Categories and subcategories

These are taken from the *Primary Syllabus* as described in the *Australasian College For Emergency Medicine Training and Examination Handbook*. Slight modifications have been made.

1. *The normal cell*

2. **Cellular injury and adaptation**

3. **Tissue response to injury**
   - 3.1. Acute inflammation
   - 3.2. Chronic inflammation
   - 3.3. Healing
   - 3.4. Repair

4. **Fluid and haemodynamic derangements**
   - 4.1.* Oedema
   - 4.2. Hyperaemia and congestion
   - 4.3. Haemorrhage
   - 4.4.* Thrombosis
   - 4.5.* Haemostasis
   - 4.6. Embolism
   - 4.7. Infarction
   - 4.8.* Shock

5. **Diseases of immunity**
   - 5.1.* General features of the immune system
   - 5.2.* Hypersensitivity reactions
   - 5.3. Immunologic tolerance and causative mechanisms of auto immune disease
   - 5.4. Acquired immunodeficiency syndrome (AIDS)

6. **Neoplasia**
   - 6.1. Pathogenesis of cancer; oncogenes and anti-oncogenes; tumour-host interactions
   - 6.2. Characteristics of benign and malignant neoplasms
   - 6.3. Mechanisms of invasion and spread
   - 6.4. Laboratory diagnosis; grading and staging of cancer

7. **Infectious disease**
   - 7.1. General features of microbial activity including transmission
   - 7.2. Viral disease
   - 7.3. Bacterial infections—infections by pyogenic cocci, common gram negative infections, infections if childhood, tetanus and tuberculosis
   - 7.4. General features of other infectious diseases—chlamydia, rickettsia, mycoplasma, protozoa, helminths
   - 7.5. Principles of sterilisation and disinfection
8. Environmental pathology
   8.1. Air pollution
   8.2. Chemical and drug injury
   8.3. Physical injuries

9. Diseases of aging
   9.1 Diseases of infancy and childhood

10. Cardiovascular system
   10.1. Atherosclerosis
   10.2. Venous thrombosis
   10.3.* Congestive cardiac failure
   10.4.* Ischaemic heart disease

11. Respiratory system
   11.1.* Atelectasia
   11.2.* Pulmonary congestion and oedema
   11.3.* Chronic obstructive airways disease, asthma
   11.4. Restrictive pulmonary disease
   11.5.* Hyperbaric oxygen

12. Liver and biliary tract
   12.1. Jaundice
   12.2. Hepatitis
   12.3. Hepatic failure
   12.4. Cirrhosis

12a Gastrointestinal tract
   12.1a Oesophagus
   12.2a Stomach
   12.3a Small and large intestines
   12.4a Peritoneum

13. Pancreas
   13.1. Acute pancreatitis
   13.2. Chronic pancreatitis
   13.3. Endocrine pancreas

14. Renal system
   14.1.* Acute renal failure
   14.2.* Chronic renal failure
   14.3.* Hypertensive renal disease
   14.4.* Abnormalities in acid-base balance

15. Haematopoietic system
15.1.* Anaemias
15.2.* Leucopenia and leucocytosis
15.3.* Blood groups, transfusions

16. Endocrine
16.1. Pituitary
16.2. Thyroid
16.3. Parathyroid
16.4. Adrenal cortex and medulla

17. Musculoskeletal system
17.1. Osteoporosis
17.2. Osteoarthritis and rheumatoid arthritis
17.3. Fractures

17a Central nervous system

18. Calculi

* A.C Guyton's *Textbook of Physiology* is recommended additional reading
1.* The normal cell Home
2. Cellular injury and adaptation  Home

19. Which of the following changes is associated with irreversible cell damage?

A. glycogen depletion  
B. flocculent densities in mitochondria  
C. cellular swelling.  
D. loss of microvilli.  
E. detachment of ribosomes from rER.

SUBJECT Pathology
SUBJECT CATEGORY Cellular injury and adaptation
SUBCATEGORY ---
FILE NUMBER 02.00.01
SOURCE OF QUESTION TEXT Robbins  EDITION 5th PAGE(s) 7-8  ORIGINATOR Masonic Hospital primary exam course  DATE 1996
CORRECT RESPONSE B
APPLICATION
20. Irreversible cellular injury is characterised by all, **EXCEPT**

A. progressive loss of phospholipids.
B. decreased activity of Na⁺ / K⁺ ATPase causing cellular swelling.
C. damage to the cellular cytoskeleton.
D. the presence of reactive O₂ species.
E. the loss of the intracellular amino acids glycine and L-alanine.
21. Free radicals

A. are not a byproduct of metabolism.
B. can only form in the presence of oxygen.
C. may arise by absorption of radiant energy.
D. are removed with the aid of Vitamin A derivatives.
E. contain an extra protein that may bind to and destroy organic molecules.
22. Apoptosis occurs in all but one of the following situations

A. embryogenesis.
B. bacterial infection.
C. menstruation.
D. tumours.
E. viral infection.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Cellular injury and adaptation</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>...</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.?? ??</td>
</tr>
</tbody>
</table>

SOURCE OF QUESTION

<table>
<thead>
<tr>
<th>TEXT</th>
<th>Robbins</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDITION</td>
<td>5th</td>
</tr>
<tr>
<td>PAGE(s)</td>
<td>17-18</td>
</tr>
</tbody>
</table>

