



NATIONAL SURGICAL ASSISTANT ASSOCIATION CERTIFICATION EXAMINATION STUDY GUIDE

The Anatomy Diagrams are from the “Atlas of Human Anatomy” Third Edition, by Frank H. Netter, MD published in 2002
The page numbers of the study guide are from the “Alexander’s care of the patient in surgery” Twelfth edition, by Jane C. Rothrock published in 2003

ANATOMY DIAGRAMS

- ❖ KNEE: POSTERIOR AND SAGITTAL VIEWS plate # 493
- ❖ KNEE: ANTERIOR VIEWS plate # 489
- ❖ MUSCLES OF HIP AND THIGH: POSTERIOR VIEWS plate # 477
- ❖ MUSCLES OF SHOULDER plate # 407
- ❖ URETERS plate # 327
- ❖ THYROID GLAND: ANTERIOR VIEW plate # 70
- ❖ HEART IN SITU plate # 207
- ❖ HEART: BASE AND DIAFRAGMATIC SURFACE plate # 210
- ❖ PELVIC VISCERA: FEMALE plate # 354

SURGERY SPECIALTY PROCEDURE LIST A: GENERAL SURGERY

1. Skin tumors (can also be Plastic Surgery).....1015
2. Split-thickness grafts (can also be Plastic surgery).....1015-1016
3. Skin lacerations (can also be Plastic Surgery) desgarros
4. Thyroglossal ducts.....631
5. Branchial clefts –Hendiduras branquiales...632
6. Pharyngal-esophageal diverticulum.....360
7. Thyroidectomy.....629-631
8. Phrenic nerve –Motor- Diaphragm- Cervical plexus
9. Breast biopsy.....647-648
10. Simple & modified radical mastectomy.....650-654
11. Radical mastectomy.....650
12. Thoracentesis y closed drainage –The removal of fluid from the chest cavity by puncture
.....1054-1056
13. Intrathoracic surgery1043
14. Diaphragmatic surgery360-361-1224
15. Paracentesis –The surgical puncture of a cavity for the purpose of removing fluid
16. Closure of perforated ulcer367
17. Other gastric surgery.....363-366-368
18. Ramstedt pyloromyotomy1226
19. Gallbladder & common duct surgery407-410-414
20. Pancreatic surgery.....418-420
21. Splenectomy/splenorrhaphy.....430
22. Small & large bowel surgery.....374-378-393
23. Appendectomy.....375
24. Abdominal-perineal resection.....385
25. Abdominal exploration.....355-356
26. I & D of intra-abdominal abscess –Drains-295
27. Traumatic laparotomy.....1348
28. Simple inguinal hernia.....434-439-451- pediatric – 1230-1231
29. Strangulated or recurrent hernia
30. Ventral or femoral hernia.....435-438
31. Pilonidal cyst.....393
32. Hemorrhoids.....391

33. Fistula in ano region.....	479
34. Hand infections (major) (can also be ortho or plastic surgery).....	871
35. Hand infections (minor) (can also be ortho or plastic surgery)	
36. All intra-abdominal and retro-peritoneal surgery	
37. Laparoscopic surgery	
a. endo cholecystectomy.....	410-413
b. diagnostic	
c. endo appendectomy.....	376
d. endoherniorrhaphy.....	446-447
e. endo fundoplication.....	361-363
f.	

B. PLASTIC SURGERY

1. Wolff grafts	
2. Pedicle grafts.....	815
3. Extensive burns.....	1019-1020-1032-1351
4. Parotid gland surgery.....	799-801
5. Lip & tongue surgery.....	1255
6. Surgery of ranula (sublingual cyst)	
7. Surgery of epulis (epulis gravidarum, tumor of the gums)	
8. Resection of jaw	
9. Breast biopsy (can also be General surgery).....	647
10. Simple mastectomy (can also be General surgery).....	650-652
11. Hand infections (major) (can also be ortho or general surgery)	
12. Hand infections (minor) (can also be ortho or general Surgery)	
13. Abdominoplasty & repair diastasis.....	1228
14. Suction lipectomy.....	1036
15. Breast augmentation or reduction.....	1025-1027
16. Tissue expansion.....	1008-1021-1022
17. Chemical peels (Mohs micrographic surgery –chemosurgery -).....	1019
18. Facelifts (Rhytidectomy).....	1034-1035
19. Blepharoplasty.....	1033-1034-681-682-683
20. Rhinoplasty.....	1033-762-764
21. Microvascular free transfers	
22. Hand (all soft tissue except replants).....	871
23. Nerve & tendon (elbow & distal).....	871-998-999
24. Fractures (metacarpal & distal).....	820-871-873
25. Facial fractures	
a. Mandible.....	1028
b. maxillary (LeFort I, II, III).....	1029
c. orbital rim	
d. zygomatic arch.....	1029
e. frontal sinus	
f.	

