



**University of Nevada School of Medicine  
Department of Surgery**

# **SYLLABUS**

**SURGERY CLERKSHIP**

***2009-2010***

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## WELCOME

First of all welcome to your Surgery Clerkship. We hope we will teach you much of what you need to know about surgery in order to be a good and safe physician, regardless of specialty choice. Our faculty, residents and fellows are dedicated to teaching.

Clerkship activities occur at three sites: the University Medical Center (UMC), the Veterans Affairs System in Las Vegas and the Veterans Affairs Sierra Nevada Health Care System, Reno (VA SNHCS, Reno). These three medical facilities offer differing and complementary components to the surgical clerkship, but the clerkship requirements, faculty, textbooks, priorities, evaluations, and goals remain constant throughout the rotation.

Our Department of Surgery website address is:

[www.medicine.nevada.edu/residency/lasvegas/surgery](http://www.medicine.nevada.edu/residency/lasvegas/surgery). Exploration of this site will provide some information about the academic, clinical, and research interest of our faculty as well as our Residency, Clerkship, and Research Programs. The Surgery Clerkship Syllabus can be found under the student section of the Department of Surgery website.

## DEPARTMENT CONTACT NUMBERS

### CHAIRMAN

William Zamboni, MD (702) 671-2278

### CLERKSHIP COORDINATOR

**Deborah Kuhls, MD** University of Nevada School of Medicine, 2040 W. Charleston Blvd., Suite 302, Las Vegas, NV 89102 • Phone: (702) 671-2201 • email [dkuhls@medicine.nevada.edu](mailto:dkuhls@medicine.nevada.edu) • Fax: (702) 385-9399

### CLERKSHIP ADMINISTRATOR

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### VA SITE COORDINATOR – LAS VEGAS

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### VA SITE COORDINATOR – RENO

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### ADMINISTRATIVE OFFICER – RENO

**Sandy Kosinski** VA Sierra Nevada Health Care System, 1000 Locust Street (112), Reno, NV 89502-2597 • Phone: (775) 328-1737 • Fax: (775) 337-2204

**Susan Kerley, RN, BSN**, Administrative Officer – Phone: (775) 328-1737 • Fax: (775) 337-2204

FACULTY AND FELLOWS	
LAS VEGAS FACULTY	TEAM*
Annabel Barber, MD (General)**	UMC1
Jennifer Baynosa, MD** (General)	UMC1
Richard Baynosa, MD	Hand Fellow
Leslie Browder, MD (General/Colorectal)**	UMC2
Tim Browder, MD **	Trauma/CC/UMC1
Michael Casey, MD**	Trauma/CC/UMC1
Jay Coates, DO**	Trauma/CC/UMC1
Dylan Curry, MD (Desert West Surgery)	UMC1
Neel Dhudshia, MD	UMC3/Cardiac & Vascular
Harry Donias, MD	UMC3/Cardiac & Vascular
Cassandra Joffs-Dunn, MD (General)	LVVA
Kevin Dunn, MD (General)	LVVA
Alexander Feliz, MD**	Pediatric Surgery
John Fildes, MD**	Trauma/CC/UMC1
John Gosche, MD, PhD**	Pediatric Surgery
Craig Iwamoto, MD (Desert West Surgery)	UMC1
Zane Kelly, DO**	Surgical Critical Care Fellow
Kayvan Khiabani, MD (Hand) Plastics**	Specialty
Daniel M. Kirgan, MD (Surgical Oncology)**	UMC1
Deborah Kuhls, MD**	Trauma/CC/UMC1
Pratibha Lal, MD	LVVA
Jim Lau, MD**	UMC2/Trauma
Terry Lewis, MD (Desert West Surgery)	Trauma/UMC1
James Lovett, MD (Desert West Surgery)	UMC1
Eddie Luh, MD	UMC2
John G. Martinez, MD (General)	LVVA
Ken McIntyre, MD (Vascular)**	LVVA/UMC3
John Menezes, MD (Plastics)**	Specialty
Shawn Nessen, DO**	Surgical Critical Care Fellow
Tsungju O-Lee, MD (ENT)**	Specialty
Juanne Osigweh, MD**	Acute Care Surgery Fellow
Nathan Ozobia, MD	Trauma/UMC2
Vincente Narciso, MD	LVVA
Matthew Ng, MD (ENT)**	Specialty
Lee Reese, MD (Desert West Surgery)	UMC1
Kelly Rippey, MD**	Acute Care Surgery Fellow
Himansu Shah, MD (Plastics)	LVVA
Frederick Schechter, MD (Thoracic)	LVVA
Gary Shen, MD (Transplant/General)**	UMC3
Joseph Thornton, MD (General/Colorectal)**	UMC2
Shawn Tsuda, MD**	UMC2
Robert Wang, MD (ENT)**	Specialty
Wydell Williams, MD (Desert West Surgery)	UMC2
William A. Zamboni, MD (Plastics)**	Chairman, Depart. of Surgery, Specialty Services

\*Las Vegas Teams: UMC1 (General, UNSOM), UMC2 (General, Private), UMC3 (General, CVT, Vascular and Transplant), Specialty (Plastics, ENT), Trauma/Critical Care \*\* Full-Time Faculty

**FACULTY AND FELLOWS**

<b>RENO FACULTY</b>	<b>TEAM</b>
Treat Cafferata, MD	Vascular
Patricia Eubanks May, MD**	General
Michael Gainey, MD	General
John Haller, MD	General
Phillip Lisagor, MD (Thoracic)	Chief of Surgery
Mitzi Miller, MD	Cardiothoracic
John Ryan, MD	Vascular
Anthony Twite, MD	Ortho

## OBJECTIVES OF SURGERY CLERKSHIP

### 1. A broad knowledge of the surgical implications of and current therapy for benign and malignant diseases of:

\* Denotes Focus of your initial general surgery reading

- a. The esophagus
- b. The stomach and duodenum
- c. The small and large intestine, rectum, anus, and appendix \*
- d. Hernias, all types including inguinal, umbilical, ventral, femoral and other types \*
- e. The pancreas, gall bladder, biliary tract, liver, and spleen \*
- f. The thyroid, parathyroid, larynx, pharynx, and oral cavity
- g. The breast \*
- h. The cardiac and vascular systems, including aorta, carotid and peripheral vascular
- I. The skin, soft tissues, and bone
- J. The lung and the pleural cavity
- K. Endocrine systems including adrenal, pancreas, thyroid and parathyroid
- L. Evaluation and resuscitation of patients with traumatic injury utilizing concepts in the TEAM book.
- M. Overview of ENT, Orthopedic Surgery, Neurosurgery, Urology, plastic surgery
- N. Pediatric diseases of the abdomen and chest including congenital anomalies.

