



Department of Surgery Resident - Curriculum for R5

| GOALS   | OBJECTIVES   | EVALUATION METHODS |
|---|--|--------------------|
|   | <b>Medical Knowledge</b>   |                    |
| How to assess & select patients with liver metastasis for resection/RFA         | Be able to draw segmental anatomy of the liver and correlate with patient's CT.  |                    |
| Be familiar with staging schemes  | Demonstrate ability to stage lung, breast, esophageal, melanoma.<br>List indications for neoadjuvant therapy prior to esophagectomy.   |                    |
| Develop expertise in management of neuroendocrine tumors                        | Be able to discuss neuroendocrine tumors and the gastroma triangle.<br>Be able to discuss the MEN syndrome and their management.   |                    |
|   | <b>Patient Care</b>  |                    |
| Develop skills treating patients with metastatic liver disease                  | Be able to use intra-op US to find liver metastasis and ID intrahepatic structures.<br>Be able to do RFA for liver metastasis.<br>Develop necessary skills to perform major liver resections.  |                    |
| Be able to independently run an outpatient clinic serving underinsured patients | Communicate with referring MDs, clinics.<br>Schedule patients for surgery.<br>Code (ICD-9, CPT) your clinic visits and surgeries.  |                    |
| Develop skill in major oncological operations                                   | Perform the following operations: pancreatic resection; liver resection; esophageal resection; lung resection.   |                    |
|   | <b>Practice Based Learning &amp; Improvement</b>   |                    |
| Strive to improve patient outcomes  | Responsible for creating weekly M&M conference.<br>Involvement in all complicated post-op patients with junior residents regardless of whether personally involved in the surgery.   |                    |
| Develop ongoing readings and evaluation of surgical literature                  | Critical evaluate articles.<br>Use current journal articles to present weekly (Dr. Standage Conference) for the residents.<br>Buttress M&M presentations with current literature.  |                    |
|   | <b>Professionalism</b>   |                    |
| Take responsibility for smooth running of the team                              | Round daily on all ICU patients & be familiar with all the resident patients.<br>Prepare and run the GI/Surgery conference.<br>Create assignments to maximize resident benefits and remedy any junior educational shortcomings.<br>Provide feedback to the residents regarding their performance.<br>Create the monthly call schedule.<br>Serve as a liaison with Dr. Standage.<br>Guarantee resident compliance with ACGME/ RRC mandated job requirements.<br>Teach and model responsible professional behavior for junior residents. |                    |

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|   | <b>System Based Practice</b>   |  |
| Leadership Skills--Overall Team Lead  | Provide leadership to the surgical team as it interfaces with other disciplines to provide timely and cost effective patient care.   |  |
|   | <b>Interpersonal &amp; Communication Skills</b>  |  |
| Be able to communicate effectively with referring physicians, consulting services and surgical attendings, support staff, patients and families | Communicate with referring physicians for resident clinic by phone, and with written consultation reports.<br>Provide appropriate feedback to residents and staff regarding their performance. |  |

**Reading List: Liver Metastases**

Bentrem DJ, DeMateto RP, Blumgart LH. Surgical therapy for metastatic diseases of the liver. Annu.Rev.Med. 2005;56: 139-56.

Abdalla EK, Vauthey JN, Ellis LM, et al. Recurrence and outcomes following hepatic resection, radiofrequency ablation, and combined resection/ablation for colorectal liver metastases. Ann Surg 2004; 239 (6): 818-27.

Mulier S, Mulier P, Ni Y, et al. Complications of radiofrequency coagulation of liver tumours. Br J Surg 2002; 89: 1206-22.

NG KK, Poon RT. Radiofrequency ablation for malignant liver-tumor. Surgical Oncology 2005; 14: 41-52.

