

# CHANGING OPEN SURGERY TO LAPAROSCOPY SURGERY IN VIETNAM

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# Introduction:

## Binh Dan hospital

- Referral surgery hospital in HCM city
- 2 Surgical disciplines: General Surgery  
Urology
- Urology: 220 beds, 3 departments
- Adult and Pediatric Urology

Open surgery era:

- Stones:

Anatrophic nephrolithotomy (++)

Pyelolithotomy (+++)

Ureterolithotomy (+++)

Vesicolithotomy (++)

Enormous cases, experience

Open surgery era:

- Ablative surgeries:

- Benign pathologies

- Simple Nephrectomy

- Partial / Hemi Nephrectomy

- Adrenalectomy

- Adenectomy: Retropubic (+)

- Transvesical (++++)

- Partial Cystectomy / Diverticulectomy

- Renal cyst decortication

Open surgery era:

- Ablative surgeries:

Malignancies

Rad. Nephrectomy (++++)

Nephro-ureterectomy (++)

Adrenalectomy (++)

Rad. Prostatectomy (++++)

Rad. Prostatectomy : very few

Partial Nephrectomy (+)

Partial Prostatectomy

Open surgery era:

- Reconstructive surgeries:

  - Pyeloplasty

  - Ureteral reimplantation

  - Ileal neobladder

  - Augmentation cystoplasty

  - Ureteral end to end anastomosis

  - Ileal ureter

- Incontinence: Burch colposuspension

Open surgery era:

- Characteristics:

- Long skin incision

- Large lumbotomy, muscle cuttings

- Long post-op hospital stay: 7 -14 days

- Post-op pain (+++)

- Incisional hernia

- Abdominal wall weakening (workers, farmers)

***NO INTERNATIONAL PAPERS / REPORTS***

Laparoscopy era:

1<sup>st</sup> Lap. procedures: foreigner surgeons

1999: 1<sup>st</sup> Rad. nephreX

Retroperitoneal approach

French surgeon: *Philippe Ballanger*

2004: 1<sup>st</sup> simple nephreX

Intraperitoneal approach

Singaporean surgeon: *Christopher Cheng*



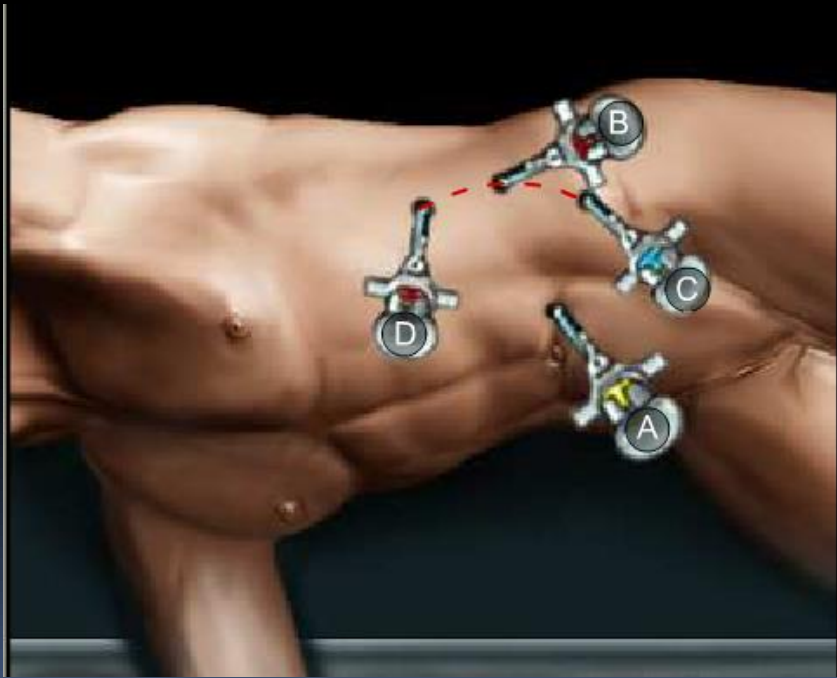
## Laparoscopy era:

