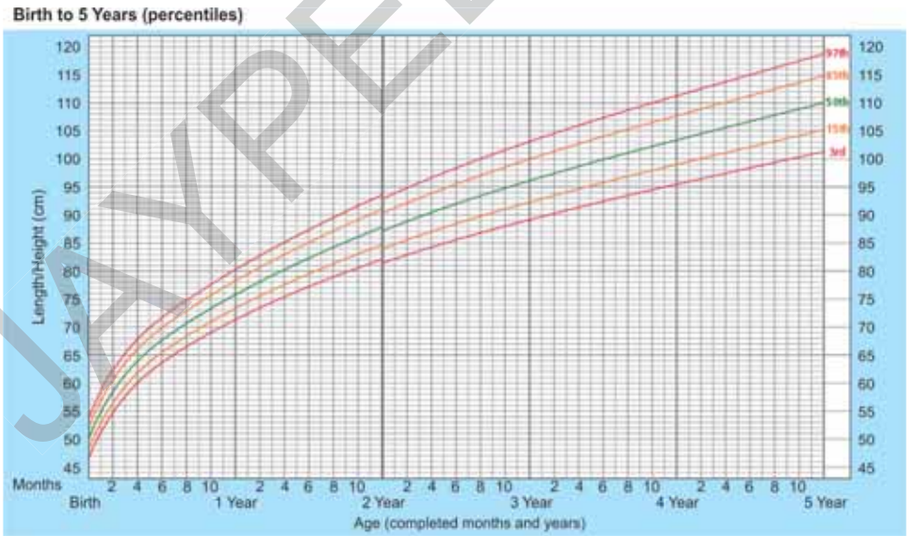
GROWTH CHARTS (M)

- **Growth standards** are **norms of growth** presented in tabular or graphical manner
- Initial growth charts in 1977, were developed by **NCHS (National Centre for Health Statistics)**
- Followed by **CDC growth charts in 2000**[Q]**.** (Based on formula-fed US children)
- **WHO growth charts are preferred for under-5 children all over the world. It is based on breast-fed babies & it first came into use in 2006**[Q].

Mnemonic

- **WHO growth charts** are based on multicentre growth reference study (MGRS)[Q] conducted in six different countries: **B**razil, **O**man, **N**orway, **G**hana, **U**S, **I**ndia and (Mnemonic: 'BONGUI').

WHO growth chart for 'Height for age' for boys



NORMAL ANTHROPOMETRIC PARAMETERS

I. WEIGHT

Increase in weight with age (M)

Age	Weight (kg)	Description
Birth	*w*	*Birth weight*
5 months	2 w	**Twice of birth weight**[Q]
1 year	3 w	**Thrice of birth weight**[Q]
2 years	4 w	Four times the birth weight
3 years	5 w	Five times the birth weight
5 years	6 w	Six times the birth weight
7 years	7 w	Seven times the birth weight
10 years	10 w	Ten times the birth weight

If birth weight is not known, following formula can be used to calculate expected weight of a child at different ages:

For age group	Expected weight (kg)
Infants (age < 1 year)	$\frac{x+9}{2}$, where, x is age in months
1–6 years	$2x+8$, where, x is age in years
7–12 years	$\frac{7x-5}{2}$, where, x is age in years

High Yield Points

- **Birth weight of an average Indian baby is 2.8 kg**[Q]
- A term newborn **loses up to 10%** of its birth weight in 3–5 days after birth, **regained by day 10** of life
- Birth weight doubles by 5 months of age
- Birth weight **triples by 1 year & quadruples by 2 years**

High Yield Points

- **Maximum increase in height** occurs in **1st year**[Q] followed by **puberty**[Q]
- **Physiological hypertrophy** of **lymphoid tissue** is seen between **4 and 8 years**[Q]

II. HEIGHT

- If a child < 2 years old, measure recumbent length.
- If ≥ 2 years age & able to stand, measure standing height.
- Standing height is about 0.7 cm less than recumbent length.

Increase in length or height with age (M)

Age	Birth	1 year	2 years	4 years	12 years
Height	50 cm	75 cm	90 cm	100 cm	**150 cm**

Formula for calculating expected height for age group 2–12 years:
Expected Height = 6x + 77 cm, where x is the age in years.

High Yield Points

- **Length increases by 50%** in the **first year** of life[Q]
- Height **doubles** at around **4 years**[Q]
- Height becomes triple of the height at birth by 12 years

III. UPPER SEGMENT:LOWER SEGMENT RATIO (US:LS) (M)

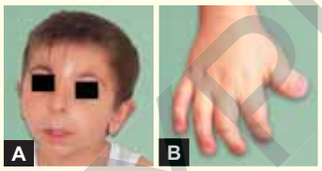
- **Upper segment** is measured from vertex to symphysis pubis
- **Lower segment** is measured from pubic symphysis to heel (sole).

