

Surgical Education Week: ASE/ARCS/APDS
Association of Residency Coordinators in Surgery
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***“Morbidity & Mortality Analysis: Relationship to
the Core Competencies”***

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M&M Conference

- Held weekly
- 3 – 5 Cases presented
- Resident involved in case writes info on board in Library each week
- Case summary prepared by resident – submitted to Chief Resident and Chair/PD
- Chief Resident & Chair/PD approve cases to be presented by resident
- Resident prepares Powerpoint slide presentation inclusive of pertinent patient information x-rays, pictures and literature search

The M&M Conference

- **Participants:**
 - **Attending surgeons**
 - **Radiology Department (resident/attending)**
 - **Invited guests (rescues)**
 - **Residents**
 - **Medical Students**
 - **Quality Review Nurses**

- **“Checklist” completed for each case/resident presented**
- **Assistant Program Director evaluates presentation and completes form**
- **Form is placed in resident’s file as part of 360° evaluation process**
- **Form is reviewed with resident during evaluation meeting with PD (or sooner if specific problem exists)**

Checklist for Residents for M&M Conference

Resident: _____ Date: _____ Patient: MR#: _____
 Total Score: _____ Presentation Score: _____ Knowledge Score: _____

	<u>% Possible</u>	<u>% Received</u>
PRESENTATION SKILLS:	25%	_____
ORGANIZATION:		
Attending notified & reviewed summary accuracy		
Description of the case: chief complaint / pertinent positives		
Action taken		
Outcome of action		
Status		
SPEAKING SKILLS:	15%	_____
Audible		
Clear/understandable speech		
Fluent		
Correct terminology		
Pace		
Speaks to audience		
Use of visuals (films, CT's, MRI's, etc.)		
In order before arrival at podium		
Indicates area of interest on film at appropriate point in presentation		
Correctly identifies area indicated		
Response to questions		
Restates question / Responds appropriately		
Eye contact		
Head held up / Eyes to audience		
CLARITY OF CONCEPTS	5%	_____
Accurate description		
Precise description		
COMPOSURE	5%	_____
<u>TOTAL PRESENTATION SKILLS:</u>	50%	_____
KNOWLEDGE OF CASE:		
Relevant anatomy and variations	10%	_____
(any demonstration e.g., draws, verbal, indicates on visuals)		
Treatment options	10%	_____
Surgical and non-surgical		
Acknowledges limits		
Indications for surgical intervention	10%	_____
Complications	10%	_____
Literature pertaining to the case	10%	_____
<u>TOTAL KNOWLEDGE DISPLAYED:</u>	50%	_____
Comments:		

Post-Conference

- Chief resident dictates summary of case presentations
 - **pertinent patient/case information**
 - **Summary of conference discussion**
 - **Patient's outcome/disposition**
- M&M analysis form completed
- Data from form transferred to Excel format

ACGME Competencies

1999 Outcome Project

<http://www.acgme.org/Outcome>

✓ Patient Care

“Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.”

✓ Medical Knowledge

“Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavior) sciences and the application of this knowledge to patient care.”

✓ Practice Based Learning & Improvement

“Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.”

✓ **Interpersonal & Communication Skills**

“Residents must be able demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.”

✓ **Professionalism**

“Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.”

✓ **Systems-Based Practice**

“Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.”

Reasons For Choosing M&M Characterization As Data Base

- M&M Characterization = root cause analysis
- Events improve patient safety if actionable format
- Many events have low barriers to change
- Data requests & JCAHO requirements accessible
- Operating privileges + recredentialing data
- P4P data
- Familiar bridge for mind set culture changes
- Decrease peri operative complication avoidable costs

• **CHARACTERIZATION OF SURGICAL MORBIDITY**

• Instructions: 1. Check one or more pertinent factors; 2. Write specifics in adjacent space or space below; 3. Attach a copy of the case to this paper.