### 2. Knowledge of general topics that relate to the care of surgical patients, including the following:

- a. Preoperative evaluation of patients
- b. Evaluation and treatment of acute abdomen \*
- c. Coagulopathy
- d. Nutrition, its assessment and provision
- e. Fluid and electrolytes
- f. DVT prophylaxis and treatment
- g. Indications for transfusion of packed red blood cells and other blood products
- h. Transplantation
- i. Types of shock and treatment
- j. Burns, including evaluation and resuscitation
- k. Infections and appropriate antibiotic use
- l. Wound healing
- m. Cancer
- n. Management of critically ill patients, including ventilator management, indications for invasive monitoring, including central and arterial line, and pulmonary artery monitoring
- o. Common post-operative surgical complications, including wound complications
- p. Post-operative complications
- q. Pain control following surgery

### 3. Competency in the following areas that relate to patient care:

- a. A history and examination of surgical patients with abdominal, breast, vascular, soft tissue pathology
- b. Differential diagnoses, work-up of potential surgical diseases of the abdomen, chest, soft tissue and breast
- c. Admission orders, progress notes, preoperative notes, post-operative notes.
- d. Ability to write a critical care progress note and present a critical care patient on rounds.
- e. Placement of IVs, placement of Foley catheters
- f. Management of surgical drains, tubes, catheters, tracheostomy, NG Tube

- g. Assist with Chest Tube Insertion and Removal
- h. Assist with Central Line, Arterial Line insertion, Femoral Venipuncture
- i. Proficiency in simple interrupted and running suture techniques
- j. Understanding of basic principles of laparoscopic surgery, ability to drive camera.
- k. Principles of sterile technique, universal precautions and universal protection technique.
- l. Identification of key surgical equipment and function.
- m. Patient safety in surgical procedures
- n. Management of surgical wounds
- o. Key principles of giving bad news to patients.
- p. Wound management
- q. Key areas of surgical skills

#### 4. INTERPERSONAL COMMUNICATION SKILLS

- a. Writing and presenting a complete history and physical, daily ICU notes and non-ICU patient notes, surgical admission orders, preoperative and post-operative assessment.
- b. Work with the surgical team including non-physician healthcare providers in the supervised care of assigned surgical patients.
- c. Interact with patients and family members in a professional manner in a variety of patient related settings including in-patient and out-patient.

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### CLERKSHIP CURRICULUM

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#### Orientation

Students will be expected to attend orientation on the first day of their surgery rotation. Students beginning their surgery rotation in Reno will attend by Pictel. During orientation, we will cover:

1. The structure of the clerkship, including conferences, three week rotation schedules; review syllabus
2. Surgical teams, including resident, attending and student roles
3. Administrative paperwork will be completed for UMC and the LV VA
4. Call schedules and responsibilities; other schedules
5. Weekly lecture and conference schedules
6. Surgical Histories and Physicals, daily notes, including critical care notes.
7. Introduction to surgical scrub and sterile technique unless previously covered by OB/GYN
8. Introduction to patient safety measures and considerations on surgical services
9. Hands-on suture lab (May be done separately at Reno VA)
10. Introduction to evaluating patients with abdominal pain
11. Introduction to key critical care topics
12. Student selection of a surgery student liaison
13. Patient and other logs, journal

#### Weekly Lecture and Conference Schedule

Every Friday Gloria Brown will be emailing you a schedule for the next week. This schedule will include lectures which are available to students in Reno by Pictel. **ALL students are expected to attend lectures.** The only exceptions are for rare surgeries like a Whipple procedure, open AAA, total thyroidectomy that you may not have an opportunity to see again. If you are going to miss a lecture it needs to be **approved by Gloria Brown or Dr. Kuhls.** If you have any questions, call Gloria Brown or Dr. Kuhls.

#### Case Conferences

Several General Surgery Case Conferences will be scheduled during the twelve weeks where ***students*** present clinical cases via Power Point. The surgery student liaison will organize these conferences. Cases are presented beginning how the patient presented, with key H&P findings, review of labs, X-ray and CT scan films and most importantly developing a logical differential diagnosis at each step along the process of patient evaluation. The discussion will emphasize problem-based learning, development of differential diagnoses and diagnostic approaches to identify the most likely diagnosis. Appropriate surgical decision-making and intervention will be emphasized.

Students on general surgery rotations at UMC and VAMC's will be responsible for choosing general surgery cases. All students are expected to attend Case Conferences, and these are typically scheduled during the middle six weeks when all students are in Las Vegas.

### **Location-Specific Conferences**

1. **All Las Vegas Services.** All students in Las Vegas are expected to attend Morbidity and Mortality Conference (M&M) each Tuesday at 7am on the 6<sup>th</sup> floor of the 2040 W. Charleston Blvd building. Additional hours of resident teaching follow, some of which is appropriate for students and will be included on your weekly schedule. On the first Tuesday of each month, Surgical Grand Rounds is at 7am, followed by M&M. Resident lectures follow M&M and we will indicate which of those you should attend.

2. **Reno and Las Vegas VA Services.** In addition, each service has its own conference schedule. VA facilities also have their own M&M and other conferences. (See appendices).

3. **Orthopedic Surgery Conference.** The students on Specialty and Trauma services are expected to attend a weekly Orthopedic Conference, where case presentations are made by rotating residents. Radiographic studies are reviewed, with an emphasis on classification, description and intervention for specific pathologies and injuries.

4. **Trauma and Critical Care Services.** Students on this rotation will have Trauma Morning Report, where interesting trauma cases are discussed each Wednesday from 11-12 noon. On Thursday there is a trauma lecture from 11-12 noon and on Friday there is a critical care lecture from 11-12 noon. All are held in the classroom in the Trauma Resuscitation area. Attending teaching rounds occur daily in the ICU.

5. **UMC General Surgery Services.** You will be expected to attend at least one Wednesday morning Cath Lab Conference on the 6<sup>th</sup> floor of the 2040 Building. In this conference, cardiologists, cardiothoracic surgeons and others participate in a discussion of how to manage individual patients who have significant cardiac pathology that has the potential for surgical intervention. Attending teaching rounds are held each Thursday 7:00- 8:00.

6. **Interdisciplinary Grand Rounds in Las Vegas.** On the third Tuesday of each month Interdisciplinary Grand Rounds are scheduled in Las Vegas. All students on rotations at UMC are expected to attend.

### **Attending Teaching Rounds**

Teaching Rounds are conducted on several surgical services and students participate in these. These are typically multi-disciplinary walk rounds, where a problem-based learning approach is utilized. Residents and students are expected to present patients and discuss relevant clinical medical problems. Chief residents conduct work rounds daily on each service and are expected to include resident and medical student teaching. Morning attending rounds are conducted at each VA location.

## **ROTATIONS/OUTPATIENT EXPERIENCES**

The twelve week surgery clerkship is divided into four three week rotations, as follows:

1. UMC 1 and 2 (General Surgery) and the expectation to participate in UMC3 Cardiothoracic and vascular surgery
2. Trauma Surgery and Surgical Critical Care
3. Specialty Service, which emphasizes Plastic Surgery including facial reconstruction, hand surgery non-facial reconstruction, burns, cosmetic surgery, Pediatric Surgery, and ENT.
4. VA and Pediatric Surgery
  - Reno VA, (three week rotation) which emphasizes General Surgery and Vascular Surgery. Other specialty surgery opportunities are available. Speak with your Site Coordinator, Dr. May. Students who complete their VA experience at the Reno VA will be assigned time with pediatric surgeons and will scrub in on at least one

cardiothoracic case.

- Las Vegas VA (two week rotation) which emphasizes General Surgery and Vascular Surgery. Other specialty surgery opportunities are available. Speak with your Site Coordinator, Dr. McIntyre. Pediatric/UMC3 Cardiothoracic and Vascular Surgery (one week rotation).

