Summary

Urinary Bladder (embryology)		
In **infants** and **children** the bladder is an **abdominal organ**. It starts to enter the **greater pelvis** at about **6 years** and become a **pelvic organ** until **after puberty**.		
Primitive urogenital sinus divided into **three parts**		
A **cranial (vesical part)**	A **middle (pelvic part)**	A **caudal (phallic part)**
forms **most of the bladder** and continuous with the allantois.	forms **main** part of **male urethra** and **entire female urethra.**	grows towards genital tubercle.

Surface(anatomy)	**Male**	**Female**
APEX	▪ **Upper** border of **symphysis pubis**. ▪ Connected to umbilicus by the **median umbilical ligament.**	
BASE	**vas deferens & seminal vesicle**	**Vagina**
SUPERIOR SURFACE	**coils of ileum & sigmoid colon.**	**Uterus**
INFERO-LATERAL	**Retropubic fat**	
NECK	▪ **lower border of symphysis pubis.** ▪ **prostate gland in male.**	
Uvula vesicae	▪ Elevation behind internal urethral orifice, **produced by median lobe of prostate gland.**	
Trigone	a triangular area in base of bladder **bounded by the 2 ureteric orifices & internal urethral orifice**. Its mucous membrane is **elastic**	

Summary

Development of urethra:

- The urethral folds in **male** fuse with each other to close the penile urethra while in **female** remain separate to form labia minora

- The entire **female** urethra is derived from **endoderm of the pelvic** part of the urogenital sinus While Most of the **male** urethra is derived from **endoderm of the pelvic and phallic** parts of urogenital sinus but the most distal part of urethra in glans penis starts as ectodermal solid cord.

Anomalies					
Exstrophy of the bladder (Ectopiae vesica)	**Urachal anomalies:**			**Urethral Anomalies:**	
(exposure of the posterior wall of the bladder due to a defect in the anterior abdominal wall and anterior wall of the bladder).	Urachal cyst	Urachal sinus	Urachal fistula	Hypospadius *common*	Epispadius *rare*
	(remnant of epithelium)	(discharging serous fluid from the umbilicus)	(entire urachus remains patent with urine escape from umbilicus).	(incomplete fusion of urethra)	(associated with exstrophy of the bladder)

MCQ'S 2nd lecture

1- The cloaca is the dilated terminal part of the hind gut, however witch of the following ducts does It receives.

A- Allantois duct.

B- mesonephric duct.

C- Both of them

D- None of them

2- The Primitive urogenital sinus is divided into three parts, witch of the following is the correct order for them from up down.

A- vesical part, phallic part, pelvic part.

B- vesical part, pelvic part , phallic part.

C- pelvic part, vesical part, phallic part.

D- phallic part, vesical part, pelvic part.

3- Witch of the following forms most of the bladder and continuous with the allantois.

A- The vesical part of the primitive urogenital sinus.

B- The pelvic part of the primitive urogenital sinus.

C- The phallic part of the primitive urogenital sinus.

D- None of them

4- Witch of the following forms the female urethra?

A- The vesical part of the primitive urogenital sinus.

B- The pelvic part of the primitive urogenital sinus.

C- The phallic part of the primitive urogenital sinus.

D- None of them

5- A mother of 7 weeks old child came to the pediatric clinic complaining of discharge

baby belly button, witch of the following is most likely be the cause. serous fluid from the

A- Urachal cyst

B- Urachal sinus

C- Urachal fistula

D- Epispadius

6**- Witch of the following best describe <u>Hypospadius.</u>**

A- incomplete fusion ofthe urethral folds, and abnormal openings of the

urethra occur along the ventral (inferior) aspect of the penis.

B- is a rare abnormality, in which the urethral meatus is found on

the dorsum of penis, it is most often associated with exstrophy of the bladder.

C- the entire urachus remains patent and allows urine to escape from the umbilicus.

D- persistence or remnant of epithelial lining of urachus

1-C , 2-B , 3-A , 4-B , 5-B 6-A

MCQ'S 1st lecture

1-Witch of the following is the origin of the Kidneys?
A- Lateral mesoderm.
B- Paraxial mesoderm.
C- Notochord.
D- Intermediate mesoderm.