1<sup>st</sup> series of Lap. NephreX , Nephro-ureterectomy

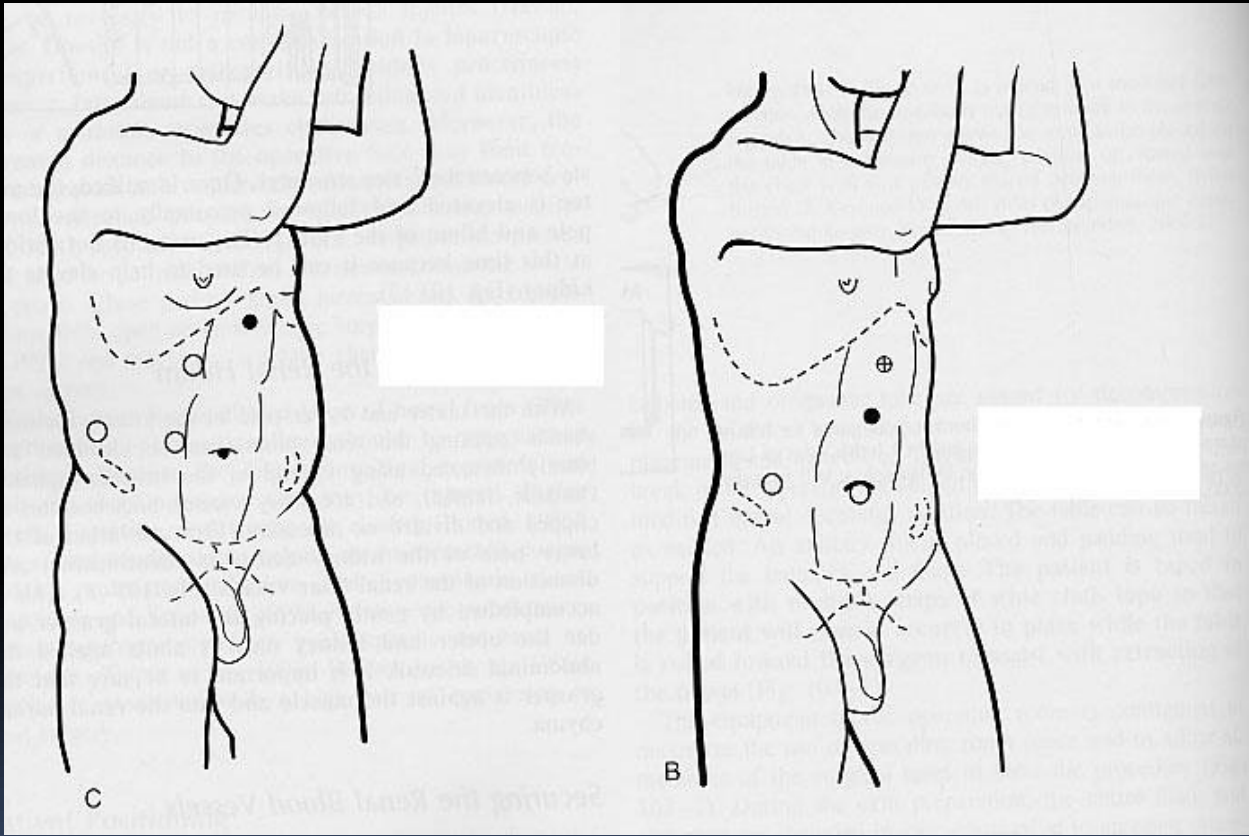
*Chuyen et al., 2004*

- 40 patients (13 males, 27 females).
- Lap NephreX: 36 , Nephroureterectomy: 4
- Age : 52,4 (18-80)
- Operating time : 114.13 (20-210) minutes.
- Mean post-op hospital stay : 6.48 (3-14) days
- Conversion : 5 / 40 cases

# Lap.nephroX: Intraperitoneal approach



# Lap.nephroX: Intraperitoneal approach



## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Adrenalectomy

*Chuyen et al., 2004, Intraperitoneal*

- 34 patients (14 males, 20 females).
- Tumor size: 46.82 (18 -81) mm
- Age : 36.6 (17-70)
- Operating time : 113 (60-250 ) minutes.
- Mean post-op hospital stay : 5.6 (3-10 ) days
- Conversion : 7 / 34 cases

