Peds

1. Which of the following will make you suspect developmental delay?
A. Cannot sit at 9 month
B. Cannot walk up and downstairs at 30 months
C. No pincer grasp at 9 months
D. Cannot talk 2 words phrases at 18 months

2. Among the following, the least common cause of neonatal sepsis in India is:
A. Staphylococcus aureus B. E. coli
C. Klebsiella D. Group B streptococci

3. Premature baby weight 1000 grams or less likely suffer from
a. Cataract b. Glaucoma
c. ROP d. Retinal detachment

4. A 18 year old primigravida complained of decreased fetal movements. She delivered a baby weighing 2000 gms at 30 weeks of gestation. The APGAR scores of the baby were 4 and 5 at 1 and 5 minutes respectively. The baby died in an hour. Post-mortem examination revealed multiple, peripheral, radially arranged cysts in the kidney. Most common associated finding in the baby would be:
A. Holoprosencephaly
B. Hepatic cysts and hepatic fibrosis
C. Ureteral agenesis
D. Medullary sponge kidney

5. A newborn female child, weight 3.5 kg, delivered by uncomplicated delivery, developed respiratory distress immediately after birth. On chest x-ray ground glass appearance was seen. Baby put on mechanical ventilation and was given surfactant but condition of baby deteriorates and increasing hypoxemia was present. History of 1 week old female sibling died before present. ECHO is normal. Usual cultures are negative. Your diagnosis is
A. Total anomalous pulmonary vein connection
B. Meconium aspiration syndrome
C. Neonatal pulmonary alveolar proteinosis
D. Disseminated HSV infection

6. New born babies are able to breathe & suck at the same time due to:
a. Wide short tongue b. short soft palate
c. higher position of larynx d. short pharynx

7. Preterm baby with PDA which is least likely findings:
A. CO2 washout
B. Pulmonary Hemorrhage
C. Necrotizing Enterocolitis
D. Bounding pulses

8. Child with croup, well hydrated, feeding well, consolable. T/t is:
A. Racemic epinephrine
B. Dexamethasone
C. Nasal washing for influenza and RSV
D. Antibiotics

9. A Child with abdominal mass and elongated right upper and lower limbs is suffering from:
a. Wilms tumor b. Neuroblastoma
c. Nephroblastoma d. Angiosarcoma

10. 8 year old child presented with muscle tightness, creatinine kinase level have been falling, as the age is increasing which is the most likely abnormality?

a. Dystrophin absent b. myelin deficiency
c. hereditary myopathy d. cong myopathy

11. Rett's syndrome not seen is:
A. Macrocephaly B. Mental retardation
C. Gait Disorder D. Seizures

Q: True about FICKS law of diffusion?
A. Passive Movement of molecule along concentration gradient
B. Active Movement of molecule along concentration gradient
C. Passive & Active Movement of molecule along concentration gradient
D. None of theses of true

Ans. A. Flick's law of diffusion is applied for Movement of molecule along concentration gradient without any requirment of energy.
(Ganong Review of Medical Physiology 23rd Edn page 4)
Diffusion is the process by which a gas or a substance in a solution expands, because of the motion of its particles, to fill all the available volume. The particles (molecules or atoms) of a substance dissolved in a solvent are in continuous random movement. A given particle is equally likely to move into or out of an area in which it is present in high concentration. However, because there are more particles in the area of high concentration, the total number of particles moving to areas of lower concentration is greater; that is, there is a net flux of solute particles from areas of high to areas of low concentration.
The magnitude of the diffusing tendency from one region to another is directly proportionate to the cross-sectional area across which diffusion is taking place and the concentration gradient, or chemical gradient, which is the difference in concentration of the diffusing substance divided by the thickness of the boundary (Fick's law of diffusion).
Thus,
$J = -DA (\Delta c/\Delta x)$
where J is the net rate of diffusion, D is the diffusion coefficient, A is the area, and $\Delta c/\Delta x$ is the concentration gradient. The minus sign indicates the direction of diffusion.

1. A pt with Tiny Papulosquamous Eruption on Palm , flexors and over penis. Most likely Diagnosis.
   A. Scabies
   B. Allergic reaction
   C. Lichen planus
   D. Lichen nidus

   Ans
   Papulosquamous : Lichen Planus and Possibly Lichen nitidus
   Tiny :Lichen Nitidus
   Lichen nitidus : Probably micropapular variant of lichen planus. Seen on the same site as LP ,non itchy
   Clasically:1- to 2-mm papules on shaft of penis

   ==========
   2. Pinhead silvery nodules in 2 yr old child on hand and penis. Diagnosis?
   A. Scabies
   B. Molluscum contagiosum
   C. Lichen nitidus.....

d. Lichen planus..

Ans. B
Silvery white , Nodules(umbilicated)
Molluscum contagiosum
(Papules (1–2 mm), nodules (5–10 mm) (rarely, giant) . Pearly white or skin-colored. Round, oval, hemispherical,
umbilicated)

Q:Test not used for malsbsorption syndrome
a.13c triclotein
b.14c triolein
c. d xylose,
d. 13c triclosan

Ans is D. 13C triclosan.
14C-triolein breath test as a rapid and convenient screening test for fat malabsorption. The 14C-triolein breath test is sensitive and specific for measuring fat malabsorption, but involves radiation exposure.
The 13C-triolein breath test is a simple and reproducible method to measure fat malabsorption. The test provides a screening technique for fat malabsorption in adult CF patients.
Urinary D-xylose test for carbohydrate absorption provides an assessment of proximal small intestinal mucosal function.

Q"All are true Iodine except
A. Causes iodism
B. Contraindicated in hyperthyroidism
C. It inhibit formation iodothyronine
D. It inhibit thyroxin release

Ans. B. Iodine has been used to manage Graves' disease not contraindicated
(Goodman and Gilman's the pharmacological basis of therapeutics (9th ed.), Markou et al. Thyroid. 2001,11:501-10)
• The thyroid gland has the capacity and holds the machinery to handle the iodine efficiently when the availability of iodine becomes scarce, as well as when iodine is available in excessive quantities. The latter situation is handled by the thyroid by acutely inhibiting the organification of iodine, the so-called acute Wolff-Chaikoff effect. Patients with Graves' disease are more sensitive than euthyroid patients and iodine has been used to manage Graves' disease.
• It is proposed that iodopeptide are formed that temporarily inhibit thyroid peroxidase (TPO) mRNA and protein synthesis and, therefore, thyroglobulin iodinations and the release of thyroid hormones into the bloodstream.
• Acute or chronic intoxication caused by the ingestion or absorption of iodides is known as Iodism.

Q:Embryonic hemoglobin consists of the following chains:
A. Epsilon2, Gamma2
B. Epsilon2, Zeta2
C. Alpha2, Beta2
D. Beta2, Gamma2

Ans. B Embryonic hemoglobin is composed of Epsilon2, Zeta2
(Ganong's Review of Medical Physiology 23rd Edn. page 526)
In young embryos there are zeta and epsilon chains, forming Gower 1 hemoglobin (zeta 2 epsilon 2) and Gower 2 hemoglobin (alpha2 epsilon2)

Radiology

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1. Pyelonephritis can be diagnosed by all except?
a. Focal hypoechoic shadows
b. Diffuse enlarged kidneys
c. Increased colour Doppler flow
d. Perinephric involvement

2. 62yrs old woman presented with acute onset of confusion n bumping into things on examination she was alert, oriented with fluent speech and normal comprehension further examination revealed impaired writing, right-left orientation, arthematic abilities, finger identification. MRI demonstrated severe foci of cortical n su cortical increase T2 signals n areas of leptomeningeal enhancement. Likely syndrome
a. Gerstmanns syndrome
b. Millard gubler syndrome
c. Anton syndrome
d. Korsakoff's psychosis

3. Characteristic image findings in alzeihmers disease
a. Temporalobe nerve parietal lobe
b. Temporal nerve occipital lobe
c. Frontal nerve parietal lobe
d. Parietal nerve occipital lobe

4. In follwing stage of neurocysticreosis not associated with edema on imaging
a. Vesicular stage b. Colloidalvesicular stage
c. Granular modular stage d. Nodular calcified stage

5 Mother with 6 weeks amenorrhea, surest sign of fetal activity
A. Doppler for cardiac activity
B. Urine HCG
C. Uterus size
D. USG for cardiac activity

6. Extensive involvement of deep white matter with hyperintense thalamic lesion on MRI of the brain is seen in:
A. Alexander's disease
B. Krabbe's ds.
C. Canavan's ds
D. Metachromatic leukodystrophy

7. Floating water lily sign on X ray chest –
A. Hydatid disease of liver
B. Aspergillosis
C. Tubercular cavity
D. Bronchiectasis

8. Which of the following is the incorrect statement regarding GI bleeding?
A. The sensitivity of angiography for detecting GI bleeding is about 10-20% as compared to nuclear imaging
B. Angiography can image bleeding at a rate of 0.05/0.1 min or less
C. 99mTc-RBC scan image bleeding at rates as low 0.05-0.1 ml/min
D. Angiography will detect bleeding only if extravasation is occurring during the injection of contrast
9. Salivary gland tumor hot spot on tc99 scan is ?
A. Adenolymphoma
B. Adenocystic carcinoma
C. Adeno carcinoma
d. Pleomorphic adenoma

10. Calcification seen in all except:
A. Retinoblastoma
b. Choroidal melanoma
c. Persistent hyperplastic vitreous
d. Drusen optic nerve

11. A 2 days old neonate presented wit seizures; what is the next investigation?
a. Skull skiagram b. Ultrasound
c. CT d. MRI

12. Homogenous opacity in right lung wit obscured right cardiac silhouette. Which part of lung is involved?
A. Medial seg of RML B. Lateral seg of RML
C. Apical seg of RLL D. Medial basal seg of RLL

13. Thumb sign is seen in
a. Epistaxis b. TB
c. Epiglottitis d. Laryngomalacia

14. 2yr old boy has palpale right sided abdominal mass. CT shows this to be solid lesion. on examination right arm and leg are noted slightly longer in length .most likely diagnosis
a. Wilms tumour b. Neuroblastoma
c. Angiomyolipoma d. Nephroblastoma

Micro----//// Q1. 15 yr old complain of loose motions, intermittent abdominal pain of one year duration. Wet mount of stool revealed multiple ova measuring more than 100 microns in length. Which of the following agents could be responsible;
a. Fasciola gigantica
b. Gastrodiscoides hominis
c, Ancylostoma caninum
d. Ophisthirchus vivereni

Ans- B.
Gastrodiscoides hominis is a trematode parasite that resides in the lumen of colon or cecum of humans or pigs. The adults are hermaphrodites and discharge hundreds of eggs in stool. Egg measures about 146 microns. Eggs in a wet environment hatch into miracidia that are ingested by the snail. Miracidum develops into cercaria and are released from the snail and ingested by fish. Infection is acquired when people ingest raw or undercooked fish with metacercariae. Gastrodiscoidiasis is an infection that is usually asymptomatic in pigs. In humans it causes diarrhoea, fever, abdominal pain, colic, and an increased mucous production.
Fasciola gigantica (giant liver fluke) is a trematode parasite whose life cycle is similar to Fasciola hepatica. It involves a freshwater snail, in which asexual reproduction takes place, and freshwater plants as intermediate hosts Humans can become infected by ingesting metacercariae-containing freshwater plants, especially watercress. After ingestion, the metacercariae excyst in the duodenum and migrate through the intestinal wall, the peritoneal cavity, and the liver parenchyma into the biliary ducts, where they develop into adult flukes. Eggs, 180-200 microns long are passed through the bile ducts into the intestine where they are then passed in the feces.
Opisthorchis viverrini (Southeast Asian liver fluke), is a trematode parasite that resides in the bile duct. Its life cycle is similar to the life cycle of Clonorchis sinensi. It involves a freshwater snail, in which asexual reproduction takes place, and freshwater cyprinid fishes as intermediate hosts. Fish–eating mammals, including humans, dogs and cats, act as definitive hosts. Infection is acquired when people ingest raw or undercooked fish with metacercariae. After ingestion, the metacercariae excyst in the duodenum and ascend into the biliary ducts, where they attach and develop into adults, which lay eggs after 3 to 4 weeks. The egg seen in stool is 22-32 microns long.
Ancylostoma caninum is a hookworm that lives in the intestines of dogs. In inappropriate hosts such as humans A. caninum is able to enter the skin but cannot proceed into the circulation and on to the intestine; instead the disease dermal/ cutaneous larva migrans results, caused by movement of the nematode within the skin.