• Date case presented to M&M conference: _____

• Initials: _____ Age: _____ Sex: _____ MRM _____

• **1. Overwhelming Disease on Admission:**

- 1 - Cancer 2 - CNS compression 3 - DIC 4 - Infection 5 - Trauma
• 6 - Vascular 7 - Other System _____

• **2. Reasons for Delay in Treatment:**

- 1 - Not hospitalized in a timely fashion
• 2 - Too early discharge from Emergency Department or Hospital
• 3 - Prolonged time on non-surgical service and/or delayed consultation with surgery
• 4 - Prolonged time on Surgical Service before definitive diagnosis
• 5 - Family directive to delay or not permit surgery

• **3. Diagnostic or Judgment Complication:**

- 1 - Underestimation of disease severity
• 2 - Non-consideration of disease
• 3 - Wrong system implicated
• 4 - Wrong test ordered
• 5 - Test misinterpretation

• **4. Treatment Complication:**

- 1 - Medication problem or drug reaction
• 2 - Inadequate medicine - insufficient treatment
• 3 - Cardiac / GI / Hematological / Hepatobiliary / MOF / Peripheral Vascular / Pulmonary
• 4 - Over aggressive treatment
• 5 - Anesthesia problem

• **5. Technical Complication (Intra-op or Post-op)**

- 1 - Hemostasis - Internal bleeding / Hematoma / Vascular Injury
• 2 - Leak / Fistula / Obstruction / Stoma Malfx
• 3 - Closure - Wound infection / Internal infection or abscess / Dehiscence / Evisceration / Foreign body - sponge
• 4 - Catheter complication
• 5 - Inadvertent opening in viscera
• 6 - Device / Implant / Graft complication
• 7 - Nerve injury

• **6. Resolution:** _____

• **7. Action Recommended:** _____

Inpatient & Outpatient Complication Totals

<u>Year</u>	<u>Patients</u>	<u>M&M</u>	<u>%</u>	<u>Events</u>	<u>%</u>
1998	5074	73	1.44	146	2.88
1999	4648	72	1.55	125	2.69
2000	6600	78	1.18	131	1.98
2001	7252	82	1.13	129	1.78
2002	7168	102	1.42	145	2.02
2003	7800	102	1.31	155	1.99
2004	7461	105	1.41	139	1.86
2005	7538	100	1.33	162	2.15
Total	53541	714	1.33	1132	2.11

