



MARTEDI' DELL'ORDINE  
4 GIUGNO 2013



# Chirurgia mininvasiva Dagli interventi endoscopico chirurgici a quelli laparoscopici ablativi parenchimali

## La chirurgia laparoscopica del fegato e del pancreas

Raffaele Dalla Valle

UOS di Chirurgia Oncologica ad indirizzo Epato-bilio-pancreatico

Dipartimento di Scienze Chirurgiche – Az. Osp. Univ. di Parma

Clinica Chirurgica Generale e dei Trapianti

Dir. Prof. M. Sianesi

# Benefits of Laparoscopic Surgery



- Less post-operative pain
- Less post operative ileus
- Preserved immune function
- Decreased stress response
- Decreased complications ?
- Shorter hospital stay
- Quicker return to activity/function
- Improved cosmesis
- Increased patient compliance

# Diffusione della laparoscopia anche in chirurgia epatica

## Laparoscopic liver resection with selective prior vascular control

Hadrien Tranchart, M.D.<sup>a,c</sup>, Giuseppe Di Giuro, M.D.<sup>a,c</sup>,  
Panagiotis Lainas, M.D., Ph.D.<sup>a,c</sup>, Guillaume Pourcher, M.D.<sup>a,c</sup>,  
Niaz Devaquet, M.  
Dominique Franco

## Laparoscopic Major Hepatectomy

*A Systematic Literature Review and Comparison of 3 Techniques*

*Niang-Cheng Lin, MD, Hiroyuki Nitta, MD, and Go Wakabayashi, MD, PhD, FACS*

## Totally laparoscopic hepatectomy exposing the major vessels

Goro Honda • Masanao Kurata • Yukihiro Okuda •  
Shin Kobayashi • Sosuke Tad  
Hiroshi Matsumoto • Daisuke

## Laparoscopic approach for treatment of multiple hepatocellular carcinomas

Laparoscopic liver resection for  
centrally located tumors close to the  
hilum, major hepatic veins, or inferior  
vena cava

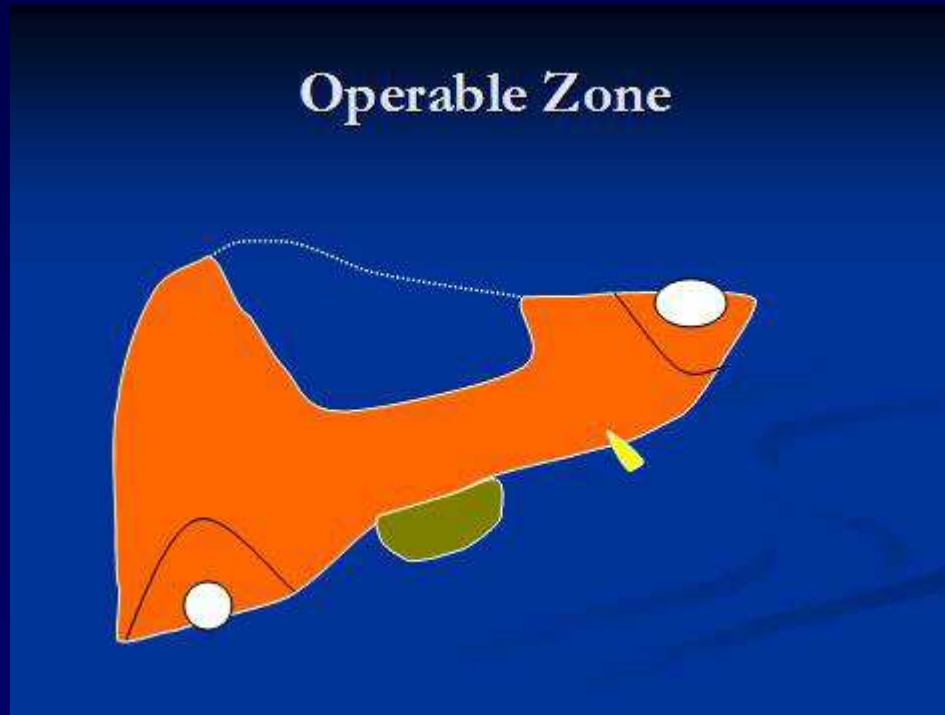
Yoo-Seok Yoon, MD, PhD, Ho-Seong Han, MD, PhD, Jai Young Cho, MD, PhD,  
Ji Hoon Kim, MD, and Yujin Kwon, MD, Seoul, Korea