Q 2. All of the following are rapidly growing non TB mycobacterium causing lung infection except
a. M.chelonae
b. M.fortuitum
c. M.abscessus
d. M.kansasii

Ans- This is a controversial question, as it has 2 answers correct: A and D

Of the above options, the rapidly growing non TB mycobacteria are M.chelonae, M.fortuitum, M.abscessus.
Of these, M.abscessus and M.fortuitum cause lung infection but M.chelonei has not been reported to cause pulmonary disease.
Whereas M.kansasii is a photochromogen and not a rapid grower but a common cause of pulmonary disease especially in immunocompromized individuals.

Q 3. Human Legionella pneumophila infection spreads m/c via:
a. Person to person b. Aerosol of AC
c. Infected meat d. drinking infected water with legionella

Ans-B.
L. pneumophila is a gram-negative, non-encapsulated, aerobic bacillus with a single, polar flagellum often characterized as being a coccobacillus. The organism has been isolated in natural aquatic habitats (freshwater streams and lakes, water reservoirs) and artificial sources (AC's, cooling towers, potable water distribution systems like showers, faucets).
Transmission occurs by means of aerosolization or aspiration of water contaminated with Legionella organisms.
Legionellosis is the infection caused by L. pneumophila and can cause either: Legionnaires' disease, which is characterized by fever, myalgia, cough, pneumonia, or Pontiac fever, a milder illness without pneumonia. The early symptoms of Legionnaire's disease include slight fever, headache, aching joints and muscles, lack of energy or tiredness, and loss of appetite. Later symptoms include high fever, cough, dyspnoea, chills, chest pain, common gastrointestinal symptoms including vomiting, diarrhea, nausea, and abdominal pain.
Q4. Gram negative cocci, oxidase positive, penetrating cornea;
A. Neisseria gonorrhoeae
B. Chlamydia trachomatis
C. Moraxella catarrhalis
D. Streptococcus pyogenes

Ans- A
The eye is constantly exposed to numerous bacteria, but relatively few microorganisms result in a corneal infection. This is mainly because most bacteria cannot penetrate an intact corneal epithelium or conjunctival epithelium directly and only enter the tissue following accidental or surgical trauma.
N. gonorrhoeae, H.aegyptius, C.diphtheriae and listeria- these bacteria can penetrate intact cornea, multiply and proliferate within the stroma, elaborate enzymes and toxins which evoke an initial polymorphonuclear cell infiltrate with phagocytosis of bacteria. The enzymes liberated by the bacteria and leukocytes produce necrosis of the stroma with epithelial loss.
Neisseria gonorrhoeae are gram negative cocci that are oxidase positive.
Q5. Best stain for fungal hyphae;
a. methenamine silver
b. alizarin red
c. congo red
d. masson trichome

Ans-A.
Grocott-Gomori's (or Gomori's) methenamine silver stain is the most specific fungal stain.
Chromic acid oxidation forms aldehydes from fungal cell wall polysaccharide components, which are subsequently demonstrated by reduction of an alkaline hexamine-silver complex. The fungal walls appear black against a green background.

Alizarin Red stains free calcium and certain calcium compounds a red or light purple color and is used in biochemical assays

to determine the presence of calcific deposition by cells of an osteogenic lineage.

In biochemistry and histology, Congo red is used to stain microscopic preparates, especially as a cytoplasm and erythrocyte stain. Apple-green birefringence of Congo red stained sections under polarized light is indicative for the presence of amyloid fibrils.

In Masson trichrome stain, three dyes are employed selectively staining muscle, collagen fibers, fibrin, and erythrocytes.

Q6. A 3 yr old had sore throat, and on investigation it was found beta hemolytic streptococci. Which of the following is the child likely to develop -
A. Rheumatic fever B. Acute glomerulonephritis
C. RF and AGN D. Scarlet fever only

Ans-C.
S. pyogenes, which contains group A carbohydrate antigens in its cell wall and displays beta-hemolysis, is referred to as a group A beta-hemolytic streptococci.
Streptococcus pyogenes is the most common and important bacterial cause of pharyngitis.
Infection with Streptococcus pyogenes can give rise to serious nonsuppurative sequelae: acute rheumatic fever and acute glomerulonephritis.
These pathological events begin 1-3 weeks after an acute streptococcal illness, a latent period consistent with an immune-mediated etiology.
Acute rheumatic fever is a sequel only of pharyngeal infections, but acute glomerulonephritis can follow infections of the pharynx or the skin.

Biochemistry
==========
1. Feature of In von Gierke's disease are all except
a. The pts are often in hypoglycemia
b. Lactic acidosis
c. Less mobilization of fat
d. Hypertriglyceridemia

Ans is c

Glycogen storage disease type I (GSD I) or von Gierke's disease, is the most common of the glycogen storage diseases. This genetic disease results from deficiency of the enzyme glucose-6-phosphatase. This deficiency impairs the ability of the liver to produce free glucose from glycogen and from gluconeogenesis. Since these are the two principal metabolic mechanisms by which the liver supplies glucose to the rest of the body during periods of fasting, it causes severe hypoglycemia. Reduced glycogen breakdown results in increased glycogen storage in liver and kidneys, causing enlargement of both. Both organs function normally in childhood but are susceptible to a variety of problems in the adult years. Other metabolic derangements include lactic acidosis and hyperlipidemia

The principal metabolic effects of deficiency of glucose-6-phosphatase are:
hypoglycemia
lactic acidosis
hypertriglyceridemia
hyperuricemia

The hypoglycemia of GSD I is termed "fasting", or "post-absorptive", meaning that it occurs after completion of digestion of a meal—usually about 4 hours later. This inability to maintain adequate blood glucose levels during fasting results from the combined impairment of both glycogenolysis and gluconeogenesis. Fasting hypoglycemia is often the most significant problem in GSD I, and typically the problem that leads to the diagnosis. Chronic hypoglycemia produces secondary metabolic adaptations, including chronically low insulin levels and high levels of glucagon and cortisol.

Lactic acidosis arises from impairment of gluconeogenesis. Lactic acid is generated both in the liver and muscle and is oxidized by NAD+ to pyruvic acid and then converted via the gluconeogenenic pathway to G6P. Accumulation of G6P inhibits conversion of lactate to pyruvate. The lactic acid level rises during fasting as glucose falls. In people with GSD I, it may not fall entirely to normal even when normal glucose levels are restored.

Hypertriglyceridemia resulting from amplified triglyceride production is another indirect effect of impaired gluconeogenesis, amplified by chronically low insulin levels. During fasting, the normal conversion of triglycerides to free fatty acids, ketones, and ultimately glucose is impaired. Triglyceride levels in GSD I can reach several times normal and serve as a clinical index of "metabolic control".

Hyperuricemia results from a combination of increased generation and decreased excretion of uric acid, which is generated when increased amounts of G6P are metabolized via the pentose phosphate pathway. It is also a byproduct of purine degradation. Uric acid competes with lactic acid and other organic acids for renal excretion in the urine. In GSD I increased availability of G6P for the pentose phosphate pathway, increased rates of catabolism, and diminished urinary excretion due to high levels of lactic acid all combine to produce uric acid levels several times normal. Although hyperuricemia is asymptomatic for years, kidney and joint damage gradually accrue.

glucose 6 phosphate is defiecent lead to hypoglycemia, low blood glucose level so fat is utilized as energy source which lead to
lipaemia and ketosis.

2. Ketone bodies are not utilised by :
a. Brain
b. RBC
c. Renal cortex
d. Skeletal muscle

ans is b

Ketone bodies can be used for energy. Ketone bodies are transported from the liver to other tissues, where acetoacetate and beta-hydroxybutyrate can be reconverted to acetyl-CoA to produce energy, via the citric acid cycle.

The heart preferentially utilizes fatty acids for energy under normal physiologic conditions. However, under ketotic conditions, the heart can effectively utilize ketone bodies for energy.
ketone bodies are used by extrahepatic tissue such as skeletal and cardiac muscle and renal cortex, brain

rbc and liver cant utilize ketone bodies

3. One of following enzyme is known as suicidal enzyme
a. 5-lipooxydenase
b. Cyclooxygenase
c. 5'nucleotidase
d. Thromboxane synthase

ans is B

Suicide inhibition, also known as suicide inactivation or mechanism-based inhibition, is a form of irreversible enzyme inhibition that occurs when an enzyme binds a substrate analogue and forms an irreversible complex with it through a covalent bond during the "normal" catalysis reaction
Some clinical examples of suicide inhibitors include:
Aspirin, which inhibits cyclooxygenase 1 and 2 enzymes.
Penicillin, which inhibits DD-transpeptidase from building bacterial cell walls.
Sulbactam, which prohibits penicillin-resistant strains of bacteria from metabolizing penicillin.
Allopurinol, which inhibits uric acid production by xanthine oxidase in the treatment of gout.
AZT (zidovudine) and other chain-terminating nucleoside analogues used to inhibit HIV-1 reverse transcriptase in the treatment of HIV/AIDS.
Eflornithine, one of the drugs used to treat sleeping sickness, is a suicide inhibitor of ornithine decarboxylase.
Sarin is a suicide inhibitor of acetylcholinesterase.
5-fluorouracil acts as a suicide inhibitor of thymidylate synthase during the synthesis of thymine from uridine. This reaction is crucial for the proliferation of cells, particularly those that are rapidly proliferating (such as fast-growing cancer tumors). By inhibiting this step, cells die from a thymineless death because they have no thymine to create more DNA. This is often used in combination with Methotrexate, a potent inhibitor of dihydrofolate reductase enzyme.
Exemestane, a drug used in the treatment of breast cancer, is an inhibitor of the aromatase enzyme.
Selegiline,[1] although in the attached reference the compound is called a 'suicide inactivator' (not inhibitor).

4. Real time PCR used for
a. DNA detection only
b. RNA detection only
c. Protein detection only
d. DNA Detection and amplification

Ans is d
In molecular biology, real-time polymerase chain reaction, also called quantitative real time polymerase chain reaction (qPCR) or kinetic polymerase chain reaction is a laboratory technique based on the polymerase chain reaction, which is used to amplify and simultaneously quantify a targeted DNA molecule. For one or more specific sequences in a DNA sample, Real Time-PCR enables both detection and quantification. The quantity can be either an absolute number of copies or a relative amount when normalized to DNA input or additional normalizing genes.

The procedure follows the general principle of polymerase chain reaction; its key feature is that the amplified DNA is detected as the reaction progresses in real time. This is a new approach compared to standard PCR, where the product of the reaction is detected at its end. Two common methods for the detection of products in real-time PCR are: (1) non-specific fluorescent dyes that intercalate with any double-stranded DNA, and (2) sequence-specific DNA probes consisting of oligonucleotides that are labelled with a fluorescent reporter which permits detection only after hybridization of the probe with its complementary DNA target.