ORIGINATOR

Masonic Hospital primary exam course

DATE 1996

CORRECT RESPONSE B

APPLICATION
23. Apoptosis results in

A. recruitment of neutrophils.
B. swelling and lysis of cells.
C. phagocytosis of apoptotic cells by surrounding healthy cells.
D. release of free radicals.
E. localised oedema.
24. A substance that is not known to accumulate intracellularly is

A. melanin.
B. haemosiderin.
C. tattoo ink.
D. pus.
E. lipofuscin.
3. Tissue response to injury
   3.1 Acute inflammation

25. Concerning vascular leakage with acute inflammation

A. endothelial cell contraction preferentially occurs in arterioles 20-60 µm in diameter.
B. tumour necrosis factor (TNF) affects leakage by direct endothelial cell necrosis.
C. immediate sustained response is due to widening of intercellular gaps.
D. chemically mediated endothelial contraction is usually reversible.
E. transcytosis is not thought to be a potential mechanism of increased permeability.
26. Regarding the cellular mechanisms of vascular leakage, which of the following is INCORRECT

A. the ‘immediate transient response’ only occurs in venules of 20-60 µm diameter.
B. sunburn can cause a delayed and prolonged vascular leakage.
C. the endothelial injury caused by leukocytes is due to free radical-induced damage.
D. the cytoskeletal and junctional retraction mechanism is mediated by the complement system.
E. the most common mechanism for increased vascular permeability is “endothelial contraction” (“immediate transient response”).

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Tissue response to injury</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>Acute inflammation</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.???.??</td>
</tr>
</tbody>
</table>

**SOURCE OF QUESTION**
- **TEXT**: Robbins
- **EDITION**: 5th
- **PAGE(s)**: 55-56
- **ORIGINATOR**: Masonic Hospital primary exam course
- **DATE**: 1996

**CORRECT RESPONSE**: D

**APPLICATION**
27. Cell adhesion molecules
   A. includes selectins.
   B. assist in white cell pavementing.
   C. involve endothelium.
   D. involve platelets
   E. all of the above.

SUBJECT Pathology
SUBJECT CATEGORY Tissue response to injury
SUBCATEGORY Acute inflammation
FILE NUMBER ???.???

SOURCE OF QUESTION
TEXT Robbins EDITION 5th PAGE(s) 57
ORIGINATOR Masonic Hospital primary exam course
DATE 1996

CORRECT RESPONSE E

APPLICATION
28. Leukocyte adhesion with transmigration involves all of the following **EXCEPT**

A. migration of leukocytes as a result of stasis of blood flow in the microvasculature.
B. interaction of integrins with immunoglobulin found on endothelial cells.
C. the selectins found only on endothelial cells.
D. ICAM-1 and VCAM-1 adhesive molecules on the endothelial cells.
E. neutrophils in the first 6-24 hours of acute inflammation.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Tissue response to injury</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>Acute inflammation</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.???.??</td>
</tr>
</tbody>
</table>

**SOURCE OF QUESTION**
- TEXT Robbins
- EDITION 5th
- PAGE(s) 57-58

**ORIGINATOR** Masonic Hospital primary exam course

**DATE** 1996

**CORRECT RESPONSE** C

**APPLICATION**
29. The directional movement of a cell or organism in response to a chemical gradient is best called

A. diapedesis.
B. emigration.
C. cytopempsis.
D. chemotaxis.
E. margination.
30. The chemical mediator NOT responsible for chemotaxis is

A. cytokines.
B. C5a.
C. bradykinin.
D. bacterial products.
E. LTB4.
31. Histamine exerts its effect during inflammation by

A. vasoconstriction of post capillary sphincters.
B. constriction of large arteries.
C. acting on H2 receptors on mast cells.
D. causing venular endothelial contraction.
E. its direct effect on macrophages.
32. The following are all actions of bradykinin EXCEPT

A. increased vascular permeability.
B. activation of complement pathway.
C. smooth muscle contraction.
D. dilation of blood vessels.
E. pain.
33. Kallikrein.

A. directly converts C5 to C5a.
B. negatively inhibits activation of Hageman Factor.
C. has high molecular weigh kininogen as a precursor.
D. is inactivated by kininase.
E. all of the above.
34. In the complement system, which is not true?

A. C3a, C5a cause vasodilation, and increased vascular permeability.
B. C5a is a powerful chemotactic agent.
C. C5a activates the cyclo-oxygenase pathway of arachidonic acid metabolism.
D. C5 can be activated by kallikrein.
E. C3b, C3bi can act as opsonins.
35. With regard to eicosanoids

A. main action of LTB4 is to increase permeability.
B. PGE2 causes intense vasoconstriction.
C. permeability increase caused by LTD4 restricted to venules.
D. LTC4, LTD4, LTE4, are important vasodilators.
E. cyclo-oxygenase is the predominant enzyme in neutrophils.

SUBJECT Pathology
SUBJECT CATEGORY Tissue response to injury
SUBCATEGORY Acute inflammation
FILE NUMBER ???.???.??