### **Other Specialty Experiences**

If you have specific surgical interests that are not specifically addressed, please see Dr. Kuhls or Gloria Brown. We will make every attempt to accommodate your interests.

1. **Transplant** experience consists of kidney transplants and multiple organ harvests on patients donating organs. The UMC3 Service handles organ transplants and renal dialysis access. Students should coordinate their surgical experience so that as many students as possible participate in a kidney transplant and organ harvest. Additionally, while students are on General Surgery call, they should scrub into all organ harvests and/or transplants and dialysis access surgeries.

2. **Orthopedic Surgery, Neurosurgery, and Burns**: While you are on Trauma/Critical Care you are ***encouraged to participate in specialty surgery on trauma patients***, such as orthopedic surgery, neurosurgery, ophthalmology and others. Private Trauma Attendings and UNSOM plastic surgery faculty admit burn patients. There are opportunities to evaluate acute burn patients and to scrub on burn surgeries while on Trauma or Specialty Service. The Chief Resident on Trauma and your specialty residents will know the schedule. Additionally, Specialty Service admits burn patients several days per month.

3. **Open Heart and Thoracic Surgery**. During your UMC general surgery rotations, each student is expected to participate in at least one open heart surgery and other UMC3 cardiothoracic or vascular cases. Please check the OR schedule that is posted approximately 7 pm for the next day. Your chief resident can help identify cases and introduce you to cardiothoracic surgeons.

### **Clinics and Attending Private Office Hours – One on One Time with Attending**

UMC1, UMC2, Specialty, Pediatric and Trauma rotations have outpatient private hour experiences *specifically for students*. Residents do not attend these office hours, so these give you one-on-one time with attending surgeons. Most rotations have several clinics that students, residents and Attendings attend. You will be assigned to clinics as you rotate through the surgical services.

**1. Trauma & Critical Care Students** - Wednesday at 1:00 pm, Patient Care Center, Suite 160, 1707 W. Charleston Blvd. Call Patty at 671-5150 to see how many patients are scheduled. One student per week.

**2. UMC1 Students** - Dr. Kirgan's multi-disciplinary Oncology Clinic with the Residents on Thursdays at 9:00 am on the 5<sup>th</sup> floor at UMC, main hospital. (UMC2 students are also welcome to attend)

UMC 1 General Surgery Clinic is scheduled every Tuesday at 2:00 pm at TLC.

H & P Clinic is scheduled every Friday at 8:30 am at TLC.

Private office hours with Dr. Dylan Curry are scheduled for 8:30 am on Mondays at Desert West Surgery. Private office hours with Dr. Lee Reese are scheduled for 1:00 pm on Fridays at Desert West Surgery. You will be given a schedule of when to attend these office hours.

### **3. UMC2 Students**

Dr. Thornton and Dr. L. Browder have office hours every Tuesday and Thursday in Suite 160, Patient Care Center. Gloria will specify on your schedule when you are to participate in the office hours.

UMC2 General Surgery Clinic is scheduled every Thursday at 1:00 pm at TLC.

H & P Clinic is scheduled every Friday at 8:30 am at TLC.

#### **4. Pediatric Surgery**

Dr. Feliz has scheduled surgery blocks on Thursdays and Dr. Gosche has scheduled surgery blocks on Fridays. Students will have the opportunity to participate in those surgeries and attend their clinics while on their Pediatric/UMC3 week. The students doing their VA rotation in Reno will be scheduled one office hour session with Dr. Gosche during their Specialty rotation.

**5. Specialty Students** –Students on Specialty Service will be assigned to ENT private office hours and TLC Clinics. ENT books are available through checkout. Dr. Wang and Dr. Ng conduct an oral examination at the end of the rotation to ensure that all key topics are discussed.

All Specialty students should also attend Plastics Clinic in BCU on Wednesday at 10:00 am.

In addition, one student will be assigned to attend each of Dr. Zamboni's office hours, and one of either Drs. Menezes or Khiabani's office hours during the three week rotation. Their private office hours are held in Suite 190, Patient Care Center, phone 671-5110.

G. **Student Urology Curriculum** American Urological Association's tutorial of essential knowledge in urology for third year medical students entitled, "National Medical Core Curriculum" To be completed by the end of the surgery clerkship. [http://www.auanet.org/content/education-and-meetings/med-stu-curriculum.cfm?WT.mc\\_id=EML1032NET](http://www.auanet.org/content/education-and-meetings/med-stu-curriculum.cfm?WT.mc_id=EML1032NET)

### **CALL RESPONSIBILITY**

**All Call is In-House, except for the Reno and Las Vegas VA rotations, where call is from home. On other rotations, in-house call is scheduled. Beepers are to be passed in person from student to student. They are not to be left in cars or call rooms. Lost beepers will be the responsibility of the student who last had the beeper. Any call that is missed Gloria must be notified. The call must be made up and will be rescheduled for another date.**

#### **Trauma and Critical Care Call (student trauma beeper # 381-0369)**

While on **Trauma/Critical Care**, the on-call student carries **two beepers**: a student trauma beeper #381-0369, as well as a trauma activation beeper. **Immediately following Trauma ICU rounds**, the on-call student should report to Trauma Resuscitation. Introduce yourself to the unit secretary, give the unit secretary your cell phone or beeper number and also contact the Junior Resident on Trauma call at # 381-0155. At 6pm a new resident team arrives, so the on-call student should page the Junior Resident #381-0155. On week-ends students will begin to respond to Trauma Activations after ICU notes are written.

The Trauma Junior Resident on call beeper is 381-0155. The trauma/ICU resident beeper is 381-0700. Students that are post call on Saturday will round with the residents, write notes and review them with the residents, and then can go home. The on-call student will round with the team.

#### **General Surgery Call – Las Vegas (student beeper #381-0027)**

General surgery call is taken by students on UMC1, UMC2, Pediatric/UMC3, and Specialty rotations. Call will be approximately every fourth night and the student will be expected to work with the senior or chief resident from that service during the day and with the in-house on-call resident at night. **Students are expected to call the resident on call at night (Beeper 381-0069) at approximately 6pm and stop by the OR to see what surgeries are scheduled and are in progress.** Refer to the resident call schedule for the name of the resident on call. The Specialty resident on call may also call you to assist with overnight specialty activities.

The **general surgery resident on call will carry beeper 381-0069.** Students are expected to participate in all on-call activities, including ER evaluations, Operative Cases, Floor Calls, etc.

#### **Call Log**

A log of call nights, signed by the resident on call each night will be completed and turned in at the end of the 12 weeks.

### **VA Rotations**

VA students have call from home in both Reno and Las Vegas.

## **CALL DEFINED**

### **VA Call**

VA call is from home, not in house. Students who are post-call typically participate in all of the following day's activities as it is rare to be in-house late at the VA hospitals. Speak with your Chief Resident if you have concerns.

### **In House Call on Trauma and General Surgery Services**

During the week days, students who are post-call from an all night the night before will be excused from their duties by 12 noon. On week-ends, post-call students leave after they have written notes and rounded with their resident teams. Students are not required to stay for attending rounds on week-ends when post-call. On Monday nights call responsibilities will end at 10:00 pm so you can rest in order to maximize your learning from the Tuesday lectures. Saturday's call goes until 10:00 pm Saturday night. This allows every student at least one day off per week.