Normal upper segment to lower segment ratio in children:

Age	Newborn	3 years	7–10 years
US : LS	1.7–1.9 : 1[Q]	1.3 : 1	1 : 1[Q]

Question 2

Identify the syndrome this child with short stature has?



a. Seckel syndrome
b. Turner syndrome
c. Cornelia de lange syndrome
d. Rubinstein-Taybi syndrome

SHORT STATURE (M)

Definition

Height < 3rd percentile[Q] or - 2 SD[Q] below the median height for that age & sex.

Types

- *Proportionate: US:LS normal*
- *Disproportionate: US:LS altered*
  - ***Short trunk** dwarfism: US:LS ratio **decreased***
  - ***Short limb** dwarfism: US:LS ratio **increased.***

Important Causes of Proportionate Short Stature (M)

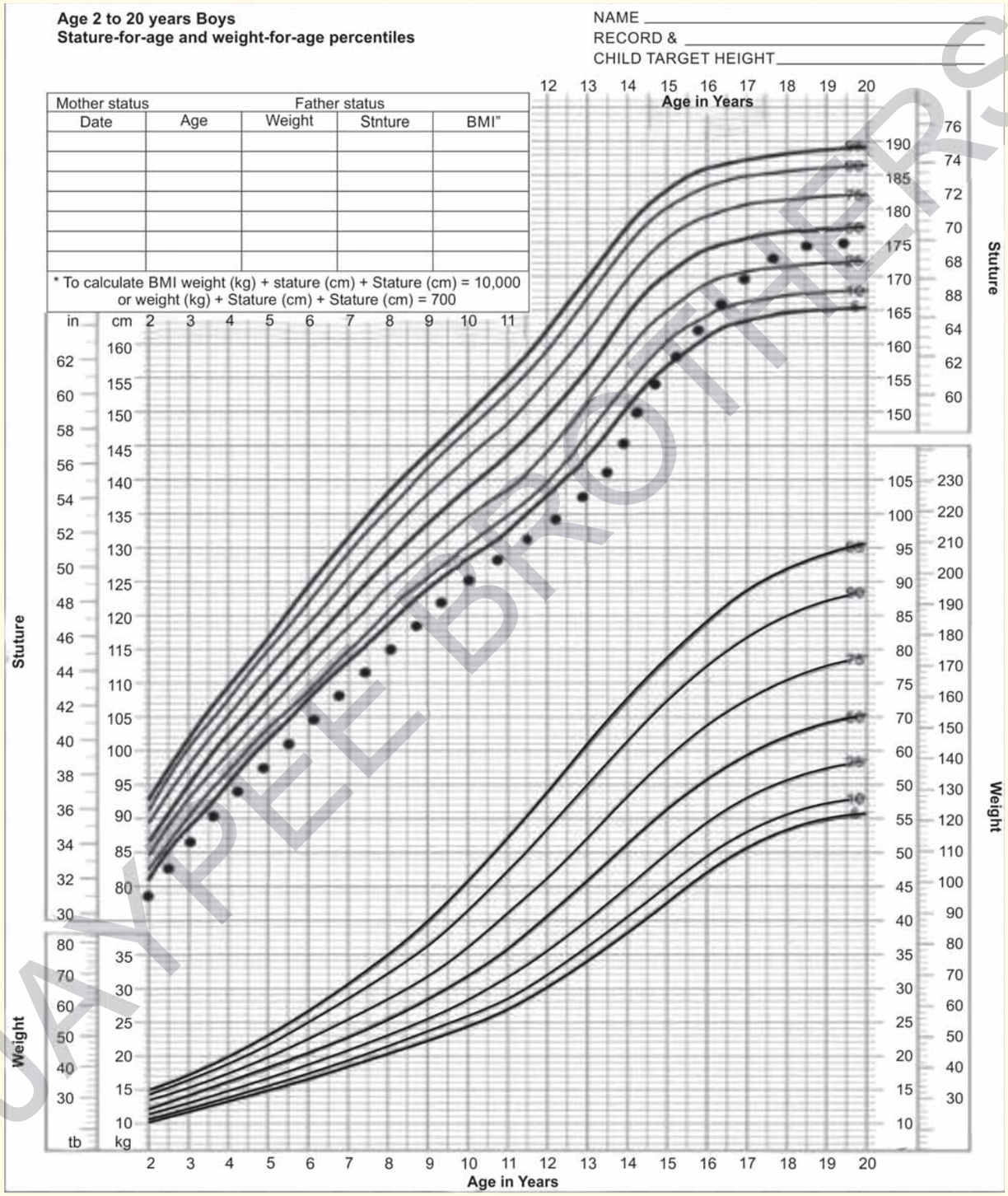
Normal variants	Intrauterine causes	Acquired causes
• Familial • Constitutional delay in growth & puberty (CDGP)[Q]	• Small for gestational age (SGA) • Congenital infections: TORCH • Genetic: – **T**urner syndrome – **D**own syndrome – **S**eckel syndrome **Mnemonic** "T-D-S"	• Under nutrition • Chronic systemic illness, e.g. chronic kidney disease • Endocrine causes: – GH deficiency – Cushing syndrome – Precocious or delayed puberty • Psychosocial dwarfism