**Department of Surgery Resident - Curriculum for R3**

| <b>GOALS</b>   | <b>OBJECTIVES</b>  | <b>EVALUATION METHODS</b> |
|--|--|---------------------------|
|  | <b>Medical Knowledge</b>   |                           |
| Become familiar with breast cancer staging                                     | Stage your breast cancer patients.   |                           |
| Understand adjuvant therapy of breast cancer                                   | Describe indications for hormonal therapy, e.g., tamoxifen, aromatase inhibitors.<br>Demonstrate familiarity with common chemotherapy protocols.   |                           |
| Understand the surgeon's role in the diagnosis of colorectal cancer            | Demonstrate familiarity with cancer screening guidelines.<br>Describe pre-op evaluation and staging of colorectal cancer.<br>Know the AJCC cancer staging. Interpret the pathology report, stage and patient and refer to medical oncology when appropriate. |                           |
|  | <b>Patient Care</b>  |                           |
| Be able to assess the axilla in breast patients                                | Demonstrate in the OR the proper sequence of steps to do a sentinel node biopsy.   |                           |
| Understand factors associated with a successful intestinal anastomosis         | Completely perform and critically assess an intestinal anastomosis.  |                           |
| Understand fundamentals of proper oncological resection for colorectal cancer. | Able to perform a systematic exploration of the abdomen during laparotomy.<br>Able to identify the correct vessel and location to perform an oncological high vascular ligation and radical lymphadenectomy.   |                           |
| Be familiar with the risks of colon surgery and steps to avoid them.           | Be able to identify and preserve retroperitoneal structures, e.g. ureter, gonadal vessels and duodenum.<br>Describe how to recognize, differentiate and order diagnostic tests in post-op patients for patients with ileus v. mechanical bowel obstruction.  |                           |
|  | <b>Practice Based Learning &amp; Improvement</b>   |                           |
| Understand how patient outcomes can be used to improve patient care            | Actively participate at surgery M&M conference when others present.<br>Present and defend at surgery M&M conference and be ready to make recommendations to reduce future problems both for the surgeon and health system.                                   |                           |
| Understand the role of surgical literature                                     | Learn how to critically evaluate the literature by researching the clinical problem and presenting it.   |                           |
|  | <b>Professionalism</b>   |                           |
| Learn the ABC's of running a service and overseeing R1 & R2 residents          | Be responsible for R1/R2 residents.<br>Learn to prioritize time to meet the job requirements but also avoid "dumping" on a fellow resident.  |                           |
| Work with ancillary services to provide optimal, integrated patient care.      | Attend multidisciplinary conferences.<br>Round when appropriate with ICU/floor nurses.<br>Attend & participate in monthly breast conference with Dr. N. Johnson.   |                           |
|  | <b>System Based Practice</b>   |                           |
| Practice cost effective health care  | Learn to use protocols and clinical pathways.<br>Discuss methods to provide for most cost effective delivery of health care with your attending.   |                           |

|   | <b>Interpersonal &amp; Communication Skills</b>                         |  |
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| Continue to learn active listening skills and practice compassion | Meet daily with patient and family as their primary contact person.     |  |
| Develop good teaching skills                                      | Responsible for teaching of surgery and transitional R1 & R2 residents. |  |
| Communicate effectively to enhance patient care                   | Daily discussions with nursing staff regarding patient care plan.       |  |

### **Reading List**

Smith, RA, Cokkimides, V, Eyre, HJ. American Cancer Society Guidelines for the early detection of cancer. CA Cancer J Clinic 2005; 55 (1): 31-44.

Nelson H, Petrellie N, Carlin A, et al. Guidelines 2000 for colon and rectal surgery. J Natl Cancer Institute 2001; 93: 583-96.

Otchy D, Hyman NH, Simmang C, et al. Practice parameters for colon cancer. DIS colon Rectum 2004; 47: 1269-84.