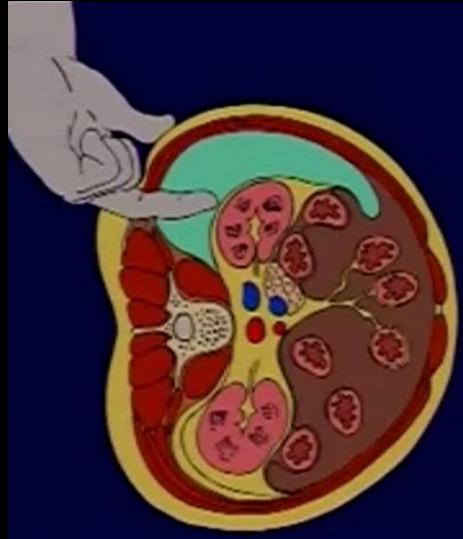
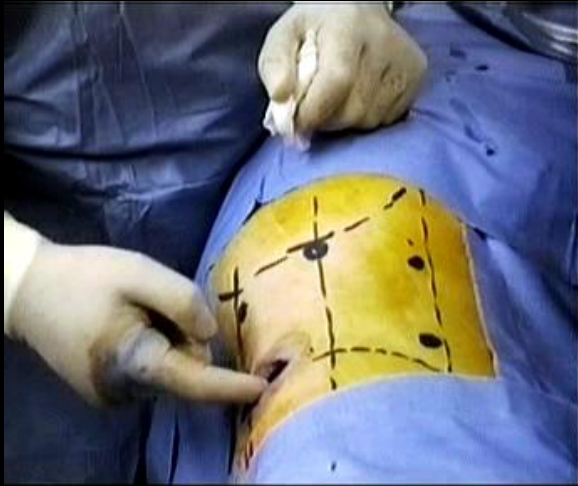
## Laparoscopy era:

### 1<sup>st</sup> series of Lap. ureterolithotomy

*Hoang et al., 2004, Retroperitoneal*

- 36 patients ( 17 males, 19 females).
- Stone size: 16.6 (8-30) mm
- Age : 46.6 (20-70)
- Operating time : 105.4 (60-200) minutes.
- Mean post-op hospital stay : 5.5 (2 - 17) days
- Conversion : 4 / 36 cases

# Lap. ureterolithotomy: Retroperitoneal approach



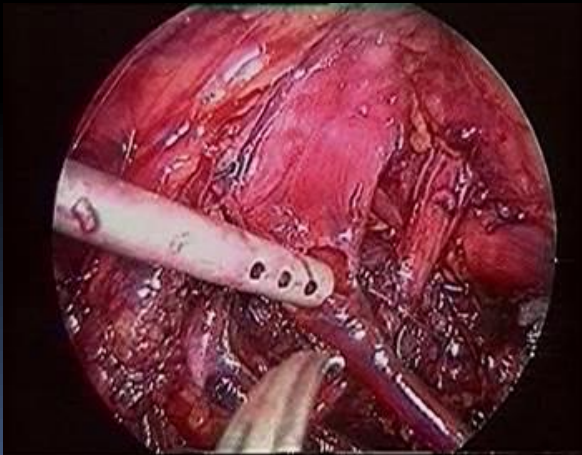
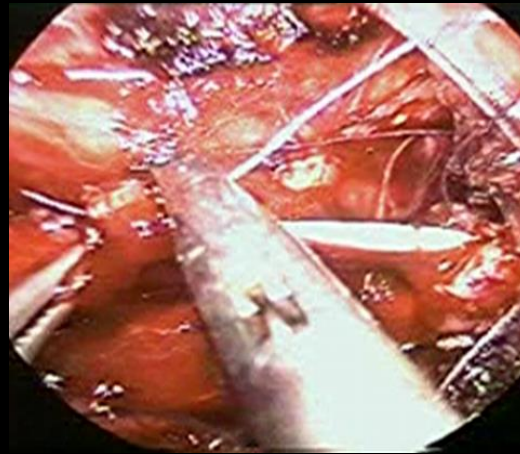
## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Pyeloplasty

*Hoang et al., 2005, Retroperitoneal*

- 24 patients ( 11 males, 13 females).
- Age : 36 (19-67)
- Techniques: Davis: 5, A-H: 16; Ureterolyse: 2
- Operating time : 136 (60-240) minutes.
- Mean post-op hospital stay : 4,9 (2-14) days
- Conversion : 1 / 24 cases