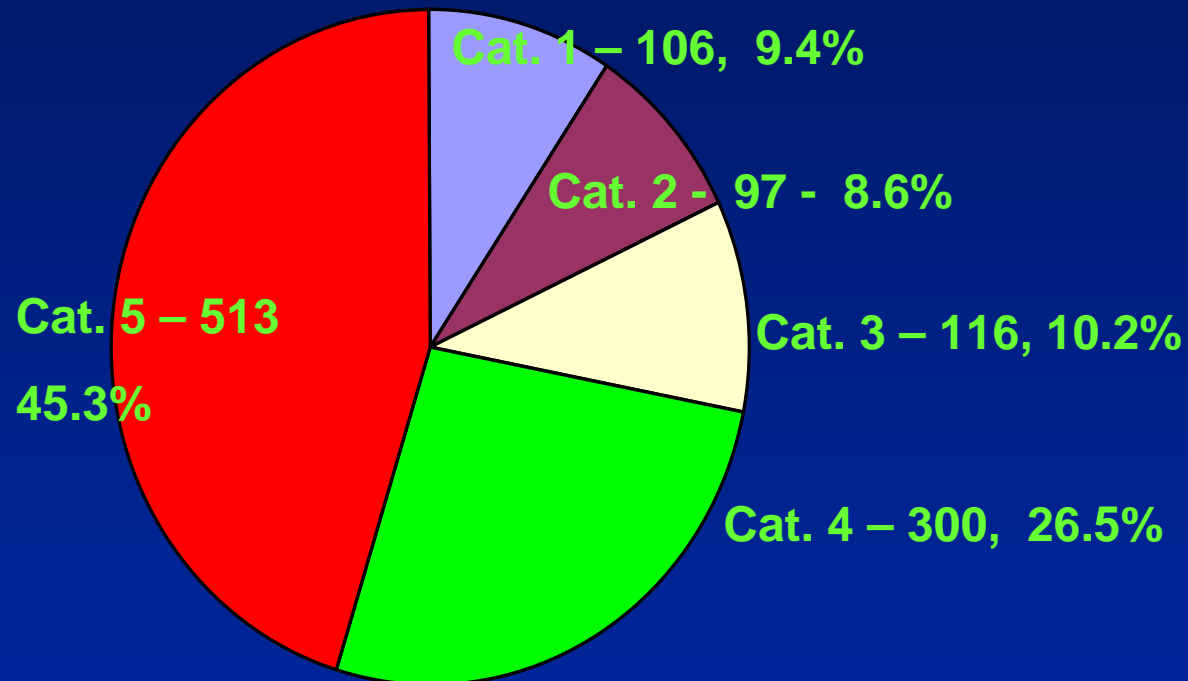
MORBIDITY & MORTALITY SUMMARY

Year	Died	Categories					Total
		1	2	3	4	5	
1998	19	21	16	23	31	55	146
1999	20	23	7	16	33	46	125
2000	23	12	21	11	33	54	131
2001	15	5	10	10	33	71	129
2002	22	10	6	9	48	72	145
2003	17	7	14	19	37	77	155
2004	15	8	10	6	38	77	139
2005	16	20	13	22	47	61	162
Total		106	97	116	300	513	1132
Patients	147						714

Distribution of Events in Five Categories of Morbidity

53,541 Patients

1,132 Events



Why Emphasize Technical Complications?

Total Number of Patients 53,541

	# Events	Died
Vascular – bleeding	119	27
Leak – obstruction	95	9
Closure – abscess	98	5
Catheter	53	3
Inadvertent opening in viscera	92	6
Device - implant - graft	48	1
Nerve injury	8	0
<hr/>		
TOTAL (474 Patients)	513	51
474/714 = 66.4%	51/147=34.7%	

What to do now?

- Empower residents and or nurses to gather complications
- Start to collect outcome data for privileging and credentialing surgeons
- Create institutional outcome benchmarks for various operations
- Implement direct surgical communication for an emergency radiology report
- Introduce the “Hostile Abdomen Index” to help prevent laparoscopic injury
- Institute mandatory surgical consult if a GI bleeding patient has one unit of blood ordered
- Employ priority list for emergency add-on procedure
- Introduce “Operating Room Team Checklist”

What to do now?

- Review “surgical rescues” of various specialties
- Replace subclavian approach with internal jugular puncture with ultrasound
- Avoid hyperalimentation for patients with end stage metastatic disease
- Agree to CAT scan protocol for pregnant patient with acute abdomen
- Establish surgical device malfunction protocol
- Distribute digital cameras and operating loops to senior surgical residents
- Improve resident M&M presentation performance with feedback form
- Review common medication errors in surgical residency program
- Collect resident power point literature review, yearly on CD

Hostile Abdomen Index Pre and Intra-operative Scores

Pre-op Score	Criteria	Intra-op Score	Criteria
1	<ul style="list-style-type: none"> •No prior Surgery and •No abdominal hernia and •No skin disease or infection 	1	<ul style="list-style-type: none"> •Normal anatomy other than surgical disorder
2	<ul style="list-style-type: none"> •One prior abdominal laparotomy or •Hernia in region of intended surgery 	2	<ul style="list-style-type: none"> •Omental adhesions
3	<ul style="list-style-type: none"> •Two prior laparotomies or •Extremely large or small patient or •Acute abdominal wall infection or •Coagulation defect or •Portal hypertension or •History of abdominal radiation or •History of intestinal Crohn's disease 	3	<ul style="list-style-type: none"> •Localized visceral adhesions in area of surgery or •Iatrogenic injury – no laparotomy required
4	<ul style="list-style-type: none"> •More than two prior laparotomies or •History of major abdominal abscess or diffuse peritonitis or •Large abdominal solid mass •Large mesh in area of intended surgery or •Bowel obstruction and extreme distention or •Failed laparoscopy due to adhesions or •Ascites or •Previous radiation in surgical or region or •Severe (active) Crohn's disease or •Hemodynamic instability or •Severe COPD or •Late pregnancy or Abdominal wall infection in port region 	4	<ul style="list-style-type: none"> •Massive diffuse adhesions or •Conversion to laparotomy

Emergency Add On Procedures

Purpose: establish triage for emergency surgery

Policy: categories based on case severity

Surgeon contacts charge nurse-

Class 1: immediate surgery: hemodynamic instability-
shock; life threatening limb trauma; massive blood
loss; acute ischemia; perforated viscus; necrotizing fasciitis;
threatened airway

Class 2: 1-6 hours: small bowel obstruction; open fractures;
appendicitis; major wound debridement-sepsis

Class 3: 6-18 hours: hemodynamically stable patients,
clotted access grafts

MONMOUTH MEDICAL CENTER OPERATING ROOM TEAM CHECKLIST

Preoperative Breathing Treatment
Blood Available/ type and cross
Intravenous Access
Antibiotic
Steroid
Anticoagulation
An Assistant