SOURCE OF QUESTION
TEXT Robbins EDITION 5th PAGE(s) 69
ORIGINATOR Masonic Hospital primary exam course
DATE 1996

CORRECT RESPONSE C

APPLICATION
36. Regarding complement

A. C5a is an important opsonising molecule.
B. C3b has chemotactic function.
C. It cannot cause cytolysis of bacteria in the absence of immune complexes.
D. C3a may cause mast cell degranulation.
E. May be activated by prostaglandins.
3. Tissue response to injury
   3.2 Chronic inflammation

37. Regarding granulomatous inflammation, one of the following is INCORRECT.

A. central caseous necrosis is rare in all granulomatous diseases EXCEPT tuberculosis.
B. both Langerhan’s and foreign-body type giant cells may be seen in the granulomas of sarcoidosis.
C. acid fast bacilli are seen in leprosy and tuberculosis
D. fungal infections cannot result in granulomas.
E. the “gumma” is the granulomatous manifestation of syphilis.

SUBJECT Pathology
SUBJECT CATEGORY
SUBCATEGORY
FILE NUMBER

SOURCE OF QUESTION
   TEXT Robbins
   EDITION 5th PAGE(s) 81
   ORIGINATOR Masonic Hospital primary exam course
   DATE 1996

CORRECT RESPONSE D

APPLICATION
3. Tissue response to injury
   3.3 Healing Home
3. Tissue response to injury
   3.4 Repair Home
4. Fluid and haemodynamic derangements
   4.1* Oedema **Home**

38. Generalised oedema results from all of the following disorders **EXCEPT**

A. systemic hypertension  
B. CCF  
C. cirrhosis  
D. nephrotic syndrome  
E. hyperaldosteronism

**SUBJECT** Pathology  
**SUBJECT CATEGORY**  
**SUBCATEGORY**  
**FILE NUMBER**  
**SOURCE OF QUESTION**  
**TEXT** Robbins  
**EDITION** 5th  
**PAGE(s)** 93-97  
**ORIGINATOR** Dr Greg Sweetman  
**DATE** 1997

**CORRECT RESPONSE** A  
**APPLICATION**
4. Fluid and haemodynamic derangements
   4.2 Hyperaemia and congestion  Home
4. Fluid and haemodynamic derangements
4.3 Haemorrhage  Home
4. Fluid and haemodynamic derangements

4.4* Thrombosis  Home

39. Disorders that predispose to thrombosis include all of the following **EXCEPT**

A. pancreatic cancer  
B. pregnancy  
C. vitamin K deficiency  
D. sickle cell anaemia  
E. diabetes mellitus

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td></td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td></td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td></td>
</tr>
<tr>
<td>SOURCE OF QUESTION</td>
<td></td>
</tr>
<tr>
<td>TEXT Robbins</td>
<td>EDITION 5th</td>
</tr>
<tr>
<td>ORIGINATOR</td>
<td>PAGE(s) 104-108, 907, 920</td>
</tr>
<tr>
<td>DATE</td>
<td>1997</td>
</tr>
</tbody>
</table>

CORRECT RESPONSE: C

APPLICATION
40. In which of the following situations is a thrombus likely to contain the least admixed blood clot

A. saccular aneurysms  
B. phlebothrombosis  
C. thrombophlebitis  
D. rheumatic vegetations  
E. coralline thrombi

**SUBJECT** Pathology  
**SUBJECT CATEGORY** Haematology  
**SUBCATEGORY** Thrombosis  
**FILE NUMBER** ???.???.??  

**SOURCE OF QUESTION**  
**TEXT** Robbins  
**EDITION** 5th  
**PAGE(s)** 105-108, 549, 551  
**ORIGINATOR** Surgical Part I examples  
**DATE** 1990

**CORRECT RESPONSE** D  

**APPLICATION**
4. Fluid and haemodynamic derangements
   4.5* Haemostasis Home

41. Endothelial derived antithrombotic factors include all of the following, except:

   A. PGI2
   B. NO
   C. protein S
   D. plasminogen
   E. tissue plasminogen activator

SUBJECT Pathology
SUBJECT CATEGORY
SUBCATEGORY
FILE NUMBER ???.??
SOURCE OF QUESTION
   TEXT Robbins
   EDITION 5th
   PAGE(s) 100-101
ORIGINATOR Masonic Hospital primary exam course
DATE 1996
CORRECT RESPONSE D
APPLICATION
42. Treatment of a patient with idiopathic thrombocytopenic purpura (ITP) utilises:

A. aminocaproic acid.
B. cryoprecipitate.
C. corticosteroids.
D. fresh frozen plasma.
E. calcium chloride.

SUBJECT Pathology
SUBJECT CATEGORY 
SUBCATEGORY 
FILE NUMBER ???.???
SOURCE OF QUESTION 
TEXT Robbins 
EDITION 5th PAGE(s) 618-619 
ORIGINATOR Surgical Part I examples 
DATE 1992 
CORRECT RESPONSE C 
APPLICATION
43. Dense bodies of platelets secrete all of the following except:

A. ADP
B. ionised Calcium
C. PDGF
D. Adrenaline
E. Serotonin

CORRECT RESPONSE C
4. Fluid and haemodynamic derangements

4.6 Embolism

44. With regard to pulmonary emboli.

A. 30% are clinically silent
B. obstruction of small end artery pulmonary branches only occurs in 5%
C. acute RHF may occur if >60% of total vasculature is occluded
D. embolic obstruction of middle sized arteries causes infarction in 10-15%
E. 80% are from thromboembolic disease
45. Each of the following pairs is correctly associated EXCEPT