2-When and where does the Mesonephric system appears?
A- Appears at beginning of 4th week in cervical region.
B- Appears at end of 4th week in thoracic & abdominal regions.
C- Appears at end of 4th week in pelvis.
D- Appears at 5th week in pelvis.

3-Witch of the following systems doesn't function at all?
A- Metanephric system.
B- Mesonephric system.
C- Pronephric system.
D- All of them function for a period of time.

4- Each glomerular capsule is invaginated by capillaries to form a Glomerulus, however what is the origin of the Bowman capsule?
A- Derived from mesonephric duct.
B- Metanephric blastema (mass).
C- None of the above.
D- Ureter bud.

5- Witch of the following doesn't happen on the 9th week?
A- Glomerular filtration begins.
B- Kidney attains its adult position.
C- Kidney receives its arterial supply from aorta.
D- Lobulation of kidney diminishes

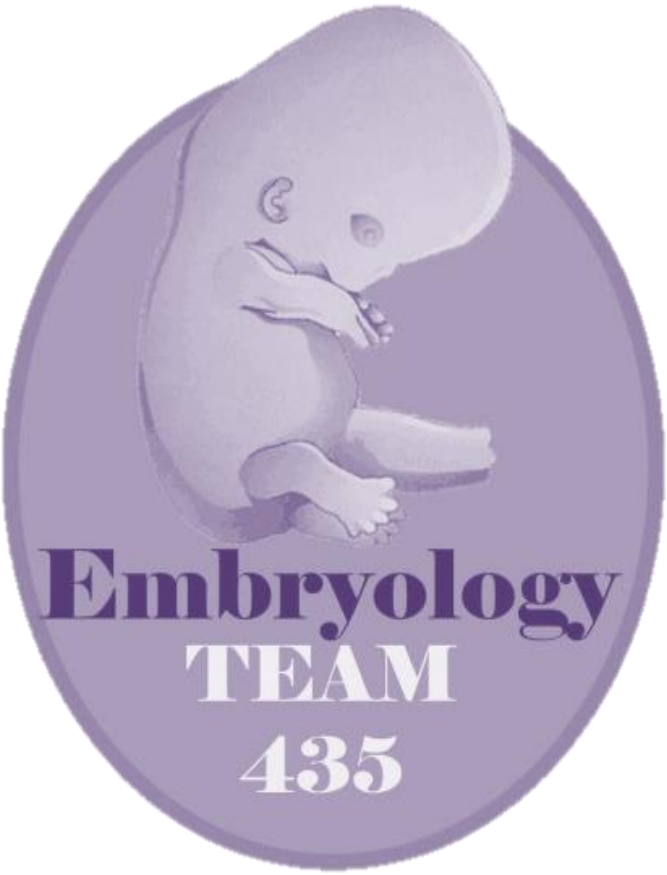
6.- when and how does the kidneys completes rotation?
A- At the 5th week, medially about 90° & becomes medial.
B- At the 9th week, medially about 90° & becomes medial.
C- At the 5th week, laterally about 90° & becomes lateral.
D- At the 9th week, laterally about 90° & becomes lateral.

7- when does the Nephron formation stops and what is the normal range of nephrons for each kidney?
A- At birth 3-5 millions.
B- At the 9th week 800000-1000000 .
C- At birth 800000-1000000 .
D- At the 9th week 3-5 millions.

8- Which one of the following events happens by 9th week?
A- Nephron formation is complete
B- Disappearance of kidney lobulation
C- Kidney attains its adult position
D- Metanephric system appears

9- Which one of the following structures is a derivative of the ureteric bud?
A- Major calyces
B- Loop of Henle
C- Glomerulus
D- Proximal convoluted tubule

1-D, 2-B , 3-C , 4-B , 5-D 6-B , 7-C , 8-C , 9-A



وَلَقَدْ خَلَقْنَا الْإِنسَانَ مِن سُلَالَةٍ مِّن طِينٍ {١٢} ثُمَّ جَعَلْنَاهُ نُطْفَةً فِي قَرَارٍ مَّكِينٍ {١٣} ثُمَّ خَلَقْنَا النُّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنشَأْنَاهُ خَلْقًا آخَرَ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ {١٤}

Development of kidneys and ureters

MCQ'S & Summary

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