# Criteri tecnici per l'approccio laparoscopico in chirurgia epatica

SURGICAL TECHNIQUE

## Laparoscopic Segmentectomy of the Liver *From Segment I to VIII*

*Takeaki Ishizawa, MD, PhD,\*† Andrew A. Gumbs, MD,‡ Norihiro Kokudo, MD, PhD,† and Brice Gayet, MD, PhD\**



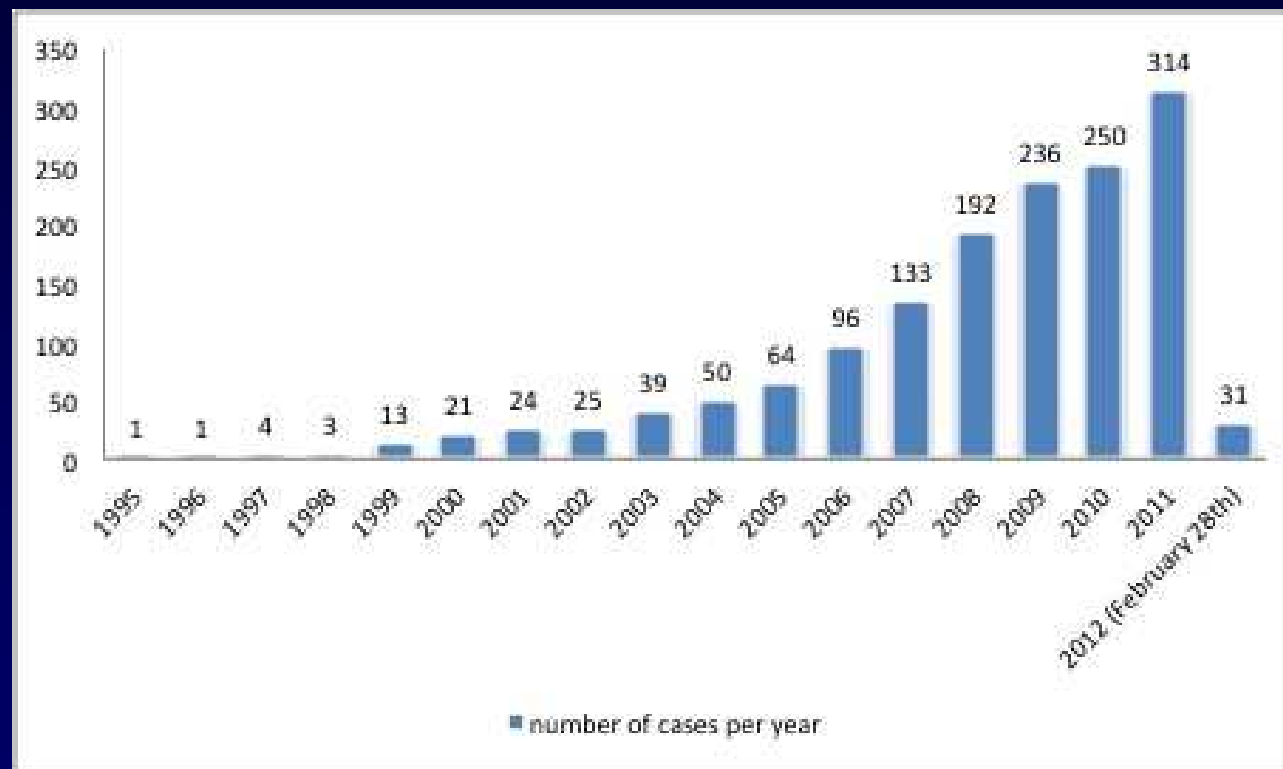
Problema del margine di resezione

