

# **Operative Imaging: Time to Engage**

**Lars Aanning**  
general surgeon  
Retired (after 35 years)

# **What we now know...**

- **Performance imaging is state-of-the-art**
- **Performance is improved when someone keeps score (Hawthorne Effect)**

# THE STEREO CLINIC

KELLY

Section IX

Removal of the  
Vermiform  
Appendix

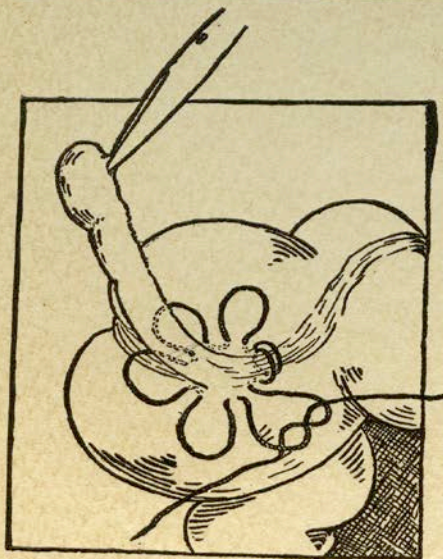
HOWARD A. KELLY

Operation for  
Hemorrhoids

S. T. EARLE, JR.

## REMOVAL OF THE VERMIFORM APPENDIX

17



Diag. No. 1.  
The Purse-string Suture in place.

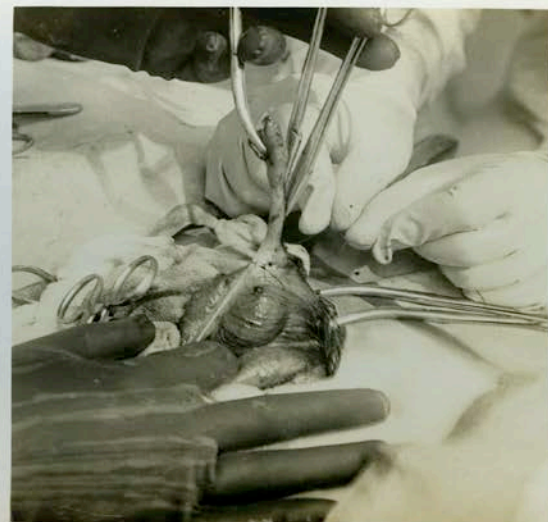
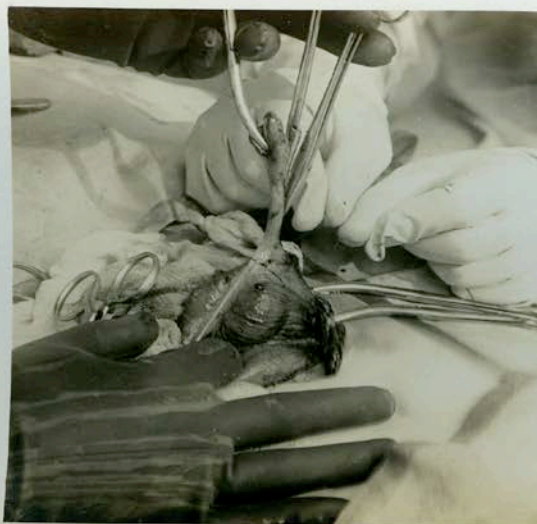
### Purse-string Suture Passed and Drawn Up Loosely But Not Tied.

[Stereo 9.]

¶ We here see the appendix held well up, while the purse-string suture has been passed around its base and is being drawn up loosely, preparatory to the excision of the appendix; the inversion of its stump, which is followed by the tying of the ligature. The silk ligature is now given a single turn and dropped with a large open loop, as shown in this stereo, until the two succeeding steps have been completed.

Stereo 9.