Frequently, real-time PCR is combined with reverse transcription to quantify messenger RNA (mRNA) and non-coding RNA in cells or tissues.
polymerase chain reaction is used to amplify a targeted DNA molecule. For one or more specific sequences in a DNA sample, Real Time-PCR enables both detection and quantification.

5. Irreversible step of Glycolysis are
A. Glucokinase, pyruvate kinase, phosphofructokinase
B. Hexokinase, pyruvate kinase, 1,6 biphosphofructokinase
C. Hexokinase, pyruvate kinase, pyruvate dehydrogenase
D. Glucokinase, pyruvate kinase, Mutase
Ans is A

6. Which does not oxidise n reduce
A. Oxygenase
B. Peroxidase
C. Mutase
D. Dehydrogenase

Ans is c
In biochemistry, an isomerase is an enzyme that catalyzes the structural rearrangement of isomers. Isomerases thus catalyze reactions of the form
$A \rightarrow B$
where B is an isomer of A.

Nomenclature
The names of isomerases are formed as "substrate isomerase" (for example, enoyl CoA isomerase), or as "substrate type of isomerase" (for example, phosphoglucomutase).

Classification
Isomerases have their own EC classification of enzymes: EC 5. Isomerases can be further classified into six subclasses:
- EC 5.1 includes enzymes that catalyze racemization (racemases) and epimerization (epimerases)
- EC 5.2 includes enzymes that catalyze the isomerization of geometric isomers (cis-trans isomerases)
- EC 5.3 includes intramolecular oxidoreductases
- EC 5.4 includes intramolecular transferases (mutases)
- EC 5.5 includes intramolecular lyases
- EC 5.99 includes other isomerases (including topoisomerases)

An oxygenase is any enzyme that oxidizes a substrate by transferring the oxygen from molecular oxygen O2 (as in air) to it. The oxygenases form a class of oxidoreductases

There are two types of oxygenases:
Monooxygenases, or mixed function oxidase, transfer one oxygen atom to the substrate, and reduce the other oxygen atom to water.
Dioxygenases, or oxygen transferases, incorporate both atoms of molecular oxygen (O2) into the product(s) of the reaction.

Among the most important monooxygenases are the cytochrome P450 oxidases, responsible for breaking down numerous chemicals in the body.

Peroxidases (EC number 1.11.1.x) are a large family of enzymes that typically catalyze a reaction of the form:
ROOR' + electron donor (2 e-) + 2H+ → ROH + R'OH

A dehydrogenase (also called DHO in the literature) is an enzyme that oxidizes a substrate by a reduction reaction that transfers one or more hydrides (H−) to an electron acceptor, usually NAD+/NADP+ or a flavin coenzyme such as FAD or FMN.

Mutare is isomerase

7. Insulin resistance in liver disease is due to
a. Decreased insulin release b. Steatosis
c. Decrease c peptide level d. Hepatocyte damage

Based on all the informations compiled from literature, it is clear that insulin resistance is quite common in chronic liver diseases. Level of resistance is raised with severity of disease and is frequently noted in patients with liver cirrhosis. During hepatitis viral infections, it is noticed mainly in HCV infected patients. Both HCV as such, as well as its structural components, particularly, HCV core protein induces and increases insulin resistance. In all the situations, insulin resistance is closely associated with hepatic steatosis, oxidative stress, inflammation and liver fibrogenesis. All these conditions increase each other both in association as well as independently. Insulin resistance has a major effect on treatment of liver diseases and therefore, its presence and level decides the therapeutic model for liver diseases. Beyond this point, there is still a lot to be done in this area for more understanding of its mechanism and final solution.

FORENSIC MEDICINE (AIIMS May 2013)
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1. Which one of th following is called signature fracture? fmt
a.linear #
b.depressed #
c.ring #
d. sutural #

Ans: B. Depressed Fracture
1) Linear fracture: Most common type of skull fracture. These fractures look like a thin line and include the full thickness of the skull or only outer or inner table. There is no displacement of the bone.

2) Depressed skull fracture (Signature Fracture): Here the broken bones are displaced inward. They occur when Heavy object with small striking surface (e.g. hammer) hits the head. The outer table is driven into the diploe, inner table is fractured irregularly.

3) Spider web Fracture (Also called Mosaic fracture or communited fracture)–Skull has multiple fractures in the form of depressed fracture with radiating fissures.

4) 'Hinge' fracture (Motorcyclist fracture) occur when the linear fracture passes across the middle cranial fossa, separating the skull base into 2 halves, and may be caused by a heavy blow to the side of the head (e.g. in motorcycle accidents).

5) Ring Fracture – these occur in the posterior fossa around the foramen magnum, particularly following a fall from a height (with primary 'feet first' impact).

6) Gutter fractures: They are formed when part of the thickness of the bone is removed so as to form a gutter e.g. oblique bullet wound.

7) Pond or indented fractures (Ping –pong skull fracture):– this is a type of shallow depressed fracture which occur only in skulls, which are elastic and are able to be indented without a frank break in the bone, i.e. the skulls of infants. In a pond fracture, the inner table and the dura are intact, is usually caused by a fall when the skull hits the edge of a hard blunt object, such as a table. The skull appears deformed, with a shallow trench on the surface of the skull.
Diastatic skull fracture: Diastatic fractures occur when the fracture line transverses one or more sutures of the skull causing a widening of the suture. This type of fracture is usually seen in infants and young children as the sutures are not yet fused.

2.Priapism seen in
a.sea snake bite
b.rattle snake ite
c.spanish fly
d.scorpion ite

Priapism
Priapism a potentially painful medical condition, in which the erect penis does not return to its flaccid state, despite the absence of both physical and psychological stimulation, within four hours.
Causes
Haematological disorders: especially sickle-cell disease, leukemia, thalassemia,
Neurologic disorders such as spinal cord lesions and spinal cord trauma (Post mortem priapism has been reported in hanging victims due to pressure on the cerebellum created by the noose).
Medications: The most common medications that cause priapism are intra-cavernous injections for treatment of erectile dysfunction (papaverine, alprostadil).
Cantharides (Spanish Fly) and recreational drugs (alcohol, heroin and cocaine) can also cause Priapism.

Spanish fly
The Spanish fly is an emerald-green beetle.
Cantharidin is a powerful irritant vesicant substance obtained from "Spanish fly."
Cantharidin
Cantharidin, the principal irritant in Spanish fly.
Aphrodisiac: Canthridin has aphrodisiac properties. It can cause Priapism.
In medicine, cantharidin is used as a topical application for treatment of benign epithelial growths including most warts.
Cantharide can be used as an abortifacient and as a poison.
Poison: In powder, mixed with the food, cantharide could go unnoticed and can even cause death.
Commercial products: Use of cantharides is illegal in most countries, except by licensed physicians for the topical treatment of certain types of warts.

3.The evaluation and difference between wound entry n exit was difficult during post mortem examination in case of death due to bullet in injury due to surgical alteration phenomenon called FMT
a.mac naughtans phenomenon
b.ricochet phenomenon
c.kennedy phenomenond.ale jeffreys phenomenon

Ans: • Kennedy phenomenon is an Artifact produced due to surgical alteration of firearm wound which makes interpretation during autopsy difficult.

2. A man comes to emergency OPD with h/o substance toxicity, excessive salivation, pin point pupil and kerosene smell on breath. All true except
A. Atropine is specific Antidote
B. Charcoal has no additional theoretical benefit
C. Atropine does not reverse muscular weakness
D. Increase pseudocholinergistrase in urine-Answer

4. OP poisoning clinical scenario. What is not true? a female with h/o ingestion of insecticide has increased salivation, pinpoint pupils etc.. fmt
a. atropine is given as antidote
b. atropine reverses muscle involvement- Answer (Not true)

Organophosphate poisoning (Very Important)
Organophosphate poisoning most commonly results from exposure to insecticides or nerve agents. OPs are one of the most common causes of poisoning worldwide, frequently used in suicides in agrarian areas.
Mechanism of Action: Organophosphates (OPs), cause the inhibition of acetylcholinesterase (AChE), by phosphorylating the serine hydroxyl residue on AChE, which inactivates AChE. This leads to the accumulation of acetylcholine (ACh) in the body.
This accumulates at receptors & produces muscarinic and nicotinic signs. Nicotinic signs usually appear later, and do not respond to atropine.
AChE is an enzyme that degrades the neurotransmitter acetylcholine (ACh) into choline and acetic acid. ACh is found in the central and peripheral nervous system, neuromuscular junctions, and red blood cells (RBCs).

Once an organophosphate binds to AChE, the enzyme can undergo one of the following:
• Endogenous hydrolysis of the phosphorylated enzyme by esterases or paraoxonases
• Reactivation by a strong nucleophile such as pralidoxime (2-PAM)
• Irreversible binding and permanent enzyme inactivation (aging)

Epidemiology
Pesticide poisonings are among the most common modes of poisoning fatalities. In countries such as India organophosphates (OPs) are easily accessible and, therefore, a source of both intentional and unintentional poisonings.

Signs and symptoms
1) Nicotinic symptoms:

A) Accumulation of ACh at neuromuscular junction: Muscle weakness, fatigue, muscle cramps, fasciculation, and paralysis Accumulation of ACh at autonomic ganglia (this causes overstimulation of nicotinic expression in the sympathetic system): Tachycardia, Hypertension, and Hypoglycemia.
C) Accumulation of ACh at CNS: anxiety, headache, convulsions, ataxia, depression of respiration and circulation, tremor, general weakness, and potentially coma.

2) Muscarinic symptoms: SLUDGEM (Salivation, Lacrimation, Urination, Defecation, Gastrointestinal motility, Emesis, miosis)

Cause
OP pesticide exposure occurs through inhalation, ingestion and dermal contact. OP residues linger on fruits and vegetables.
Diagnosis
Laboratory Studies
• Confirmation of organophosphate poisoning is based on the measurement of cholinesterase activity.
• Although RBC and plasma (pseudo) cholinesterase (PChE) levels can both be used, RBC cholinesterase correlates better with CNS acetylcholinesterase (AChE) and is, therefore, a more useful marker of organophosphate poisoning.
• RBC AChE represents the AChE found on RBC membranes, similar to that found in neuronal tissue. Therefore, measurement more accurately reflects nervous system OP AChE inhibition.
• Plasma cholinesterase is a liver acute-phase protein that circulates in the blood plasma.
• RBC cholinesterase is the more accurate of the 2 measurements, but plasma cholinesterase is easier to assay and is more readily available.
Cholinesterase levels do not always correlate with severity of clinical illness.

Treatment
Decontamination:
As the poison can be absorbed from the intact skin, it is necessary to remove any soiled clothing and wash the skin if there is evidence of contamination.
A stomach wash is required and this may profitably be repeated after 2-3 hours as the drug is secreted back in the stomach, and to remove any residue not fully removed.

