

# Conversion to Open Cholecystectomy

## Implications of Decision Making

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**Mr. Val Usatoff**  
**HPB Surgeon**  
**Alfred and Western Hospitals**

# Open Cholecystectomy

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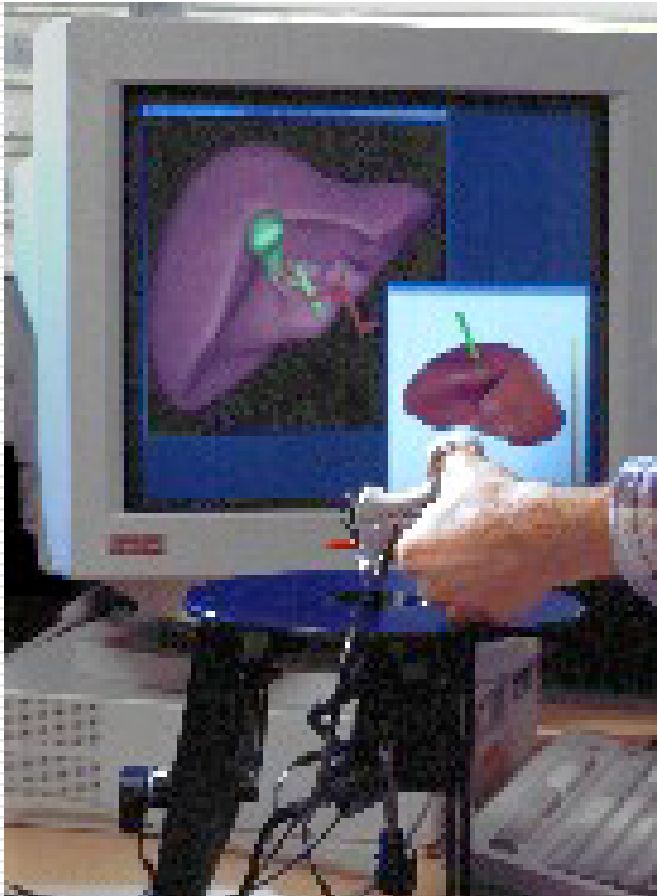
- ❑ Born 1882
- ❑ Unwell early 1990's
- ❑ Fading fast late 1990's
- ❑ 21st century - ?Dead



Carl Lagenbusch  
1846-1901



# Benefits of Laparoscopic Cholecystectomy



- Less postoperative pain
- Less periop monitoring
- Shortened length of stay
- Earlier return to work
- Less surgical trauma
- Improved cosmesis
- Less wound infections
- Less pulmonary insult
- Reduced costs\*
  - Hosp stay
  - Equipment
  - Increased volume!

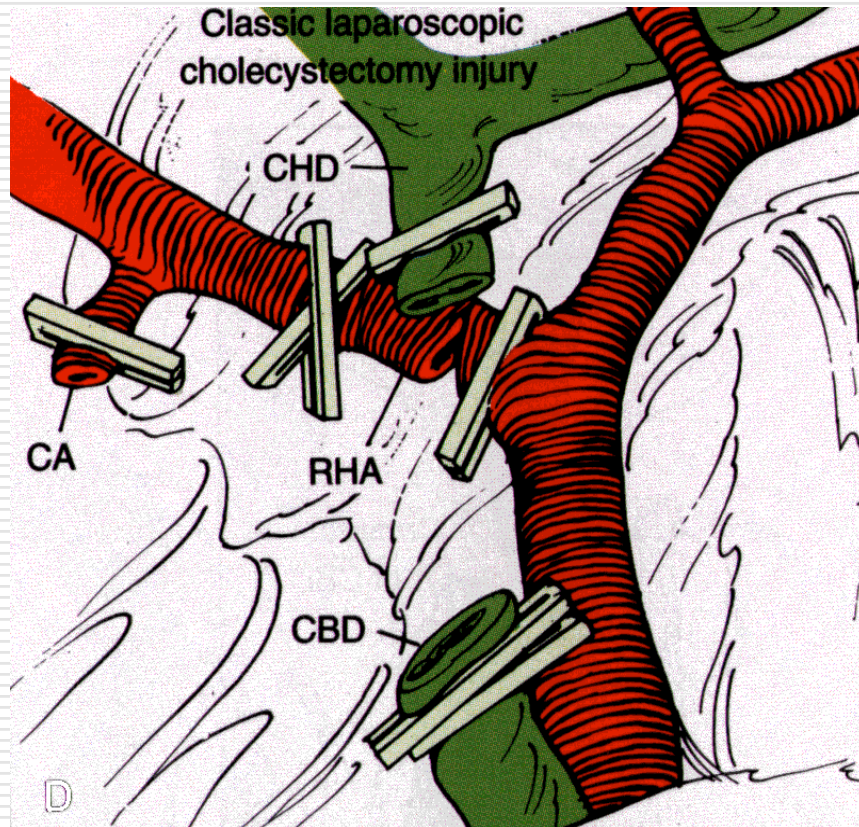
# Conversion comes with..