Serial N<sup>o</sup> 302



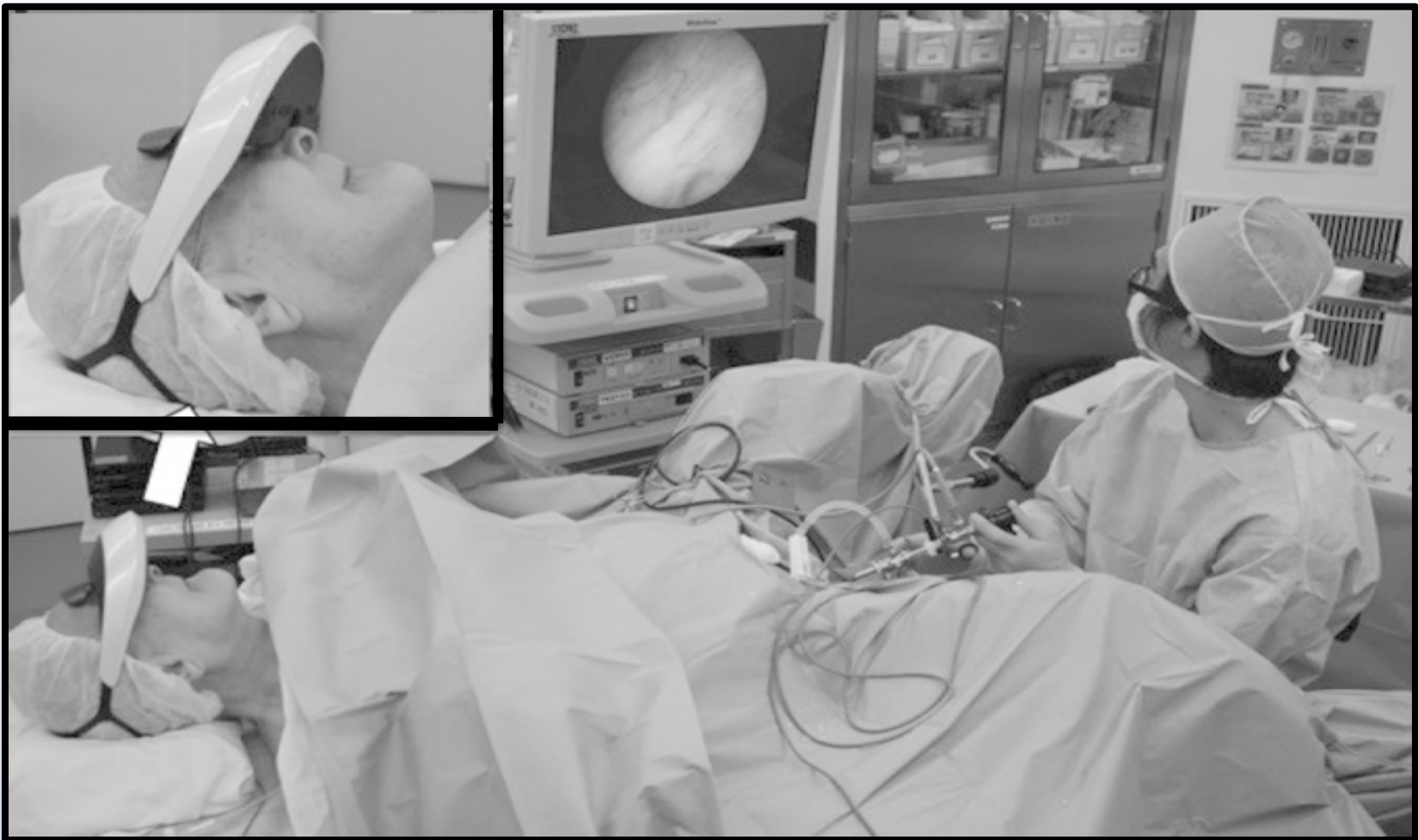
# **A Novel Approach to Patient Self-Monitoring of Sonographic Examinations Using a Head-Mounted Display**

**M. Inoue, et al. *J Ultrasound Med* 2016**



- The use of a modern high-definition head-mounted display by patients during sonographic examinations could deepen their understanding of their disease process
- This novel approach to patient self-monitoring during sonography will help promote patient-centered care





**Patient wearing a head-mounted display during transurethral resection of bladder tumor:**

- **Pts (6) appreciate the disease and its immediate treatment.**

Ito, et al. *Urol Case Rep* 2015;3:27-29

# Surgeons see future applications for Google Glass

by Tony Peregrin



- can image CT scans while operating
- work through checklists to reduce surgical errors
- record “unexpected OR events/conditions”
- residents see exactly what the surgeon sees and does
- not HIPAA compliant: privacy concerns
- high patient acceptance
- patient can directly communicate wound care with team
- goal: re-humanize the patient-doctor relationship

# Share and distribute digital content

By integrating powerful HD images into every phase of your workflow, from the O.R. to the auditorium, you can better educate your patients and students, have accurate visual reference material for training, and make more compelling and professional presentations.