Atropine: Optimizing oxygenation prior to the use of atropine is recommended to minimize the potential

for dysrhythmias.
These agents act as competitive antagonists at the muscarinic cholinergic receptors. These agents do not affect nicotinic effects.
First a loading dose of atropine is required. Once atropinized, a maintenance type dose at 1-3 mg 1/2 hourly is usually sufficient.
The endpoint for atropinization is dried pulmonary secretions and adequate oxygenation. Tachycardia and mydriasis must not be used to limit or to stop subsequent doses of atropine. The main concern with OP toxicity is respiratory failure from excessive airway secretions.
Pralidoxime 2-PAM
Pralidoxime attaches to the cholinesterase enzyme, then attaches to the inhibitor, removing the organophosphate from cholinesterase, allowing it to work normally again. This is known as "regenerating" or "reactivating" acetylcholinesterase allowing the breakdown of Ach at the synapse. After some time though, some inhibitors can develop a permanent bond with cholinesterase, known as aging, where oximes such as pralidoxime can not reverse the bond. Pralidoxime is often used with atropine (a muscarinic antagonist) to help reduce the parasympathetic effects of organophosphate poisoning.
Pralidoxime is only effective in organophosphate toxicity (i.e. it does not have an effect if the acetylcholinesterase enzyme is carbamylated, as occurs with neostigmine or physostigmine).
Pralidoxime has an important role in reversing paralysis of the respiratory muscles but due to its poor blood–brain barrier penetration, it has little effect on centrally-mediated respiratory depression. This is why atropine, which has excellent blood–brain barrier penetration, is concomitantly administered with pralidoxime during the treatment of organophosphate poisoning. Current recommendation is administration within 48 h of OP poisoning.
These agents prevent aging of AChE and reverse muscle paralysis with OP poisoning.

Benzodiazepines (Diazepam): For treatment of seizures.

5. A Pt Of methanol poisoning true all EXCEPT
A. Acute toxic dose >1.75mg/kg-Ans
B. HCOOH is c/o toxicity
C. Fomepizole is competitive inhibitor of Alcohol dehydrogenase
D. Snow fall vision

5. Methanol poisoning. What is true all except? FMT
A. Minimal lethal dose is 1.25mg/BW-Ans
B. Snow field vision
C. Formic acid is main metabolite
D. Fomepizole is inhibitor of AD

Ref: http://www.dorway.com/methanol2.html
Most sources consider the minimal lethal dose to be around 100 cc (1 g/kg).
Methanol: Alcoholic persons commonly consume methanol as a substitute for ethanol.
Methanol has a relatively low toxicity. The adverse effects are due to the formic acid.
In the first step of degradation, methanol is transformed to formaldehyde via the enzyme alcohol dehydrogenase (ADH). This 1st reaction is slower than the next step, the transformation of formaldehyde to formic acid via the enzyme aldehyde dehydrogenase. This may explain the reason for the latency of symptoms between ingestion and effect. During the initial phase, individuals may experience effects

similar to inebriation with alcohol and thus do not seek medical attention.
Altered mental status and visual dysfunction, the 2 most common presenting signs of methanol intoxication.
• Neurologic manifestations
o Initially, the symptoms from methanol intoxication are similar to those of ethanol intoxication, often with disinhibition and ataxia.
o Following a latent period, patients may develop headache, nausea, vomiting, or epigastric pain.
o In later stages, drowsiness may rapidly progress to obtundation and coma.
o Seizures may occur, generally as a complication of the metabolic derangement or as a result of damage to the brain parenchyma.
o Methanol appears to affect the basal ganglia, primarily the putamen.
• Vision loss
o Formic acid accumulates within the optic nerve (The major damage occurs at the retrolaminar optic nerve with intra-axonal swelling. Little to no change is seen in the retina), which results in classic visual symptoms of flashes of light, blurring and diminished visual acuity. Subsequently, this may progress to scotomas and scintillations.
o Vision loss is thought to be caused by interruption of mitochondrial function in the optic nerve, resulting in hyperemia, edema, and optic nerve atrophy.
o Optic nerve demyelination has also been reported to be due to formic acid destruction of myelin.
o The frank blindness that develops sometimes responds to immediate therapy; however, complete loss of vision is a common sequela.
Phase Comments
• Central Nervous System depression
• Onset of 30 min - 2 h; intoxication may be of shorter duration and less pronounced than that
• arising from ethanol ingestion
• Asymptomatic latent period following central depression This period of varying duration: may last 8-24 h following ingestion, but occasionally up to 48 h.
• Patients describe no overt symptoms or have signs during this period
• Severe metabolic acidosis-occurs after latent phase. Nausea, vomiting and headache may also occur
• Ocular toxicity followed by blindness, coma and in extreme cases death. Visual isturbances generally develop 12-48 h after ingestion and range from mild photophobia and misty or blurred vision to markedly reduced visual acuity and complete blindness. Visual impairment usually takes the form of central scotoma or complete blindness secondary to optic atrophy.
• Coma and death may occur after substantial exposures. Severe intoxication, if survived, may cause permanent damage to the CNS, manifest as a arkinsonian-like condition and permanent blindness. Damage to the CNS is often in the form of lesions in basal ganglia especially the putamen, which may result in long term neurological deficits ranging from moderate polyneuropathy to tremors, rigidity, spasticity and hypokinesis as well as Parkinsonian-like extrapyramidal syndrome with mild dementia.
• METHANOL – TOXICOLOGICAL OVERVIEW
Laboratory Studies
• Renal profile: Significant methanol ingestion leads to metabolic acidosis, which is manifested by a low serum bicarbonate level. The anion gap is increased secondary to high lactate and ketone levels. This is probably due to formic acid accumulation.[9]
• Serum methanol level: Definitive diagnosis of methanol toxicity requires a confirmed increase in the serum methanol level with gas chromatography.
Medical Care

The metabolic acidosis may necessitate administration of bicarbonate and assisted ventilation. Bicarbonate potentially may reverse visual deficits.
o Antidote therapy - ethanol or fomepizole. Ethanol is also metabolized by ADH, and the enzyme has 10-20 times higher affinity for ethanol compared with methanol. Fomepizole is also metabolized by ADH; however, its use is limited because of high costs and lack of availability.[1]
Hemodialysis can easily remove methanol and formic acid. Indications include (1) greater than 30 mL of methanol ingested, (2) serum methanol level greater than 20 mg/dL, (3) observation of visual complications, and (4) no improvement in acidosis despite repeated sodium bicarbonate infusions.

Pediatrics (Student Recall based = AIIMS May 2013)
==========
1. Premature baby weight 1000 grams are less likely to suffer from:
a. Cataract b. Glaucoma c. ROP d. Retinal detachment
Ans. a. Cataract
ROP occurs in a majority of babies with birthweights of less than 1500 g (very low-birthweight [VLBW]) with an even greater proportion of babies developing ROP in the less than 1000 g birthweight category (extremely lowbirthweight, ELBW) and in the less than 750 g birthweight infants the recommended guidelines for detection of serious ROP indicate that diagnostic examinations should be performed on infants with birthweights <1500 g or 30 weeks' gestation, along with those high-risk babies in the 1501 to 2000 g birthweight group (American Academy of Pediatrics, 2006). The first examination should generally occur between 31 and 33 weeks postmenstrual age, but not before age 4 weeks. (Avery 2012)
Patients with ROP have increased risk of high myopia, anisometropia & other refractive errors, strabismus, amblyopia, astigmatism, late retinal detachment, and glaucoma. (Cloherty 6th edition page 643)
20% of premature babies develop strabismus and refractive errors, a pediatric ophthalmologist should screen them every 6 months, until age 3 years.
Up to 10% of premature babies may develop glaucoma in later years. Eye examinations should be a part of their annual examinations. (ROP training module)

2. All of the following represent delayed developmental milestones causing worry to the parents except:
A. Pincer grasp at 9 months B. Sitting with support at 8 months
C. Forming two word phrases at 1 and half years D. Climbing up and down stairs at 2 and half years.
Ans. B. Sitting with support comes at 6 month & without support by 8 months.
Pincer grasp appears at 9-11 months
Two word phrases appear at 21-24 months
Climbing up stairs by 3yr and down stairs by 4 yr.

3. Among the following, the least common cause of neonatal sepsis in India is:
A. Staphylococcus aureus B. E. coli C. Klebsiella D. Group B streptococci

Ans. D. Group B streptococci
Epidemiology: Indian data
The incidence of neonatal sepsis according to the data from National Neonatal Perinatal Database

(NNPD, 2002-03) is 30 per 1000 live births. The database comprising 18 tertiary care neonatal units across India found sepsis to be one of the commonest causes of neonatal mortality contributing to 19% of all neonatal deaths3. Septicemia was the commonest clinical category with an incidence of 23 per 1000 live births while the incidence of meningitis was reported to be 3 per 1000 live births. Among intramural births, Klebsiella pneumoniae was the most frequently isolated pathogen (32.5%), followed by Staphylococcus aureus (13.6%). Among extramural neonates (referred from community/other hospitals), Klebsiella pneumoniae was again the commonest organism (27%), followed by Staphylococcus aureus (15%) and Pseudomonas (13%). [aims protocol 2008 sepsis in newborn]

E. coli, Staph aureus & Klebsiella species most common causes [ghai 7th edition]

4. A 18 year old primigravida complained of decreased fetal movements. She delivered a baby weighing 2000 gms at 30 weeks of gestation. The APGAR scores of the baby were 4 and 5 at 1 and 5 minutes respectively. The baby died in an hour. Post-mortem examination revealed multiple, peripheral, radially arranged cysts in the kidney. Most common associated finding in the baby would be:
A. Holoprosencephaly B. Hepatic cysts and hepatic fibrosis
C. Ureteral agenesis D. Medullary sponge kidney
Ans. B. Hepatic cysts and hepatic fibrosis
Autosomal Recessive Polycystic Kidney Disease
Also known as Infantile Polycystic disease, autosomal recessive Polycystic kidney disease (ARPKD) is an autosomal recessive disorder occurring with an incidence of 1:10,000 to 1:40,000.
Pathology
Both kidneys are markedly enlarged and grossly show innumerable cysts throughout the cortex and medulla. Microscopic studies demonstrate dilated, ectatic collecting ducts radiating from the medulla to the cortex, although transient proximal tubule cysts have been reported in the fetus. Development of progressive interstitial fibrosis and tubular atrophy during advanced stages of disease eventually leads to renal failure. Liver involvement is characterized by a basic ductal plate abnormalityQ that leads to bile duct proliferation and ectasia, as well as hepatic fibrosis. This lesion is indistinguishable from congenital hepatic fibrosis or Caroli disease, and consequently ARPKD is increasingly referred to as ARPKD/CHF.
Clinical Manifestations
The typical child presents with bilateral flank masses during the neonatal period or early infancy. ARPKD may be associated with oligohydramnios, pulmonary hypoplasia, respiratory distress, and spontaneous pneumothorax in the neonatal period. Perinatal demise appears associated with truncating mutations. Components of the oligohydramnios complex including low-set ears, micrognathia, flattened nose, limb-positioning defects, and growth deficiency may be present. Hypertension is usually noted within the first few weeks of life and is often severe and difficult to control. Oliguria and acute renal failure are uncommonly seen, but transient hyponatremia, often in the presence of acute renal failure, often responds to diuresis. Renal function is usually impaired but may be initially normal in 20-30% of patients. Infrequently, ARPKD manifests beyond infancy, in young infants with a mixed clinical picture of renal and hepatic findings: variable degrees of portal hypertension (hepatosplenomegaly, gastroesophageal varices, prominent cutaneous periumbilical veins, reversal of portal vein flow, thrombocytopenia) and variable renal findings that range from asymptomatic abnormal renal ultrasonography to systemic hypertension and renal insufficiency.
In the newborn, clinical evidence of liver disease by radiologic or clinical laboratory assessment is present in about 45% of children. It is believed to be universal by microscopic evaluation. Patients with ARPKD are at risk for developing ascending cholangitis, varices, and hypersplenism related to portal

hypertension; they are also at risk for progressive liver fibrosis, which uncommonly leads to overt liver failure and cirrhosis. A subset of older children, and even young adults with ARPKD, present with prominent hepatosplenomegaly and display mild renal disease that is discovered incidentally during imaging studies of the abdomen.