C. UROLOGIC SURGERY

1. Nephrectomy.....	610
2. Renal exploration for stone, cyst, & other such conditions as UPJ (ureteral pelvic junction) obstruction repair.....	605-609
3. Cystostomy.....	582
4. Open simple prostatectomy.....	569
5. Bladder surgery including cystectomy.....	581
6. Hydrocele, spermatocele, & scrotal surgery.....	1246
7. Testicular surgery.....	1247-1248-1249
8. Circumcision & meatotomy.....	1239
9. Major surgery of penis including hypospadias repair.....	1241
10. Radical prostatectomy.....	578
11. Retroperitoneal & pelvic lymph node dissection.....	556
12. Micro-surgical vasovasostomy.....	553
13. Ileal-conduit.....	599
14. Reimplantation of ureter.....	604
15.	

D. OBSTETRIC/GYNECOLOGIC SURGERY

1. Cesarean section.....	513
2. Cesarean hysterectomy.....	498-502
3. Ectopic pregnancy laparotomy or laparoscopy.....	495
a. Salpingostomy with tubal contents excised	
b. Salpingectomy	
4. Repair of uterine lacerations	
5. Hysterotomy	
6. I & D Bartholin duct abscess.....	487
7. Bartholin duct cystectomy.....	487
8. Perineotomy	
9. Perineorrhaphy	
10. Repair of rectocele.....	391-473-474
11. Repair of enterocele.....	473
12. Repair of cysto-urethrocele.....	473
13. Excision of Skene's duct gland (female urethra).....	455
14. Vulvectomy	
a. Simple.....	471
b. Radical with groin dissection.....	472
c. Radical with groin & gastric node dissection	
15. Hysterectomy	
a. Vaginal.....	497
b. Abdominal (total or subtotal).....	498
16. Uterine suspension.....	505-506
17. Marshall-Marchetti pubo-vesico-urethral suspension.....	587
18. Burch urethral suspension.....	587
19. Salpingectomy.....	507
20. Oophorectomy.....	506-507
21. Hypogastric artery ligation	
22. Appendectomy.....	375
23. Hymenotomy	
24. Incompetent cervical os surgery.....	483
25. Repair surgical rent bladder or bowel	
26. Ureteral repair	
27. Incisional hernia repair	
28. Myomectomy.....	500
29. Fundectomy	
30. Umbilical hernia repair	
31. La Forté vaginal repair	
32. Repair vesica-vaginal fistula.....	475
33. Repair recto-vaginal fistula.....	479
34. Excision of Meckel's diverticulum.....	374-375
35. Hymenectomy	
36. Wedge resection of ovaries	
37. Salpingostomy.....	507
38. Salpingoplasty.....	507
39. Tubal implantation into uterus	
40. Closure of vaginal fistula.....	475-479
41. Evacuation of pelvic abscess	
42. Evacuation of hematoma	
a. Abdominal wound	
b. Vaginal vault	
43. Colpectomy	
44. Plastic reconstruction of vagina with skin graft for congenital absence	
45. Perineoplasty	
46. Operative laparoscopy	
a. Lysis of adhesions.....	507
b. Laparoscopic assisted vaginal hysterectomy.....	497
c. Salpingostomy/Salpingectomy	
d. Myomectomy.....	500
e. Hysterectomy.....	502

f.	Burch procedure.....	587
g.	Oophorectomy.....	506
h.	Lymphadenectomy.....	472
i.		

E. NEUROLOGIC SURGERY

1.	Craniotomy.....	971
2.	Craniectomy.....	980
3.	Cranioplasty.....	984
4.	Laminotomy/Laminectomy.....	990
5.	Scalenotomy & cervical rib resection	
6.	Lumbar, thoracic-lumbar, & cervical sympathectomy.....	997
7.	Intervertebral discectomy (anterior or posterior) –Rhizotomy -	994
8.	Spinal fusion with/without mechanical fixation.....	995
9.	Vascular	
a.	Carotid endarterectomy.....	996-1106
b.	Intra-cranial artery aneurysm clipping.....	973
10.	Cerebrospinal fluid shunting procedures.....	970
11.	Nerve transpositions.....	999-869
12.	Insertion of intra-cranial monitoring devices	