## **Store**

Store your content directly from the O.R.



## **Edit**

Edit content with editing software from Sony.



## **Share**

Share content with teaching hospitals or colleagues across the world.



## **Push**

Push content to seminars and teaching venues.



## **Review**

Review content anywhere, any time

Fully scalable, out of the box ready, and affordably priced, Sony's CMS is the archive, management, and delivery system with simple, yet comprehensive control.

## Studio3: Your Media Management Tool

Stryker's Studio3 provides a centralized storage solution for the archiving and management of surgical videos and images. Designed to enhance OR workflow and ensure media is archived, Studio3 integrates seamlessly with the SDC Ultra digital capture device. From the desktop, Studio3 makes it easy for users to search, edit, share, and export surgical media from within an intuitive browser-based interface.

Studio3 facilitates HIPAA compliance with the use of centralized media storage and customizable user access controls. Whether creating an educational presentation, sharing surgical footage with a patient, or sending a referring physician a link to view a procedure, Stryker's Studio3 makes it easy for surgeons to utilize their surgical videos and images.







**Teodor P. Grantcharov, a professor of surgery at the University of Toronto, said the use of recording equipment in operating rooms helps physicians.**

- **“If we don’t know what we’re doing wrong, we’ll never improve.”**
- **The Black Box showed 38 adverse events in 54 filmed procedures – 75% unnoticed**
- **Surgeons can better learn from their mistakes**
- **Will protect surgeons in court and reduce malpractice claims**
- **Cautioned for need to “do it right”**

**The Washington Post**

**Could cameras in Operating Rooms Reduce Preventable Medical Deaths...Tom Jackman August 25,2015**

# THE POWER OF VIDEO RECORDING: TAKING QUALITY TO THE NEXT LEVEL

Martin A. Makary MD MPH - John Hopkins

- **Hawthorne effect** is effective in driving compliance
- Hand-washing increased from 7% to 82% when cameras installed
- With record buttons on “OFF” no potential to capture data to drive quality improvement
- Mean inspection time and quality of mucosal inspection increased by 50% and 30% when colonoscopic videos reviewed
- Video files for internal and external peer review to assess complications
- Opportunity for coaching
- Promote detection and accountability of unnecessary or inappropriate procedures that account for 30% of US health care expenditures
- Operative notes (and reports) are often brief, generic, and missing details – incorporate video into EHRs like radiological images
- >80% patient support – increased patient satisfaction and medical transparency
- May defrock the disruptive physician/surgeon

## KTLA 5 News on Monday

Dr. John Francis McGuire has been charged with 26 felony counts connected to alleged sexual assaults of five women. Now one patient who is suing him is telling her story. The woman says she was sexually assaulted while still under general anesthesia. The ear, nose and throat doctor then came to visit her three more times while she was in recovery -- under the pretense of checking on a "rash" in her vaginal area, she says. KTLA.COM



### **Alleged Victim Sues Riverside County Doctor Charged With Sexually Assaulting Multiple Patients**

A female patient who says she was sexually assaulted by her surgeon as she came out of general anesthesia at a Temecula hospital described her ordeal Monday, when her attorneys announced their...

KTLA.COM

# OPERATIVE REPORT

**Patient:** Please see chart

**Pre-op Dx:** Chronic acalculous cholecystitis

**Post-op Dx:** Same

**Operation:** Laparoscopic cholecystectomy

**Surgeon:** Mort A. Lity MD

**Complications:** I never have them

**EBL:** didn't see any

**Indications for Procedure:** Please see other doctor's H&P

**Procedure:** Prepped, draped, anaesthetized, routine incisions made, and standard instruments used. We saw the gallbladder, critical angle achieved, no need for IOC, clips applied, gallbladder removed, closure as usual. No complications. No bleeding. Nothing unusual. Patient really tolerated well.



