



Umanand Prasad School of Medicine

Department of Clinical Sciences

Final Surgical Exam Year 2017

FINAL COURSE EXAMINATION PAPER

SURGERY 602

Important Instructions to Students:

1. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper**.
3. Silent, non-programmable calculators are allowed, but not supplied.
4. Write all your answers in the answer booklet provided. If you need extra sheets, please ask from the supervisor. Write your name, course code and student identification number in the answer booklet and in the attendance sheet.
5. **This Final Course Examination Paper is worth 100 marks contributes 70% of the total course assessments.** Students must **at least score 40%** in this final exam to pass the course.
6. This paper contains four (4) sections A, B, C and D. Try to answer all questions.
7. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
8. This is a **Closed Book Examination**. The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

Examination Paper Content (Format):

<u>Section</u>	<u>Question</u>	<u>Content</u>	<u>Marks</u>	<u>Suggested Time</u>
A	1-100	Multiple Choice	100	60minutes
B	1-50	Short Answer Questions	100	30minutes
C	1-20	Anatomic Diagrams	100	60minutes
D	1-5	Case Studies	<u>100</u>	<u>30minutes</u>
		TOTAL	400	180 Minutes

1. Pus is basically which of the following:
 - a) A thick watery liquid containing RBC's
 - b) A bloody liquid like water
 - c) An exudate with inflammatory debris
 - d) A polydate fluid of high viscosity
 - e) A think aqueous solution of cations
2. The term clinical 'debridement' basically means:
 - a) Remove damaged and dead tissue
 - b) To culture in a Petri dish in oxygen
 - c) Incorporate and drain all the pus
 - d) Incise and send to the lab for study
 - e) To amputate disabled cells
3. The term 'sepsis' basically means:
 - a. To neglect indefinitely
 - b. To become coal black in a chemical reaction
 - c. Disturbed by changes in pH and alkalinity
 - d. Red cell and white cell proliferation
 - e. To be like 'rotting organic material'
4. The "sterile" basically means:
 - a. Absence of "all" known life forms
 - b. Free of bacteria and dirt
 - c. Opaque dish for clean cells
 - d. To boil in water
 - e. Hand sanitizer acceptable
5. Fournier's specialty was:
 - a. Pulmonary medicine and TB
 - b. "DFS"
 - c. Vascular surgery
 - d. Diabetology and lipids
 - e. Venereology or "STD's"DFS
6. The most frequently fractured bone in the wrist is the:
 - a. Navicular
 - b. Pisiform
 - c. Scaphoid
 - d. Hamate
 - e. Calcaneus
7. Which is true of a "compound fracture":
 - a. Requires immediate CT scanning
 - b. Low chances of infection
 - c. The epidermis is intact with an underlying hematoma
 - d. Requires use of high doses of tetanus
 - e. High chances of infection
8. Which is also true of a compound fracture:
 - a. Should never be irrigated with saline
 - b. Not particularly bothersome
 - c. Very rare in MVA's
 - d. Are usually easily managed
 - e. Have a high potential for non-union
9. Which type of fracture may be hard to see on a standard x-ray:
 - a. Fractured femur
 - b. Broken radius
 - c. Basilar skull
 - d. Proximal fibula
 - e. Clavicular fracture

- 10.** Diabetic foot sepsis or "DFS" is often associated with:
- Multiple debridements
 - Elevated serum iron levels
 - Complete recovery
 - Rapid healing following tetanus vaccination
 - A rapid return to normal
- 11.** DFS commonly stands for:
- Diabetic frequency status
 - Dismembered fetal sepsis
 - Diabetic food specialties
 - Diabetic foot sepsis
 - Distant frequency soundings
- 12.** Fournier's gangrene is commonly found in which anatomic region:
- Head and neck
 - Pelvis and lower trunk
 - Popliteal fossae
 - Under the clavicles
 - Back and periscapular
- 13.** Fournier's gangrene is also described as:
- Necrotizing fasciitis
 - A large pimple
 - Simple infection like a "big boil"
 - Normal finding in acute appendicitis
 - Rare among diabetics
- 14.** Nosocomial basically means:
- Related to medical student inexperience
 - Associated with drug manufacturing
 - Found in the prisons
 - Hospital acquired
 - Infection of unknown origin
- 15.** Fournier's gangrene is often seen at hospitals in patients with:
- Elevated pH
 - Acute MI's
 - Elevated blood glucose
 - Normal blood glucose levels
 - Warts
- 16.** Fournier's gangrene often cultures:
- Hepatitis B virus
 - Mycobacterium leprae
 - Only aerobes
 - Mixed flora
 - Fungi
- 17.** Edema fluid is located in which space:
- Intracellular
 - Intravascular
 - Intramembranous
 - Intercellular
 - Third
- 18.** HPV is known to cause which condition:
- Acute gastritis
 - Chronic appendicitis
 - Warts
 - Basal cell carcinoma
 - Squamous cancer of the skin