# Lap.Pyeloplasty: Retroperitoneal approach





## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Rad. NephreX

*Hai et al., 2005, Retroperitoneal*

- 7 cases (R: 6, L: 1)
- Mean tumor size: 42.8 (30-65) mm
- Operating time : 166.6 min
- EBL : 132 ml
- Postop. hospital stay: 6.3 days
- 1 conversion: hypercapnia
- Histology: 6 RCCs ; 1 AML

## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Nephroureterectomy

*Chuyen et al., 2005*

- 69 patients with TCC
- Male / Female: 51 / 18
- Age : 61 (29 - 89)
- Intraperitoneal : 24 cases
- Retroperitoneal: 45 cases

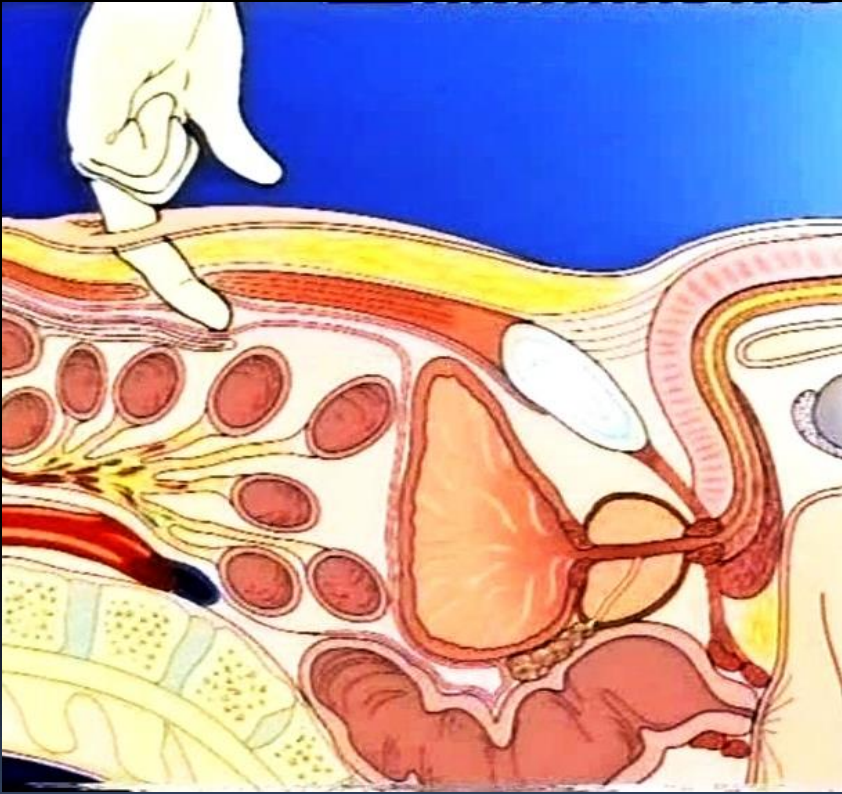
## Laparoscopy era:

1<sup>st</sup> series of Lap. Burch colposuspension

*Kha et al., 2005, Retroperitoneal*

- 8 female patients, stress urinary incontinence
- Age : 35 - 64
- Operating time : 91.25 minutes.
- Mean post-op hospital stay : 5.6 days
- Conversion : 0 cases