High Yield Points

- **Most common cause of short stature in childhood** is constitutional delay in growth & puberty **(CDGP)**
- In CDGP, the final adult height attained is normal
- **20% of IUGR babies remain short** throughout life

Question 3

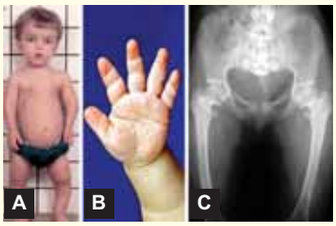
The growth chart of Rahul is shown from his early childhood till he becomes an adult. He had short stature during childhood. What could be the underlying cause for the same?



a. Familial short stature
b. Growth hormone deficiency
c. Constitutional delay in growth & puberty
d. Achondroplasia

Question 4 M

Identify the abnormality this child is suffering from:



a. Osteogenesis imperfecta
b. Achondroplasia
c. Mucopolysaccharidosis
d. Rickets

High Yield Points

- In **familial short stature**, the **final height attained is less** than the expected height according to age & sex, **but it is normal as per** the child's **target height**
- **Mid parental height** for:
  - Boys = $\frac{\text{Father's height + Mother's height + 13}}{2}$ cm
  - Girls = $\frac{\text{Father's height + Mother's height – 13}}{2}$ cm

High Yield Points

- Bone age is **equal to chronological age** in **familial** short stature
- In **constitutional growth delay, under nutrition** hypothyroidism & GH deficiency, **bone age is less** than chronological age

Mnemonic

Causes of large anterior fontanel in children: "AAP CCHOR"

- **A**chondroplasia
- **A**pert syndrome
- **P**rematurity
- **C**leidocranial dysostosis
- **C**ongenital rubella syndrome
- **H**ypophosphatasia
- **O**steogenesis imperfecta
- **R**ickets

Important Causes of Disproportionate Short Stature M

Short trunk dwarfism	Short limb dwarfism
• **S**pondyloepiphyseal dysplasia	• **Rickets**Q
• **Mucopolysaccharidosis**Q	• **Osteogenesis imperfecta**Q
• **M**ucolipidosis	• **Hypothyroidism**Q
• **Caries spine**Q	• **Achondroplasia**Q
• **H**emivertebrae (congenital vertebral defect)	• Hypochondroplasia
	• Chondrodysplasia punctata
	• Chondroectodermal dysplasia
	• Metaphyseal chondrodysplasia

Mnemonic

"Short Man May Climb High"

Comparison of Important Causes of Proportionate Short Stature M

Cause	Birth weight & length	Skeletal maturation	Timing of puberty	Other features	Treatment
Familial short stature	Normal	Normal	Normal	Normal growth velocity	Not required/ Assurance
Constitutional growth delay	Normal	Delayed	**Delayed**	Normal growth velocity	Not required/ Assurance
Growth hormone deficiency	Normal weight Slightly reduced length	Delayed	Normal	Hypoglycemia Hypothyroidism Micropenis Truncal adiposity	Subcutaneous recombinant GH

TALL STATURE

Important causes of tall stature in childhood are:

Fetal overgrowth	Nonendocrine causes	Endocrine causes
• Maternal diabetes mellitus	• Familial/constitutional	• Excess GH secretion
• Cerebral gigantism (Sotos syndrome)	• Exogenous obesity	• McCune-Albright syndrome
• Weaver syndrome	• Marfan syndrome	• Precocious puberty
• Beckwith-Wiedemann syndrome	• Fragile X syndrome	• Hyperthyroidism
	• Klinefelter syndrome (XXY)	

HEAD CIRCUMFERENCE (HC) M

High Yield Points

- Total **brain volume doubles in 1st year of life**
- Total brain volume at age 1 month is 36% of adult volume, at **1 year is 72**%, while it is **83% of adult brain size by 2 years**
- Rapid increase in head circumference suggests a tumor or hydrocephalus

- It is measured through the **occipital protuberance & supraorbital ridge**
- A **non-stretchable measuring tape** taken
- Measurement is repeated thrice & maximum value is taken
- Normal Head circumference in a newborn is **33-35 cm**Q.