F. ORTHOPAEDIC SURGERY

1.	Open fractures (compound)	
a.	Minimal soft tissue disruption	
b.	Marked soft tissue disruption	
2.	Spine	
a.	Disc excision	
b.	Laminotomy/Laminectomy	
c.	Fusion with/without instrumentation	
3.	Pelvic fractures.....	896
4.	Clavicle (displaced, non displaced).....	861
5.	Scapula (displaced, non displaced)	
6.	Shoulder (fracture, dislocation).....	859
7.	Humeral neck fracture (impacted, displaced).....	863
8.	Humeral tuberosities separated...866	
9.	Humerus mid shaft fracture, supracondylar, condylar	
10.	Elbow (fractures, dislocations).....	866
11.	Forearm fractures (single or both bone).....	869
12.	Colles fracture.....	871
13.	Reverse Colles (Smith) fracture	
14.	Fracture and dislocation of wrist and hand.....	871
15.	Femur (neck FX, proximal FX, intertrochanteric FX, subtrochanteric FX, mid shaft FX, supracondylar FX, condylar FX.).....	885
16.	Acetabular fracture of hip.....	873
17.	Patellar dislocations with/without fracture	
18.	Patellar fractures.....	886
19.	Tibial shaft fracture.....	889
20.	Tibial plateaux fracture	
21.	Fibular mid shaft	
22.	Trimalleolar fracture.....	892
23.	Bimalleolar fracture (Potts).....	
24.	Subtalar dislocation	
25.	Calcaneus fracture	
26.	Fractures of the bones of the foot.....	895
27.	Epiphyseal injuries	
28.	Arthroscopic procedures	
a.	Shoulder.....	921
b.	Elbow.....	923
c.	Wrist	
d.	Knee.....	915
e.	Ankle.....	924

29.Total joint replacement	
a. Shoulder.....	909
b. Elbow.....	912
c. Wrist/Hand.....	913
d. Knee.....	902
e. Ankle.....	913
30.Soft tissue reconstructive procedures	
a. Joint	
b. Tendon	
c. Ligament	
d. Nerve	
31.Amputation.....	1105
a. Upper extremity	
b. Lower extremity	

G. CHEST & CARDIOVASCULAR SURGERY

1. Thoracic	
a. Wedge resection of lung.....	1069
b. Pneumonectomy.....	1066
c. Pleurodesis	
d. Mediastinoscopy.....	1063
2. Cardiac	
e. Pericardiectomy.....	1156
f. C.A.B.G.....	1157
g. Mitral valve surgery.....	1165
h. Aortic valve replacement.....	1171
i. Saphenous vein an radial artery harvesting	
3. Vascular	
j. Femoral-popliteal bypass.....	1101
k. Abdominal aortic aneurysm.....	1097-1099
l. Carotid endarterectomy.....	1106-1108
m. A.V. fistula.....	1109
n. Vein stripping.....	1113
o. Axilla-femoral bypass graft.....	1101

H. TRAUMA SERVICES

1. Emergency thoracotomy.....	1346
2. Emergency abdominal exploration.....	1348
3. Aortic repair	
4. Retroperitoneal exploration	
5. Splenectomy	
6. Diaphragmatic repair	
7. Peripheral vascular repair	
8. Tracheostomy	
9. Irrigation and debridement primary and secondary	
10. Repair lacerations	
11. Debridement of necrotic tissue	
12. Free flap and vascularized grafts	

OUTLINE FOR STUDY GUIDE/TEST QUESTIONS

1. Anatomy	
Skull and brain	
Eye	
Ear	
Face, neck and throat	
Shoulder, axilla and breast	
Back	
Thorax	
Abdominal cavity and retroperitoneum	
Pelvis and perineum	