# Lap. Burch: Retroperitoneal approach



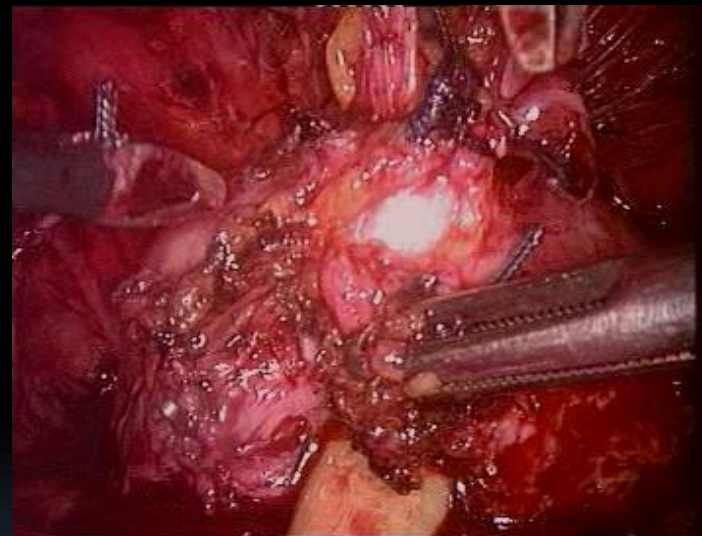
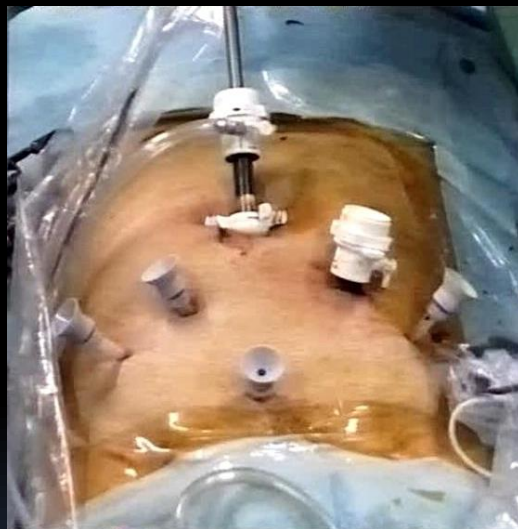
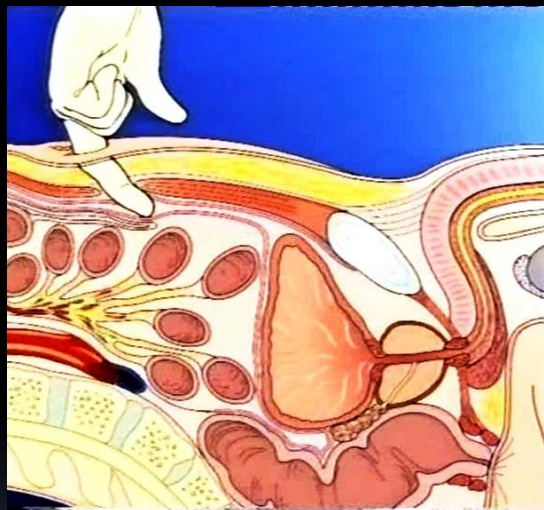
## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Prostatectomy

*Chuyen et al., 2005, Retroperitoneal*

- 4 male patients, 2 T2a, 1 T2b, 1 T3a
- Operating time: 180-330 min. 4 ports
- EBL: 300-600 mL
- Mean postop. hospital stay: 14 days
- 1 conversion: previous abd. operation
- Complication: 2 nocturnal incontinence

# Lap. Prostatectomy: Retroperitoneal approach



# THE ORGAN SYSTEMS INVOLVED IN THE 276 RLPs

<i>Procedures</i>	<i>Subtotal</i>	<i>Total</i>
<b>Renal</b>		102
Renal cyst decortication	25	
Pyelolithotomy	22	
Pyeloplasty	24	
Simple nephrectomy	24	
Radical nephrectomy	7	
<b>Adrenal</b>		2
Ganglioneuroma	1	
Accessory spleen (?)	1	
<b>Ureteric</b>		160
Upper ureterolithotomy	148	
Lower ureterolithotomy	11	
Correction of retrocaval ureter	1	
<b>Vesical</b>		8
Burch's colposuspension	8	
<b>Prostatic</b>		4
Radical prostatectomy	4	

## 1<sup>st</sup> series of Lap. Partial NephreX

*Hoang et al., 2008, Intraperitoneal*

- 57 patients with Small Kidney mass
- Male / Female: 33 / 24
- Age : 49 (27 – 84)
- Left / Right: 31 /26
- Size from 1-5cm
- Site
  - Upper : 12
  - Middle: 8
  - Lower: 37

