

# Acute Care Surgery (ACS) team approach for Benign Gallbladder Disorders (BGD)

Dr. Prashanth Sreeramoju MD,  
MPH, FACS

Assistant Professor of Surgery  
Montefiore Medical Center, NY



## Disclosure

- Acute care surgeon at Montefiore



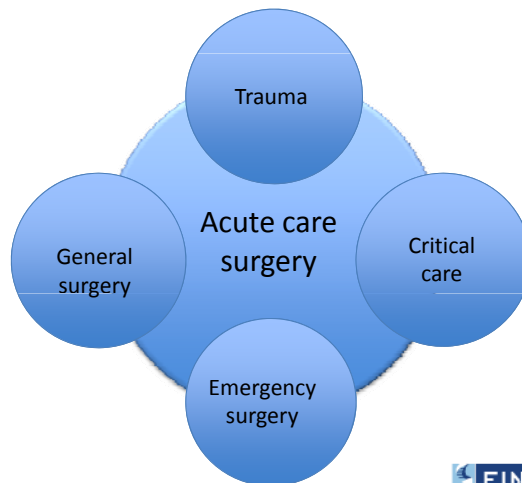
## History of acute care surgery

- Almost a decade old
- Revive dying trauma/critical care
- Specialization of surgery
- Timeliness of patient care

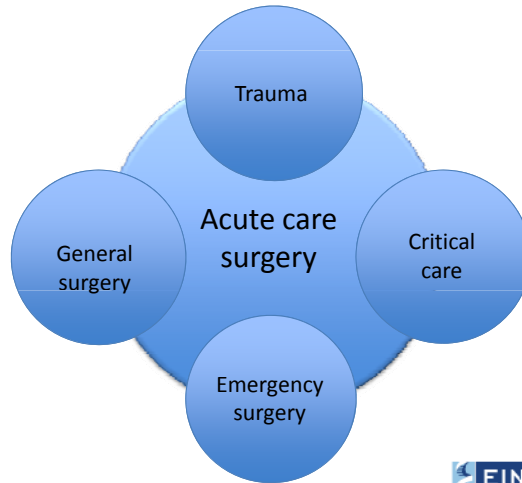
(source: Impact of acute care surgery on biliary disease. Britt RC1, Bouchard C, Weireter LJ, Britt LD.J Am Coll Surg. 2010 May;210(5):595-9, 599-6010)



## Acute care surgery models



## Acute care surgery models



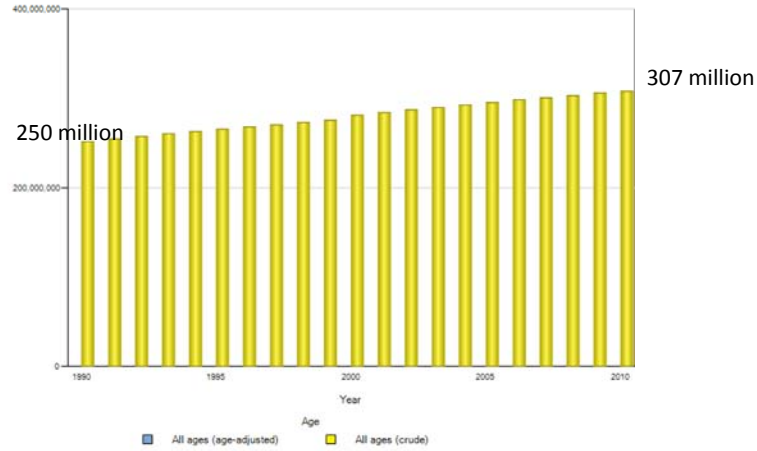
## Benign gall bladder disorders (BGD)

- Biliary colic (the Good)
- Acute cholecystitis (the Bad)
- Chronic cholecystitis (and the Ugly)

# Epidemiology of BGD

Hospital discharges by first- and any-listed listed diagnosis: US, 1990-2010  
(Source: NHDS)