Rate of increase in head circumference

Time after birth	Age	Increase in HC (cm)
1st 3 months	1–3 months	2 cm/month
Next 3 months	4–6 months	1 cm/month
Next 6 months	7–12 months	0.5 cm/month
Next 2 years	1–3 years	0.2 cm/month

Question 5

Identify this syndrome in which the following are seen:

a. Down syndrome
b. Patau syndrome
c. Edward syndrome
d. Turner syndrome

High Yield Points

- **Microcephaly[Q]: Head circumference < -3 SD below the mean for age and sex**
- **Macrocephaly[Q]: Head circumference > 95th percentile for age and sex**

Important Causes of Microcephaly

Primary causes	Secondary causes (M)
• **C**ornelia de Lange syndrome • **S**mith-Lemli-Opitz syndrome • **P**atau syndrome[Q] • **E**dward syndrome[Q] • **F**amilial • **R**ubinstein-Taybi syndrome • **C**ri du chat syndrome	**Congenital infections[Q]:** CMV, Rubella, Toxoplasmosis **Maternal causes:** • Alcohol • Smoking • Phenytoin • Radiation • Phenylketonuria[Q] • Diabetes **Infections in infancy:** Meningitis, Encephalitis **Malnutrition** Perinatal asphyxia/HIE **Acquired microcephaly:** • Rett syndrome[Q] • Angelman syndrome • Seckel syndrome

Mnemonic

"Cannot See PEFR in Child"

Important Causes of Large Head (Macrocephaly)

A. Thickened Cranium

- Chronic anemia
- **Rickets**
- **Osteogenesis imperfecta.**

B. Chronic Subdural Collection

- Can present as chronic subdural **hematoma** or subdural **effusion**
- **Most common cause** of subdural fluid collection in children is **meningitis[Q].**

C. Megalencephaly

- **Benign familial megalencephaly[Q]**
- Lysosomal storage disorders **(Tay -Sachs, GM1 gangliosidosis, Mucopolysaccharidosis)**
- Aminoacidurias **(Maple syrup urine disease, Glutaric aciduria type I)**
- Carbohydrate disorder: Galactosemia
- Neurocutaneous: Neurofibromatosis, Tuberous sclerosis
- Achondroplasia
- Leukodystrophies **(Alexander ds, Canavan ds[Q],** Metachromatic leukodystrophy)
- Cerebral gigantism **(Sotos syndrome)[Q].**

High Yield Points

Newborn[Q]	First 4 weeks after birth
Infancy	First year
Toddler	1–3 years
Preschool child	3–6 years
School age child	6–12 years
Adolescence : 10–19 years	
• ***Early[Q]***	10–13 years
• ***Middle[Q]***	14–16 years
• ***Late[Q]***	17–19 years

Question 6 M

The given picture of a child with recurrent fractures is suggestive of:

a. Ehler Danlos syndrome
b. Osteogenesis imperfecta
c. Bitot's spots
d. Alkaptonuria

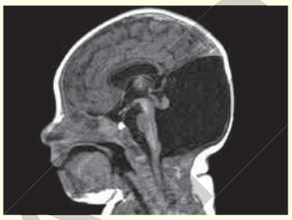
Question 7 M

What is the most probable cause of large head in this child?

a. Osteogenesis imperfecta
b. Mucopolysaccharidosis
c. Hydrocephalus
d. Cerebral gigantism

Question 8

Identify the abnormality seen in the MRI given:



a. Vein of Galen malformation
b. Arnold Chiari malformation
c. Dandy-Walker malformation
d. Choroid plexus papilloma

D. Hydranencephaly

- **Cerebral hemispheres are absent** or represented by **membranous sacs**
- Midbrain & brainstem is intact; but there is no cognitive development
- **Transillumination** shows absent cerebral hemispheres.

E. Hydrocephalus M

- Caused by **impaired circulation &/or absorption of CSF**, rarely by increased production
- **Ventriculoperitoneal shunt**[Q] is the shunt of choice for **treatment of hydrocephalus** in children.

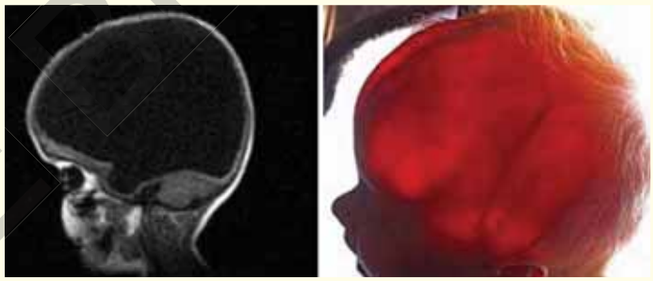
Mnemonic M

Causes of Hydrocephalus

Communicating	Non-Communicating
"C-A-M-P"	"M-A-A-A-D H-I-V"
• **C**horoid plexus papilloma	• **M**ass lesions
• **A**chondroplasia[Q]	• **A**queductal stenosis[Q]
• **M**eningeal malignancy	• **A**rnold Chiari malformation[Q]
• **P**ost-hemorrhagic	• **A**bscess
	• **D**andy-Walker malformation[Q]
	• **H**ematoma
	• Infections (Toxoplasmosis, Mumps, Neurocysticercosis)
	• **V**ein of Galen malformation

Question 9

Identify this defect in a baby with large head:



a. Encephalocele
b. Hydranencephaly
c. Hydrocephalus
d. Anencephaly

V. CHEST CIRCUMFERENCE (CC) M

- It is usually measured **at the level of nipples** (4th Intercostal space)
- **At birth, HC > CC but difference** between CC & HC is usually **< 3 cm**[Q]
- HC = CC by the age of **9 months to 1 year.**[Q]
- If even after 1 year age, CC < HC it indicates malnutrition.