# **THE POWER OF VIDEO RECORDING: TAKING QUALITY TO THE NEXT LEVEL**

**Martin A. Makary MD MPH - John Hopkins**

## **Makary's Points:**

- **Patient satisfaction is the leading predictor of malpractice claims**
  - **Improve satisfaction scores**
  - **reduce claims**
- **Best way to address most malpractice is to improve quality**
  - **Peer-review of medical procedure complications more objective and effective**
  - **Presently: minimum details, not objective, and ineffective – voluntary flagging and self-reported descriptions of a procedure**
- **Legal fears are overstated: video data used all over the place at Johnnies Hopkins**
- **Separate consent for use of video for other purposes: education, etc.**
- **Photographs of a patient's retina or skin lesion have been incorporated in the health record for decades, and now need guidelines for video recordings in settings other than procedures.**
- **Unlikely a cardiac surgeon would accept a written description of where blockages are located without watching the recorded catheterization video**

# **THE POWER OF VIDEO RECORDING: TAKING QUALITY TO THE NEXT LEVEL**

**Martin A. Makary MD MPH - John Hopkins**

**Issues with videos:**

- **Can hospitals declare videos to be recorded only for quality improvement purposes to prevent discovery similar to M&M proceedings?**
  - **But CT and MRI images are accessible to all patients in spirit of transparency and have**
  - **Not resulted in an “avalanche of malpractice lawsuits”**

**“In the new era of data storage, the adoption of video recording to improve quality and safety should be more widely implemented. Based on early observations, this approach also could help drive quality improvement to the next level...”**

# **Surgical Skill and Complication Rates after Bariatric Surgery**

**Videotapes of laparoscopic gastric bypass procedures:**

- **Peer reviewed by 10 surgeons**
- **Lowest skill ratings associated ( $p=0.01$ ) with:**
  - **Higher complications [14.5% vs 5.2%]**
  - **Higher mortality [0.26% vs 0.05%]**
  - **Longer operations [137 vs 98 minutes]**
  - **More reoperations [3.4% vs 1.6%]**
  - **More readmissions [6.3% vs 2.7%]**

**Conclusion: “Peer rating of operative skill may be an effective screening strategy for assessing a surgeon’s safe performance and need for improvement...”**



# **An estimated 400,000 people die annually from preventable medical errors:**

- **Growing movement to require hospitals and ORs to be able to record video/audio**
- **Re-creating what went wrong in the OR involves a mixture of memories and whatever notes were taken at the time or shortly afterwards**
- **Wisconsin: Julie Ayer Rubenzer Law to require cameras in every OR**
- **“videos can capture the reasons behind ‘adverse events’...offers transparency, truth, and accuracy”**
- **AHA and AMA And ACS declined to comment**
- **2005 AMA emphasized privacy protection**
- **Massachusetts hospitals have repeatedly defeated a bill to allow videographers to record at patients’ expense**





# Cameras in the Operating Room? No Way!!!

- “We could learn a lot from such recordings but we need a better system to compensate patients when errors are made.”
- “Sick and tired of being second guessed, ordered around by semi-educated, suspected of fraud, incompetence, unethical conduct and in general being deprived of our privacy, dignity and freedom to do the job we were trained to do without the interference of others hardly qualified to judge us.”
- Others:
  - ◆ ridiculous;
  - ◆ terrible idea;
  - ◆ cameras belong at weddings, birthday parties, and webcam porn;
  - ◆ if the state says yes, stop working;
  - ◆ the day this happens is the day I quit;
  - ◆ no evidence for efficacy; most absurd idea; this madness has to stop;
  - ◆ cameras do not change surgical outcome;
  - ◆ only distracts surgeons from doing his job;
  - ◆ those who make the rules do not care about medical care