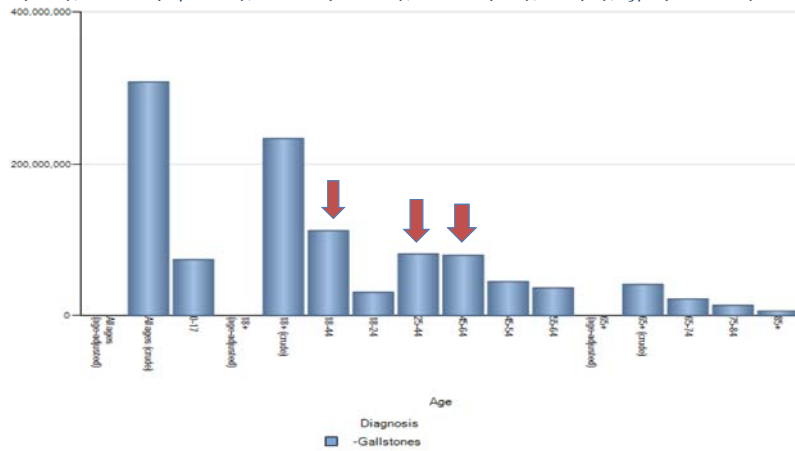
Measure (Population), Statistic (Estimate), Location (U.S.), Sex (All), Type (First-listed),  
Diagnosis (-Gallstones)



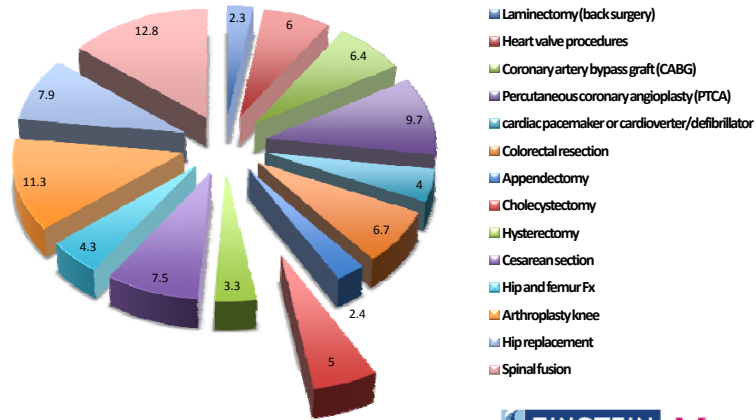
# Epidemiology of BGD

Hospital discharges by first- and any-listed listed diagnosis: US, 1990-2010  
(Source: NHDS)

Year (2010), Measure (Population), Statistic (Estimate), Location (U.S.), Sex (All), Type (First-listed)