**Department of Surgery Resident - Curriculum for R2**

| <b>GOALS</b>   | <b>OBJECTIVES</b>  | <b>EVALUATION METHOD</b> |
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|  | <b>Medical Knowledge</b>   |                          |
| Understand treatment options in chronic failure                                      | Discuss and recommend "best" access for a variety of renal patient.  |                          |
| Understand clinical evaluations and preoperative duplex for dialysis access planning | Analyze a duplex examination report & discuss the appropriate decisions.   |                          |
| Be aware of treatment for Steal Syndrome   | Describe banding and the DRIL procedure.   |                          |
| Be able to treat 1° hyperparathyroidism  | Describe utility of pre-op imaging, use of intraoperative scanning & rapid PTH   |                          |
| Be able to treat 2° hyperparathyroidism  | Describe etiology & choice of operation. Describe problem with less than 4 glands recovered.   |                          |
| Understand appropriate treatment of thyroid cancer                                   | Discuss choice of operation & rationale for total thyroidectomy.   |                          |
| Be able to safely do laparoscopic surgery, e.g. lap chole                            | Describe maneuvers necessary for safe conduct of the operation including proper use of scope & traction, cholangiography.  |                          |
| Understand the surgeon's role in the treatment of colorectal cancer                  | Demonstrate familiarity with current screening guidelines for colorectal cancer. Describe preoperative evaluation and staging of the colon cancer patient. Know the ASCC cancer staging, interpret the pathology report. Stage the patient and refer to medical oncology when appropriate. |                          |
|  | <b>Patient Care</b>  |                          |
| Develop competence in maintenance of dialysis access                                 | Make recommendations for the following problems:<br>1. poor flow in catheter<br>2. persistent graft needle hole bleeding<br>3. arm swelling<br>4. pseudoaneurysm formation   |                          |
| Develop beginning colonoscopy skills.  | Demonstrate skill with STEP simulator based on skill assessment by MIS fellows.  |                          |
| Be able to evaluate Steal Syndrome   | Describe the use of capillary refill; use of ultrasound to evaluate distal blood flow with and without graft compression.  |                          |
| Be aware of treatments for hypercalcemia & hypocalcemia                              | Describe measures to treat these conditions.   |                          |
| Understand how to utilize technology to relieve morbidity of CVP's                   | Use the sonosite to evaluate the neck and guide placement of CVP's.  |                          |
|  | <b>Patient Care</b>  |                          |
| Understand factors associated with a successful intestinal anastomosis               | Completely perform and critically assess an intestinal anastomosis.  |                          |

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| Understand fundamentals of proper oncological resection for colon cancer   | Able to perform a systematic exploration of the abdomen during laparotomy.<br>Able to identify the correct vessel and location to perform an oncological high vascular ligation and radical lymphadenectomy.   |  |
| Be familiar with the risks of colon surgery and steps to avoid them  | Be able to identify and preserve retroperitoneal structures, e.g. ureter, gonadal vessels and duodenum.<br>Describe how to recognize, differentiate and order diagnostic tests in post-op patients for patients with ileus v. mechanical bowel obstruction.  |  |
| <b>Practice Based Learning and Improvement</b>   |  |  |
| Understand how patient outcomes can be used to improve patient care  | Actively participate at surgery M&M conference when others present.<br>Present and defend at surgery M&M conference and be ready to make recommendations to reduce future problems both for the surgeon and the health care system.  |  |
| Understand the role of surgical literature   | Learn how to critically evaluate the literature by researching the clinical problem and presenting it.   |  |
| <b>Professionalism</b>   |  |  |
| Learn the ABC's of running a service and overseeing R1 residents   | Be responsible for R1 residents.<br>Learn to prioritize time to meet the job requirements but also avoid "dumping" on a fellow resident.   |  |
| Work with ancillary services to provide optimal, integrated patient care   | Attend multidisciplinary conferences.<br>Round when appropriate with ICU/unit RNs.   |  |
| <b>System Based Practice</b>   |  |  |
| Practice cost effective health care  | Learn to use protocols, clinical pathways & preprinted orders.<br>Discuss methods for most cost effective delivery of health care with your attending.   |  |
| <b>Interpersonal &amp; Communication Skills</b>  |  |  |
| Continue to learn active listening skills & practice compassion<br>Develop good teaching skills<br>Communicate effectively to enhance patient care | Meet daily with patient and family as their primary contact surgeon.<br>Be responsible for teaching of the surgery & transitional R1's.<br>Have daily discussions with the nursing staff regarding patient care plan.<br>Create & present advanced powerpoint presentations utilizing the PACS system. |  |