19. Meleney's gangrene is which type of infection:
- Bone infection
 - Limited to the brain
 - Fasciitis and subcutaneous tissue
 - Limited to abdominal organs
 - Hepatitis and splenitis
20. Surgically draining pus is often called:
- Fournier's debridement
 - The "Hilton" method
 - Big 'scrape off'
 - Gangrenous toothectomy
 - Debridement
21. Additionally, drained pus should be:
- Smeared and cultured
 - Collected under general anesthesia
 - Should be collected for x-ray study
 - Sent for scanning
 - Immediately disposed of
22. Many situations requiring the Hilton method are:
- Caused by viruses
 - Easily treated by vaccines
 - Related to cellulitis
 - Usually incurably malignant
 - Related to staph Related to cellulitis
23. Carbuncles are often seen in which situation:
- Hypertensives
 - Healthy newborns
 - Terminally ill hospice patients
 - Type II diabetics
 - Post STEMI cases
24. Carbuncles often involve which particular surgical treatment:
- Fine needle aspiration biopsy
 - Application of penetrating infrared rays
 - Wide field radiation
 - Squeezing to create pressure
 - Wide excision and debridement
25. Carbuncles often require
- Simple continuous suture closure
 - Multiple operative procedures
 - Primary wound closure
 - Application of isopropyl alcohol dressings
 - Use of non-sterile instruments
26. Carbuncles are often found in which area of the body:
- Periumbilical area in the obese
 - Back and posterior neck regions
 - Places where hair is scarce like behind the ear
 - Around the eyes and nose
 - Deltoid regions
27. Carbuncles often start in what structures:
- Nail beds
 - Hair follicles
 - Taste buds
 - Lacrimal glands
 - Merkel cells

28. The word 'carbuncle' literally means:

- a. Diabetic foot sepsis
- b. Like fungus balls
- c. "Black and blue tissue"
- d. "None of your business..."
- e. "Fiery jewels"

29. Treatment of carbuncles also usually involve:

- a. Needle aspiration
- b. The Hilton method
- c. There is no know treatment
- d. Limited excision and debridement
- e. Intense antibiotic administration

30. Carbuncle treatment frequently involve use of:

- a. Radiation
- b. Skin grafting
- c. Tetanus antitoxin
- d. Plaster of Paris
- e. Silicon skin dressings

31. Even a properly treated carbuncle will often result in which:

- a. Amputation of a leg
- b. Major scarring where it occurs
- c. Carcinoma of the CNS
- d. Complex fractures
- e. Skin cancer

32. Healthy bone maintenance depends on which cell:

- a. Osteocyte
- b. Osteon
- c. Osteoblast
- d. Osteoclast
- e. Osterogenes

33. Steel is basically an allow of iron and:

- a. Sulfur
- b. Copper
- c. Aluminum
- d. Carbon
- e. Tungsten

34. Stainless steel is a steel alloy containing which element:

- a. Tin
- b. Chromium
- c. Aluminum
- d. Zinc
- e. Radon

35. Gel based hand sanitizers often contain which of the following:

- a. CN
- b. AgNO_3
- c. Aqueous flouride
- d. Bleach compounds
- e. Ethanol

36. Such hand sanitizers can also contain which of the following:

- a. Gels
- b. Table sugar
- c. Glucose
- d. Methanol
- e. Boric acid crystals

37. Which of the following most commonly relates to "pyomyositis?"

- a. The digastrics
- b. The anconeus
- c. The quadriceps
- d. The flexi carpi ulnaris
- e. Right and left deltoids