For Pediatric Cases
Room Temp > 100
Heating Lamp in room
Bird Bath for solutions
Warming blanket on table

EQUIPMENT AVAILABLE

Special Table
Anti DVT Device
Warming Devices
Instruments/Specialty
Implants

Cameras / Scopes
Full CO2 Tank
Ultrasound
Laparotomy Tray
Specialty Tray

X –Rays available
Fluoroscopy available
Endomechanicals
Mesh/Stents/Grafts
Pacemaker/Magnet Present

“TIME OUT” PROCEDURE

Foley Catheter
Naso-gastric Tube
Cautery Settings Set

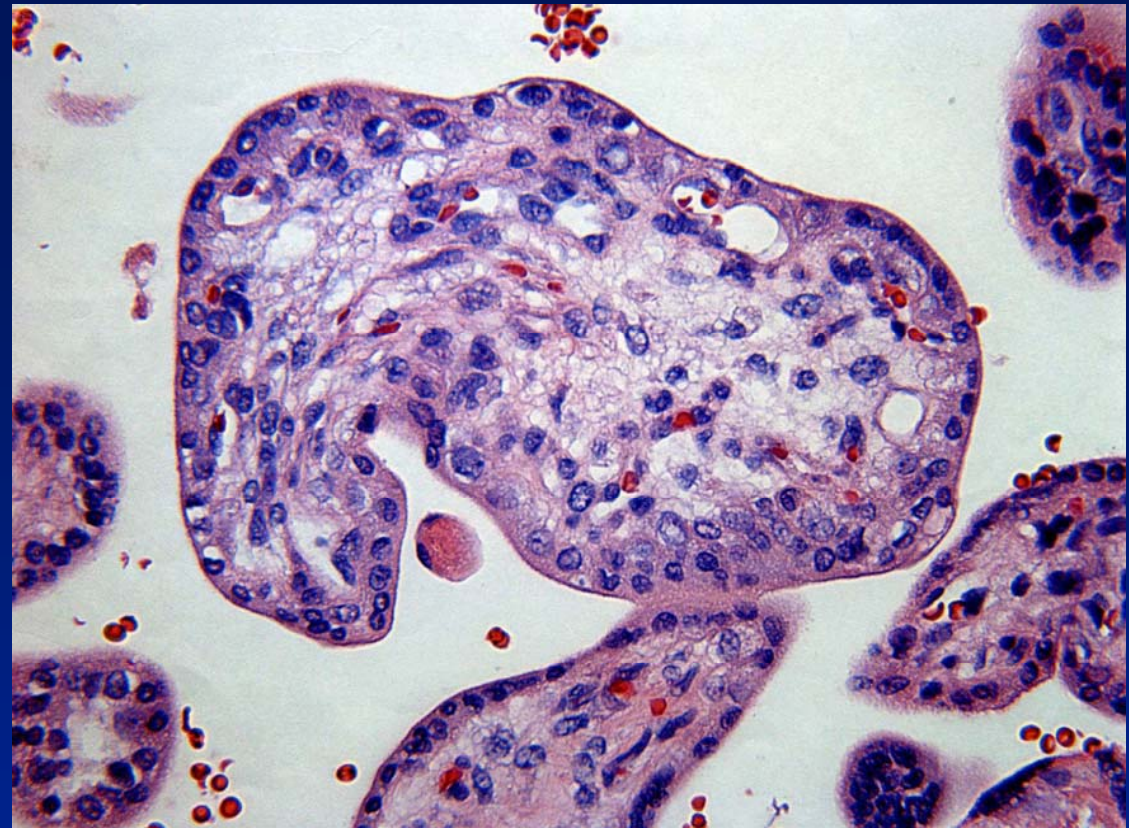
Suction Working
Frozen Section Notification
Specimen Verification