Ecografia intraoperatoria

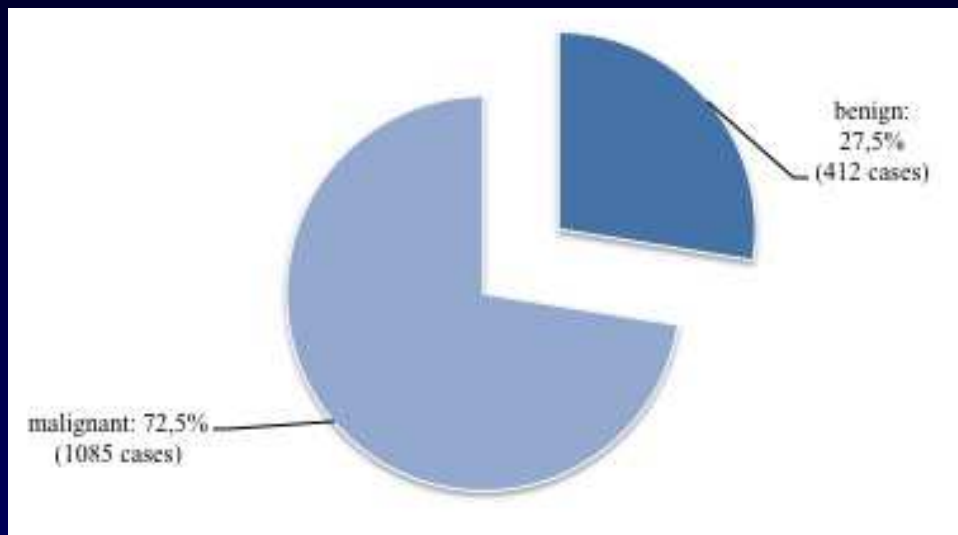
# Gruppo Italiano di chirurgia mini-invasiva del fegato



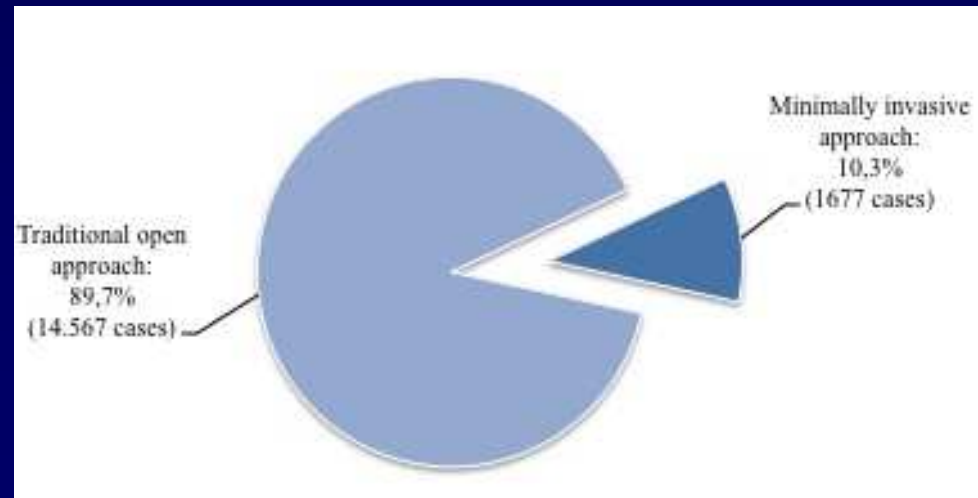
# Gruppo Italiano di chirurgia mini-invasiva del fegato



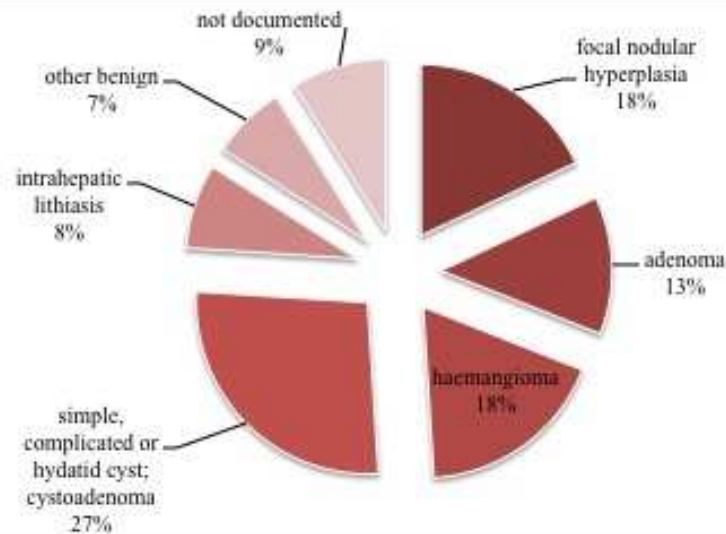
# Gruppo Italiano di chirurgia mini-invasiva del fegato