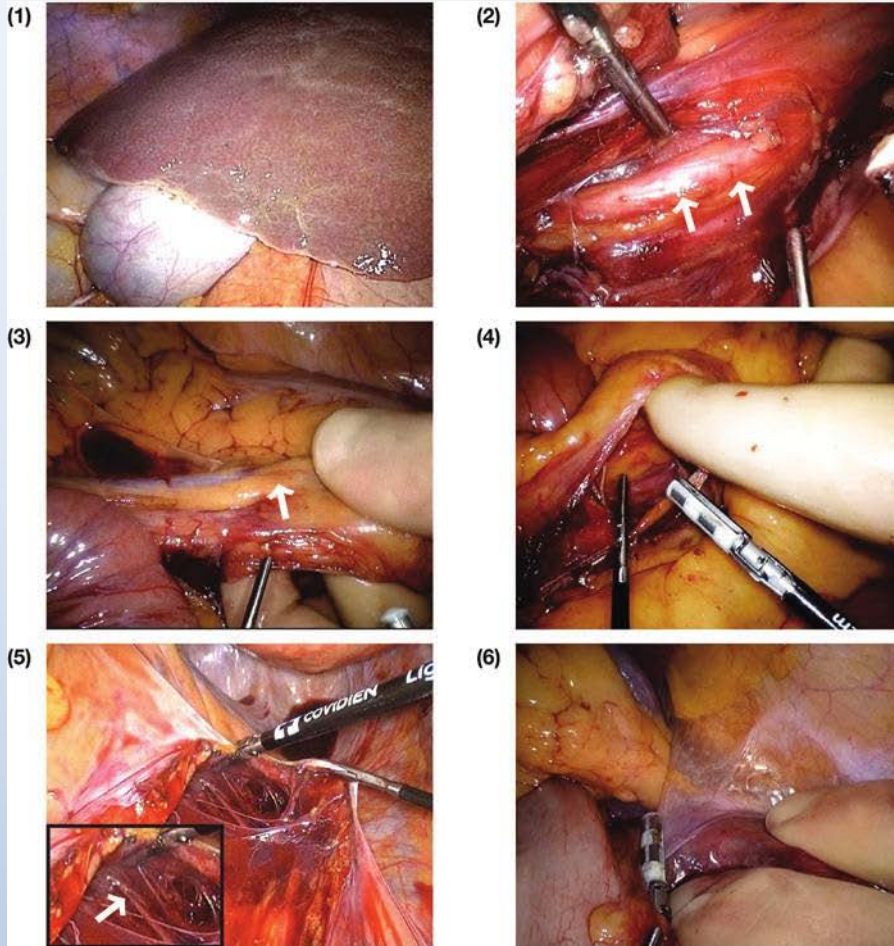
# **Systematic Video Documentation in Laparoscopic Colon Surgery Using a Checklist: A Feasibility and Compliance Pilot Study**

**O'Mahoney, et al.**

## **Conclusions:**

**Key surgical steps during laparoscopic right hemicolectomy and sigmoid colectomy can be documented and edited into a short representative video (<4 minutes). “Standardization of this process should allow video documentation to improve quality in laparoscopic colon surgery.”**

# Conclusions



- Goal: “define the critical operative steps, then document to ensure surgeon compliance”
- Key surgical steps during laparoscopic right and sigmoid colectomy can be videotaped and edited (1 hour) into a short (3+ min) video.
- “Standardization of this process should allow video documentation to improve quality in laparoscopic colon surgery.”

**Problem: NO ESTABLISHED GUIDELINES**

**Why not simply start with these still images as a one-page hand-out to patient, chart, and residents....**



**In their February 4 online paper in Annals of Surgery, Dr. Celia M. Divino and colleagues from Icahn School of Medicine at Mount Sinai, New York, propose five recommendations that aim to ensure that all legal guidelines are followed and that video recordings are accomplished ethically:**

- \*The creation of video/audio recordings should have a clearly stated purpose.**
- \*Patients who may be recorded should be made aware of that possibility and properly consented.**
- \* Patients, faculty, and staff likely to be included in the recording should be notified and given the opportunity to opt out.**
- \* Any alterations in the recording should be clearly disclosed to audiences.**
- \* All recordings should be protected with the same security and scrutiny that hospitals and physicians use for other medical records.**

**"There will continue to be ethical challenges with regard to recording in the operating room," the authors concluded. "These guidelines should be altered to keep pace with growing technology while not interfering with the clinical benefits of recording. These recommendations provide a framework by which a surgeon should address recordings within the operating room."**



**Dr. Alexander J. Langerman, from Vanderbilt University, Nashville, Tennessee:**

**\*“Video recording in the operating room is coming, and promises a tremendous number of benefits.**

**\*"Society expects transparency from the operating room, and we have a duty to embrace efforts that will improve our performance.**