### **General Surgery Call**

General surgery students on call will carry beeper 381-0027. On weekdays, one of the general surgery teams will take daytime call but beginning at 6pm the Night Resident will begin taking call. Students on general surgery rotations take call with their team during the day and beginning at 6pm will take call with the Night General Surgery Resident. You are expected to call the Night Resident on beeper 381-0069 at 6pm. Students on Specialty Service begin taking general surgery call at 6pm and again need to call the Night Resident at that time on beeper 381-0069.

On weekends, call begins at 6pm on Friday and your responsibilities will end after you have rounded with the residents, written notes and reviewed them with the residents on Saturday morning. Saturday's call begins after rounds on Saturday morning and goes until 10:00 pm Saturday night. Sunday's call begins after morning rounds on Sunday and goes through morning rounds on Monday. You are expected to call the General Surgery Resident on call on (beeper 381-0069) at the beginning of your call. Even if you are on your Specialty service rotation you are to stay with the general surgery team for your call on weekends. You will round with your team but then immediately start general surgery call.

If you are scheduled for call the day before a holiday, you are expected to fulfill your call requirements until after rounds the next morning (the first day of the holiday). If you wish to make travel plans for a holiday period, please check your call schedule. **No changes in the call schedule will be permitted unless reported to Gloria Brown and approved by Dr. Kuhls.** The last call day of the twelve-week rotation will be the Saturday before final examinations.

### **Trauma Surgery Call begins at the end of ICU Rounds every day.**

You are expected to call the Trauma Junior Resident (#381-0155) taking trauma call after ICU rounds are finished. At that time, turn your trauma beepers on and start to respond to trauma activations. If you have a cell phone or beeper number, give it to the Trauma Resuscitation Unit Secretary and to your Chief Resident. Refer to the section on In House Call on All Services for further details.

## **PROCEDURES AND MEDICATIONS**

Medical students generally do not administer medications and are to only administer medications under the DIRECT supervision of an Attending. Procedures are always supervised by resident physicians and/or attending physicians.

## **LECTURES, TIME OFF AND STUDY TIME**

All students are required to attend lectures. Pictel to students in Reno and Las Vegas allows students in both locations to participate in lectures.

Students who are not on call should leave their responsibilities no later than 6:00 pm during week days.

Students will have one day off per week.

Bring reading materials to the hospital. There will be “down time” between cases, etc. We highly recommend that you read everyday.

## **STUDENT SAFETY**

If you are leaving the hospital or medical school in the evening or at night and would like to request a security guard escort to accompany you to your car, call the security dispatch office at 383-1810.

If you are having parking issues or problems with your UMC ID badge, you can call 383-2776.

## **VAMC ISSUED PAGERS AND SCRUBS**

While rotating at the Reno VA you will be given digital pagers, managed by the Department of Surgery. These pagers are provided as a courtesy to students. Students will be responsible for returning pagers on the final day of their rotation to the Department.

Scrubs are available in the OR area and are the property of the VA and are not to be worn off premises.

Grades will be withheld until pager accounts are settled. Students rotating at the Las Vegas VA will not take call and will not have VA issued beepers. A VA representative will discuss any special procedures during orientation.

## **EXCUSED ABSENCES**

Please request any planned absence to Gloria Brown. Dr. Kuhls must approve all planned absences. Although any absences require notification of your senior surgical resident as well, the senior surgical resident does not have the authority to approve changes in the student schedule.

If you have an emergency such as illness, you must notify Gloria Brown (671-2338) or Dr. Kuhls directly as well as your senior resident.

## **PROFESSIONALISM AND HIPAA**

Your dress, hygiene and behavior must be appropriate for your future profession as a physician. Wear your white coat and identification badge at all times and remember to bring your stethoscope, a pen light and appropriate pocket books. Scrubs need to be worn in the OR and can be worn while on the Trauma/Critical Care service. However, professional attire must always be worn to Tuesday morning conferences and when out of the OR. If ties are worn by men, a tie tack should also be used to decrease the spread of infection. Long scarves have the same potential to spread infection.

Jewelry, piercing, tattoos and other personal effects that interfere with patient care and distract from your professional image should not be visible. Clothing that exposes midriff and strapless or spaghetti straps are not appropriate. Jewelry that could potentially fall into the operative field should not be worn in the OR. Fingernails must be trimmed short and fingernail polish and false fingernails cannot be used on the surgery rotation due to infection considerations. Only closed toe shoes should be worn, to both protect you and for infection control considerations. If you wear contact lenses you should wear a face shield while in the OR.

Remember to follow the HIPAA Privacy and Confidentiality Policies and not discuss patient information in public areas such as hallways and elevators. Patients, families and all members of the

healthcare team should be treated as you would want to be treated.

You are expected to prepare for assigned operative cases. Your chief resident should assign elective cases the day before. Residents should review all student notes either on rounds or later that day. If residents aren't able to review your notes early in the day, make a copy, carry in your pocket and discuss with your resident between cases or other available time.

## **Medical Student Fluid Exposure Procedures**

### **Las Vegas/University Medical Center**

#### **Procedure:**

#### **Who do I inform if I have an exposure?**

**Medical students** report the exposure to the **On Duty Administrator** and fill out a C-1 exposure form. The attending physician, resident or nurse should know who this On Duty Administrator is and how to contact them.

- A. **Monday-Friday, 8 – 5 p.m.**, (regular working hours): A member of the Exposure Evaluation Team will meet with the student as soon as possible to provide counseling, risk assessment and reach a decision with the student about the need for post-exposure prophylaxis.
- B. **Night, weekend, holiday**: A member of the Exposure Evaluation Team will be on-call and respond by beeper/phone to the talk with the medical student.

#### **Should I go to the emergency room?**

Emergency room visits will only be required if the injury requires emergency care. The **Employee Health Nurse Practitioner** will meet with the student within 72 hours of the exposure to review lab results.

#### **Does my insurance pay for the care I receive?**

Medical students are considered Health Care Workers by University Medical Center (UMC). **UMC will provide, at NO COST to all Health Care Workers, all necessary blood tests, initial counseling and early evaluation, and, if appropriate, a 28-day HIV post-exposure prophylaxis, as outlined in the Fluid Exposure Protocol.** All Health Care Workers will be evaluated and counseled within two hours by the UMC Exposure Evaluation Team.

#### **What types of exposures does this protocol cover?**

This protocol is designed to evaluate post-exposure treatment for HIV and Hepatitis B.

#### **Should I get any follow-up care?**

The protocol at UMC is designed to provide care/medications (if required). Students should follow up with the primary care clinics in Las Vegas.

#### **Where can I read the complete protocol?**

The complete UMC Fluid Exposure Protocol is available for review by students in the Office of Recruitment and Student Affairs, as well as the Department of Surgery and the Department of Obstetrics/Gynecology.

#### **Do all exposures put me equally at risk?**

Students who experience percutaneous injuries are the most at risk for exposures. Students who experience mucous membrane or non-intact skin exposures are less at risk. Complete information on procedures for the different exposure types are available in the Fluid Exposure Protocol at the locations lists above.