VI. MID ARM CIRCUMFERENCE (MAC) M

- It is measured in the **middle of arm**, using a non-stretchable measuring tape
- **Overlapping technique** is to be used for measurement
- **Shakir's tape** is used by Health workers to measure MAC
- Shakir's tape is divided into 3 colored zones:
  - **Green zone** is for MAC > **12.5 cm** → **normal** nutritional status
  - **Yellow zone** for MAC 11.5–12.5 cm → **borderline** malnutrition
  - **Red zone** is for MAC **< 11.5 cm** → **severe malnutrition.**

Question 10

What is this instrument used to measure?

a. Body mass index
b. Skin fold thickness
c. Upper segment : lower segment ratio
d. Mid arm circumference

VII. AGE INDEPENDENT ANTHROPOMETRIC INDICES

Used to assess nutritional status when child's **age is not known**.

Name of index	Formula	Normal value	In malnutrition
Kanawati & Mc Laren's index	Mid arm circumference /Head circumference (cm)	0.32 – 0.33	< 0.25
Rao & Singh's index	Weight (kg)/ height^2 (cm) × 100	> 0.14	0.12 – 0.14
Dugdale's index	Weight (kg)/height$^{1.6}$ (cm × 100)	0.88 – 0.97	< 0.79
Quaker arm circumference measuring stick (quac stik)	Mid arm circumference expected for a given height	75 – 85% < 75%	Malnourished Severely malnourished
Jeliff's ratio	Head circumference/ Chest circumference	<1 in a child >1 year age	Ratio > 1 in a child > 1 year indicates Malnourished child

DENTITION (M)

Characteristics	Primary dentition	Secondary dentition
Also called	Milk teeth or temporary teeth	Permanent teeth
Begins at	6–7 months[Q]	6 years[Q]
Completes at	3 years	12 years (except for 3rd molar)
Total number of teeth	20	28–32 (depending on number of 3rd molars erupted)
1st tooth	**Lower Central incisors**[Q]	**First molars**[Q]
Last tooth	Second molars	Third molars
Sequence	**Central incisors (appear first)**[Q] Lateral incisors First molars Canines **Second molars (appears last)**[Q]	**First molars (appear first)**[Q] Central incisors Lateral incisors First premolars Second premolars Canine Second molars **Third molars (appear last)**[Q]

High Yield Point

Delayed Dentition is considered when there are **no teeth by** the age of **13 months**

Mnemonic

For **sequence of teeth eruption in secondary dentition**:

"**M**ama **I**s **I**n **P**ain **P**apa **C**an **M**ake **M**edicine"

- **M**olars (first)
- **I**ncisors (Central)
- **I**ncisors (Lateral)
- **P**remolars (First)
- **P**remolars (Second)
- **C**anine
- **M**olars (Second)
- **M**olars (third)

Latest Updates

- Previously **mid arm circumference was considered to be an age independent anthropometric index**, with a constant value of ~ 16 cm between 1 and 5 years
- Now we know that even MAC varies with age
- Mid arm circumference for age **charts are available** for boys and girls in **WHO** growth charts

Mnemonic

Causes of Natal teeth

S: Soto's syndrome
E: Ellis-van Creveld syndrome
E: Epidermolysis bullosa, lethal acantholytic variety
P: Pierre Robin syndrome

High Yield Points

- **Advanced dentition** is seen in **precocious puberty and hyperthyroidism**
- **Supernumerary** teeth (more than normal number) are seen in: **Cleft lip, cleft palate, cleidocranial dysplasia, Gardner syndrome**
- Natal teeth refer to teeth already present at time of birth

MNEMONIC M

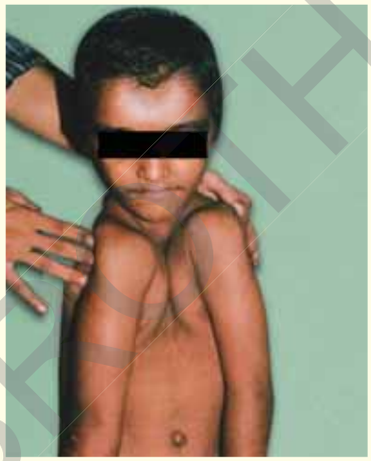
Causes of Delayed Dentition

'FRIED ChoP'