## National health expenditure – 2011



Source: www.cdc.gov



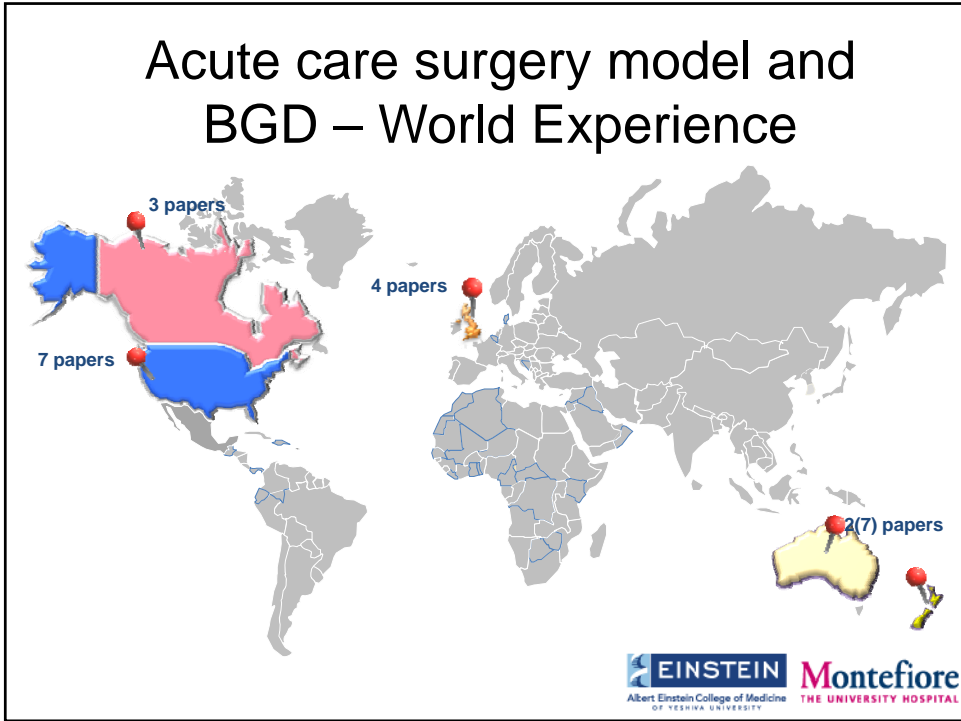
## Acute care surgery and BGD

- Paradigm shift in the management of acute cholecystitis
- Early vs delayed cholecystectomy

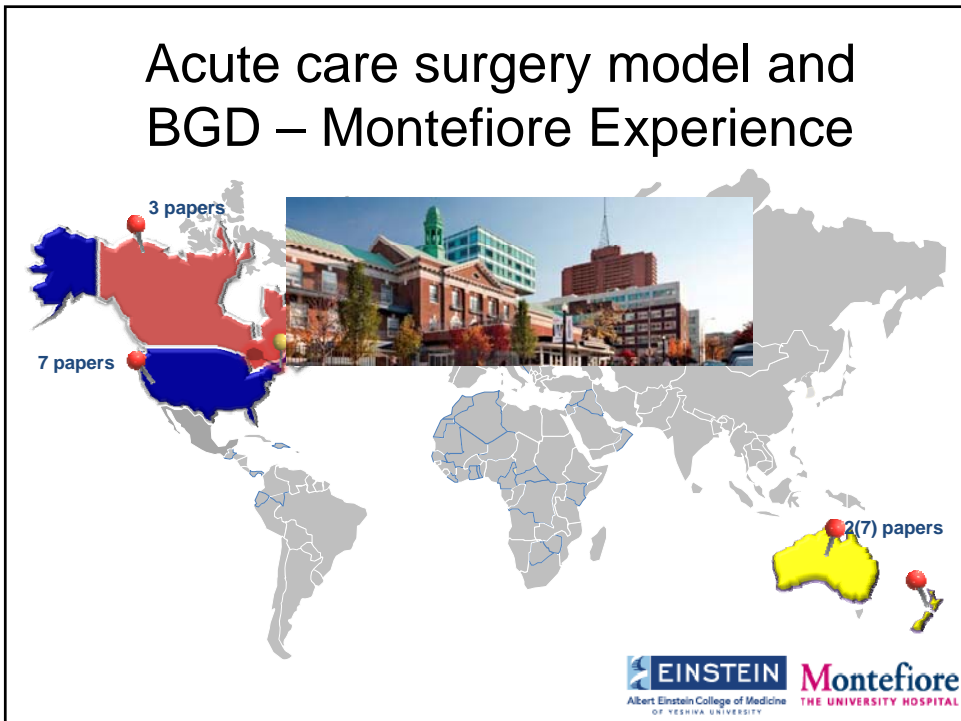
(source: Acute cholecystitis: early versus delayed cholecystectomy, a multicenter randomized trial (ACDC study, NCT00447304) Ann Surg. 2013 Sep;258(3):385-93)