38. The word "pyo" basically means:

- a. Watery
- b. Silk
- c. Virus
- d. Edema
- e. Pus

39. The 'indwelling catheter' was invented by:

- a. Dr. Niels Rovsing
- b. Dr. Edwin Hubble
- c. Dr. Louis Pasteur
- d. Dr. Frederick Foley
- e. Dr. Marie Curie

40. The rule of "nines" is most important in which type of situation:

- a. Sepsis
- b. Burn trauma
- c. Multisystem organ failure
- d. Radiation trauma
- e. Hanging

41. Who is credited with publishing the "Rule of Nines"?

- a. Louis Pasteur
- b. Anton van Leewenhoek
- c. Cardiologist Wilhelm His
- d. Alex Burns Wallace
- e. William Hot Harvey

42. The term "GCS" relates most closely to:

- a. Cardiac failure secondary to fluid overload
- b. Tracheal crush syndrome
- c. Hairline fractures of neck of the femur
- d. Liver abscess
- e. Damage to the Aqueduct of Sylvius

43. Lipomas are:

- a. Benign or non-metastatic
- b. Frequently malignant
- c. Often found near the mitral valve
- d. Never noted near the azygous system
- e. Never encapsulated

44. Bedsores are basically caused by:

- a. Lymphedema
- b. Edema
- c. Faulty ischial tuberosities
- d. Faulty interstitium
- e. Ischemia

45. The word 'staph' basically means:

- a. Pineapple like
- b. Bunch of grapes
- c. Cluster of beetles
- d. Massive fungus overgrowth
- e. Circularly collected

46. The 'strepto' basically means:

- a. Coiled and ready to stike
- b. Linearly organized
- c. Twisted
- d. Smashed
- e. Grape like

47. The word "pimple" basically means:

- a. Crusted scabs
- b. Having shingles
- c. Grave illness
- d. Lethal and small
- e. Like a virus

48. In medicine, the term MRSA means:

- a. Most RNA seen around
- b. Methicillin rich serum agglutinate
- c. More resistant nuclear albumin
- d. Methicillin resistant staph aureus
- e. Moderately rounded steroid action

49. In medicine the term ORSA means:

- a. Ortho right structured orthotics
- b. Otherwise random section apps
- c. Ornithine random staph auricular
- d. Oxacillin resistant staphy arueus
- e. Occasionally rectified striated anconeus

50. MRSA develops in part by:

- a. Mitochondrial shifting
- b. Natural selection
- c. Cross typing
- d. Vertical selection
- e. Organelle agglutination

51. Likewise, it also includes the mechanism of:

- a. Horizontal gene transfer
- b. Local membrane remodification
- c. RNA misteps
- d. Basic dynamic clustering
- e. Plaque formation status

52. MRSA organisms commonly have which factor:

- a. Benzene decoupling
- b. Cephalosporins nucleation
- c. Chloromycetin inhibition
- d. Beta lactamase
- e. Enzyme activation factor

53. MRSA is most troublesome in which situations:

- a. Sports stadiums
- b. Crowded airplanes
- c. People in small elevators
- d. Nursing homes
- e. Super markets

54. Which situation likely promotes MRSA:

- a. ASA taking patients
- b. Immune compromised patients
- c. A doctor's private office
- d. Crowded lecture halls
- e. The general public

55. Gangrene literally means:

- a. To swallow whole
- b. To have a bad odor
- c. To resemble blood
- d. That which eats away
- e. Lively and energetic

56. Comminuted fracture basically means:

- a. Disruption of all Sharpey's fibers
- b. Bone broken into no more than two pieces
- c. Cutting Volkmann's canals
- d. Bone broken into multiple fragments
- e. Periosteum discontinuity

57. Which is true of a "stress fracture" ...

- a. May be invisible on a standard x-ray study
- b. Easily seen on a standard bone x-ray
- c. Difficult to see on a bone scan
- d. Is usually painless
- e. Most often associated with car accidents