- **F**amilial
- **R**ickets
- **I**diopathic; Incontinentia pigmenti
- **E**ndocrine causes: Hypothyroidism, hypoparathyroidism, hypopituitarism
- **D**own syndrome
- **C**leidocranial dysplasia
- **P**rogeria

QUESTION 11 M

What is the diagnosis in this child with delayed dentition?



a. Rickets
b. Achondroplasia
c. Cleidocranial dysostosis
d. Incontinentia pigmenti

QUESTION 12 M

What is this teeth abnormality?

a. Mulberry molars
b. Natal teeth
c. Hutchinson's teeth
d. Supernumerary teeth

High Yield Points

- For 1–6 years, Formula for **number of carpal centers seen is: Age (in years) + 1**
- 1st carpal bone to appear in a child is capitate
- X-ray wrist and hand is best to assess bone age in a child.

BONE DEVELOPMENT

- **Earliest ossification center** to develop in a fetus is of **calcaneus**Q
- Other centers seen at birth are distal end of femur, proximal end of tibia, head of humerus, talus & cuboid.

NORMAL PUBERTY

- The term **adolescence** is derived from the latin word adolescere, meaning **to grow, to mature; Adolescent age group is 10–19 yrs age**
- 'Puberty' is the biologic process in which a child becomes an adult
- During the growth spurt that occurs in puberty, the increase in height seen in boys is 20–30 cm, while in girls, it is 16–28 cm.

Sequence of Changes in Puberty in Females and Males M

Females	Males
ThelarcheQ ↓ *Pubarche* ↓ *Growth spurt* ↓ *Menarche*	**Testicular enlargement**Q ↓ *Penile enlargement* ↓ *Pubic hair growth* ↓ *Growth spurt* ↓ *Axillary hair* ↓ *Facial hair* *change in voice*

High Yield Points

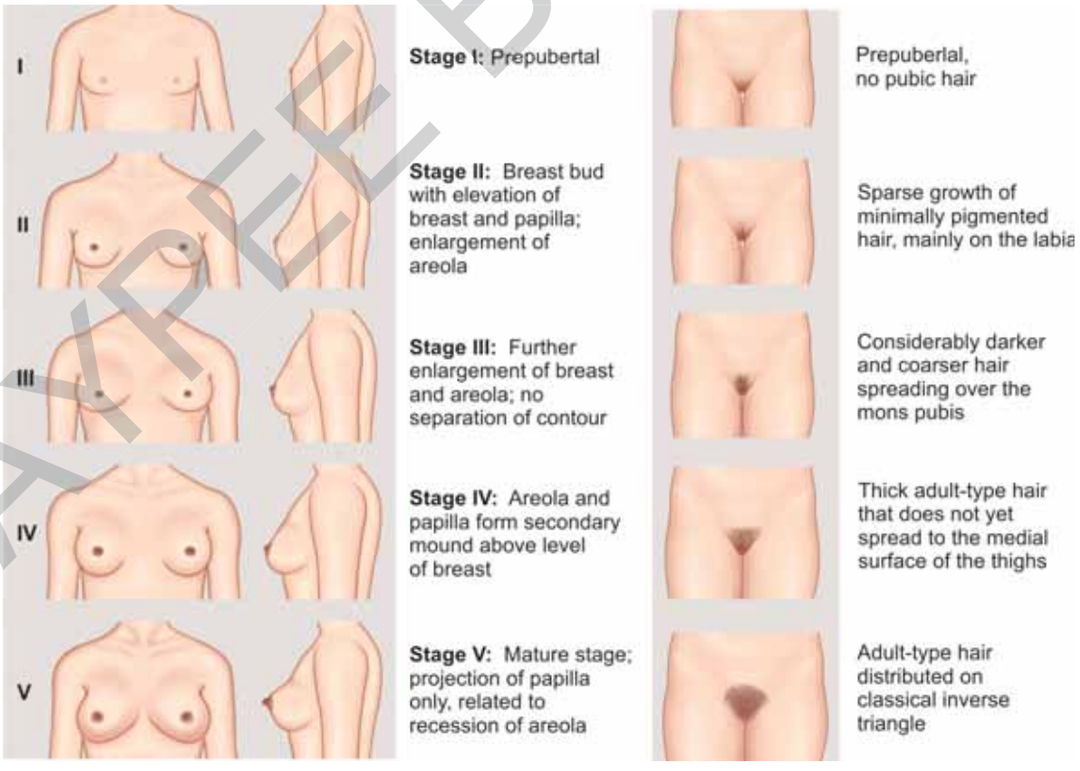
WHO/UN definitions
- **Adolescent → 10–19 yrs**Q
- Youth → 15–24 yrs
- Young people → 10–24 yrs

Pubertal status of a child/adolescent is assessed using **sexual maturity rating (SMR), or Tanner stages**Q.