Realtà di Parma  
18 casi (6%)

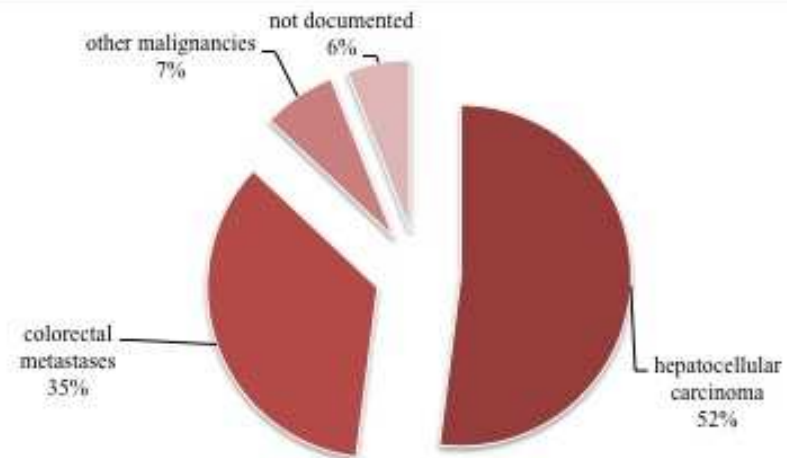


# Gruppo Italiano di chirurgia mini-invasiva del fegato

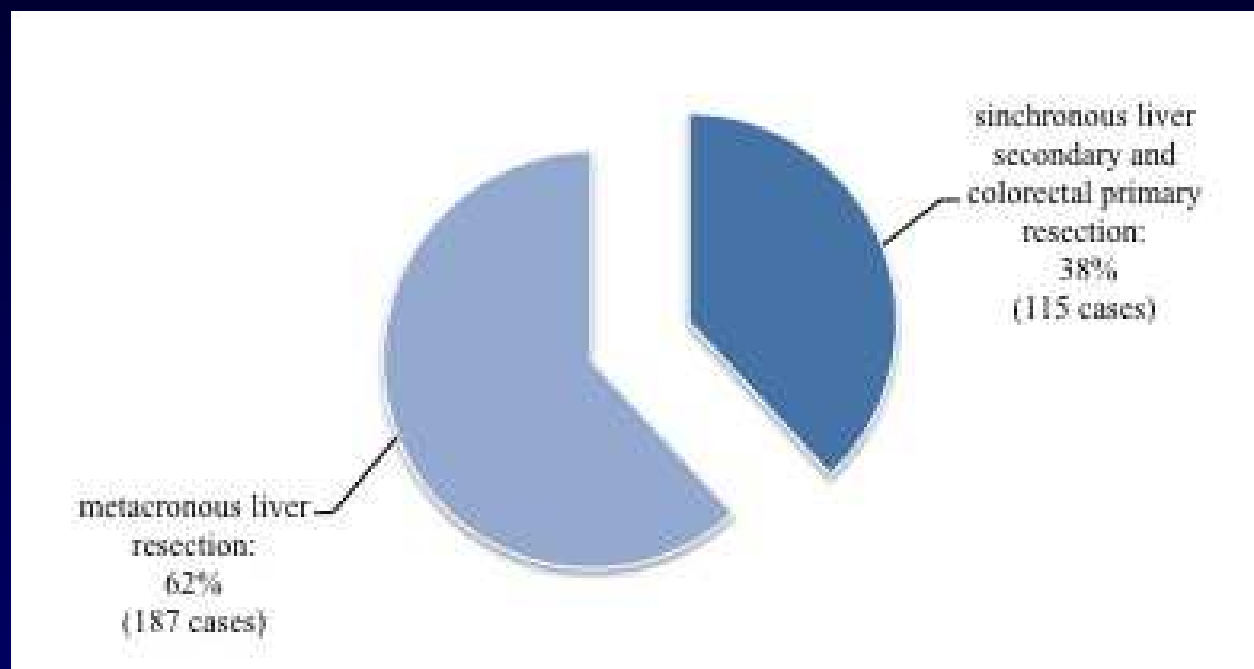


Patologia benigna

Patologia maligna

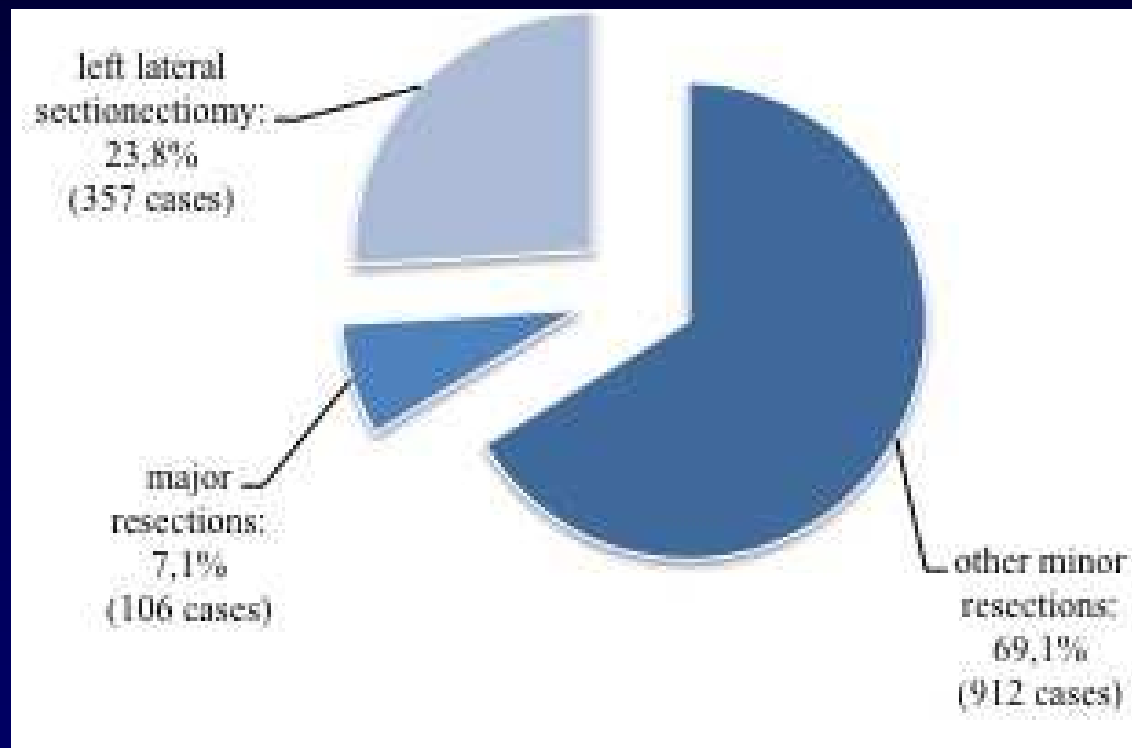


# Gruppo Italiano di chirurgia mini-invasiva del fegato



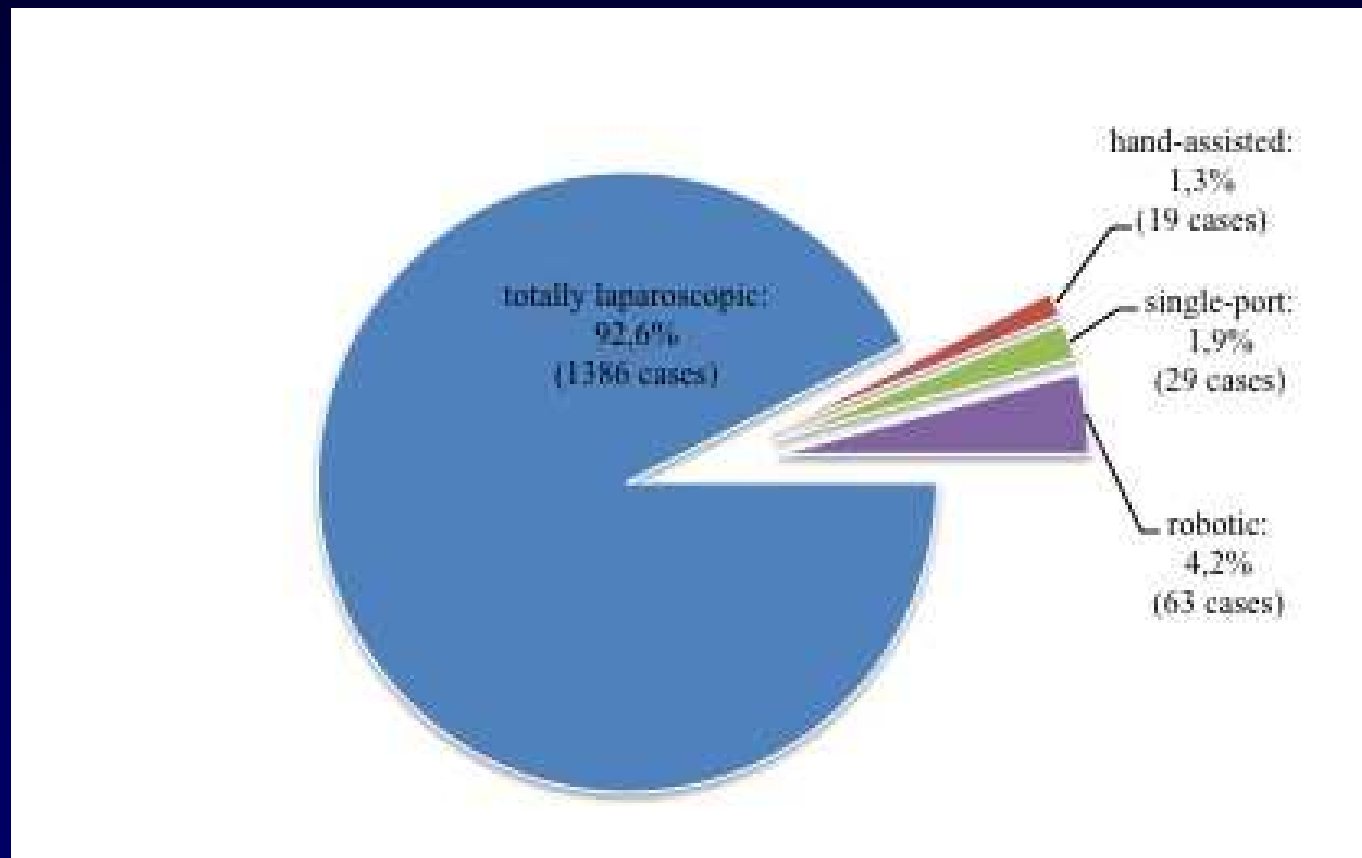
Interventi sincroni per metastasi epatiche  
da carcinoma colo-rettale

# Gruppo Italiano di chirurgia mini-invasiva del fegato



Tipi di resezione

# Gruppo Italiano di chirurgia mini-invasiva del fegato



# Gruppo Italiano di chirurgia mini-invasiva del fegato

**Table 1: Intraoperative details**

|                                                            |                    |
|------------------------------------------------------------|--------------------|
| <b>Intraoperative mortality, n (%)</b>                     | 0 (0%)             |
| <b>Intraoperative blood loss*</b>                          | 125 mL (50 – 625)  |
| <b>Operating time*</b>                                     | 145 min (45 – 315) |
| <b>Pringle maneuver</b>                                    |                    |
| - performing centers, n (%)<br>(continuous / intermittent) | 22 (56,4%) (3/19)  |
| - cases performed, n (%)                                   | 199 (13,7%)        |
| - total length*                                            | 22 min (7 - 52)    |
| <b>Surgical drain placement, n (%)</b>                     | 1,392 (93,0%)      |

\* Weighted mean (range)