#### **What if I get told to do something different?**

This is a new policy and procedure adopted at the end of June 06 at UMC. It may take time for the information to get distributed to everyone. You can contact the Office of Recruitment and Student

Affairs or your Clerkship Coordinator if you have questions.

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## SURGERY CLERKSHIP TEXTBOOKS

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A separate listing of electronic resources available through Savitt Library is provided. Several books have been purchased by the department or donated for your use during the clerkship. Gloria Brown can check books out for your use during the rotation. Dr. Kuhls and Gloria Brown will discuss each book during orientation. You should plan on purchasing a general surgery text for your personal library, since you will almost certainly be treating patients with surgical disease, regardless of the specialty you choose. All borrowed books must be returned by the end of the surgery rotation. Several general surgery books are available at the Reno VA for student use.

Highlighted titles are suggested and are appropriate for student use. It is expected that you read recommended texts and not just review books in order to gain depth and breadth of knowledge. The general surgery texts that are not highlighted are available as reference materials and are too detailed for general student reading.

### RECOMMENDED GENERAL SURGERY TEXTS

<i><b>TITLE</b></i>	<i><b>AUTHOR</b></i>	<i><b>PUBLISHER</b></i>
<b>Current Surgical Diagnosis &amp; Treatment</b>	Way & Doherty	Lange
<b>Essentials of General Surgery</b>	Lawrence	
<b>Essentials of Surgery</b>	Becker	Saunders
<b>The ICU Book</b>	Marino	Lippincott Williams
<b>Current Critical Care</b>	Bongard & Sue	Lange
<b>Handbook of Evidenced Based Critical Care</b>	Marik	
<b>Trauma Handbooks</b>		
<b>Question and Answer Books (NMS, Appleton &amp; Lange)</b>	Iverson	Little Brown

### SUGGESTED REFERENCE BOOKS

Textbook of Surgery (REF)	Sabiston	W.B. Saunders
Surgery – Scientific Principles and Practice (REF) or	Greenfield	J.B. Lippincott
Principles of Surgery 7 <sup>TH</sup> Ed (REF)	Schwartz	McGraw/Hill

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ALL TEXTS ARE AVAILABLE FOR PURCHASE AT THE UNR BOOKSTORE OR AT THE  
COMMUNITY COLLEGE HEALTH SCIENCES BOOKSTORE ON WEST CHARLESTON BLVD  
AND FOR REFERENCE AT SAVITT MEDICAL LIBRARY AND UMC LIBRARY

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## SURGERY CLERKSHIP LIBRARY

### General Surgery

- Cardiac Surgical Care**, John Hopkins Manual (1)  
**Clinical Evidence Concise**, William W. McGuire, MD (1)  
**Cope's Early Diagnosis of the Acute Abdomen**, William Silen (2)  
**Current Consult Surgery**, Gerard M. Doherty, MD (2)  
**Current Essentials of Surgery**, Gerard M. Doherty, MD (1)  
**Current Surgical Diagnosis & Treatment**, Lawrence W. Way (5)  
**Dripps/Eckenhoff/Vandam Introduction to Anesthesia**, 8<sup>th</sup> Ed, DE Longnecker FL Murphy(3)  
**Essentials of General Surgery**, Peter F. Lawrence (6)  
**Essentials of Surgery**, James M. Becker, MD, Arthur F. Stucchi, PhD (4)  
**Essentials of Surgery Specialties**, Peter F. Lawrence (3)  
**NMS Surgery**, 4<sup>th</sup> Edition, Bruce E. Jarrell, R. Anthony Carabasi (3)  
**Pocket Surgery**, Lippincott Williams & Wilkins (1)  
**Principles of Surgery**, 7<sup>th</sup> Edition, Schwartz, Shires, Spencer (4)  
**Sabiston Textbook of Surgery**, Townsend (1)  
**Schwartz's Manual of Surgery**, F. Charles Brunicaardi (1)  
**Surgery** 6<sup>th</sup> Edition, Samuel Eric Wilson, MD (1)  
**Surgery, A Competency-Based Companion**, Barry D. Mann (3)  
**Surgery on Call**, Alan T. Lefor, Leonard G. Gomella (1)  
**Surgical Secrets**, Charles M Abernathy, Alden H. Harken (2)  
**The Mont Reid Surgical Handbook**, The University of Cincinnati Residents (2)  
**Textbook of Surgery-Pocket Companion** – Sabiston. Lyerly (1)  
**Washington Manual-Surgery Survival**, Jeremy Goodmans, Nirmal K Veeramachaneni (1)

### Trauma Surgery Books (To be checked out only on Trauma/CC rotation)

- Handbook of Trauma Pitfalls and Pearls**, Robert F. Wilson (2)  
**Trauma Manual**, Ernest E. Moore, Kenneth L. Mattox, David V. Feliciano (2)  
**Trauma Secrets**, Naude (1)  
**TEAM – Trauma Evaluation and Management**, American College of Surgeons (6)

### Critical Care Books (To be checked out only on Trauma/CC rotation)

- Handbook of Critical Care**, J B Hall & P. Murphy (1)  
**Handbook of Evidenced-Based Critical Care**, Paul Ellis Marik (3)  
**ICU Book**, 2<sup>nd</sup> Edition, Paul L. Marino (4)  
**ICU Book**, 3rd Edition, Paul L. Marino (2)  
**Sepsis Handbook**, 2<sup>nd</sup> Ed. Society of Critical Care Medicine (5)

### Otolaryngology (To be checked out only on SPECIALTY rotation) (4)

- Otolaryngology, A Case Study Approach**, Tami, Seiden, Pensak, Gluckman, Cotton (1)

### Question and Answer and Case-Based Books

- Abernathy's Surgical Secrets**, Alden H. Harken, Ernest Moore (1)  
**Appleton & Lange Surgery Review**, Wapnick, Cayten, Goldber, Agarwal, Savino (2)  
**Boards and Wards, USMLE Steps 2 & 3**, Carlos Ayala, Brad Spellberg (1)  
**Case Files: General Surgery**, Eugene C. Toy, MD, Terrence H. Liu, MD (5)  
**Field Guide to the Difficult Patient Interview**, Frederic W. Platt, Geoffrey H. Gordon (1)  
**First Aid for the Surgery Clerkship**, Latha G. Stead, S. Matthew Stead, Matthew S. Kauffman (2)  
**Pretest-USMLE Step 2**, McGraw Hill (1)  
**Pulmonary Pathophysiology**, 2<sup>nd</sup> Edition, Juzar Ali, Warren Summer, Michael Levitzky (1)  
**Surgery Pretest**, Lillian Kao (3)  
**Surgical Recall**, LH Blackbourne, (3)  
**Surgical Attending Rounds**, Cornelius M. Dyke, Eric J. DeMaria (3)