## Acute care surgery model and BGD – World Experience

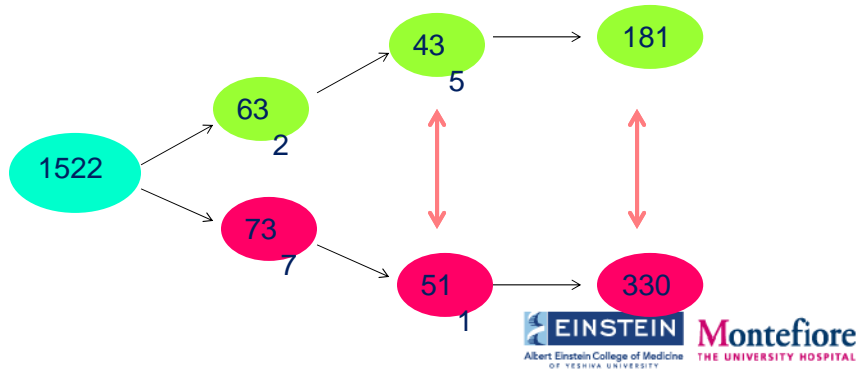


## Acute care surgery model and BGD – Montefiore Experience



# METHOD

- Retrospective chart review
- Clinical Looking Glass Database
  - Pre-ACS: 7/1/2007 – 6/30/2009
  - ACS: 7/1/2009 – 6/30/2011
  - Primary Dx of BGD



# RESULTS

DEMOGRAPHIC CHARACTERISTICS		
	PRE-ACS (n=181)	ACS (n=330)
Age at diagnosis (years)		
Mean (Range)	56.9 (18 - 94)	45 (18-94)
Gender		
Male	54 (29.8%)	65 (19.7%)
Female	127 (70.2%)	265 (80.3%)
Diagnosis		
Acute cholecystitis	114 (63.0%)	233 (70.6%)
Chronic cholecystitis	22 (12.2%)	28 (8.5%)
Biliary colic	26 (14.4%)	56 (17.0%)
Other	19 (10.5%)	13 (3.9%)



# RESULTS

	PRE-ACS (n=181)	ACS (n=330)	p-value
Admission to OR time (days)			
	PRE-ACS (n=435)	ACS (n=511)	Wilcoxon rank sum test
Length of stay (days)			
Median (Range)	4.02 (0.29- 59.50)	3.47 (0.44-55.20)	p<0.005
Length of stay (days)			
Median (Range)	3.33 (0.22-33.33)	3.35 (0.27- 33.33)	0.007
Conversion to Open	19 (10.5%)	15 (4.5%)	0.01

# RESULTS

## COMPLICATIONS

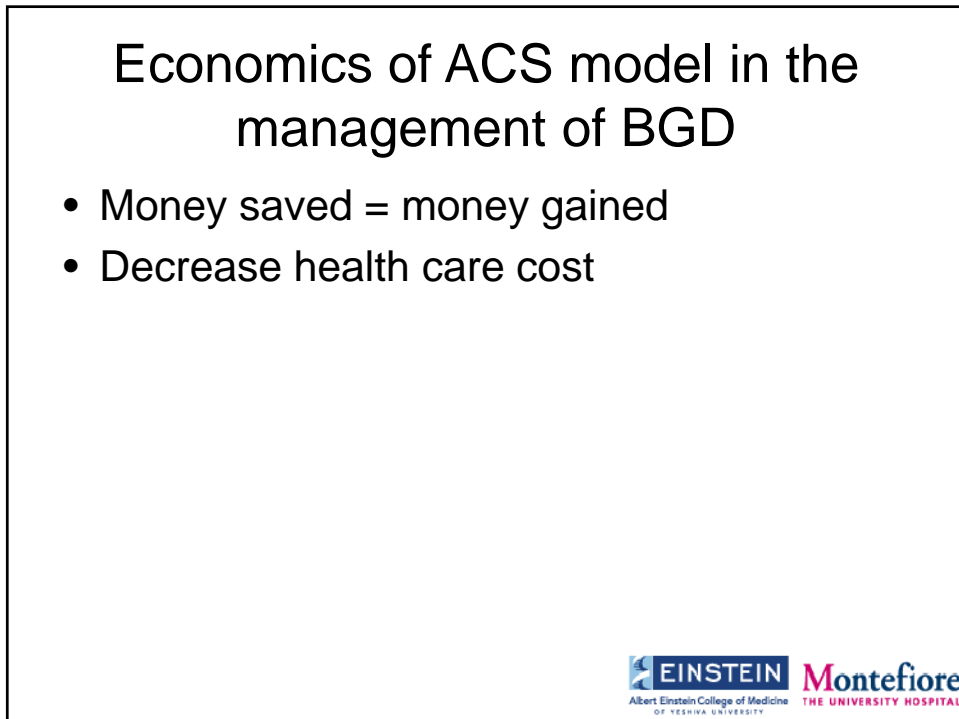
	PRE-ACS (n=181)	ACS (n=330)	Chi-Square (p-value)
TOTAL	47 (26.0%)	41 (12.4%)	395.42 (0.0001)
SURGICAL	32 (17.7%)	28 (8.5%)	9.54 (0.002)
Post- op fever/leukocytosis	11	3	
Post-op ileus/SBO	3	6	
Biliary	12	5	
Uncontrolled pain	8	7	
Intra-abdominal collections	2	2	
Wound infection	1	5	
Other	1	2	
Total Surgical Complications	38	30	
MEDICAL	22 (12.2%)	13 (4.8%)	9.06 (0.0026)
Urinary retention/UTI	4	3	
Cardiac	5	2	
Respiratory	6	2	
Renal	7	1	
Other	11	9	
Total Medical Complications	33	17	