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- Longer operative time
- Longer stay/different ward
- Extra equipment and cost
- Potentially more (minor) complications
- Generally more difficult procedure
- Performing less familiar procedure
- Surgeon Anxiety



# Reasons to Convert



- Acute cholecystitis
- Contracted gallbladder
- Impacted stone in CD/HP
- Biliary-enteric fistula
- Cirrhosis
- Intrahepatic gallbladder
- Respiratory acidosis
- Very large gall stones
- Aberrant anatomy
- Mirizzi Syndrome
- Avulsion of cystic duct
- Perforation of gall bladder
- Bleeding
- Accessory duct leak
- CBD injury
- Bowel injury
- Omental tear
- Unexpected findings
- Adhesions (local/general)
- + Cholangiogram
- Equipment failure
- Port site bleeding

# What is the Conversion Rate?

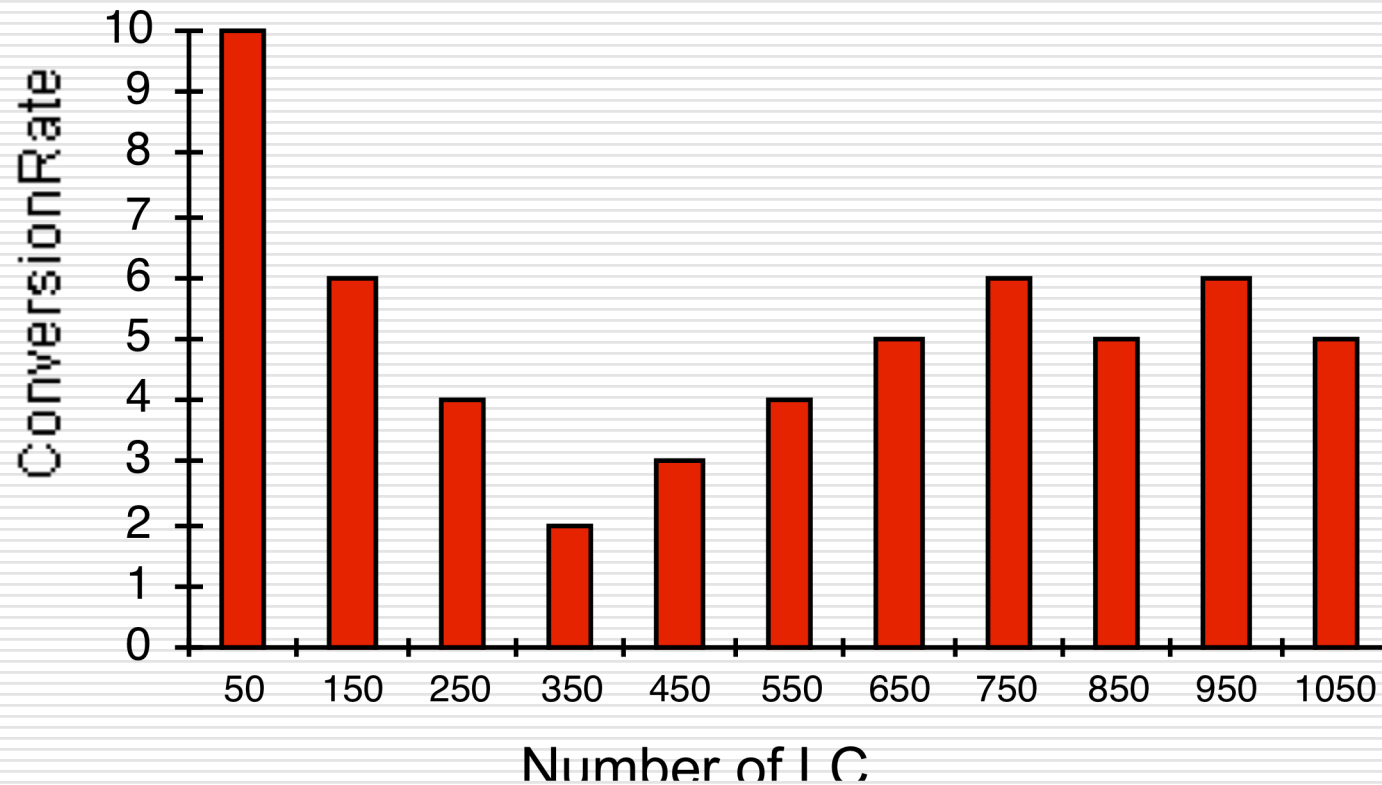
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- ❑ Widely publicised (eg. www) -> marketing tool
- ❑ Measure (surrogate) of surgical skill?
- ❑ Conversion by “choice” or “force” not spelled out
- ❑ Difficult to compare raw figures
  - Case selection
  - Number of interval cases
  - Different definitions of pathology  
*eg. Obesity >100kg, >27 BMI, >35 BMI or >100lbs over wt.*