# Gruppo Italiano di chirurgia mini-invasiva del fegato

**Table 2: Postoperative details**

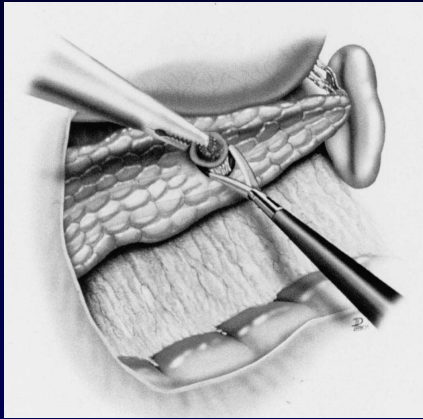
|                                                                                 |                |
|---------------------------------------------------------------------------------|----------------|
| Postoperative mortality, n (%)                                                  | 3 (0,2%)       |
| <b>Postoperative morbidity</b>                                                  |                |
| Type of complication,<br>n (% total resections)                                 |                |
| - ascites                                                                       | 81 (5,4%)      |
| - pleural effusion                                                              | 74 (4,9%)      |
| - haemorrhage                                                                   | 61 (4,0%)      |
| - bile leakage                                                                  | 35 (2,3%)      |
| - fever                                                                         | 29 (1,9%)      |
| - urinary tract infection                                                       | 11 (0,7%)      |
| - intra-abdominal infection                                                     | 11 (0,7%)      |
| - jaundice                                                                      | 5 (0,3%)       |
| - pneumonia                                                                     | 5 (0,3%)       |
| - bowel perforation                                                             | 4 (0,2%)       |
| - arrhythmia                                                                    | 3 (0,2%)       |
| - bowel obstruction                                                             | 1 (0,06)       |
| - pulmonary embolism                                                            | 1 (0,06)       |
| - hypertensive peak                                                             | 1 (0,06)       |
| - pneumothorax                                                                  | 1 (0,06)       |
| - acute respiratory failure                                                     | 1 (0,06)       |
| - acute cardiac failure                                                         | 1 (0,06)       |
| - peripheral paresthesia                                                        | 1 (0,06)       |
| Grade of severity (Dindo-Clavien<br>Classification),<br>n (% all complications) |                |
| - grade I                                                                       | 125 (36,5%)    |
| - grade II                                                                      | 174 (50,8%)    |
| - grade III                                                                     | 42 (12,2%)     |
| - grade IV                                                                      | 2 (0,5%)       |
| - grade V                                                                       | 3 (0,2%)       |
| Postoperative course*                                                           | 5,6 pod (2-12) |

\* Weighted mean (range)