58. You would expect to find an epiphyseal line in:

- a. A 3 year old pre-schooler
- b. A 16 year old male
- c. An 18 year old female
- d. An 18 year old male
- e. An elderly man

59. You would expect to find an epiphyseal plate in:

- a. A 5 year old kindergartener
- b. A 26 year old male
- c. A 30 year old female
- d. A 40 year old male
- e. A grandmother

60. Plaster for fractures is made of:

- a. Iron carbonate
- b. Calcium borate
- c. Calcium sulfate
- d. Magnesium silicate
- e. Potassium chloride

61. Fracture of which bone will often allow walking at the time of injury:

- a. Neck of the femur
- b. Fibula
- c. Tibia
- d. Shaft of the femur
- e. Compound calcaneus

62. Volkman's canals are associated with:

- a. Healthy cartilage
- b. Passage of blood vessels
- c. Diseased Haversian systems
- d. Apoptosis
- e. Osteoblasts

63. Sharpey's fibers are associated with:

- a. Haversian systems
- b. Osteocytes
- c. Osteoblasts
- d. Cartilage
- e. Periosteum

64. The basic structural unit of bone is:

- a. Lacuna formations
- b. The osteon
- c. The Volkman factor
- d. The diaphysis
- e. Bony lacunae

65. Bone resorption depends on which cell:

- a. Osteoclast
- b. Osteoblast
- c. Osteophyte
- d. Osteoprogenitor
- e. Osteotrophite

66. Which bone cell is capable of cell division:

- a. Osteocyte
- b. Osteoprogenitor
- c. Osteoclast
- d. Osteoblast
- e. Osteon

67. The longest bone in the body is the:

- a. Humerus
- b. Femur
- c. Radius
- d. Ulna
- e. Tibia

68. This bone does not articulate with any other bone:

- a. Sternum
- b. Ilium
- c. Ishium
- d. Hyoid
- e. Mandible

69. In facial trauma, which bone is NOT a part of the 'eye socket'?

- a. Zygoma
- b. Sphenoid
- c. Maxilla
- d. Temporal
- e. Palatine

70. Which is the deepest layer of the scalp?

- a. Epidermis
- b. Periosteum
- c. Loose connective tissue
- d. Aponeurosis
- e. Skin

71. Which bone is NOT in the base of the skull?

- a. Temporal
- b. Occipital
- c. Sphenoid
- d. Parietal
- e. Ethmoid

72. Which bone is a facial bone?

- a. Ethmoid
- b. Vomer
- c. Sphenoid
- d. Parietal
- e. Frontal

73. Battle's sign involves which bone?

- a. Temporal
- b. Zygomatic
- c. Frontal
- d. Mandible
- e. Mastoid

74. Raccoon eyes are importantly associated with:

- a. The common cold
- b. Subdural hematomas
- c. Epidural hematomas
- d. Basilar skull fractures
- e. Vomer dislocation

75. The keystone bone of the skull is the:

- a. Sphenoid
- b. Ethmoid
- c. Parietal
- d. Occipital
- e. Zygoma

76. Two facial bones that are not paired:

- a. Lacrimal and nasal
- b. Nasal and palatine
- c. Inferior nasal concha
- d. Vomer and mandible
- e. Zygomatic and lacrimal

77. Bone often fractured in strangulation and hanging

- a. C1
- b. C2
- c. C3
- d. C4
- e. Laryngeal

78. Portion of brain stem connected to spinal cord:

- a. Pons
- b. Medulla oblongata
- c. Midbrain
- d. Sella turcica
- e. Cerebellum

79. C1 is called the:

- a. Axis
- b. Same as manubrium
- c. Vertebra prominens
- d. Atlas
- e. Stabilizer

80. The Jefferson fracture often occurs when:

- a. Whiplash occurs
- b. When a person slips on stairs
- c. When a person falls on an escalator
- d. When a person dives into shallow water
- e. When a person is wearing a proper seatbelt

81. The twelfth rib is known as a:

- a. Floating rib
- b. False rib
- c. True rib
- d. Cartilaginous rib
- e. Congenital rib