### **Other Textbooks**

- Case Studies in Neuroscience***, Jozefowicz, Holloway (1)  
***Cranial Nerves, Anatomy and Clinical Comments***, Wilson-Pauwels, Akesson, Stewart (1)  
***Clinical Anatomy Made Ridiculously Simple***, Stephen Goldberg, MD (1)  
***Handbook of Fractures***, 3<sup>rd</sup> Ed., Koval, Zuckerman (2)  
***Introduction of Anesthesia***, Longnecker, Murphy  
***Medicine***, 2<sup>nd</sup> Ed, Allen R. Myers (1)  
***Medicine***, 3<sup>rd</sup> Ed, Fishman, Hoffman, Klausner, Thaler (2)  
***Medicine Recall***, James D, Bregin (1)  
***Operative Pediatric Surgery***, Spitz & Coran (1)  
***Pediatric Surgery*** 4<sup>th</sup> Ed., Ashcraft, Hocomb, Murray (1)  
***Plastic Surgery***, Grabbs & Smith (1)  
***The Johns Hopkins Atlas of Human Functional Anatomy***, Leon Schlossberg (1)  
***The Washington Manual, Manual of Medical Therapeutics***, Washington Univ School of Med (1)

### **Other Reference Books**

- Iserson's Getting Into a Residency***, Iserson (1)  
***What Color is Your Parachute?*** Richard Nelson Bolles (2)

### **Other Recommended Reference**

#### **SAVITT LIBRARY has Access Surgery, an on-line surgery text, and more**

Pocket reference cards - Clerkship Series – [www.medquickcards.com](http://www.medquickcards.com)

Reference website - [www.emedicine.com](http://www.emedicine.com)

#### ***FREE interactive anatomy review site for medical students***

<http://www.winkingskull.com/navigation.aspx>

Can be customized to review images with/without anatomical labels, you can be tested on its recognition.

#### **Websites for Evidenced Based Medicine**

1. The Oxford Centre for Evidence-Based Medicine – <http://www.cebm.net/>
2. Toronto's Centre for Evidence-Based Medicine – <http://www.cebm.utoronto.ca/>
3. The Centre for Health Evidence – <http://cche.net/>
4. The University of Alberta's EBM toolkit – <http://med.ualberta.ca/ebm/ebm.htm>
5. The EBM Resource Center in New York – <http://www.ebmny.org/>
6. The U Mass EBM site – <http://library.umassmed.edu/EBM/>
7. BMJ's EBM On-Line – <http://ebm.bmjournals.com/>
8. Family Medicine's Evidence-Based Practice – <http://www.ebponline.net/>
9. Best BETs – <http://www.bestbets.org/>
10. The McMaster Online Rating of Evidence – <http://hiru.mcmaster.ca/MORE/>
11. EBM Tools by Alan Schwartz – <http://araw/mede/uic.edu/~alansz/tools.html>
12. AHRQ Clinical Resource Page – <http://www.ahrq.gov/clinic/>
13. The University of Sheffield's Netting the Evidence <http://www.shef.ac.uk/scharr/ir/netting/>
14. The society for Academic CME – [http://www.sacme.org/Research/EBM\\_resources.htm](http://www.sacme.org/Research/EBM_resources.htm)
15. The JAMA Users' Guides – <http://www.cche.net/usersguides/main.asp>
16. The Cochrane Library – <http://www.cochrane.org/>
17. CATwalk – <http://www.library.ualberta.ca/subject/healthsciences/catwalk/index.cfm>
18. Entrez PubMed – <http://www.ncbi.nlm.nih.gov/entrez>

## GRADING POLICIES

Our grading policies follow the University Of Nevada School Of Medicine's as defined in the Student Handbook. The grading scheme of the University Of Nevada School Of Medicine includes final grade assignments of Honors, High Pass, Pass, Fail, and Marginal.

## EVALUATIONS

### **CLINICAL PERFORMANCE EVALUATIONS BY FACULTY AND RESIDENTS (50% OF YOUR GRADE)**

Attending surgeons, fellows and resident physicians on each rotation provide evaluations. E-Value, an on-line system of computer generated evaluation forms, is currently being used. Details of the E-value system are introduced during the Transition Course and will be available to you during orientation. Evaluations will be weighted by the amount of exposure that evaluators have with you and they indicate this on the evaluation forms they complete.

### **NATIONAL BOARD OF MEDICAL EXAMINERS' (25% OF YOUR GRADE)**

This is a standardized exam, which tests your factual knowledge. The examination must be taken at the site of your last surgery service rotation.

Surgical subspecialties, like neurosurgery, orthopedic surgery and plastic surgery are included. We recommend practice questions such as those for the USMLE Part II for preparation. There is a minimum pass score for this examination. Any student failing the written examination must re-take the examination at a time determined by Dr. Kuhls and the highest final grade for anyone not passing the written examination will be Pass.

In order to get a final grade of honors in surgery, students must score in the 70th percentile or better.

### **ORAL EXAMINATION (25% OF YOUR GRADE)**

You will select your oral examiner by drawing a name from a list of faculty available for your examination in Las Vegas. Oral examiners in Reno will be assigned by a designated faculty member. Each examiner is given a booklet of standard cases that can be used. Cases are evenly chosen from the subject areas of: General Surgery, Metabolic and Wound Healing, and Trauma. The test lasts approximately one-half to one hour. Dr. Kuhls gives a review session for the oral examination approximately 3-4 weeks before the end of the clerkship. Practice oral examinations can be requested by any student.

Students who fail the oral examination must re-take the examination with another examiner at a time determined by Dr. Kuhls. The highest grade for subsequent oral examinations will be a Pass. The highest final grade for anyone not passing the oral examination will be Pass.

### **GRADES FOR CLINICAL PERFORMANCE EVALUATIONS AND EXAMINATIONS**

- H (Honors)
- HP (High Pass)
- P (Pass)
- M (Marginal)
- F (Fail)

Your FINAL GRADE will be determined mathematically based upon the above weighting. Final grades will be Honors, High Pass, Pass, Marginal or Fail. Any student with a final grade of Fail must re-take the rotation. Any student found to be cheating will receive a Fail for that examination.

Any student failing the course or one of the examinations will meet with Dr. Kuhls to formulate a plan to

address areas of weakness. Oral and written examinations make to retaken twice and if a student still has a failing examination grade, the clerkship must be repeated.

Contact Gloria Brown for your final grade if Dr. Kuhls has not contacted you.

### **Mid-clerkship Feedback and One-On-One Discussions with Dr. Kuhls**

Any concerns about performance or any other issues should be brought to Dr. Kuhls' attention immediately. Dr. Kuhls will meet with each student early in the third three week block to discuss the rotations thus far, patient logs, clinical performance evaluations, as well as student progress in reading on topics discussed earlier in this document and studying for the final examination. Dr. Kuhls is available to meet with students at any time during the clerkship.

## **ACADEMIC OR OTHER ISSUES**

Your medical education is a high priority of the Department of Surgery. Any issues or problems that arise during your clerkship, which impact your education, need to be discussed with Dr. Kuhls.

**Each group of students will designate a student liaison representative who can bring forth any concerns anonymously to either Dr. Kuhls or Gloria Brown.**

## **4<sup>TH</sup> YEAR CAREER COUNSELING AND LETTER OF RECOMMENDATION**

As the third year progresses, you will be required to choose both your senior electives as well as the residency training programs in your selected field of post graduate education. These are very important decisions that are inter-related. The surgical faculty is available to assist you in both endeavors. A commitment to a surgical career is not a prerequisite before discussing your academic future with any surgical faculty member. The faculty stands ready to provide information not only regarding a career in surgery, but the more broad questions of what electives are valuable in the senior year as well as the process of selecting a career pathway and appropriate residency program. Do not hesitate to utilize our expertise in these important areas.