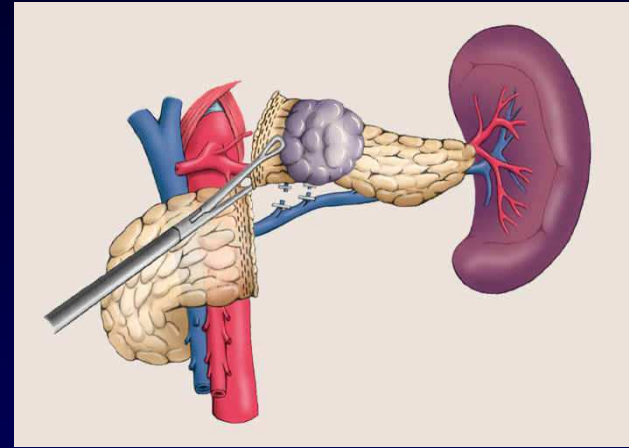


# Laparoscopic Pancreatic Resections

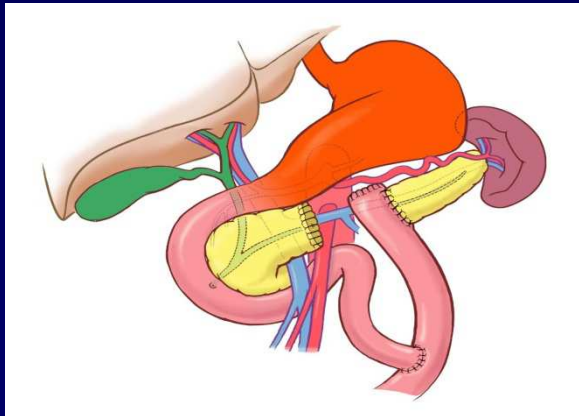
**Enucleation**



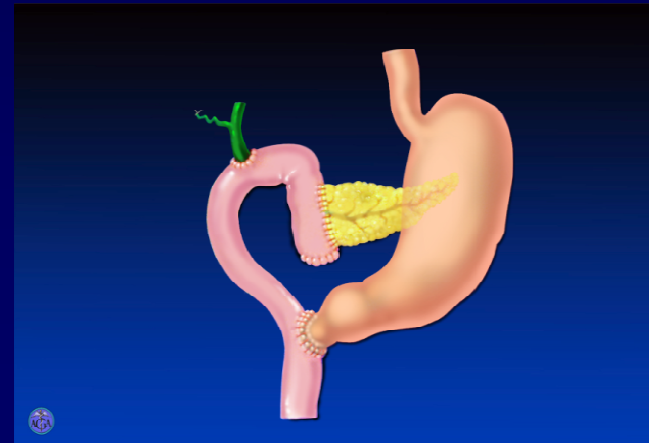
**Distal Panc +Spleen**



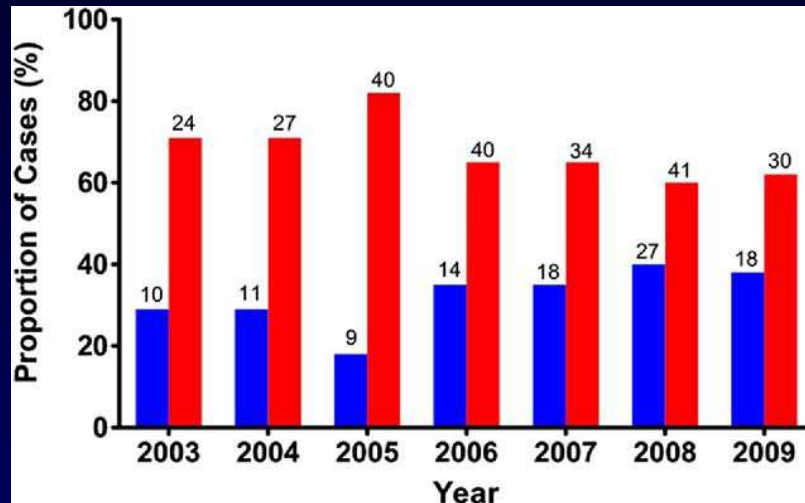
**Central Pancreatectomy**



**Pancreaticoduodenectomy**

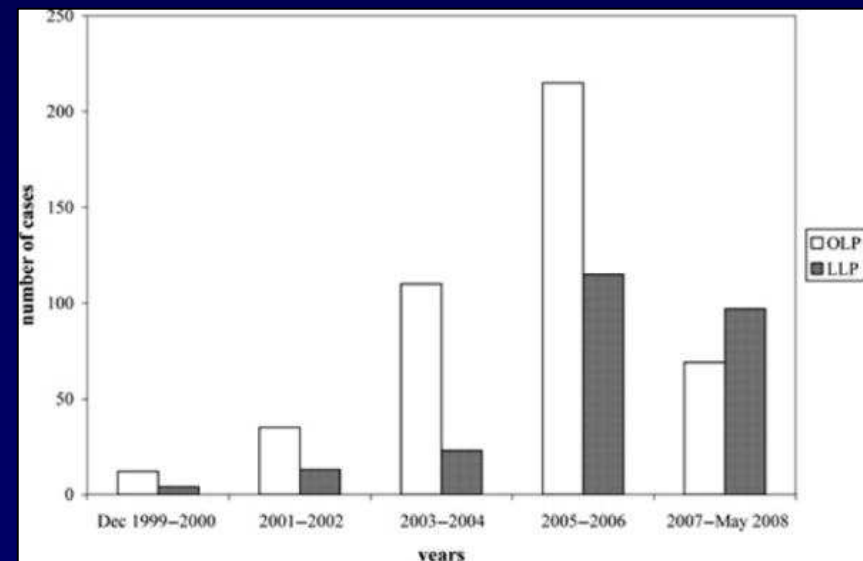


# Lap Distal Pancreatectomy over time



Sloan Kettering, NY

Central pancreas consortium  
USA



# Why the slow adoption of laparoscopic pancreatic surgery ?

- Volume outcome relationships
- Technically demanding surgery
- High morbidity procedures
- Long length of stay
- Dissection around major vascular structures  
(PV,SMV,SV, SMA, Celiac)
- Need for complex reconstruction

# Requirements for Laparoscopic Pancreatic Surgery

- Understanding of pancreatic disease (natural history, indications)
- Experience in open pancreatic surgery
- Advanced laparoscopic skill sets
- Intracorporeal suturing
- Ability to control bleeding

# Indications for Laparoscopic Pancreatic Resections



Cystic neoplasms



Neuroendocrine tumors



IPMN



Adenocarcinoma ??





**Grazie**