A. air embolism - deep sea diving.
B. tumour arterial embolism - pulmonary infarct.
C. fat embolism - fractures of long bones.
D. paradoxical embolism - atrial septal defect.
E. venous embolism - postoperative state.
46. Liquefaction characteristically occurs following infarction of the

A. heart.
B. kidney.
C. liver.
D. spleen.
E. brain.
4. Fluid and haemodynamic derangements
  4.8* Shock  Home
5 Diseases of immunity
5.1* General features of the immune system Home

47. All of the following are cytokines EXCEPT
A. interleukin 1 (IL-1)
B. tumour necrosis factor (TNF)
C. granulocyte-colony stimulating factor
D. erythropoietin
E. gamma interferon (IFN-)

SUBJECT Pathology
SUBJECT CATEGORY Diseases of immunity
SUBCATEGORY General features of the immune system
FILE NUMBER ???.???

SOURCE OF QUESTION
TEXT Robbins EDITION 5th PAGE(s) 174-175
ORIGINATOR Surgical Part I examples
DATE 1990

CORRECT RESPONSE D

APPLICATION
A 2 year old boy was healthy for the first six months of life. He then develops recurrent infections. Serum concentration of complement, phagocytic function and bactericidal function of neutrophils are normal. A skin test with *Candida* antigens shows 2 cm of induration at 48 hours.

The time of onset of the disease is best explained by:

A. development of a viral infection.
B. exposure to rare bacteria.
C. a maturation defect in the thymus.
D. transplacental transfer of IgM antibodies.
E. loss of passive immunity from the mother.

**SUBJECT** Pathology
**SUBJECT CATEGORY**
**SUBCATEGORY**
**FILE NUMBER** ???.???

**SOURCE OF QUESTION**
- **TEXT** Robbins
- **EDITON** 5th
- **PAGE(s)** 216
- **ORIGINATOR** ECFMG sample questions
- **DATE** 1990

**CORRECT RESPONSE** E

**APPLICATION**
49. In the patient in the above question, which of the following would most likely be abnormal?

A. T4:T8 blood lymphocyte ratio  
B. Fc receptors on macrophages  
C. activity of myeloperoxidase.  
D. serum concentration of IgG.  
E. concentration of chloride in sweat.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Pathology</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>???.??</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.??</td>
</tr>
</tbody>
</table>

SOURCE OF QUESTION

| TEXT | Robbins |
| EDITION | 5th |
| PAGE(s) | 216 |
| ORIGINATOR | ECFMG sample questions |
| DATE | 1990 |

CORRECT RESPONSE D

APPLICATION
50. Severe haemolytic transfusion reactions commonly occur when

A. the transfused blood contains antibodies against the recipient cells.
B. the recipient has a high titre of antibodies against the donor cells.
C. Group A blood is transfused into Group AB recipients.
D. Group O blood is transfused into Group A recipients.
E. Rhesus negative blood is transfused into Rhesus positive recipients.

SUBJECT  Pathology
SUBJECT CATEGORY  Diseases of immunity
SUBCATEGORY  Hypersensitivity reactions
FILE NUMBER  ???.???

SOURCE OF QUESTION
TEXT  Robbins
EDITION  5th
PAGE(s)  183, 446-447
ORIGINATOR  Surgical part I examples
DATE  1992

CORRECT RESPONSE  B

APPLICATION
51. Complement is involved in the pathogenesis of each of the following EXCEPT

A. Arthus reaction.
B. contact dermatitis.
C. erythroblastosis foetalis.
D. haemolytic transfusion ABO reaction.
E. serum sickness.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Diseases of immunity</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>Hypersensitivity reactions</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.???.??</td>
</tr>
</tbody>
</table>

SOURCE OF QUESTION

TEXT Robbins
EDITION 5th
PAGE(s) 182-190, 446-447

ORIGINATOR ECFMG sample questions
DATE 1990

CORRECT RESPONSE B

APPLICATION
52. One week following an injection of aqueous penicillin, a patient develops joint pains, a red, pruritic skin rash, fever and lymphadenopathy. Presuming that the diagnosis of serum sickness is correct:

A. the antibody involved is probably IgD.
B. the antibody involved is probably IgA.
C. no antibody is involved, since this syndrome is secondary to a cell-mediated immune reaction.
D. the serum concentration of complement would be decreased.
E. readministration of penicillin at a later date could be accomplished without hazard.

SUBJECT Pathology
SUBJECT CATEGORY Diseases of immunity
SUBCATEGORY Hypersensitivity reactions
FILE NUMBER ???.??