Diagnosis

The diagnosis of ARPKD is strongly suggested by bilateral palpable flank masses in an infant with pulmonary hypoplasia, oligohydramnios, and hypertension and the absence of renal cysts by sonography of the parents (Fig. 515-1). Markedly enlarged and uniformly hyperechogenic kidneys with poor corticomedullary differentiation are commonly seen on ultrasonography (Fig. 515-2). The diagnosis is supported by clinical and laboratory signs of hepatic fibrosis, pathologic findings of ductal plate abnormalities seen on liver biopsy, anatomic and pathologic proof of ARPKD in a sibling, or parental consanguinity. The differential diagnosis includes other causes of bilateral renal enlargement and/or cysts, such as multicystic dysplasia, hydronephrosis, Wilms tumor, and bilateral renal vein thrombosis (Table 515-1). Prenatal diagnostic testing using genetic linkage analysis or direct mutation analysis is available in families with ≥1 affected child.

Treatment

The treatment of ARPKD is supportive. Aggressive ventilatory support is often necessary in the neonatal period secondary to pulmonary hypoplasia, hypoventilation, and the many respiratory illnesses of prematurity (which are common). Careful management of hypertension, fluid and electrolyte abnormalities, and clinical manifestations of renal insufficiency is essential.

Prognosis

Mortality has improved dramatically, although approximately 30% of patients die in the neonatal period of complications from pulmonary hypoplasia. Neonatal respiratory support and renal replacement therapies have increased the 10-yr survival of children surviving beyond the 1st year of life to >80%. Fifteen-year survival is estimated at 70-80%. End-stage renal disease is seen in >50% of children and usually occurs during the 1st decade of life. As a result, dialysis and renal transplantation have become standard therapies for these children. Morbidity and mortality in the older child are related to complications from chronic renal failure and liver disease.

5. A newborn female child, weight 3.5 kg, delivered by uncomplicated delivery, developed respiratory distress immediately after birth. On chest x-ray ground glass appearance was seen. Baby put on mechanical ventilation and was give surfactant but condition of baby deteriorates and increasing hypoxemia was present. A full term female 'sibling' died within a week with the same complaints. ECHO is normal. Usual cultures are negative. Your diagnosis is:

A. Total anomalous pulmonary vein connection B. Meconium aspiration syndrome

C. Neonatal pulmonary alveolar proteinosis D. Disseminated HSV infection

Ans. C. Neonatal pulmonary alveolar proteinosis

Two clinically distinct forms of Pulmonary alveolar proteinosis (PAP) have been described in children: a fulminate congenital PAP presently shortly after birth and a gradually progressive type presenting in older infants and children and is similar to that observed in adults.

Congenital PAP is immediately apparent in newborn period and rapidly leads to respiratory failure. There is no gender difference in frequency. Congenital PAP is clinically and radio graphically indistinguishable from more common disorders of newborn that lead to respiratory failure, including pneumonia, generalized bacterial infection, HMD and Total anomalous pulmonary vein connection with obstruction. But Positive family history in congenital PAP suggests a strong genetic basis. For example, an inherited deficiency in surfactant protein-B (SP-B) has been described with many cases of Congenital PAP. Lung

biopsy is gold standard for diagnosis and it reveals intra-alveolar accumulation of surfactant. In treatment Lung transplantation is the only therapeutic option and it doesn't respond to surfactant therapy.
6. In PDA all are seen except:
A. CO2 wash out B. NEC C. Bounding pulse D. Pulmonary hemorrhage
Ans. A. CO2 wash out
Hemodynamic consequences of PDA
Shunting of blood from the systemic circulation to the pulmonary circulation results in congestive cardiac failure, which manifests clinically with wide pulse pressure and bounding pulses. Overloading of the pulmonary vasculature leads to pulmonary edema/hemorrhage which predisposes the neonate to chronic lung disease. Blood flow to the
kidney and gastrointestinal tract is compromised predisposing to acute renal failure (ARF) and necrotizing enterocolitis (NEC). Hypo-perfusion followed by reperfusion increases the risk of intraventricular hemorrhage (IVH).
Respiratory manifestations include tachypnea, apnea, CO2 retention, and increased mechanical ventilation requirement
Clinical features:
Hyperdynamic circulation
A wide pulse pressure (>25 mm Hg), prominent precordial pulsations & bounding pulses and an ejection systolic murmur (occasionally pan systolic and continuous murmur) heard best at the 2nd left parasternal area4 are usually present on clinical examination.
Indicators of ductus opening on a ventilated baby: Metabolic acidosis not attributable to hypoperfusion and sepsis, deteriorating respiratory status on day 3-4 after a period of relative stability, increasing ventilatory requirements on day 3-4, unexplained CO2 retention, fluctuating FiO2 requirements and recurrent apneas in a ventilated baby should raise clinical suspicions of a symptomatic PDA. Studies have revealed that echocardiographic criteria of a significant left to right shunt usually precede clinical symptoms by an interval of 2-3 days. However, clinical features
have a better correlation with long-term morbidity and available evidence does not recommend routine screening with echocardiography for at-risk neonates . [aims protocol 2007 PDA in preterm, Cloherty 6th edition page 418]

7. A toddler has few drops of blood coming out from rectum. Probable Diagnosis:
A. Juvenile Rectal Polyp B. Adenoid poliposis coli C. Rectal ulcer D. Piles
Ans. A. Juvenile Rectal Polyp
Most common surgical causes of bleeding in children
< 1 year > 1 year
1. Intussusception 1. Anal fissure
2. Anal fissure 2. Intussusception
3. Volvulus 3. Rectal Polyp
4. Meckel's diverticulum

Intussusception:
Severe paroxysmal colicky pain that recurs at frequent intervals and is accompanied by straining efforts with legs and knees flexed and loud cries. The infant may initially be comfortable and play normally between the paroxysms of pain; but if the Intussusception is not reduced, the infant becomes progressively weaker and lethargic. At times, the lethargy is out of proportion to the abdominal signs. Eventually, a shocklike state, with fever, can develop. Vomiting occurs in most cases and is usually more

frequent in the early phase. In the later phase, the vomitus becomes bile stained. Stools of normal appearance may be evacuated in the 1st few hours of symptoms. After this time, fecal excretions are small or more often do not occur, and little or no flatus is passed. Blood is generally passed in the 1st 12 hr, but at times not for 1-2 days, and infrequently not at all; 60% of infants pass a stool containing red blood and mucus, the currant jelly stool. Some patients have only irritability and alternating or progressive lethargy. The classic triad of pain, a palpable sausage-shaped abdominal mass, and bloody or currant jelly stool is seen in <15% of patients with intussuscpetion.
Palpation of the abdomen usually reveals a slightly tender sausage-shaped mass, sometimes ill defined, which might increase in size and firmness during a paroxysm of pain and is most often in the right upper abdomen, with its long axis cephalocaudal. The presence of bloody mucus on rectal examination supports the diagnosis of Intussusception. Abdominal distention and tenderness develop as intestinal obstruction becomes more acute. On rare occasions, the advancing intestine prolapses through the anus. This prolapse can be distinguished from prolapse of the rectum by the separation between the protruding intestine and the rectal wall, which does not exist in prolapse of the rectum.
Rectal Polyp: Painless mild bleeding (few drops)
Meckel's diverticulum: Massive painless lower GI bleeding

8. Rett's syndrome not seen is:
A. Macrocephaly B. Mental retardation C. Cortical pyramidal D. seizures
Ans. A. Macrocephaly
Rett syndrome (RS) is a pervasive developmental disorder.
This is an X-linked dominant disorder affecting girls almost exclusively; boys affected with the disorder die at birth. It has a prevalence of 1/10,000. Development proceeds normally until approximately 1–2 yr of age, at which time language and motor development regress and acquired microcephaly becomes apparent. These girls present with midline, stereotypic hand-wringing, ataxia, breathing dysfunction, bruxism, scoliosis, and profound intellectual handicap. Autistic behaviors are typical, but over time, social relatedness may improve. Motor dysfunction and seizures are frequently reported. Lower limb involvement may progress, leading to wheelchair dependency later in life. Postmortem examinations have revealed greatly reduced brain size and weight as well as number of synapses. A gene that causes Rett syndrome has been identified; it encodes the methyl CpG-binding protein 2 (MeCP2).

9. Child with croup, well hydrated, feeding well, consolable. Resp rate =36/min, oxygen saturation 96%. Rx is:
A. Racemic epinephrine B. Dexamethasone
C. Nasal washing for influenza and RSV D. Antibiotics
Ans. B. Dexamethasone
The mainstay of treatment for children with croup is airway management and treatment of hypoxia. Treatment of the respiratory distress should take priority over any testing. Oral steroids are beneficial, even in mild croup, as measured by reduced hospitalization, shorter duration of hospitalization, and reduced need for subsequent interventions such as epinephrine administration. Most studies that demonstrated the efficacy of oral dexamethasone used a single dose of 0.6 mg/kg, oral dosing of dexamethasone is as effective as intramuscular administration. Nebulized racemic epinephrine is an accepted treatment for moderate or severe croup. The mechanism of action is believed to be constriction of the precapillary arterioles through the β-adrenergic receptors, causing fluid resorption from the interstitial space and a decrease in the laryngeal mucosal edema. Traditionally, racemic epinephrine, a 1:1 mixture of the d- and l-isomers of epinephrine, has been administered. A dose of 0.25-0.5 mL of

2.25% racemic epinephrine in 3 mL of normal saline can be used as often as every 20 min. Racemic epinephrine was initially chosen over the more active and more readily available l-epinephrine to minimize anticipated cardiovascular side effects such as tachycardia and hypertension. There is evidence that l-epinephrine (5 mL of 1:1,000 solution) is equally effective as racemic epinephrine and does not carry the risk of additional adverse effects. This information is both practical and important, because racemic epinephrine is not available outside the USA.

10. A Child with abdominal mass and elongated right upper and lower limbs is suffering from:
a. Wilms tumor b. Neuroblastoma c. Nephroblastoma d. Angiosarcoma
Ans. a. Wilms tumor.
This patient is suffering from Beckwith-Wiedemann syndrome
SYNDROMES ASSOCIATED WITH WILMS TUMOR (Nelson 19th edition)
SYNDROME CLINICAL CHARACTERISTICS
Wilms tumor, aniridia, genitourinary abnormalities, and mental retardation (WAGR syndrome) Aniridia, genitourinary abnormalities, mental retardation
Denys-Drash syndrome Early-onset renal failure with renal mesangial sclerosis, male pseudohermaphrodism
Beckwith-Wiedemann syndrome (BWS) Organomegaly (liver, kidney, adrenal, pancreas) macroglossia, omphalocele, hemihypertrophy