## Economics of ACS model in the management of BGD

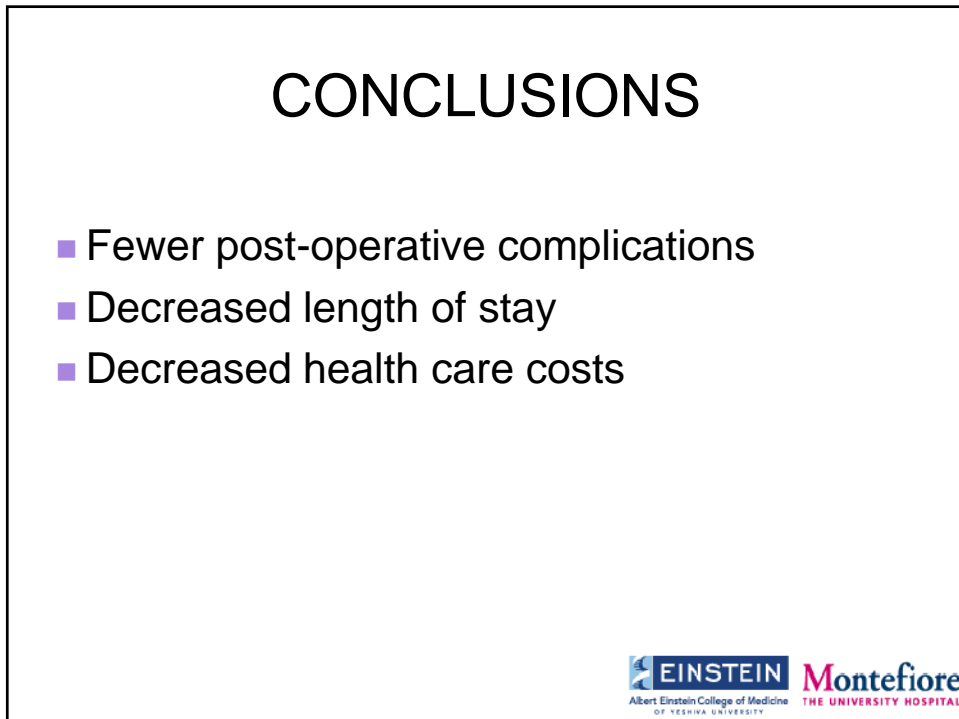
- Money saved = money gained
- Decrease health care cost





## CONCLUSIONS

- Fewer post-operative complications
- Decreased length of stay
- Decreased health care costs



# FUTURE DIRECTION

- Dedicated urgent OR room<sup>1</sup>
- Develop protocol
- System changes

source: 1. Dedicated operating room for emergency surgery improves access and efficiency.  
[Heng M1, Wright JG.](#) Can J Surg. 2013 Jun;56(3):167-74



# Thank you and Happy Holidays