Any students contemplating a career in surgery should meet with members of the surgical faculty early in the planning process. Our professional and experienced advice can be a valuable tool in evaluating a career in surgery as well as maximizing your ability to match to a surgical residency program that will satisfy your academic requirements. If during this planning process you change career directions the insights into the residency match provided by the surgical faculty will remain a valuable tool for whatever field of study you select.

Deborah Kuhls, MD                      Las Vegas      (702) 671-2338      [dkuhls@medicine.nevada.edu](mailto:dkuhls@medicine.nevada.edu)

## **4<sup>TH</sup> YEAR SURGERY ELECTIVES**

Students are responsible for scheduling and obtaining approval signatures on the elective course schedule form furnished by the Office of Medical Education. **ALL SURGERY ELECTIVES ARE HANDLED THROUGH THE SURGERY DEPARTMENT LAS VEGAS OFFICE BY GLORIA BROWN.** Contact Gloria Brown (702) 671-2338 for elective availability, any special requirements, and to obtain a signature for all surgery electives.

Electives may be scheduled in two to four-week blocks depending on the students needs. Electives are scheduled on a first come, first served basis. While completing each surgery elective you are expected to participate in assigned office hours and surgeries. We offer these electives to our

students first, but students from other medical schools can sign up for electives after the deadline has passed for UNSOM students. The deadline to submit your completed (including signatures) elective course schedule to the Office of Medical Education is May of each year.

E-Value elective evaluation forms will be completed by the course instructors at the conclusion of your elective. You will be required to complete an E-Value elective and preceptor evaluation at the end of each of your surgery electives for your final grade to be released for your transcript.

## **RESEARCH OPPORTUNITIES**

All full time faculty have active clinical research projects ongoing throughout the year. In addition, several faculty, both in Las Vegas and Reno, have basic science laboratories conducting investigations relevant to surgical diseases.

Students interested in becoming involved with either clinical or basic science research projects should contact Dr. Kuhls to be directed to the appropriate faculty member.

# Reno VA Surgery Clerkship Rotation Welcome!

1. Attending Rounds daily: 7:30 am in the ICU.
2. Conferences
  1. M & M Conference weekly, Friday 8:30 am, Room 1D197.
  2. Thoracic Conference, 3<sup>rd</sup> Friday of month, 12 pm, 3<sup>rd</sup> floor Surgery conference room.
  3. Vascular Conference, 1<sup>st</sup> and 3<sup>rd</sup> Thursdays, 12 pm, 3<sup>rd</sup> floor Surgery conference room.
  4. Journal Club: cyber journal club monthly.
  5. Breast Tumor Board, St. Mary's Hospital weekly, Friday, 7:00am.
  6. VA Tumor Board, 1<sup>st</sup> Friday, 12 pm, Room 1D197.
3. OR

Monday – Friday 8:00 am – approx. 5:00 pm.

\*Check your mailbox, 3<sup>rd</sup> floor Surgery office, for next day's OR schedule in afternoon.
4. Clinics

General Surgery- Dr. Miller, Dr. Haller: Monday 9 am – 12pm; Dr. Haller: 1 – 3pm.

General Surgery – Dr. May: Tuesday 9 am – 12 pm.

Thoracic Surgery: Monday 1pm – 3 pm

Vascular Surgery: Thursday 8:45 am – 12 pm.

Breast Clinic: Thursday 9:00 am – 12 pm.

\* Alternate Vascular Clinic and Breast Clinic attendance on Thursdays.
5. Call

Call for students is 1 in 4; residents 1 in 3. Call will be adjusted for travel needs during clerkship changes.

Home call. Must carry beeper/be available to come back for consults, patient care, or operative cases.

General Surgery Service

  1. One Chief Resident and Two Junior Residents: UCSF-East Bay Surgery Residency
  2. One Family Practice Resident: UNSOM
  3. Providers: Beth Bomberger, APN; Don Moore, FNP; Zola Ferguson, PA.

## **Additional Information**

### Contacts:

Sue Kerley, AO. Surgery Office #775-328-1737.

Sandy Kosinski, AA. Surgery Office #775-328-1242. She will issue you beeper and orientation schedule first day of rotation after Rounds.

Patricia May, M.D., Site Coordinator, #775-328-1242; beeper #775-689-0270; home #775-825-0445; cell #775-742-0615.

## Appendix II

### LAS VEGAS VA

- Rounds start at 6:00 am.
- Dr. McIntyre's vascular clinics are on Wednesday, Thursday, and Friday each week. Each student will attend two clinics each week on a rotating basis at the direction of the residents.
- M & M's are the 3<sup>rd</sup> Thursday of each month at 7:15 am.
- Call is from home.
- Contact Information:
  - Irene Giordano, National Surgical QI Program Coordination  
(702) 653-2784
  - Angel McDonald, Infection Control Coordinator  
(702) 636-3000 x6993

**Goal for students during the 3<sup>rd</sup> year surgical clerkship at the VA**

Vascular

- Obtain an accurate history and perform a physical examination on a patient with peripheral arterial disease (PAD)
- Learn the indications for intervention (open and endovascular) on patients with PAD
- Learn the interpretation of ankle/brachial index
- Learn the natural history of symptomatic and asymptomatic carotid stenosis
- Learn the indications for intervention on patients with symptomatic and asymptomatic carotid stenosis
- Learn the duplex scan criteria for diagnosing hemodynamically significant carotid stenosis
- Learn the indication for repair of asymptomatic abdominal aortic aneurysm (AAA)
- Learn the pathophysiology of varicose veins and both the conservative and surgical treatment
- Learn the correct preoperative evaluation based on risk stratification in the vascular surgery patient

Appendix IV

<b>LAS VEGAS VA CLINIC SCHEDULE</b>					
<b>Time</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
8:30 AM	<b>Ortho</b> (Erickson)	<b>Plastics</b> (Shah)	<b>Plastics</b> (Shah)	<b>Vascular</b> (McIntyre)	<b>Wound</b> (Martinez)
	<b>General Surgery</b> (Dunn) (Joffs) (Narciso)	<b>General Surgery</b> (Dunn) (Narciso)	<b>General Surgery</b> (Lal)	<b>Ortho</b> (Erickson)	
		Minor Procedures on 2nd Tuesday of each month (Dunn)		<b>General Surgery</b> Minor procedures (Narciso)	
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1:00 PM	<b>Ortho</b> (Erickson)	<b>Plastics</b> (Shah)	<b>Vascular</b> (McIntyre)	<b>Vascular</b> (McIntyre)	<b>Vascular</b> (McIntyre)
	<b>General Surgery</b> (Joffs) (Dunn)	<b>General Surgery</b> (Dunn) (Lal) (Narciso)	<b>General Surgery</b> (Lal)	<b>Ortho</b> (Erickson)	<b>General Surgery</b> (Joffs)
			<b>Plastics</b> (Shah)	<b>General Surgery</b> Minor procedures (Narciso)	<b>Plastics</b> (Shah)

# Speak Up For Safety

After a brief review of the notes, Tracy Reick, RN, BSN, an operating room nurse at the Nebraska Medical Center in Omaha, Neb., noticed that the patient about to undergo surgery had renal insufficiency, a piece of information critical to anesthesiologists when administering medications during surgery.