SOURCE OF QUESTION
TEXT Robbins
EDITION 5th
PAGE(s) 184-187
ORIGINATOR ECFMG sample questions
DATE 1990

CORRECT RESPONSE D

APPLICATION
53. Which of the following statements about hypersensitivity reactions is **FALSE**:

A. type I hypersensitivity reactions rely on IgE antibodies
B. the Arthus reaction is a type III reaction
C. complement depletion usually results in type II reaction
D. T cells are fundamental to type IV reactions
E. type I reactions aid resistance to parasites

**CORRECT RESPONSE E**
5 Diseases of immunity
5.3 Immunologic tolerance and causative mechanisms of auto immune disease
5 Diseases of immunity

5.4 Acquired immunodeficiency syndrome

Home
6. **Neoplasia**

6.1 Pathogenesis of cancer; oncogenes and anti-oncogenes; tumour-host interactions
6. Neoplasia
   6.2 Characteristics of benign and malignant neoplasms
6. Neoplasia

6.3 Mechanisms of invasion and spread

Home
6. Neoplasia
   6.4 Laboratory diagnosis; grading and staging of cancer  Home
54. All of the following organisms cause a clinical effect via the production of an exotoxin except:

A. Clostridium tetani.
B. Staphylococcus aureus.
C. Escherichia coli.
D. Pseudomonas aeruginosa.
E. Vibrio cholera.

SUBJECT Pathology
SUBJECT CATEGORY Pathology
SUBCATEGORY ???.???
FILE NUMBER ???.???.???
SOURCE OF QUESTION TEXT Robbins EDITION 5th PAGE(s) 318-319
ORIGINATOR NZ faculty primary examination lecture course
DATE 1996
CORRECT RESPONSE D
APPLICATION
7 Infectious disease
7.2 Viral disease

55. Mumps virus is a -

A. adenovirus.
B. herpes virus.
C. paramyxovirus.
D. pox virus.
E. picornavirus.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td></td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td></td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.??</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOURCE OF QUESTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEXT  Robbins</td>
</tr>
<tr>
<td>EDITION  5th</td>
</tr>
<tr>
<td>PAGE(s)  346-347</td>
</tr>
<tr>
<td>ORIGINATOR NZ faculty primary examination lecture course</td>
</tr>
<tr>
<td>DATE  1996</td>
</tr>
</tbody>
</table>

| CORRECT RESPONSE C    |
| APPLICATION           |
7 Infectious disease

7.3 Bacterial infections—infections by pyogenic cocci, common gram negative infections,
infections if childhood, tetanus and tuberculosis [Home]

56. With Salmonella infection:

A. Salmonella typhi infection commonly by uncooked chicken
B. related to bubonic plague
C. typhoid fever is self limiting, short lived illness
D. carrier state for Salmonella typhi exists
E. Salmonella enteritidis has carrier state

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td></td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td></td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.???.??</td>
</tr>
<tr>
<td>SOURCE OF QUESTION</td>
<td>Robbins</td>
</tr>
<tr>
<td>TEXT</td>
<td>Robbins</td>
</tr>
<tr>
<td>EDITION</td>
<td>5th</td>
</tr>
<tr>
<td>PAGE(s)</td>
<td>331-332</td>
</tr>
<tr>
<td>ORIGINATOR</td>
<td>Masonic Hospital primary exam course</td>
</tr>
<tr>
<td>DATE</td>
<td>1996</td>
</tr>
<tr>
<td>CORRECT RESPONSE</td>
<td>D</td>
</tr>
<tr>
<td>APPLICATION</td>
<td></td>
</tr>
</tbody>
</table>
57. The virulence of Mycobacterium Tuberculosis is related to:

A. the production of exotoxin  
B. the production of endotoxin  
C. its ability to induce delayed type hypersensitivity  
D. its ability to escape killing by polymorphonuclear phagocytes  
E. its ability to release histolytic enzymes

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td></td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td></td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>???.??</td>
</tr>
</tbody>
</table>

SOURCE OF QUESTION
- TEXT Robbins
- EDITION 5th
- PAGE(s) 324
- ORIGINATOR Masonic Hospital primary exam course
- DATE 1996

CORRECT RESPONSE C

APPLICATION
58. At present the most useful method of epidemiological investigation of staphylococcal infections is to determine

A. colony and colour variation
B. M protein production
C. coagulase production
D. specific bacteriophage production
E. specific anti-haemolysin titre
Clinical features of malaria may include each of the following EXCEPT

A. cerebral haemorrhages.
B. polycythaemia.
C. splenomegaly.
D. hepatomegaly.
E. disseminated intravascular coagulation.
60. *Giardia Lamblia* may be spread by the faecal-oral route to people from all of the following **EXCEPT**:

A. people  
B. cats  
C. beavers  
D. bears  
E. moose

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td></td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td></td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>?? ?? ??</td>
</tr>
</tbody>
</table>

**SOURCE OF QUESTION**

- **TEXT** Robbins  
- **EDITION** 5th  
- **PAGE(s)** 334  
- **ORIGINATOR** Masonic Hospital primary exam course  
- **DATE** 1996

**CORRECT RESPONSE** E

**APPLICATION**
Regarding hydatid disease in man:

A. Amphotericin B is a recognised treatment.
B. Typically shows a pig/dog cycle in Australasia.
C. Is characterised by tapeworms in the intestines of humans.
D. Is characterised by hydatid cysts in dogs.
E. Human infection follows the ingestion of ova.
7 Infectious disease

7.5 Principles of sterilisation and disinfection

Home
62. Vitamin C deficiency results in

A. a decreased number of collagen fibres.
B. an increased elastin:collagen ratio.
C. formation of defective collagen fibres.
D. detachment of ribosomes in fibroblasts.
E. insufficient ground substance.