11. A child persents with history of fever of 3 days. He develops seizure with unconsciousness. CSF – 300 cell, polymorphonuclear, protein 70 mg/dL, and glucose 50 mg/dL (blood glucose 95 mg/dL) and. The CT of brain was normal. Diagnosis is:
A. Herpes encephalitis B. TB meningitis C. Pyogenic meningitis D. Cerebral malaria
Ans. C. Pyogenic meningitis
Short clinical history, polymorphic cells in CSF, and deranged CSF glucose & protein are s/o pyogenic meningitis.
CEREBROSPINAL FLUID FINDINGS IN CENTRAL NERVOUS SYSTEM DISORDERS (Nelson 19th ed.)
CONDITION PRESSURE (mm H2O) LEUKOCYTES (mm3) PROTEIN (mg/dL) GLUCOSE (mg/dL) COMMENTS
Normal 50-80 <5, ≥75% Lymphocytes 20-45 >50 (or 75% Serum Glucose)
COMMON FORMS OF MENINGITIS
Acute bacterial meningitis Usually elevated (100-300) 100-10,000 or more; usually 300-2,000; PMNs predominate Usually 100-500 Decreased, usually <40 (or <50% serum glucose) Organisms usually seen on Gram stain and recovered by culture
Partially treated bacterial meningitis Normal or elevated 5-10,000; PMNs usual but mononuclear cells may predominate if pretreated for extended period of time Usually 100-500 Normal or decreased Organisms may be seen on Gram stain
Pretreatment may render CSF sterile. Antigen may be detected by agglutination test
Viral meningitis or meningoencephalitis Normal or slightly elevated (80-150) Rarely >1,000 cells. Eastern equine encephalitis and lymphocytic choriomeningitis (LCM) may have cell counts of several thousand. PMNs early but mononuclear cells predominate through most of the course Usually 50-200 Generally normal; may be decreased to <40 in some viral diseases, particularly mumps (15-20% of cases) HSV encephalitis is suggested by focal seizures or by focal findings on CT or MRI scans or EEG. Enteroviruses and HSV infrequently recovered from CSF. HSV and enteroviruses may be detected by PCR of CSF
UNCOMMON FORMS OF MENINGITIS

Tuberculous meningitis Usually elevated 10-500; PMNs early, but lymphocytes predominate through most of the course 100-3,000; may be higher in presence of block <50 in most cases; decreases with time if treatment is not provided Acid-fast organisms almost never seen on smear. Organisms may be recovered in culture of large volumes of CSF. Mycobacterium tuberculosis may be detected by PCR of CSF

12. 8 year old child presented with muscle tightness, creatinine kinase level have been falling, which is the gene abnormality?
a. Dystrophine gene absent b. myelin deficiency c. hereditary myopathy d. cong myopathy
Ans. a. Dystrophine gene absent. It is absent in Duchenne Muscular Dystrophy. In terminal stages of this disease, the serum CK value may start falling. In hereditary myopathy , cong myopathy and myelin deficiency serum CK value fall doesn't occur. It usually remains normal in these conditions.
Duchenne Muscular Dystrophy
Laboratory Findings:
The serum CK level is consistently greatly elevated in DMD, even in presymptomatic stages, including at birth. The usual serum concentration is 15,000-35,000 IU/L (normal <160 IU/L). A normal serum CK level is incompatible with the diagnosis of DMD, although in terminal stages of the disease, the serum CK value may start falling than it was a few years earlier because there is less muscle to degenerate. Other lysosomal enzymes present in muscle, such as aldolase and aspartate aminotransferase, are also increased but are less specific.Cardiac assessment by echocardiography, electrocardiography (ECG), and radiography of the chest is essential and should be repeated periodically. After the diagnosis is established, patients should be referred to a pediatric cardiologist for long-term cardiac care. Electromyography (EMG) shows characteristic myopathic features but is not specific for DMD. No evidence of denervation is found. Motor and sensory nerve conduction velocities are normal.
Diagnosis:
Polymerase chain reaction (PCR) for the dystrophin gene mutation is the primary test, if the clinical features and serum CK are consistent with the diagnosis. If the blood PCR is diagnostic, muscle biopsy may be deferred, but if it is normal and clinical suspicion is high, the more specific dystrophin immunocytochemistry performed on muscle biopsy sections detects the 30% of cases that do not show a PCR abnormality. Immunohistochemical staining of frozen sections of muscle biopsy tissue detects differences in the rod domain, the carboxyl-terminus (that attaches to the sarcolemma), and the amino-terminus (that attaches to the actin myofilaments) of the large dystrophin molecule, and may be prognostic of the clinical course as Duchenne or Becker disease. More severe weakness occurs with truncation of the dystrophin molecule at the carboxyl-terminus than at the amino-terminus. The diagnosis should be confirmed by blood PCR or muscle biopsy in every case. Dystroglycans and other sarcolemmal regional proteins, such as merosin and sarcoglycans, also can be measured because they may be secondarily decreased. The muscle biopsy is diagnostic and shows characteristic changes (Figs. 601-1 and 601-2). Myopathic changes include endomysial connective tissue proliferation, scattered degenerating and regenerating myofibers, foci of mononuclear inflammatory cell infiltrates as a reaction to muscle fiber necrosis, mild architectural changes in still-functional muscle fibers, and many dense fibers. These hypercontracted fibers probably result from segmental necrosis at another level, allowing calcium to enter the site of breakdown of the sarcolemmal membrane and trigger a contraction of the whole length of the muscle fiber. Calcifications within myofibers are correlated with secondary β-dystroglycan deficiency.

AIIMS May 2013 (Recall by students) Psychiatry
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1. According to Jean Piaget's Cognitive Development Theory the phrases " out of signt is out of mind" and " here and now" are included in which stage ...
A. concrete operation stage
B. Pre operational stage
C. Formal operational stage
D. Sensory and motor stage

1. The answer is D
Ref. is page no. 637 of Kaplan sadock's text book of psychiatry , 9 th edition or (Also complete table given in our notes as well question bank).
Intellectual stages by jean Piaget:-
Table - Stages of Intellectual Development Postulated by Piaget
Age (Yr) Period Cognitive Developmental Characteristics
0 - 1.5 (to 2) Sensorimotor Divided into six stages, characterized by:
1. Inborn motor and sensory reflexes
2. Primary circular reaction
3. Secondary circular reaction
4. Use of familiar means to obtain ends
5. Tertiary circular reaction and discovery through active experimentation
6. Insight and object permanence
2 -7 Preoperations subperioda Deferred imitation, symbolic play, graphic imagery (drawing), mental imagery, and language
7 -11 Concrete operations Conservation of quantity, weight, volume, length, and time based on reversibility by inversion or reciprocity; operations; class inclusion and seriation
11 -end of adolescence Formal operations Combinatorial system, whereby variables are isolated and all possible combinations are examined; hypothetical-deductive thinking
aThis subperiod is considered by some authors to be a separate developmental period.
==========

2. According to Wechsler Scale the average IQ is?
A.40
B.70
C.90
D.110

2. Ans. C
Average IQ is 90—109.pg no. (980 of Kaplan sadock's text book of psychiatry , 9 th edition) also complete table given in our notes as well question bank.
130 or more =--very superior
120-129----------Superior
110—119--------High Average
90---109----------Average
80---89-------Low Average
70---79---------Borderline

Less than 69-----Extremely low

==========
3.This years new legislative bill passed in psychiatry is?
A. Mental Development Care and Rehabilitation Bill
B Mental Health and Rehabilitation Bill

Anaesthesia (AIIMS May 2013) Recall by students.....
==========
1. Lithium is stopped before an elective surgery
A. 2 days prior
B. 3 days prior
C. 4 days prior
D. 1 day prior

1. A. lithium is stopped 48 hours i.e. 2 day before surgery due to its interaction with anaesthetic agents. simultneously students should know the stoppage protocols of other commonnly useddrugs.
2. Which is the inhalational agent of choice in a patient who is getting operated for intracranial space occupying lesion?
A. Sevoflurane
B. Isoflurane
C. Desflurane
D. Halothane

2. B. Isoflurane is the agent of choice in neurosurgeries as it causes maximum decrease in ICP and cerebral metabolic oxygen requirement thus beneficial with patients with space occupying lesions where ICP is already raised.

3. The intravenous general anesthetic contraindicated in a man posted for elective surgery with seizures is:
A. Midazolam
B. Ketamine
C. Thiopentone
D. Propofol
3. B. Ketamine should be avioded in patients with history of seizures as it further increases ICP and also causes delerium and hallucinations. midazolam is a benzodiazepene which has antiseizure potential and thus used in treating seizueres. both thiopentone and propofol decreases ICP and are neuroprotective.

4. Suxamethonium is available as a clear liquid. Its shelf life is:
A. 6 months
B. 1 year
C. 2 year
D. 3 year
4. C. Succinylcholine has a shelf life of around 18 months by most of the standard anaesthesia text books and as the manufacturers guidelines. it generally stored at 2-4 degree celcius and can be stord upto 2

years. if temperature increases and alkanility increases it rapidly hydrolysed into monocholines.(Lees synopsis on anaesthesia page 183).

5. Following statements about the celiac plexus block are true except
a. Done for lower abdominal trauma
b. Done at L3 level
c. Done on ane side
d. Hypotension and diarrhea are its side effects

5. question is wrongly framed as first three options are incorrect, only option D is correct. choice A: celiac plexus block is mainly given to reive uppper abdominal cancer pains mainly carcinoma pancreas and is contraindicated in trauma patients.. choice B: it is done at the level of T12 to L1. regarding choice C: it is always bilateral.
6.Hypothermia occurs in anaesthesia because?
a. Its a natural phenomenon in all anaesthesia cases
b. It is done deliberately
c. Heat loss occurs due to conduction
6. out of these given choices A seems to be the best possible reply. as hypothermia is defined as core body temperature less than 35 degree celcius. mild hypothermia occurs in almost all general anaesthetics. but hypothermia is never delibrate as it has many deterimental effects and majourly affects couglation profile and delays patients awkening. regarding choice C: mainly hypothermia is due to radiation, secondly due to evaporation and rarely due to conduction.

7.which of the following is vasopressor of choice for treatment of hypotension during anesthesia in aortic valve stenosis
a. ephidrine
d. dopamine
c. dobutamine
d. phenylephrine
7. Phenylrpherine. The rationalle is 3 fold. 1. If lv aftrrload is fixed by the stenotic lesion, increasing pvr hav less effect on myocardial work than it would be on an unloaded ventricle 2. Increase in Diastolic blood pressure presumably increase cpp, thus myocaedial oxygen demand 3. Reflex bradycardia reduces myocardial oxygen consumption.
8. All of the following statements are incorrect about the treatment of prolonged suxamethonium apnoea due to plasma cholinesterase deficiency (after a single dose of suxamethonium) except:
A. Reversal with incremental doses of neostigmine
B. Continue anaesthesia and mechanical ventilation till recovery
C. Transfusion of fresh frozen plasma
D. Plasmapheresis
8. Again ques is wrongly framed as all choices are correct except a. By giving neostigmine it further potentiate the block by succinylcholine. Best treatment is wait and watch and continue positive pressure ventilation. Ffp and plasmapheresis has theoretical role.
9. A person preanaesthtic medication good airway good .posted for laproscapic cholecystectomy ,was given one antibiotic and suddenly becomes pulseless ....what will be done next ...
a, Chest compression
b. Call ambulance

c. Give two breath
d. Give adrenaline (doubt oveer this option
9. A. Chest compression. Whenever in cpr you found no carotid pulse first thing to do is chest compression. Adrenaline is the drug of choice as this id a case of anaphylaxis but not the first thing.
Additional ques....
1. Pin index system of n2o is
A. 3,5
B. 2,5
C. 1,5
D. 2,6
Ans. A
2. Cisatracurium gets metabolized by
A. Hoffman eliminaton
B. Ester hydrolysis
C. Both of the above
Ans. C

AIIMS MAy 2013 Some Medicine Question (Recall by students) Continue.....
==========
1. Bilateral Babinski seen in
a. Cerebellar lesions
b. Pontine hemorrhages
c. Basal ganglia n thalamic hemorrhage
d. Sub arachnoid hemorrhages

1. Ans. b. Pontine hemorrhages

2. Sudden development of LBBB in ECG e due to all except
a. Acute mi b. Hypokalemia
c. Hyperkalemia d. Ashman phenomenon

2. Ans. d. Ashman phenomenon

3. Regarding iron deficiency anemia which of the following is not true?
a. Serum iron<15 b. Low TIBC
c. High RDW d. Low Ferritin