Televideo Surgery Innovations

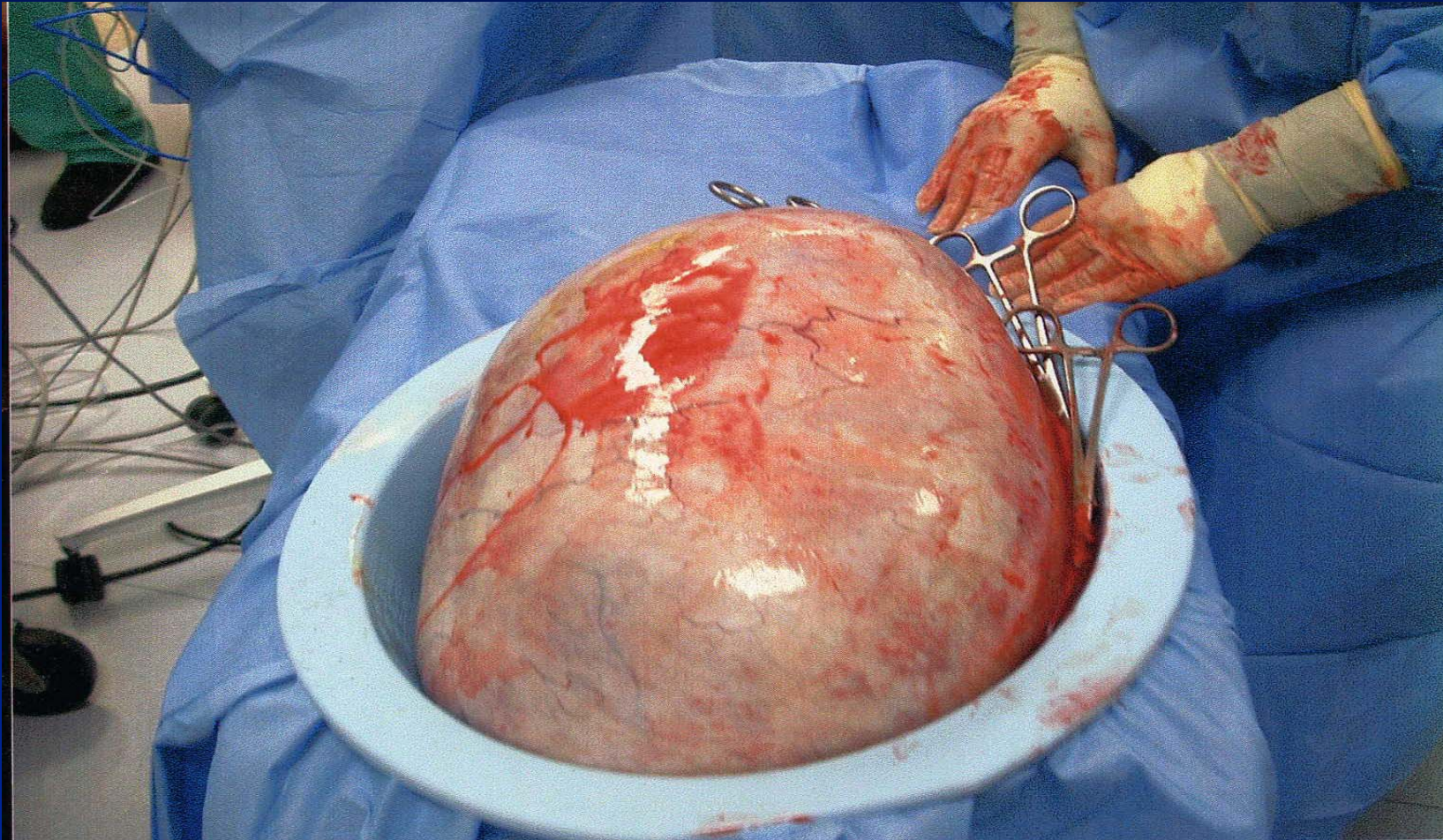
Four operating rooms – televideo beta site

Four sites on TV in lounge





Real Time Pathologist's Remote Site Review
Accurate even with low resolution
High resolution transmitted here



Tele-video From Surgeon To Observers
Enabled with these links- large ovarian mass removed
Possible within system or through internet

Televideo Consultation Strengths

- **Credential surgeons**
- **Increase odds of doing what's right**
- **Often affirms operating surgeon's opinion**
- **Improve patient safety**
- **Avoids Monday morning quarterbacking**
- **Avoids over-aggressive surgery**
- **Avoids inadequate surgery**
- **Avoids medico-legal issues**

Advantages of Analysis

- Rapid Data Entry and Analysis
- Highlights Problems
- Indicates Areas with No Problem
- Permits Focused Study
- Creates Baseline Performance
- May Show Trends in Practice
- Can Be Modified for Other Departments