CORRECT RESPONSE C

APPLICATION
8 Environmental pathology
8.2 Chemical and drug injury Home
8 Environmental pathology
8.3 Physical injuries Home
The first-born infant of an Rh-negative 26 year old woman, who had two previous second trimester abortions, has severe haemolysis and circulatory failure. This most likely could have been prevented by treating the mother with:

A. a combination of IgG and IgM anti-D antibodies.
B. anti-D IgG during the mother's most recent pregnancy.
C. anti-D IgG upon termination of each of the first two pregnancies.
D. anti-D IgM during the mother's most recent pregnancy.
E. anti-D IgM upon termination of her first pregnancy.
64. Cells normally found in an atheromatous plaque include all the following, except

A. smooth muscle cells.
B. foam cells.
C. macrophages.
D. lymphocytes.
E. platelets.
65. Raynaud disease characteristically:

A. occurs almost entirely in young male cigarette smokers.
B. is associated with atherosclerosis.
C. occurs primarily in tropical climates.
D. is the result of a vasospastic reaction.
E. involves elastic arteries.

SUBJECT Pathology
SUBJECT CATEGORY
SUBCATEGORY
FILE NUMBER ???.??

SOURCE OF QUESTION
TEXT Robbins
EDITION 5th
PAGE(s) 499
ORIGINATOR ECFMG sample questions
DATE 1990

CORRECT RESPONSE D

APPLICATION
66. From inside to the outside, the layers of the arterial wall compose of:

A. endothelium, muscularis mucosa, external elastic lamina, adventitia
B. tunica interna, tunica media, internal elastic lamina, adventitia
C. endothelium, internal elastic lamina, muscle layer, external elastic lamina, adventitia
D. endothelium, muscle layer, internal elastic lamina, adventitia, external elastic lamina
E. endothelium, internal elastic lamina, muscle layer, adventitia
10. Cardiovascular system
   10.2 Venous thrombosis
10. Cardiovascular system
   10.3* Congestive cardiac failure Home
10. Cardiovascular system
   10.4* Ischaemic heart disease  Home
11. Respiratory system

11.1* Atelectasia  Home
11. Respiratory system
   11.2* Pulmonary congestion and oedema

67. Recent pulmonary infarcts are characterised by each of the following EXCEPT

A. subpleural location.
B. increased frequency in patients with heart failure.
C. pale colour.
D. wedge shape.
E. becoming abscesses when infected.
11. Respiratory system
   11.3* Chronic obstructive airways disease, asthma Home
11. Respiratory system
   11.4   Restrictive pulmonary disease   Home
11. Respiratory system

11.5* Hyperbaric oxygen  Home
68. Causes of a predominantly unconjugated hyperbilirubinaemia include all of the following, EXCEPT:

A. haemolytic anaemia  
B. breast milk jaundice  
C. viral hepatitis  
D. primary biliary cirrhosis  
E. Crigler Najar Syndrome Type II
69. All of the following causes of jaundice are associated with a predominantly unconjugated hyperbilirubinaemia **EXCEPT**:

A. haemolysis.
B. Dubin-Johnson syndrome.
C. Crigler-Najjar syndrome type I and II.
D. physiologic jaundice of the newborn.
E. Gilbert’s syndrome.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>SUBCATEGORY</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>838-841</td>
</tr>
<tr>
<td>SOURCE OF QUESTION</td>
<td>ORIGINATOR Dr John Maguire, Emergency Department, John Hunter Hospital</td>
</tr>
<tr>
<td>TEXT Robbins</td>
<td>EDITION 5th</td>
</tr>
<tr>
<td>PAGE(s)</td>
<td>DATE 1999</td>
</tr>
<tr>
<td>CORRECT RESPONSE</td>
<td>B</td>
</tr>
<tr>
<td>APPLICATION</td>
<td></td>
</tr>
</tbody>
</table>
70. In relation to the hepatitis viruses, which of the following is true?

A. Hepatitis A can produce cirrhosis
B. Hepatitis B is NOT present in stool
C. HBeAb confers immunity against Hepatitis B
D. Hepatitis C is commonly sexually transmitted
E. Hepatitis D increases the risk of hepatocellular carcinoma in people with hepatitis B infection

CORRECT RESPONSE B

APPLICATION
Hepatitis B

A. has an incubation period of 15-45 days
B. is spread by ingestion of contaminated seafood
C. most patients recover completely
D. 50% become healthy carriers
E. is a SSRNA virus

SUBJECT Pathology
SUBJECT CATEGORY Liver and biliary tract
SUBCATEGORY Hepatitis
FILE NUMBER ???.???.??

SOURCE OF QUESTION
TEXT Robbins
EDITION 5th
PAGE(s) 843-845
ORIGINATOR Masonic Hospital primary exam course
DATE 1996

CORRECT RESPONSE C

APPLICATION
12 Liver and biliary tract
12.3 Hepatic failure  Home
The pathogenesis of cirrhosis involves all of the following EXCEPT:

A. demolition of collagen in the space of Disse
B. chronic inflammation
C. conversion of Kupffer cells into fibroblast-like cells
D. loss of fenestrations in sinusoidal capillaries
E. disruption of normal hepatic blood flow
12a Gastrointestinal tract
   12.1a Oesophagus Home
12a Gastrointestinal tract
  12.2a Stomach Home
73. Crohn’s disease

A. is characterised by the presence of caseating granulomas
B. incidence peaks in fourth decade
C. involves the small intestine alone in 10% of sufferers
D. involves the colon alone in 30% of sufferers
E. affects men more commonly than women
12a Gastrointestinal tract
   12.4a Peritoneum  Home
13 Pancreas
13.1 Acute pancreatitis

Home
13 Pancreas
13.2 Chronic pancreatitis  Home
74. Which of the following is NOT a complication of long term diabetes mellitus?