# Conversion Rates

Series	Year	Cases	Total%	Acute%
Sikora	1995	150	19	-
Wiebeke	1996	581	8	26
Zisman	1996	11,376*	6	-
Alpont	1997	783	7	29
Vecchio	1998	114,005*	2	-
Salky	1998	1900	1	-
Zgraggen	1998	10,174*	8	27
Simopoulos	2005	1804	5	18

# Second Learning Curve





*Statement from the  
American College of Surgeons*

“For optimal quality patient care, laparoscopic cholecystectomy should be performed by surgeons who are qualified to perform open cholecystectomy.

Only such surgeons possess the skills to perform biliary tract surgical procedures; such surgeons are able to determine the best method of cholecystectomy; and only such surgeons can treat complications consequent to laparoscopic cholecystectomy.”

# Who should do the Open Chole?

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- USA 'residents' Logbooks 1988 vs 2001

Accreditation Council  
for Graduate  
Medical Education



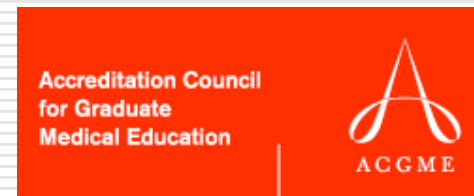
The decline of training In open biliary surgery.  
Chung et al. Surg Endosc. 2003



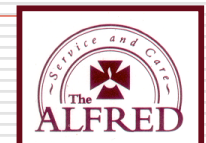
# Who should do the Open Chole?

## □ USA 'residents' Logbooks 1988 vs 2001

	1988	1992	1996	2001
Open Chole	54	60	26	14
Lap Chole	-	-	60	86
Total Open Biliary	70	74	35	21
Total Lap Biliary	-	-	60	87



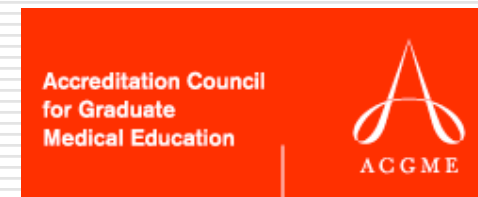
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# Who should do the Open Chole?