### Reading List

Parks AG, Gordon PH, Hardcastle JD. A classification of fistula-in-ano. Br. J Surgery 1976; 63:1-12.  
 Whiteford MH, Kilkenny J, Hyman N, et al. Practice parameters for the treatment of perianal abscess and fistula-n-ano (revised). Dis Colon Rectum 2005; 48: 1337-43.  
 Smith RA, Cokkinides V, Eyre HJ. American Cancer Society guidelines for the early detection of cancer. Cancer J Clin 2005; 55 (1): 31-44.  
 Nelson H, Petrelli N, Carlin A et al. Guidelines 2000 for colon and rectal cancer surgery. J Natl Cancer Inst 2001; 93: 583-96.  
 Otchy D, Hyman NH, Simmang C, et al. Practice parameters for colon cancer. Dis Colon Rectum 2004; 47: 1269-84.

**Curriculum for R1**

| <b>GOALS</b>  | <b>OBJECTIVES</b>   | <b>EVALUATION METHOD</b>  |
|---|---|---|
|   | <b>Medical Knowledge</b>  |   |
| Understand the etiology & symptoms of renal failure                             | List IDDM, HTN, glomerulonephritis, polycystic kidney disease, renovascular as well as lesser problems, e.g. lupus, multiple myeloma, analgesics, lithium. Identify lethargy, anemia, anorexia, nausea and emesis, oliguria, edema.                           | End of rotation pass/fail oral exam   |
| Be aware of indications to start dialysis                                       | List hyperkalemia, acidosis, hypervolemia, effusions. Describe significance of glomerulofiltration rate (GFR).  | Daily discussions of these issues with Dr. Standage and other staff during rounds or surgery          |
| Be able to recognize & treat hyperkalemia                                       | Describe expected EKG changes & cardiac effect. Describe emergency management.  | Ad Hoc review of comments/ concerns from surgeons and staff   |
| Understand the options in acute renal failure                                   | Describe the use of acute vs. tunneled catheters. Summarize the use of right vs. left; use of quick sealing dialysis grafts.  | Mandatory attendance at M&M & Dr. Standage's weekly teaching conference with assignments and feedback |
| Understand the options in chronic renal failure                                 | Discuss the use of peritoneal dialysis, fistulae, & grafts (ePTFE, Thoratec, Procol). Discuss DOQI criteria.  |   |
| Know the vascular anatomy of the upper extremities                              | Sketch course of cephalic, brachial, & basilic veins, as well as, arterial anatomy & variations.  |   |
| Understand the preoperative assessment & planning process in patients with ESRD | Describe the clinical exam, including the Allen test, use of duplex & angiography   |   |
| Safely use local anesthetics  | Know toxic doses of lidocaine, marcaine & how epinephrine affects it.   |   |
| Understand the complications of dialysis access surgery                         | Recognize brachial artery thrombosis, acute steal syndrome, immediate access failure, graft infection.  |   |
| Understand chronic access dysfunction   | Describe etiology & treatment of chronic steal syndrome; significance of needle hole bleeding; arm swelling; high output cardiac failure; poor efficiency & use of KT/V, URR, etc. Describe etiologies & treatment of "tenckhoff" peritonitis & poor outflow. |   |
| Understand the etiology of hyperparathyroidism                                  | Describe 1°, 2°, 3° of hyperparathyroidism. Describe calciphylaxis.   |   |
| Understand the etiologies of thyroid nodules                                    | Describe appropriate w/u of thyroid nodule. Name 4 histological types of thyroid cancer.  |   |
| Understand post-op treatment for thyroid & parathyroid patients                 | Identify & treat hypoparathyroidism, recurrent nerve injury, neck hematoma, persistent hyperparathyroidism.   |   |