82. Which is true of the hyoid bone:
- a. Suspended from styloid process
 - b. Articulates with the mandible
 - c. Articulates with the zygoma
 - d. Supports the palatine ridge
 - e. Is wedged between the pterygoids

83. Which bone does not have a sinus cavity?
- a. Mastoid
 - b. Frontal
 - c. Sphenoid
 - d. Ethmoid
 - e. Zygomatic

84. The styloid process extends from which bone:
- a. Temporal
 - b. Zygoma
 - c. Mastoid
 - d. Frontal
 - e. Parietal

85. ABG's PO_2 90-98mmHg refers to:
- a. Oxygen attached to WBC's
 - b. Oxygen attached to Hb
 - c. Oxygen dissolved in the serum
 - d. Oxygen attached to cell membranes
 - e. Oxygen attached to free proteins

86. Oxygen saturation-% refers to oxygen:
- a. In solution in the blood
 - b. Oxygen attached to Hb sites
 - c. Oxygen attached to WBC's
 - d. Oxygen freedom
 - e. Oxygen attached to Mg

87. Ischemia basically means:
- a. Let run free
 - b. Infection is likely
 - c. To hold back
 - d. No sensations noted
 - e. Blue in color

88. The mumps basically means:
- a. Having shingles
 - b. Giving off foul odors
 - c. Looks like cancer
 - d. Is very painful
 - e. Whine like a beggar

89. The edema means:
- a. To swell
 - b. To shrink
 - c. To dry up
 - d. To drag down
 - e. To hold upward

90. The word decubitus means:
- a. Standing around
 - b. To stand up
 - c. Same as horizontal
 - d. To lie down
 - e. To be sideways

91. Which condition does NOT usually require incision and drainage:

- a. Pus filled sacs
- b. Big abscesses
- c. A 15cm diameter abscess over the left deltoid region
- d. Widespread cellulitis of the upper back
- e. Ludwig's angina

92. HPV is well known to be associated with:

- a. Cervical cancer
- b. Bronchogenic Ca
- c. Night sweats
- d. Breast malignancies
- e. Strokes

93. Which term applies to cervical collars:

- a. MRSA
- b. FNA
- c. Miami
- d. Turkey
- e. ABG

94. Ampule scoring means:

- a. Counting the numbers
- b. To scratch or incise
- c. To make a rough patch
- d. To identify nicely
- e. To keep clean

95. The most important cervical triangle is the:

- a. Submandibular
- b. Submental
- c. Occipital
- d. Carotid
- e. Posterior

96. Normally the liver has how many segments?

- a. 2
- b. 4
- c. 6
- d. 8
- e. 10

97. The two most common causes of acute pancreatitis are:

- a. Gallstones and Ethanol
- b. Gallstones and Influenza
- c. Ethanol and Pneumonia
- d. Spicy foods and Fizzy drinks
- e. Excess salt and pepper

98. The parotid glands are drained thru which duct:

- a. Ludwig's
- b. Wharton's
- c. Leven's
- d. Stensen's
- e. Sublingual

99. The submandibular glands are drained by which duct:

- a. Wharton's
- b. Stensen's
- c. Parotid
- d. Carotid
- e. Bartholin

100. The sublingual glands collectively are drained by:

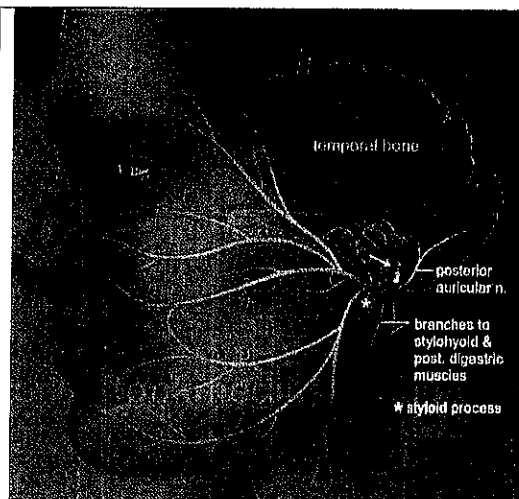
- a. Stensen's
- b. Wharton
- c. Rivinus
- d. Carotid
- e. Mandibular