- ❑ USA 'residents' Logbooks 1988 vs 2001
- ❑ Marked reduction noted
- ❑ “..open ..experience is inadequate.”
- ❑ Suggest focused teaching

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# Training in Victoria

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- My AST training mid-90's
  - 242/329 (74%) lap choles
  - 26/50 (52%) open choles
  
- Current trainees
  - Poll 11 trainees, 30 rotations
  - 27 lap seen/rotation, performing 15 (55%)
  - ~4 open seen/rotation, performing ~1 (28%)

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- **~8 open choles before Fellowship!!!**

# Predicting Conversion

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## Predictive

- RUQ pain
- Abdo rigidity
- Upper Abdo Surgery
- Sx within 3 weeks
- Thick wall/Dist GB
- No filling on IVC
- Contracted GB on US
- WCC >10

## Not Predictive

- Sex
- Age
- BMI
- CD stone
- Other abdo Surgery
- Long Hx GS
- Temp
- Preop ERCP
- Elev Amyl/LFT's
- Large GS

**340 pts prospectively predicted 80%**

# Why Predict Conversion?

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- Inform patient
  - Child care
  - Time off work
  - Cosmesis
- Planning schedule
  - Maximise use of theatre time
  - Preparation of equipment eg. ECBD
- Allow for earlier conversion (or prolonged trial)
- Case selection for trainees
- Selection of “short stay” cases
- Selection of appropriate surgeon?

# Early Conversion - good or bad?

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- ❑ Procedure is prolonged and patient exposed to more complications.
- ❑ Time to Conversion:
  - 50min(15-180min) 70 pts AC, CR-11%
- ❑ Complication Rate
  - Successful LC 16%
  - Conversion 63%
  - Open(historic) 17-40%
- ❑ “...trial of laparoscopic dissection may combine two evils into one.”
- ❑ Suggested early conversion.



Early decision for conversion of lap to open chole for treatment of acute cholecystitis.  
Lo et al. Am J Surg. 1997



# Convert Early - are you sure?



- ❑ 33/97(34%) pts converted for Gang Ac Chole
- ❑ Comparing
  - Early conversion (1.8hrs)
  - After initial dissection (2.1hrs)
  - Extended attempt (2.7hrs)
  - *(Primary open 2.3hrs)*
- ❑ No diff LOS or morbidity
- ❑ Conv rate fell 69% -> 27%
- ❑ No harm in attempt

# Try a bit longer

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- Leeds Royal Infirmary, 1990 - 1994
- 411 pts, overall conversion rate - 2.2%
- 32 pts >3 hrs vs. 370 pts < 3hrs
  - Acute Chole, Previous Surg, ECBD
- No sig diff in comp rate

# Maybe Don't Convert At All

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- ❑ Consider percutaneous cholecystostomy
- ❑ Open approach may be less familiar
  - Less experience
  - Complex pathology
  - Older/frailer patient
- ❑ Can achieve good patient outcome
  - Lap Cholecystostomy
  - Lap Subtotal cholecystectomy



# Zero Conversion?

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## No Conversion Policy

- 160 pts, 10% AC, CR-0.6% (1 Conv for GB Cancer)
- Suggest - perform subtotal cholecystectomy or cholecystostomy rather than convert to open cholecystectomy.

## Criticised.....

- “..unwise to suggest..not to convert.”
- Further decrease in OC experience

## Support.....

- 121 pts AC, CR-1.5%(2pts)
  - 9 pts cholecystostomy then LC 3/12 later  
CR-11% (1 pt): **Total CR-2.4%**
  
- 31 pts AC, 8 subtotal with CR-0%



# Other issues

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- ❑ Peer impressions
  - “...converts everything”
  - “...cloud cuckoo land”
- ❑ Accreditation for Open Chole
  - Who?
  - How many?
  - Accred/Insurance implications
- ❑ Nursing skills
- ❑ Open Equipment



# Take home message

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- Open cholecystectomy dying skill
- Safe/useful to make effort at laparoscopy
- Predict Conversion to allocate cases
  - Theatre time
  - Surgeon experience
  - Teaching registrars
  - Refer to appropriate surgeon
- Focused teaching (eg. Workshops) or....
- Regulation/Accreditation open biliary surgery?