High Yield Points

- In girls, **1st visible sign of puberty** & hallmark of SMR2 is appearance of breast buds or **thelarche**
- Thelarche usually occurs between 8–12 yrs of age in girls
- Menses typically begins 2–2½ yrs later, during SMR 3–4
- **Peak growth (growth spurt) occurs in females in Tanner's stage 3**

Tanner's Staging in Females



Question 13 (M)

Identify the instrument:

a. Growth assessment tool
b. Urometer
c. Stool assessment tool
d. Orchidometer

Question 14

What is the SMR staging based on the following findings in a female?

a. 2
b. 3
c. 4
d. 5

High Yield Points

- In boys, the 1st visible sign of puberty and the hallmark of SMR 2 is **testicular enlargement**
- Testicular enlargement begins around 9–10 yrs
- Testicular volume is assessed using an **'orchidometer'**
- Peak growth occurs in boys when testis volumes reach approximately 9–10 cm^3 during SMR 4

Tanner's Staging in Males

Stage I: Prepubertal; no pubic hair and genitals proportionally the same as in childhood. Testicular size less than 4 cc in volume and 2.5 cm in longest dimension

Stage 2: Sparse hair growth at the base of the penis - slightly darkened. Scrotum and testes enlarge; scrotum thins and reddens. Growth of testes to 4 cc or greater in volume

Stage 3: Hair growth darker more coarse and curled across the mons pubic. Penis grows in length and testes and scrotum continue to grow.

Stage 4: Hair growth more dense: coarse and curly like in an adult, but not yet spread to inner thighs. Penis continues to grow; the glans (head) of the penis becomes more prominent. The scrotum darkens.

Stage 5: Hair growth extends to inner thighs. Genitalia reach adult size and shape.

GYNECOMASTIA

- **Benign**[Q] **subareolar glandular breast enlargement seen in up to 65% adolescent males**
- Typically appears at least 6 months after onset of secondary sex characteristics
- Peak incidence is during **SMR 3 and 4.**[Q]

Difference between True & Pseudo Gynecomastia

- In **true gynecomastia, glandular tissue is present**[Q], which is palpable as a fibro-glandular mass located concentrically beneath the nipple areolar complex.

When to Evaluate?

- If patient is **Pre-pubertal,** has **eccentric** breast mass with rapid progression
- Any stigmata of **chronic liver disease, thyroid or renal disease, hypogonadism.**
- History of **drug** use or sexual dysfunction **or visual field defects.**

High Yield Points

- **Pubertal gynecomastia usually regresses within 1–3 yrs**[Q], as it is caused by a transient imbalance between estrogens and androgens

Answer Keys for Image-Based Questions

	Answers	Explanations/Identifying features
1.	**Ans. c. Measure length**	The instrument shown in the picture is an 'Infantometer'. Infantometer is a **horizontal rod with a ruler** with **2 vertical** boards on 2 ends (one fixed and other moveable), used to measure length of an infant.
2.	**Ans. d. Rubinstein-Taybi syndrome**	beaked nose (A), highly-arched eyebrows, retrognathia and broad thumbs (B) and great toes which are often deviated medially.
3.	**Ans. c. Constitutional delay in growth and puberty**	He had short stature during childhood, but the final adult height attained is normal.
4.	**Ans. b. Achondroplasia**	A → Short child with mainly **short limbs**; B → **Trident hand** present C → **Champagne glass pelvis** All these are features of **Achondroplasia** It is due to mutation in *FGFR3* gene
5.	**Ans. c. Edward syndrome**	**A.** Shows **microcephaly, limb defects** & rocker-bottom feet **B.** Shows **overlapping fingers** **C.** Shows **rocker-bottom foot** (convexity of soles, like a rocking chair) These features suggest a diagnosis of **E**dward syndrome or Trisomy 18 (**E**ighteen) [**E-E**].
6.	**Ans. b. Osteogenesis imperfecta**	Blue sclera in a child with recurrent fractures suggests a diagnosis of **Osteogenesis imperfecta.**
7.	**Ans. c. Hydrocephalus**	**Large head** in an infant with venous prominences over scalp and presence of '**setting-sun sign**', suggest **hydrocephalus.**
8.	**Ans. c. Dandy-Walker malformation**	MRI brain shows **dilated 4th ventricle with Cerebellar hypoplasia,** suggestive of **Dandy-Walker syndrome.**
9.	**Ans. b. Hydranencephaly**	Both cerebral hemispheres are absent & replaced by fluid filled sacs; Transillumination is positive.
10.	**Ans. d. Mid arm circumference**	A measuring tape with cm markings (from 6 to 26 cm) with 3 colored zones (red, yellow & green) is a **Shakir's tape.**
11.	**Ans. c. Cleidocranial dysostosis**	Large head with bilateral absent clavicles, such that the child can touch both his shoulders with each other.
12.	**Ans. c. Hutchinson's teeth**	Notched incisors, as seen in this image are known as Hutchinson's teeth. They are seen in congenital syphilis.
13.	**Ans. d. Orchidometer**	A **string with ovoid bodies** of different sizes with volume (in mL) written on each; This instrument is an **Orchidometer.**
14.	**Ans. b. 3**	**Developed breast** and areola, but **no contour** separation, no secondary mound; dark **pubic hairs** present, but **not curled;** These are features of **Tanner's stage 3.**