Fill in the blanks with simple description or definition. Write clearly or you may lose credit. 100 marks

1 Pus	
2 cellulitis	
3 Hilton method	
4 Carbuncle	
5 Nephron	
6 Periosteum	
7 Tracheostomy	
Debride	
9 1° burn	
10 Quincy	
11 Mumps	
12 Roving's sign	
13 insertion site of Psoas muscle	
14 Battle's sign	
15 A stroke	
16 GCS	
17 Empyema	
18 Edema	
19 Sarcomere	
20 Inflammation-The 5 "R's"	
21 Classical Latin terms describing inflammation	
22 Wagner's classification	
23 Pitting edema and how measured	
24 "Goiter"	
25 "Double bubble" x-ray sign.	

26 Insertion site of obturator muscle	
27 Labdoid suture	
28 Ortho x-ray rule of 2's	
29 Meckels rule of 2's	
30 Average mass adult female tongue	
31 Average weight of spleen	
32 Total bones in body	
33 Avg mass adult brain	
34 Cardiac stroke volume	
35 Average cardiac output	
36 Foramen ovale	
37 Boundaries of femoral triangle	
38 Another name for the dens	
39 Longest muscle in body	
40 Longest bone in the body	
41 Avg number of alveoli	
42 Avg number of nephrons	
43 Avg length of esophagus	
44 Avg mass of spleen	
45 Avg mass adult heart	
46 Avg mass liver	
47 Site of formation of CSF	
48 Site of absorption of CSF	
49 Channel of drainage of Cerebral ventricles	
50 Saddle embolus	

Diagrams:



1. Name the branches:

- 1=
2=
3=
4=
5=

2. Diagram the 'rule of nines' in anterior anatomic view

3. Hepatic portal system

4. Important vessels of the root and arch of the aorta(keep simple-need not draw the heart)

5. In posterior anatomic view, draw and label a simple diagram illustrating a 10cm diameter circular shaped 'carbuncle' on the nape of the neck and a cruciate incision technique you would perform to treat it.	6. In anterior anatomic view draw a simple diagram showing the segmental anatomy of the Liver. 15
7. Diagram and label in anterior anatomic view the "biliary tree". You do NOT need to include the intestines.	8. Diagram and label in anterior anatomic view the right and left femur.
9. Diagram and label in anterior anatomic view the human pelvis	10. Diagram and label in superior anterior anatomic view, the conspicuous features of a typical lumbar vertebra.

Write clear brief answers for the following 4 Case studies. Be brief and write clearly in space provided.

#1- 17 year old male presents with a history and findings of classical acute appendicitis. Respond to the following issues and questions:

1. Briefly explain a "classical" <u>history</u> of this condition.	
2. Describe classical <u>physical findings</u>	
3. Describe basic important blood investigations you would need	
4. Describe other pertinent and important investigations you would need	
5. Describe your treatment recommendations	
6. At operation the appendix "looks" grossly normal. What do you recommend be done.	

Case study #2- A 47 yr female FOID presents with N&V and intermittent RUQ pain and fatty food intolerance. She is married G4P4 with an average BMI. Answer the following:

1Additional specific history you consider important	
2 Important necessary investigations you want to order.	
3Plain abdo x-ray films seal the Dx. What other non-invasive info would be important?	
4Your treatment recommendations?	
5But pt refuses Rx. What do you recommend and counsel at this point?	
6Pt says she wants to see another doctor. What is your response?	

Case study#3 - 22yr male driver in head on MVA collision; no seat belt. Blood spattered face and T-shirt. GCS=7. Zero breath sounds R chest. BP 80/40 Sat 60% .

1 Your approach; what do you do first	
2 His neck is bruised-what do you do?	
3 Absent BS on R. you have no x-ray service- what do you do?	
4 BS↓ -no lab no blood bank service-what do you do?	
5 You have basic A&E equipment-what do you do?	
6 BP↑ 100/80- what do you do next?	
7 Now coughing with resp distress-what do you do?	
8 you've do all you can on site- what do you do now?	

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