**\*“We should stay ahead of this issue to ensure the privacy of our patients and our operating room colleagues is protected in the process.”**

**\*“We should take lessons from industries such as transportation and law enforcement who have and are facing similar issues.**

**“Given the rapid emergence of this topic and the potential for mishaps in patient and practitioner privacy, it will be critical for governing bodies to develop standards for ethical use of video and audio recording in the operating room.”**

# Surgeon's Blog Topic: Imaging Operations

Harald Larsen Aanning, MD FACS

Query: *"For a presentation, would appreciate any comments about imaging critical steps (i.e., a clip across the cystic duct, across the cystic artery, a final view of the gallbladder bed, an opened gallbladder, etc.) as a hard copy in a lap chole (and other lap and endo procedures)..."*

Of 23 comments, only 3 were supportive of operative imaging...one surgeon commented:

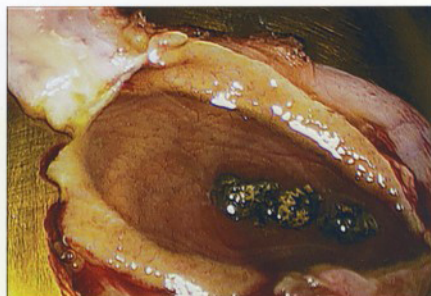
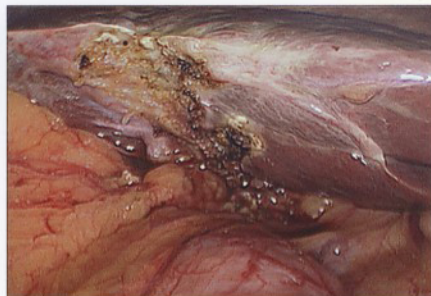
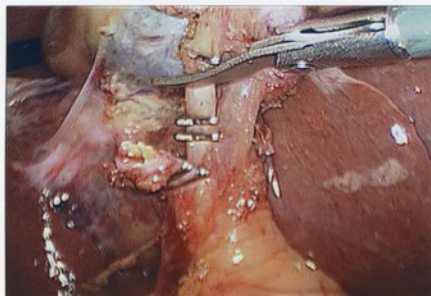
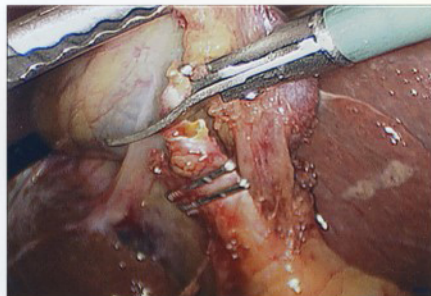
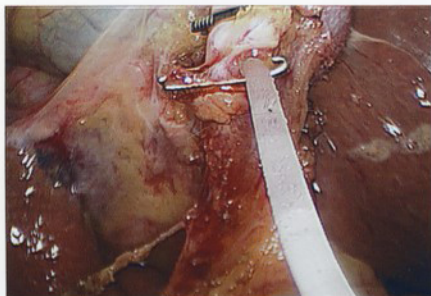
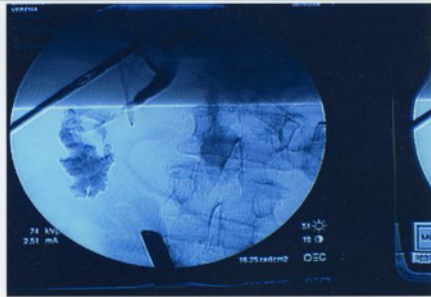
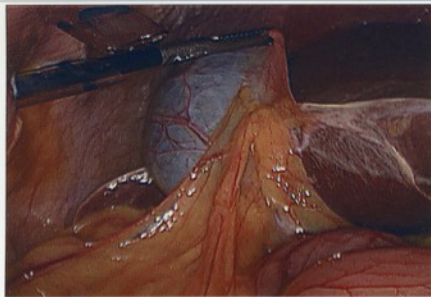
**"Need to embrace this change before it is imposed on surgeons!"**