3. Ans. b. Low TIBC

4. A Female with recurrent abortions, pain in calves, It is most likely due to deficiency of?
a. Protein C b. Thrombin
c. Plasmin d. Factor XIII

4. Ans. a. Protein C

5. A 3 yr old, had sore throat, n on investigation it was found beta hemolytic strept which of the following he's likely to dev -
A. Rheumatic fever B. Acute glomerulonephritis
C. RF and AGN D. Scarlet fever only

5. Ans. C. RF AND AGN

6. Priapism is seen in
A. Sea snake B. Rattle snake
C. Spanish fly D. Scorpion bite

6. Ans. C. Spanish fly

7. In adult male most common vascular tumor in cerebellar brain stem and spinal cord?
A. Pilocytic astrocytoma B. Cavernous
C. Hemangioblastoma D. Metastasis

7. Ans. C. Hemangioblastoma

8. Insulin resistance in liver disease is due to
a. Decreased insulin release
b. Steatosis
c. Decrease c peptide level
d. Hepatocyte damage

8. Ans. b. Steatosis

9. MODY gene is
A. HNF 1alfa B. HNF 4 alfa
C. glucokinase D. All

9. Ans. D. All

10. Test used to differentiate maternal & fetal Blood is
A. Kleihauer test B. Osmotic fragility test
C. Apt Test D. Bubbling Test

10. Ans. A. Kleihauer test

11. TEE is better than trans thoracic Echo b/c
A. more convenient
B. TEE is better to identify the Lt Ventricular abnormality
C. TEE is better to identify the Atrial appendages abnormality
D. TEE is better to identify the atrial thromboembolism

11. Ans. D. TEE is better to identify the atrial thromboembolism

12. Which of the following is the characteristic feature to distinguish seizure from syncope
A. Falling down
B. Injury craniofacial
C. Urinary incontinence
D. Retaining consciousness

12. Ans. C. Urinary incontinence

13. Not a major Jones Criteria:
A. Chorea B. Carditis
C. Subcutaneous nodules D. Polyarthralgia

13. Ans. D. Polyarthralgia

14. HIV does not affect which part of brain
a. Cingulate cortex b. Caudate nucleus
c. White matter d. Globus pallidus

14. Ans. a. Cingulate cortex

AIIMS May 2013 (Orthopedics Questions) Recall by students
==========
Q1. A patient with hip dislocation with limitation of Abduction at hip and flexion and internal rotation deformity at hip and shortening. Diagnosis is-
A. Central dislocation
B. Anterior dislocation
C. Posterior dislocation
D. Fracture dislocation

Ans. is 'c' Posterior Dislocation

Q2. A lady with Colle's fracture.The fracture healed but after few days patient develops pain and swelling over wrist and forearm ,red hot and shiny skin and on X Ray- diffuse osteopenia. Diagnosis is ?
A. Sudeck's osteodystrophy
B. Causalgia
C. Non union
D. Nerve injury

Ans. is 'A' Sudeck's Osteodystrophy

Q3. True about supracondylar fracture
A. Cubitus valgus more common than varus
B. Nerve injuries are usually tranisitory

C. Anterior displacement of distal segment
D. Weakness in elbow flexion eventually

Ans. is 'B' Nerve Injuries are usually tranisitory

Q4. Patient presents with knee Problem.He gives history of injury during playing hockey 3 months back. On testing knee was unstable in extension but was stable in 90 degrees of flexion probably injury involves
A. ACL anteromedial fiber
B. ACL posterolateral fiber
C. PCL
D. Anterior portion of medial meniscus

Ans. is 'B' ACL posterolateral fiber

Q5. Osteoporotic female on prolonged bisphosphonates has hip pain next investigation is
A. X-rays
B. Vitamin D
C. ALP
D. Dexa

Ans. is 'A' X-rays

Q6. A 2-year old child with rickets is on calcium supplements and has a foot deformity. The child will be referred to a surgeon for the correction of the deformity when –
A. Serum calcium levels are normal
B. Serum Vitamin D levels are normal
C. Growth plate healing becomes normal
D. Serum ALP becomes normal

Ans. Is 'C' Growth plate healing becomes normal

Q7. Road traffic accident, a patient lying in right lateral position with bruise on face, elbow and lateral side of knee. Which nerve injury has maximum chances in this position of the victim.
A. Trigeminal Nerve
B. Ulnar Nerve
C. Common Peroneal Nerve
D. Tibial Nerve

Ans. is 'C' Common Peroneal Nerve

Q8. For long the muscle was not given its due importance and was called Forgotten muscle of rotator cuff which one is it?
A. Subscapularis
B. supraspinatus
C. infraspinatus

D. teres minor

Ans. is 'A' Subscapularis

Q9. A child was given Gallows traction. What is the diagnosis?
A. Fracture shaft femur.
B. Fracture shaft humerus
C. Fracture ulna
D. Spine injury

Ans. is 'A' Fracture shaft femur

Q10.Pelvic fracture most serious complication is
A. Hypovolemic shock
B. Neurogenic shock
C. Bladder injury
D. Pelvic instability

Ans. is 'A' Hypovolemic shock

Q11.A 15 yrs old boy presented with painful swelling over the left shoulder. Radiograph of the shoulder showed an osteolytic area with stippled calcification over the proximal humeral epiphysisi. Biopsy of the lesion revealed an immature fibrous matrix with scattered giant cells. Which of the following is the most likely diagnosis?
A. Giant cell tumor
B. Chondroblastoma
C. Osteosarcoma
D. Chondromyxoid fibroma
Ans. is 'B' Chondroblastoma

Q12.Which of the following will not take place in a patient with ulnar nerve injury in arm?
A. Claw hand
B. Thumb adduction
C. Sensory loss over medial aspect of hand
D. Weakness of flexor carpi ulnaris
Ans. 'B' Thumb adduction

Q13. Osteoblastic secondaries are seen in
A. Prostate metastasis
B. Lung metastasis
C. Bladder metastasis
D. Stomach metastasis
Ans. is 'A' Prostate metastasis

Q14. A 70 yrs old male complaints of multiple bone pains, on evaluation he has high ESR, high Calcium values, lytic lesion in multiple bones. He has 35% plasma cells on peripheral smear. Most likely diagnosis

is?
A. Multiple myeloma
B. Hairy cell leukemia
C. Lymphoma
D. Metastasis

Ans. is 'A' Multiple myeloma

Ophthalmology (AIIMS May 2013) Recall by students
==========
1. Most common presentation in RB is
A. Leukocoria and psudohypopyon
B. Leukocoria and Strabismus
C. Leukocoria and Iris heterochromia
D. Leukocoria and glaucoma

1. Ans. B. Leukocoria and Strabismus

2. Which of the following is not the risk factor for Rhegmatogenous retinal detachment ?
a. Pseudophakia
b. Hyperopia
c. Trauma
d. Lattice degeneration

2. Ans. b. Hyperopia

3. Regarding Myopic degeneration which of the following is True
a. It is seen more commonly in males than in females
b. Myopic degeneration can lead to retinal detachment
c. It is seen in < - 6 D myopia
d. Macula is not involved

3. Ans. b. Myopic degeneration can lead to retinal detachment

4. An 18 years old girl was using spectacles for last 10 years, came with the history of photopsia and sudden loss of vision in right eye. Which one of the following clinical examinations should be performed to clinch the diagnosis?
a. Cycloplegia refraction
b. Indirect ophthalmoscopy
c. Schiotz tonometry
d. Gonioscopy

4. Ans. b. Indirect ophthalmoscopy

5. Pigmentatory changes between posterior pole and equator [salt and paper retinopathy] are seen in all of following except ?
A. Resolving retinal detachment
B. Rubella
C. Phenothiazine toxicity
D. Fundus flavimaculatus

5. Ans. D. Fundus flavimaculatus

6. Correct match of drug and action is
A. Brimonidine decrease aqueous production
B. Latanoprost carbonic anhydrase inhibitor
C. Pilocarpine increases uveoscleral out flow
D. betaxolol increases trabecular outflow

6. Ans. A. Brimonidine decrease aqueous production

7. Inferior wall of orbit is not formed by
A. Ethmoid
B. Palatine
C. Zygomatic
D. Maxilla

7. Ans. A. Ethmoid

8. Most common gynecological malignancy leading to intra ocular tumor is
A. Ovary
B. Breast
C. Endometrium
D. Cervix

8. Ans. B. Breast

9. A 35yr old with 6 months history of bilateral fluctuating ptosis with difficulty in chewing and in very occasionally difficulty in swallowing. He does not complain of any diplopia or limp weakness. On examination asymmetrical ptosis, mild restriction of extra ocular movements with forward arm abduction time of 60seconds. His repetitive nerve stimulation show decreased response only in orbicularis. EMG shows myopathic, anti ACHR negative. most likely diagnosis
a. ocular myasthenia gravis
b. generalized myasthenia gravis
c. as anti achr negative you will search for another alternative diagnosis
d. chronic progressive external ophthalmoplegia

9. Ans. b. generalized myasthenia gravis

10. Which of the following procedure most commonly performed by eye surgeon at district level
a. Phacoemulsification
b. Dacrocystectomy
c. Glaucoma surgery
d. Eyelid lashes eversion

10. Ans. a. Phacoemulsification

11. Lacrimal gland supplied by
a. Greater petrosal nerve b. Nasociliary N
c. Supraorbital N d. Trigeminal nerve

11. Ans. a. Greater petrosal nerve

12. A patient diagnosed with chalazion c/o pain. True statement is?
a. Lipogranuloma
b. Suppurative granuloma
c. Foreign body granuloma
d. Xanthogranuloma

12. Ans. b. Suppurative granuloma

13. Not seen in acute conjunctivitis
a. Normal visual acuity
b. Corneal infiltrates
c. Normal pupil
d. Conjunctival inflammation

13. Ans. b. Corneal infiltrates

Radiology (AIIMS May 2013) Recall by students
==========
1.Acute Pyelonephritis is diagnosed by all except
a. Focal hypoechoic shadows
b. Diffuse enlarged kidneys
c. Increased colour flow
d. Perinephric involvement

answer: C

3. 62yrs old woman presented with acute onset of confusion n bumping into things on examination she was alert, oriented with fluent speech n normal comprehension further examination revealed impaired writing, right-left orientation, arthematic abilities, finger identification. MRI demonstrated severe foci of cortical n su cortical increase T2 signals n areas of leptomeningeal enhancement. likely syndrome
a. Gerstmanns syndrome

b. Millard gubler syndrome
c. Anton syndrome
d. Korsakoff's psychosis

Answer : A

4. Characteristic image findings in alzeihmers disease
a. Temporalobe nerve parietal lobe
b. Temporal nerve occipital lobe
c. Frontal nerve parietal lobe
d. Parietal nerve occipital lobe

Answer : A

5. In follwing stage of neurocysticreosis not associated with edema on imaging
a. Vesicular stage
b. Colloidalvesicular stage
c. Granular modular stage
d. Nodular calcified stage

Answer: both A &D A>D

6 Mother with 6 weeks amenorrhea, surest sign of fetal activity
A. Doppler for cardiac activity B. Urine HCG
C. Uterus size D. Usg for FHS

Answer : D

7. Extensive involvement of deep white matter with hyperintense thalamic lesion on MRI of the brain is seen in:
A. Alexender's disease B. Krabbe's ds.
C. Canavan's ds D. Metachromatic leucodystrophy

Answer: B

8. Floating water lily sign on X ray chest –
A. Hydatid disease of lung B. Aspergillosis
C. Tubercular cavity D. Bronchiectasis

Answer: A

9. Which of the following is the incorrect statement regarding GI bleeding?
A. The sensitivity of angiography for detecting GI bleeding is about 10-20% as compared to nuclear imaging
B. Angiography can image bleeding at a rate of 0.05/0.1 min or less
C. 99mTc-RBC scan image bleeding at rates as low 0.05-0.1 ml/min

D. Angiography will detect bleeding only if extravasation is occurring during the injection of contrast
Answer: B

10. Salivary gland tumor hot spot on tc99 scan is ?
A. Adenolymphoma
B. Adenocystic carcinoma
C. Adeno carcinoma
d. Pleomorphic adenoma

Answer: A

15. Calcification seen in all except:
A. Retinoblastoma
b. Choroidal osteoma
c. Persistent hyperplastic vitreous
d. Drusen optic nerve

Answer: C

17. A 2 days old neonate presented wit seizures; wat is the next investigation?
A. Skull skiagram B. Ultrasound
C. CT d. MRI

Answer: B

18. Homogenous opacity in right lung wit obscured right cardiac silhouette. Which part of lung is involved?
A. Medial seg of RML B. Lateral seg of RML
C. Apical seg of RLL D. Medial basal seg of RLL

Answer: A

PSM (AIIMS May 2013) Recall by students
==========
1. In the millennium development goals, the number of goals directly related to health are:
A. 3 B. 4 C. 5 D. 2

Millennium Development Goal :

UN declaration by member states in September, 2000 set a date of 2015 to meet Millennium Development Goals (MDGs) viz.