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| Understand the etiology of anal pain  | Describe the anatomy and standardized terminology/ definitions for appropriate assessment/documentation.<br>Differentiate the 3 most common causes of acute anal pain.  |   |
| Understand perirectal abscesses/fistula disease   | List the most common causes.<br>Be able to diagnose a perirectal abscess.   |   |
| Understand fistulas in ano  | Describe the Parks classification of anal fistulae.<br>Be familiar with treatment options for simple and complex fistula in ano.  |   |
| <b>Patient Care</b>   |   |   |
| Learn to collect & communicate patient information in an appropriate, confidential manner                   | Dictate accurate, concise & timely discharge summaries, H&Ps.<br>Demonstrate proper use of Legacy's Echart, PACS and EPIC systems.<br>Demonstrate awareness of HIPPA regulations & measures to ensure confidentiality.                      | Evaluation of resident dictations by staff surgeons<br><br>Report from GME & HIS re: delinquencies  |
| Learn to perform basic vascular dissection & anastomosis  | Demonstrate in the OR proper technical skills of vascular anastomosis.  |   |
| Understand maintenance of vascular access & indications for angiography, angioplasty & intravascular stents | Discuss concepts of 1° & 2° of patency, as well as, assisted patency.<br>Use embolectomy catheters, angioplasty wires, balloons, & endo flators.<br>Demonstrate appropriate use of heparin, angiogram dyes, etc.                            | Procedure specific evaluation forms appropriate to training level<br><br>Written preceptor evaluations of resident performance at the end of the rotation |
| Recognize hypocalcemia post op  | List physical signs of hypocalcemia; use of ionized Ca and treatment of symptomatic hypocalcemia.   |   |
| Learn perioperative management of patients unique to this service   | Apply knowledge of how to handle patients on insulin, coumadin, antihypertensives, plavix.<br>Discuss complications of coumadin, anti heparin antibodies, reversal of anticoagulation with Protamine or FFP/Vit K.                          |   |
| Learn the treatment of common anal/rectal disease   | Be able to diagnose a perirectal abscess.<br>Provide adequate drainage of perirectal abscess in the OR.<br>Perform exam under anesthesia to determine the extent of an anal fistula and perform adequate definitive surgery when indicated. |   |

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|  | <b>Practice Based Learning and Improvement</b>   |   |
| Understand how patient outcomes can be used to improve patient care                    | Attend & participate at surgical M&M conferences.  | Critiques of presentations at M&M and level of participation<br><br>Presentation to Dr. Standage's conference with feedback |
| Understand the role of clinical research   | Demonstrate critical evaluation of the literature.   |   |
| Understand evidence based medicine   | Select a common clinic problem, read the appropriate literature & present appropriate recommendations for the management to Dr. Standage & the other residents, e.g., use of NG tubes, early feeding of laparotomy patients, use of drains, etc. |   |
|  | <b>Professionalism</b>   |   |
| Demonstrate personal responsibility  | Demonstrate appropriate check outs; pass responsibility for coverage. Complete assessments in a timely manner but also avoid "dumping" on another resident.  | 360 ° Evaluation<br><br>Evaluation by fellow residents, patients, RNs, unit secretaries, etc.                               |
| Understand that ancillary services are also trained professionals deserving of respect | Respond to pages quickly & politely.   |   |
| Demonstrate respect & compassion for patients & their families                         | Meet & introduce yourself to patients preoperatively. When appropriate meet with family members to update them.  |   |
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|  | <b>System Based Practice</b>   |   |
| Understand how we interact with hospitals & insurance carriers                         | Describe principles of DRGs, ICD-9 & CPT codes.  | Assign ICD-9 and CPT codes for a given patient  |
|  | <b>Interpersonal &amp; Communication Skills</b>  |   |
| Learn compassion & active listening skills   | Demonstrate how to do a PARQ & procedure for a surgical consent.   | Observation by staff<br><br>Preceptor evaluations   |
| Communicate in a professional manner   | Interact with nurses and other health care professionals.  |   |
| Become an effective communicator   | Use current technology to present effective surgical cases/topics at M&M and other conferences.  |   |