Inguinal and femoral regions	
Upper extremities	
Lower extremities	
2. Surgical Physiology	
Cardiac	
Hormonal	
Wound healing	281
Respiratory system	
Vascular	
3. Perioperative Microbiology	
Infectious processes	
Organisms	
Immune responses	
Risks to patients and personnel	
Universal precautions	
4. Surgical Pharmacology	
Adverse reactions	
Drugs commonly used in surgery	
Drugs affecting blood clotting	
Intravenous fluids	
Blood replacement	
Diuretics	
Anti-infective agents	
Irrigation solutions	
5. Anesthesia Methods and agents	219
Pre-anesthesia medications	
General anesthesia	
Complications of general anesthesia	
Stages of anesthesia	
Local anesthesia	
Alternate methods of anesthesia	
6. Bioscience	
A. Wound Healing	
B. Understanding diagnostic test	
A. Care end handling of surgical specimens	
B. Management of the critically ill patient	
C. Thermoregulatory devices	
D. Fluid, electrolyte, acid-base and nutritional balances	
E. Skin assessment	
7. Procedures	
A. Neurosurgery	
1. Laminectomy	
2. Aneurysms	
3. Brain tumors	
4. Lumbar spine procedures	
B. Eye surgery	
C. ENT surgery	
D. General surgery	
1. Breast	
c. Biopsy	647
d. Mastectomy	
e. Sentinel node biopsy	649
2. Hernias	
a. Inguinal, open vs. laparoscopic	
b. Ventral	
c. Diaphragmatic	
d. Epigastric	
e. Hiatal	
3. Thyroid and parathyroid surgery	
4. Gastric bypass	
5. Whipple.....	420
6. Liver resection.....	423

7.	Cholecystectomy, open vs. laparoscopic.....	410-407
8.	Laparoscopic Nissen procedures.....	361
9.	Bowel resections	
E.	Gynecologic surgery	
1.	D & C	
2.	Total abdominal hysterectomy	
3.	Marshall Marchetti Kranz.....	587
4.	Sterilization procedures	
5.	Laparoscopic procedures	
a.	Trocar positioning	
b.	Cystectomy	
c.	Oophorectomy	
F.	Urologic procedures	
1.	Radical retropubic prostatectomy	
2.	Nephrectomy	
3.	Cystectomy	
4.	Male and female continence procedures.....	587
G.	Plastic surgery	
H.	Orthopedic surgery	
1.	Total procedures	
a.	Hips	
b.	Knees	
2.	Arthroscopy	
a.	Shoulders	
b.	Knees	
3.	Fractures	
4.	Hand surgery	
a.	Wrist	
b.	Finger	
I.	Vascular surgery	
1.	Aneurysms	
a.	Abdominal	
b.	Endovascular repairs	
c.	Thoracic	
2.	Carotid surgery	
3.	Distal vascular	
4.	AV fistulas	
J.	Thoracic surgery	
1.	Mediastinoscopy	
2.	Thoracotomy for lobectomy or pneumonectomy	
3.	Node sampling for cancer patients	
4.	Trocar placement for thoracoscopy	
K.	Cardiac surgery	
1.	Coronary artery bypass surgery	
a.	Saphenous vein harvest, open vs. endoscopic	
b.	Lesser saphenous vein harvest	
c.	Radial artery harvest	
d.	Off-bypass surgery	
2.	Aortic valve replacement	
3.	Aortic arch aneurysms	
4.	Mitral valve repair vs. replacement	
5.	Ventricular aneurysm	
6.	Adult ASD	
L.	Cardiac congenital surgery	
1.	ASD	
2.	VSD	
3.	Coarctation	
4.	Patent ductus arteriosus	
5.	Tetralogy of Fallot	
M.	Transplant surgery	
1.	Liver	
2.	Kidney	

3. Heart
4. Lung
- N. Fundamental skills
 1. Monitoring devices
 2. Bladder catheterization
 3. Positioning of the surgical patient
 4. Application of pneumatic tourniquets
 5. Skin preparation
 6. Drapes and draping
 7. Operative instrumentation
 8. Visualization techniques
 9. Hemostasis
 10. Suturing techniques
 11. Surgical wound dressings
 12. Drainage systems
 13. Postoperative pain control methods
 14. Postoperative x-ray films
 15. Special equipment
 16. Surgical assisting skills
 17. Proper use of O.R. equipment
 18. Age appropriate care
- O. Complications in surgery
 1. Hemorrhage
 2. Perforation of viscus or cavity
 3. Contamination
 4. Exposure, retraction and compression injuries
 5. Cardiac events
 6. Sudden hypoxia
 7. Sudden shock
 8. Interruption of surgical supervision
 9. Critical equipment failure
- P. Ethical and legal considerations
 1. Surgeon supervision
 2. Anesthesiologist responsibilities
 3. Knowing the boundary, ethical and legal
 4. Reacting to emergency situations
- Q. Interpersonal skills for the O.R. team
 1. Stress management
 2. Team relationships
 3. Assertiveness vs. aggressiveness
 4. Recognition of limitations
 5. Surgeon/surgical assistant relationship
 - a. Role responsibilities
 - b. Limitations
 - c. Liabilities
 - d. Responsibilities for reporting and documentation