Review of PEDIATRICS & Neonatology

Students' Review

I am Kavan Parikh AIR 21 in NEET PG 2020. I read Review of Pediatrics and Neonatology by Taruna Mam and Apurv Sir for my pediatrics preparation. The lucid format of the book appealed me at the onset. The content is highly authentic and updated with the recent guidelines. The book is a beautiful blend of theoretical and practical high yield points with ample of images and image based questions. The segregated high yield points are very handy for quick revisions. The content has been arranged in a very palatable manner-pointwise, without unnecessary text and boring sentence format. In a nutshell, it is a concise as well as precise source for pediatrics which any PG aspirant would be in search of.

—Kavan Parikh AIR 21 in NEET PG 2020

Secured AIR 499 in NEET PG 2020 in my first attempt (AIIMS NOV 2019–2880), (PGI NOV 2019- 367). I never had any coaching offline or online. Depended totally on your book for Pediatrics. I just want to thank you Meenakshi Mam for the energy you put into work that found its way into our brains somehow, some way. I am thankful beyond words.

—Sharang Gupta Secured AIR 499 In NEET PG 2020

Review of Pediatrics by Dr Taruna Ma'am and Dr Apurv Sir is gem of a book. Concise and succinct, it manages to cover virtually all the points which a PG aspirant needs to know. Supplemented with flowcharts and key points separately on each page aids quick revision during the latter stage of the preparation. The Book has enough MCQs at the end of each chapter to ensure one has a strong grip on this crucial and rank deciding subject.

—Dr. Jaymin Gupta, AIR 1012 NEET PG 2020

I am Piyush Aggarwal and I managed Rank-9 in the Nov 2018 session of AIIMS. For an exam such as AIIMS you need a book which has all the information put in a concise and conceptual manner and for Pediatrics I had to look no further than Dr Meenakshi Mam's Review of Pediatrics. The book has all the information very well put out along with the images which are a must for AIIMS. Plus the important points sections given alongside the main text came in very handy during the revisions. This book has very good explanations to all the end of chapter questions too along with the new pattern questions.

—Piyush Aggarwal, Rank 9 in the Nov 2018 session of AIIMS

Taruna Mehra is a Consultant Pediatrician. She is a Gold Medalist in the field of Pediatrics and specializes in Pediatric Nephrology. She has postgraduated in Pediatrics from the prestigious Maulana Azad Medical College, New Delhi. She has specialized in Pediatric Nephrology from AIIMS and has worked as a Pediatric Consultant at Max Super Speciality Hospital and, at present, she is the Head of Pediatrics Department at Vidya Jeevan Ortho and Pedics Super Speciality Centre.

Meenakshi Bothra Gupta has done her MBBS from Medical College, Kolkata and post-graduation along with senior residency from All India Institute of Medical Sciences, New Delhi. She has been a recipient of many prestigious awards, including Best MBBS student from Medical College (Kolkata), Gold Medals in Pathology, Preventive and Social Medicine and Gynecology and Obstetrics during her MBBS. She also received Honours in Anatomy, Physiology, Pathology, Forensic and State Medicine, ENT, PSM, Surgery and Pediatrics. During her tenure at AIIMS, she was awarded as the Best Postgraduate Student in Pediatrics from AIIMS, Best Clinical Research Award in Oncology from AIIMS, best Pediatrics Thesis Award from Indian Journal of Pediatrics. She has many National and International publications and has authored several book chapters & books. Teaching is her passion and she has been teaching undergraduate and postgraduate students for more than 10 years now and more than 50,000 medical students have benefitted from her teaching.

Apurv Mehra is the founder of Vidya Jeevan orthopedics centre. He is world renowned computer navigation joint replacement surgeon and specialist in sports medicine. He is one of the most sought after surgeon due to his ethical practice. He is also the founder of MedMiracle the online support system for Medical students. He is rated as ONE of the Best and most respected Faculties in the Medical World. His message is simple, powerful and practical. In his more than eleven years of teaching, Dr Apurv Mehra's (Ortho Dhoom Dhadaka) lectures have not only helped many students achieve top ranks in entrance exams but also many of them, having being influenced by him, have chosen Orthopedics as their career. His Book 'Orthopedics Quick Review', has been labelled as Magic Book of Orthopedics. His New Releases MOM-Mehra's Orthopedics for MCI, Review of Pediatrics has received overwhelming response across the globe.

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