3/8 goals, 8/ 18 targets,18/ 48 indicators

Goal 1: Eradicate extreme poverty and hunger
Goal 2: Achieve Universal Primary Education
Goal 3: Promote gender equality
• Goal 4: Reduce child mortality
• Goal 5: Improve maternal health
• Goal 6: Combat HN/AIDS, Malaria and other diseases
• Goal 7: Ensure environmental stability.
• Goal 8: Develop a global partnership for development.

2. Growth chart used by ASHA under NRHM Is based on?
a. IAP b. NCHS
c. WHO d. MGRS

a. IAP

India has adopted the new WHO child growth standards (2006) in February 2009 for monitoring the young child growth and development within the NRHM & ICDS.

NCHS (National Centre for Health Statistics): These standards were used before 1993.

MGRS: Multicentre Growth Reference Study was undertaken between 1997 & 2003.

3. Under the Home based newborn care ASHA would be paid honorarium for all of the following function except:
a. Institutional delivery
b. Immunization of child with first dose of DPT and OPV
c. Recording of birth weight
d. Registration of birth

Home Based Newborn Care: Under NRHM, ASHA is given incentives (Rs 250) for newborn care subject to the following:

• Record the birth weight in mother & child protection card

• Immunization of newborn with BCG, first dose of OPV & DPT vaccine

• Registration of birth

• Both mother & newborn are safe until 42nd day of delivery

4. The following operation is expected to be performed most commonly by an ophthalmologist at district hospital:
A. Phacoemulsification
B. Trabeculectomy
C. Lamellar tarsal rotation

D. Dacryocystectomy

Ans. A. Phaco- emulsification

5. According to Vision 2020 the proposed number of vision centres should be?
a.10,000 b.20,000 c.30,000 d.40,000

• Proposed structure for Vision 2020:
– Vision Centres : 20000
– Service Centres: 2000
– Training Centre: 200
– Centres of Excellence: 20

6. Incidence of HIV can be decreased by all the following measures except:
A. Vitamin A prophylaxis B. Elective Caesarian section
C. Zidovudine prophylaxis to mother and baby D. Avoiding breastfeeding

• Incidence of HIV can be decreased by:
– Elective Caesarian section
– Zidovudine prophylaxis to mother and baby
– Avoiding breastfeeding

7. Regarding conjugated meningococcal vaccine all are true except?
a. Given in age groups>40yrs
b. Given to a healthy child of 5-7yrs age group
c. Given to paramedical staff
d. Given to neonates

Conjugated meningococcal vaccine licenced for use are:

• Monovalent Men A conjugate vaccine: given to individuals 1-29 yrs of age as a single dose

• Monovalent Men C conjugate vaccine: given to children aged > = 12 months, teenagers and adults as a single intramuscular dose. Children 2-11 months of age require 2 doses at an interval of at least 2 months & a booster after 1 year.

• Quadrivalent vaccine (A, C, Y, W135): Given as a single dose to individuals >=2 years.

8. Meningococcal meningitis is termed highly endemic when the incidence is?
A. <2/100000 B. 2 to 10 / 100000
C.>10 / 100000 D. >100 / 100000

• >100 / 100000: Epidemic

• <2/100000: Low endemicity

• 2 to 10 / 100000: Moderate endemicity

• >10 / 100000: High endemicity

9. Bachelor of rural health care of 3 yrs was proposed by?
a. Sunder Committee
b. Srivastava Committee
c. Central bureau of Health Intelligence
d. Expert Committee set up by Ministry of Health & Family welfare

• Sundar Committee: Committee on Road safety & Traffic management

• Srivastava Committee: Committee on Medical education & Support manpower

• CBHI: Compiles the health statistics in India

• MOHFW: BRMS now called as BRHC

• Under the scheme the undergraduate "Bachelor of Rural Medicine and Surgery (BRMS)" degree would be acquired in two phases at two different levels –
– Community Health facility (one and half year duration) and
– sub divisional hospitals (secondary level hospitals) for a further duration of two years.
• The BRMS degree would be offered by institutes in rural areas with an annual sanctioned strength of 50 students.
• Selection of students should be based on merit in the 10+2 examinations with Physics, Chemistry and Biology as subjects

10. In hypothesis testing if we increase level of confidence then
A. No change in significant result
b. Significant result may change to non significant result
c. Non significant result may change to significnat result
D. No change in level of significance

• To declare a result statistically significant, p value must be less than alpha.
• Alpha is a complement of level of significance i.e if LOS is 95%, α = 5% or 0.05
• In this case p value will have to be <0.05 to declare a result statistically significant
• Now if we increase the LOS to 99%, α becomes 0.01, so the p value will now have to be < 0.01 to declare a result significant.
• But if the p value is not <0.01, a previously significant result will now be regarded as non significant

11. After applying a statistical test, an investigator gets the 'p value' as 0.01. It means that:
A. The probability of finding a significant difference is 1%
B. The probability of declaring a significant difference, when there is truly no difference, is 1%
C. The difference is not significant 1% times and significant 99% times
D. The power of the test used is 99%

• To report the result as statistically significant at a certain level of p, with a statement such as 'significant at $p \leq .01$", merely means that the result was unlikely to have occurred by chance – specially that the likelihood of the result having occurred by chance is 0.01 or less.

•Hence, in this study since the p value is 0.01 it means that the probability of declaring a significant difference is 99% and non significant is 1%.

• In other words, if we repeat the study 100 times, the difference would be significant 99% times and non significant 1% of times.

12. Prevalence of disease is 50%. Calculate the sample size for range of 45 to 55% with 95% confidence interval
a. 100 b. 200 c. 300 d. 400

• The formula for Sample size in prevalence study:

$$\frac{(Z\,\alpha)^2\ PQ}{L^2}$$

P= Prevalence (50%)
Q= 1- Prevalence (50%)
L= Desired precision (10%)
Value of Z α for 95% LOS is 1.96, rounded off to 2

Hence, $SS = \frac{(2)^2 \times 50 \times 50}{10 \times 10} = 100$

13 In Blindness control programme, total no. of cases are recorded in schools this will?
a. Over-estimate b. Under-estimate
c. Not done now a days d. not affected

Ans. b. Under-estimate

14. Under the National Programme for control of blindness who is supposed to conduct the vision screening of school students?
A. School teachers B. Medical officers of health centers
C. Ophthalmologists D. Health assistants

Ans. A. School teachers

15. Dose of vitamin given to post partum woman
a.50000 b.1lakh c.2lakh d.3lakh

Ans. a. 50000 IU

16. Which of the following is the national level system that provides annual national as well as state level reliable estimates of fertility and mortality?
A. Civil registration system B. Census

C. White paper D. Sample registration System

D. Sample registration System: Dual record system in which there is continuous enumeration by an enumerator and a 6 monthly cross check by a supervisor

Census: Done every 10 years

Civil registration system: For recording the vital events

17. True about NPCDCS is all except:
A. Separate center for stroke
B. Screening services at subcenter
C. Implementation in 5 states over 10 districts
D. CHC has Facility for Diagnosis & Treatment of CVD, Diabetes

C. Implementation in 5 states over 10 districts
The program is to be implemented in 20000 SCs & 700 CHCs in 100 districts across 21 states / Uts

Activities at the SC:
-Health Promotion
-Opportunistic screening of population >30 yrs using BP measurement & Blood glucose by strip method
-Referral of suspected cases to CHC & higher centres

Activities at the CHC:
-NCD clinic for diagnosis & Management & stabilization of common CVD, Diabetes & stroke cases (out patient as well as in-patient)
-Home visits by nurses appointed for the purpose
• Activities at the district hospital:
– Screening at NCD clinic to identify high risk cases
– Detailed investigation
– Regular Management of cases
– Annual assessment ofcases
– Health promotion

18. Due to use of preservative for refrigerator foods following Cancer can be reduced
A. Stomach Ca B. Esophagus Ca
C. Colon Ca D. Oropharyngeal Ca

Ans. A. Stomach Ca

19. Ridley Jopley classification is based on?
A. Bacteriological,
B. Epidemiological
C. Immuno-histological

D. Therapeutic

C. Immuno-histological: Ridley Jopling classification system divides the leprosy cases into 5 groups according to their position on immuno-histological scale: TT, BT, BB,BL & LL

Indian Classification: Clinico-bacteriological classification

Madrid Classification: Clinico-bacteriological classification

Control Program: Clinical classification

20. Disease not under surveillance under IDSP
a. Leptospirosis b. Leprosy
c. TB d. Snake bite

Ans. b. Leprosy

21. Which is false regarding isolation period?
A. Measals 1-2 days before to 3 days after rash
B. Chickenpox 1-2 days before to 4-5 days after rash
C. Mumps 4- 6 days before to 1 week after rash
D. German measles 7 days before and after rash

A. Measals 1-2 days before to 3 days after rash
• Isolation is for the period of communicability which in case of measles lasts from 4 days before to 5 days after appearance of the rash

22. The new forth coming legislation for mental health is :
a. Mental health bill
b. Mental health care bill
c. Mental health care and rehabilitation bill
d. Mental health treatment and rehabilitation bill

b. Mental health care bill

After India ratified the UN Convention on the Rights of Persons with Disabilities (UNCRPD) which came into force in 2008, there was a clear need to overhaul the existing disability laws in India to bring them in compliance with the UNCRPD.

It is in pursuance of this that the Mental Health Act 1987 ("MHA") is sought to be replaced by the new Mental Health Care Bill 2012 ("2012 Bill") which aims at:

. Protection of Rights of persons with mental illness

. Systemic changes in the mental healthcare system and new Fora for complaints: Central and State Mental Health Authorities,

Mental Health Review Commission (MHRC) and
State-wise Mental Health Review Boards (MHRB)

23. ICDS includes all of the following except:
a. Give Albendazole 400mg 6 monthly to children >12yrs
b. Give Mebendazole 100mg
c. Vit A prophylaxis
d. Combine de-worming with Fe & FA prophylaxis

Ans. b. Give Mebendazole 100mg
Under the ICDS scheme children in the age group of 1 – 6 yrs as well as adolescents girls undergo regular de-worming at 6 monthly interval with T. Albendazole 400mg.

Deworming is combined with IFS

Children up to 6 Yrs of age are also given Vit A prophylaxis through the scheme.