Welcome to **ACS Communities**

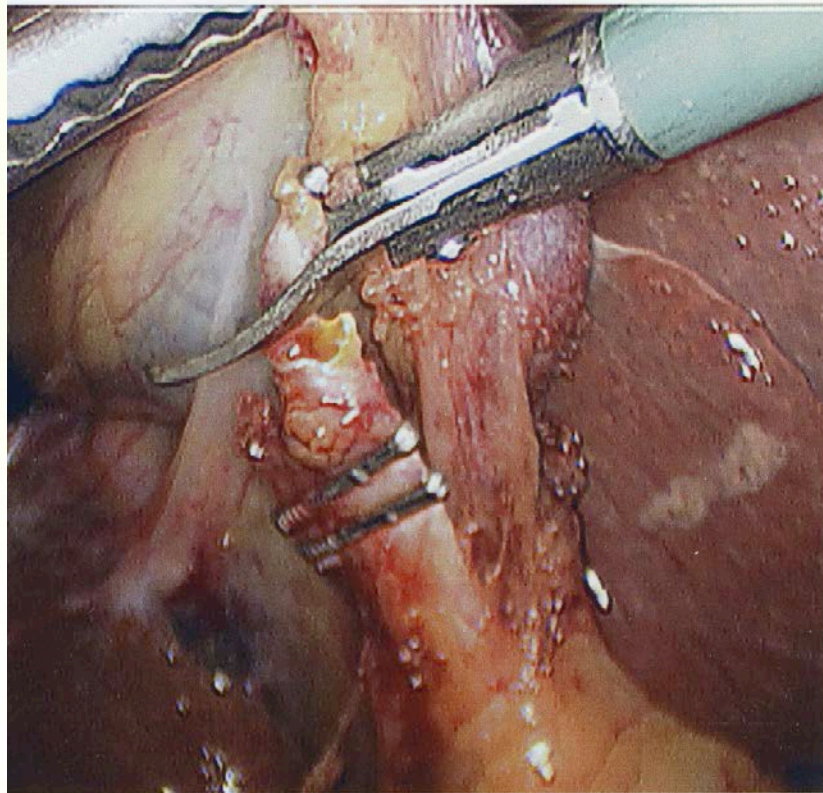


**AMERICAN COLLEGE OF SURGEONS**

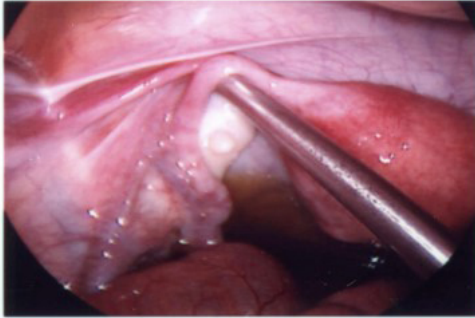
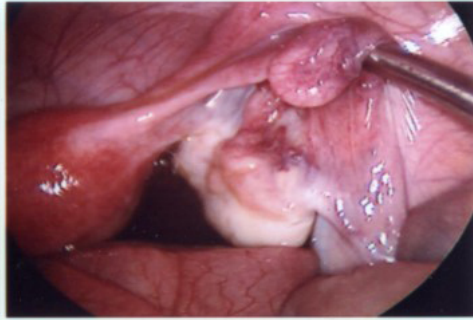
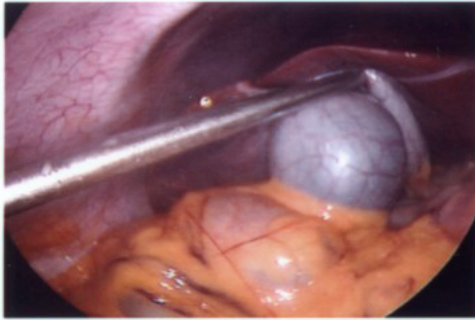
*Inspiring Quality: Highest Standards, Better Outcomes*



## Laparoscopic Cholecystectomy







# Laparoscopic Appendectomy

## Critical steps:

- Check gallbladder
- Right ovary
- Left ovary
- Uterus
- Appendix

Bottom line:

Worry about getting it right for the patient...operative imaging can be done now...let the powers that be decide the other stuff...

Operative imaging offers:

- ◆ Patient satisfaction
- ◆ Proof of technique
- ◆ Immediate closure
- ◆ Validates operative report