A. accelerated arteriosclerosis.
B. diffuse glomerulosclerosis.
C. increased synthesis of type IV collagen.
D. increased myoinositol in nerves.
E. glycosylation of proteins to form advance glycosylate end products.
75. The following diseases have both renal and systemic manifestations. In determining an overall prognosis, the severity of the renal glomerular lesions is **LEAST** important in which of the following?

A. amyloidosis.
B. diabetes mellitus.
C. Goodpasture's syndrome.
D. shock.
E. systemic lupus erythematosus.

**SUBJECT** Pathology
**SUBJECT CATEGORY**
**SUBCATEGORY**
**FILE NUMBER** ???.??
**SOURCE OF QUESTION**
  **TEXT** Robbins  **EDITION** 5th  **PAGE(s)** 963-965  **ORIGINATOR** ECFMG sample questions  **DATE** 1990
**CORRECT RESPONSE** D
**APPLICATION**
76. Among the following, transitional cell carcinoma of the urinary bladder most often is associated with:

A. metastases to bone.
B. metastases to the kidneys.
C. metastases to the lungs.
D. metastases to the central nervous system.
E. local extension to surrounding tissues.
14 Renal system
14.3* Hypertensive renal disease  Home
14 Renal system
14.4* Abnormalities in acid-base balance Home
77. Each of the following assays would help distinguish haemolytic anaemia from iron deficiency anaemia EXCEPT

A. Coombs test.
B. haematocrit.
C. reticulocyte count.
D. serum concentration of bilirubin.
E. serum concentration of haptoglobin.
78. A blood film demonstrating red cell hypochromia is indicative of:

A. vitamin B₁₂ deficiency
B. bone marrow aplasia
C. Thalassaemia major
D. folate deficiency
E. pernicious anaemia

Subject: Pathology
Subject Category: Haematopoietic system
Subcategory: Anaemias
File Number: ???.???

Source of Question: Robbins
Edition: 5th
Page(s): 596-604

Originator: Masonic Hospital primary exam course
Date: 1996

Correct Response: C

Application
79. A favourable response to splenectomy is most likely to occur in

A. hereditary elliptocytosis  
B. Thalassaemia major  
C. paroxysmal nocturnal haemoglobinuria  
D. hereditary spherocytosis  
E. autoimmune haemolytic anaemia

**APPLICATION**

**COMMENT**  1.019  Answer: D (75%; + 0.36)  Splenectomy is of no value in the haemoglobinopathies or in paroxysmal nocturnal haemoglobinuria. It has some value in acquired haemolytic anaemia and hereditary elliptocytosis. The indication par excellence for splenectomy is hereditary spherocytosis (D correct).
80. A peripheral blood smear taken from a 72 year old man shows marked anisocytosis and poikilocytosis. The mean corpuscular volume is increased, and the neutrophils are hypersegmented. This patient probably has:

A. bone marrow hypoplasia.
B. pernicious anaemia.
C. sickle cell anaemia.
D. thalassaemia.
E. anaemia associated with chronic renal disease.

SUBJECT Pathology
SUBJECT CATEGORY Haematopoietic system
SUBCATEGORY Anaemias
FILE NUMBER ???.???

SOURCE OF QUESTION TEXT Robbins EDITION 5th PAGE(s) 592, 596-601, 603-605, 613-615
ORIGINATOR ECFMG sample questions
DATE 1990

CORRECT RESPONSE B

APPLICATION
15 Haematopoietic system

15.2* Leucopenia and leucytosis Home
15 Haematopoietic system
15.3* Blood groups, transfusions  Home
81. Prolactinoma can present with all, **EXCEPT**

A. increased menstrual bleeding  
B. bitemporal hemianopia  
C. galactorrhoea  
D. infertility  
E. hypogonadism in women

**SUBJECT** Pathology  
**SUBJECT CATEGORY** Endocrine  
**SUBCATEGORY** Pituitary  
**FILE NUMBER** ???.???.???

**SOURCE OF QUESTION**  
**TEXT** Robbins  
**EDITION** 5th  
**PAGE(s)** 1117  
**ORIGINATOR** Masonic Hospital primary exam course  
**DATE** 1996

**CORRECT RESPONSE** A

**APPLICATION**
82. Nodules in the thyroid

A. neoplastic change is more likely to occur in a solitary nodule than multiple nodules
B. male to female ratio 4:1
C. malignant nodules are often “warm” on scanning
D. solitary nodule at an early age is more likely to be benign than older age
E. men more likely to have benign tumours
83. Which of the following statements about thyroid nodules and thyroid carcinoma is NOT true?

A. most solitary nodules are not neoplastic  
B. “hot” nodules are more likely to be benign than malignant  
C. solitary nodules are more likely to be neoplastic than multiple nodules  
D. nodules in males are more likely neoplastic than in females  
E. nodules in younger patients are more likely to be benign than in older patients

SUBJECT Pathology  
SUBJECT CATEGORY Endocrine  
SUBCATEGORY Thyroid  
FILE NUMBER ???.???