While timeouts have been used in the OR for several years, the new OR timeout briefing — changed to a very structured and team-oriented procedure with specific questions that are covered before every surgery — presented the perfect opportunity for Reick to voice her concern. As a result of her speaking up before surgery, medications were adjusted, preventing a possible adverse reaction.

It is incidents like this — in which potential errors or concerns are caught and resolved before they become serious — that the Nebraska Medical Center hopes to see more often since the implementation of crew resource management. CRM is a safety program involving communication tools and safety processes adopted by the aviation industry over the last 25 years that have resulted in dramatic decreases in accident rates. CRM was so effective that in 1992 the Federal Aviation Administration required CRM programs for all U.S. commercial airlines. The military, other government flight organizations, and foreign airlines quickly followed suit. Hospitals such as the Nebraska Medical Center hope CRM will have the same results in healthcare.

According to studies by the Institute of Medicine, the root cause behind the majority of medical errors appears to be communication. Between January 1995 and December 2004, the Joint Commission on Accreditation of Healthcare Organizations found the primary cause of patient harm reported in 2,966 sentinel events was communication failure, accounting for 66% of all incidents.

The goal of CRM is to improve communication and teamwork among healthcare teams, translating into fewer errors and the loss of fewer lives. When CRM was first developed, the majority of airline crashes, as many as 70%, were caused by failures in communication among crew members. At the time, airline crew members often viewed the captain as supreme commander, someone whose decisions or judgments could not be challenged. CRM set out to standardize communication and teamwork and resulted in significant improvements in aviation errors and safety. A similar shift in philosophy applies to healthcare.

While CRM can be applied to any area of a hospital in which care is provided by a team, most hospitals have focused on high-pressure areas such as critical care units, operating rooms, catheterization labs, intensive care units, EDs, chest pain teams, and trauma units. “These are the areas that generally have more communication and teamwork problems, start-and-stop situations, high stress, and time pressures,” says Stephen Harden, a former Navy Top Gun pilot and president of Memphis, Tenn.-based LifeWings Partners, LLC, the principal architect of LifeWing’s CRM program.

The Nebraska Medical Center recently implemented CRM in its operating rooms and plans to continue training additional staff and eventually adapt the process to all procedure-based areas.

“The use of CRM creates an atmosphere of mutual responsibility, not only for making sure everyone does his or her job, but also for making sure everyone on the team is informed,” says Shelly Schwedhelm, RN, director of perioperative and emergency services at the Nebraska Medical Center. “By replacing guessing and assumptions with clear communication techniques and tools, CRM enhances safety and optimizes clinical performance.”

A key component of CRM is the use of safety tools such as standardized presurgical routines, timeouts, debriefings, hand-off tools, and checklists that help standardize procedures and routines.

For the Nebraska Medical Center, the impact was beneficial during the first week of implementation. While conducting the presurgical timeout briefing, Schwedhelm says issues were identified in three different cases that prevented a potential error during surgery. These included incidents in which an equipment problem was identified, timely delivery of antibiotics did not occur, and ordered blood was not ready.

“Not everyone feels comfortable speaking up if they have a concern [in the OR]. This process forces the group to verbalize the goals and objectives of the procedure and provides an opportunity for each member of the

team to speak up so everyone is in agreement,” says Kathy Wonder, RN, BSN, lead coordinator for the hospital’s orthopedics, oral, and dental services.

At the end of the surgery, the team also conducts a debriefing. Questions such as “What went well?” and “What could we do better?” are asked, with the junior person on the team speaking first. “The briefing and debriefing procedures take just a minute or two,” says Wonder. “For the safety of the patient, it’s definitely worth it.”

The University of Missouri Hospital (UMH) in Columbia, Mo., which began implementation of CRM in spring of 2003, has seen similar results. One of the first areas in which CRM was implemented was in the ICUs. “Our unit has always prided itself on teamwork,” says Christina Vollrath, RN, BSN, assistant manager for the medical and neurosurgical ICU at UMH. “The problem was that our teams were divided between nursing, physicians, and other ancillary departments. Now we function as a team.”

Vollrath says the ICU team starts its day with a 9 AM briefing that is attended by nurses, doctors, respiratory therapists, pharmacists, dietitians, managers, unit clerks, and housekeeping. “Each one of these individuals may have contact with the patient at some point in the day. We don’t want people to feel uncomfortable speaking up when they notice something isn’t right,” she says.

The briefing begins with an introduction of each team member and then goes through a series of seven questions: How many patients are on service today? Will there be any transfers out today? Any new admissions that are pending? Who needs to be seen first? Are there any extubations? Any patients with a Glasgow Coma Scale of five or less? Does anyone have any safety issues or concerns? The briefings conclude with “As always, if you see anything you are uncomfortable with, please speak up.”

A 16-day observation period documented incidents in which one or more individuals spoke up with a concern during 10 of 16 briefings, accounting for a total of 15 patient issues, notes Karen Cox, PhD, manager of quality improvement and patient safety, Office of Clinical Effectiveness for UMH. As a result of concerns raised, seven patients were treated differently, from changing medications, to ordering diagnostic tests, to implementing order changes, to ordering an extubation.

“CRM has changed the overall dynamics and atmosphere of the unit,” says Vollrath. “Today, we are more team-oriented and very focused on safety. We have less of a blame culture. If something goes wrong, the attitude is that we are all in this together. Team members feel comfortable speaking up and know that their opinions will be heard. That, in and of itself, saves lives.”

UMH wants to see this same culture change permeate the entire institution and plans to implement CRM hospital-wide. Cox estimates they are 65% of the way there. CRM tools are being used in many areas of the hospitals. For instance, when changing staff in adult ICUs, clinicians are required to use a 21-step process that includes important data on lab reports, physical assessments, medications, IVs, and even family issues.

UMH also implemented a “one-minute game plan” when admitting a patient from the ER to an inpatient bed. The senior resident from the ER is required to call the charge nurse to provide a game plan of care and priorities. Now nurses are able to better anticipate patients’ care needs and order the right equipment and meds ahead of time. As a result, physicians believe they are receiving fewer calls from nurses once patients are admitted, notes Cox.

“In healthcare, we are always looking for ways to save time while improving patient safety,” says Vollrath. “In the past, we wouldn’t have taken the time to do a checklist; now we can’t afford not to. It’s a change in culture that has led us down more paths than we ever would have gone down before.”

UMH has also witnessed a gradual increase in nursing and overall employee satisfaction over the past few years, which it attributes, in part, to the implementation of CRM. From 2005 to 2006, the UMH nursing satisfaction percentile rose from 23rd to 66th based on Press Ganey measurements, Vollrath says.

The introduction and successful implementation of CRM takes support and a firm commitment from hospital leadership, says Vollrath. “You really need physician embracement and a management team that wants to make it work,” she says. Since the implementation of CRM, Schwedhelm says they are seeing a greater awareness of safety and quality issues throughout the Nebraska Medical Center. “People are bringing more issues to the forefront, and they are finding ways to implement CRM tools to improve the efficiency and effectiveness of all sorts of processes and procedures,” she says.

*Susan Meyers is a freelance writer.*