SOURCE OF QUESTION  
TEXT Robbins  
EDITION 5th  
PAGE(s) 1133-1134  
ORIGINATOR Masonic Hospital primary exam course  
DATE 1996

CORRECT RESPONSE E

APPLICATION
Hyperparathyroidism associated with renal failure is thought to be caused by all of the following mechanisms EXCEPT:

A. phosphate retention
B. hypocalaemia
C. reduction in system of 1,25 (OH)₂ Vitamin D₃
D. uraemia
E. skeletal resistance to the calcaemic action of PTH
16 Endocrine
16.4 Adrenal cortex and medulla  Home
85. Osteoporosis may be secondary to all the following, except:

A. pregnancy.
B. hypopituitarism.
C. warfarin therapy.
D. thyrotoxicosis.
E. prolonged weightlessness in space.

CORRECT RESPONSE A
The pathogenesis of rheumatoid arthritis may involve all EXCEPT

A. infective agents with cross-reactive epitopes in common with collagen.
B. the HLA DR4 gene.
C. antibodies to autologous IgM.
D. cartilage destruction by neutrophils.
E. a destructive process that may eventually fill the joint.

CORRECT RESPONSE C

APPLICATION
87. The role of IL-1 and TNF in the pathogenesis of rheumatoid arthritis involves all of the following, **EXCEPT**

A. stimulation of collagenases from synovial cells.
B. up regulation of adhesion molecules.
C. inhibition of synthesis of proteoglycans in cartilage.
D. increasing production of nitric oxide.
E. stimulation of fibroblasts via platelet-derived growth factor.
88. Juvenile rheumatoid arthritis compared with adult rheumatoid arthritis.

A. asymmetrical versus symmetrical.
B. antinuclear antibody negative versus antinuclear antibody positive
C. small joints affected in both.
D. 10-20% remission for both.
E. RF -ve more often.

**SUBJECT** Pathology
**SUBJECT CATEGORY** Musculoskeletal system
**SUBCATEGORY** Osteoarthritis and rheumatoid arthritis
**FILE NUMBER** ???.???

**SOURCE OF QUESTION**
**TEXT** Robbins
**EDITION** 5th
**PAGE(s)** 1253
**ORIGINATOR** Masonic Hospital primary exam course
**DATE** 1996

**CORRECT RESPONSE** E

**APPLICATION**
17  Musculoskeletal system
17.3  Fractures  Home
89. In which of the following conditions is a cerebrovascular embolus most likely to occur?

A. verrucal (rheumatic) vegetations of the mitral valve.
B. bacterial endocarditic vegetations of the mitral valve.
C. ulcerative atherosclerotic plaques of the aorta.
D. bacterial endocarditic vegetations of the tricuspid valve.
E. thrombophlebitis of a lower extremity.

SUBJECT Pathology
SUBJECT CATEGORY Central nervous system
SUBCATEGORY ---
FILE NUMBER ???.???

SOURCE OF QUESTION
TEXT Robbins
EDITION 5th
PAGE(s) 112, 549-552, 1310
ORIGINATOR ECFMG sample questions
DATE 1990

CORRECT RESPONSE B

APPLICATION
90. Berry aneurysm

A. is third most common cerebrovascular disorder after atherosclerotic thrombosis and embolism.
B. otherwise known as fusiform aneurysm.
C. identifiable at birth.
D. multiple in 20% at autopsy.
E. aneurysms > 5mm have 50% risk of bleeding per year.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT CATEGORY</td>
<td>Central nervous system</td>
</tr>
<tr>
<td>SUBCATEGORY</td>
<td>---</td>
</tr>
<tr>
<td>FILE NUMBER</td>
<td>?? ?? ??</td>
</tr>
</tbody>
</table>

SOURCE OF QUESTION

<table>
<thead>
<tr>
<th>TEXT</th>
<th>Robbins</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDITION</td>
<td>5th</td>
</tr>
<tr>
<td>PAGE(s)</td>
<td>1312-1313</td>
</tr>
<tr>
<td>ORIGINATOR</td>
<td>Masonic Hospital primary exam course</td>
</tr>
<tr>
<td>DATE</td>
<td>1996</td>
</tr>
</tbody>
</table>

CORRECT RESPONSE

D

APPLICATION
Infections of the central nervous system occur by way of each of the following routes or mechanisms EXCEPT

A. blood vessels.
B. local extension.
C. lymphatics.
D. peripheral nerves.
E. trauma.
92. Regarding urinary calculi, which is not true?

A. all have an organic matrix of mucoprotein.
B. 20% of calcium oxalate stones are associated with increased uric acid secretion with or without hypocalciuria.
C. struvite stones are associated with infections by urea splitting bacteria.
D. a tendency to excrete alkaline urine may predispose to the formation of uric acid stones.
E. cysteine stones are associated with a genetically determined defect in renal transport of certain amino acids.

SUBJECT Pathology
SUBJECT CATEGORY Calculi
SUBCATEGORY ---
FILE NUMBER ???.??

SOURCE OF QUESTION
TEXT Robbins EDITION 5th PAGE(s) 984-985
ORIGINATOR Masonic Hospital primary exam course
DATE 1996

CORRECT RESPONSE D

APPLICATION
93. What percentage of people with renal calculi have BOTH hypercalcaemia and hypercalciuria?

A. 3.65
B. 5.0
C. 20.0
D. 55.0
E. 90.0