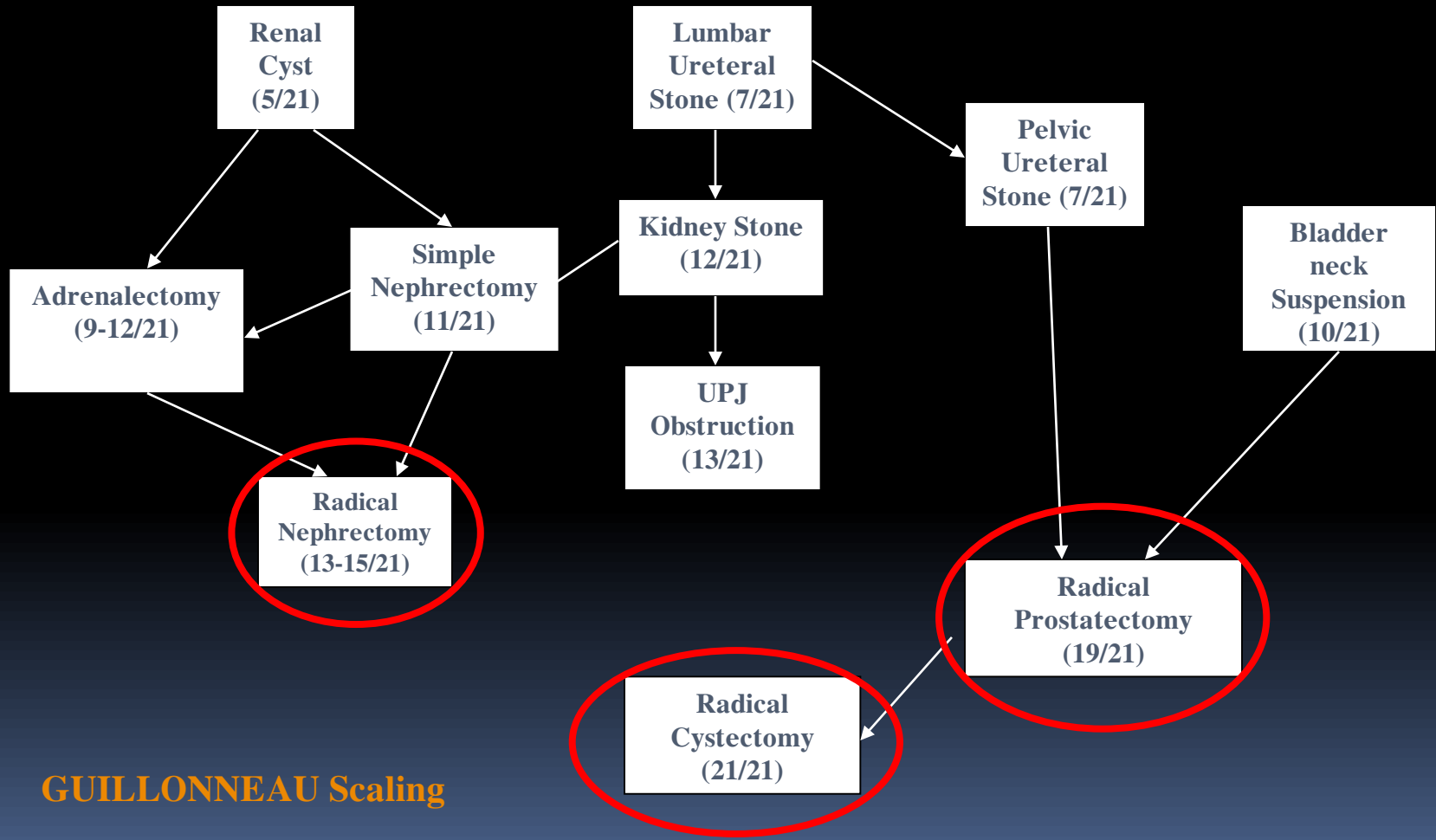


## Laparoscopy era:

### 1<sup>st</sup> series of Lap. Prostatocystectomy

*Chuyen et al., 2010, Intraperitoneal*

- 10 patients (8 males, 2 females)
- Operating time: 390 (240–520) minutes
- EBL: 450 mL
- Mean postop. hospital stay: 11.7 (7–28) days
- 1 conversion: difficulty in urethronobladder anastomosis.
- Ileal conduits : 7 ; orthotopic neobladders : 3



**GUILLONNEAU Scaling**

Laparoscopy era:

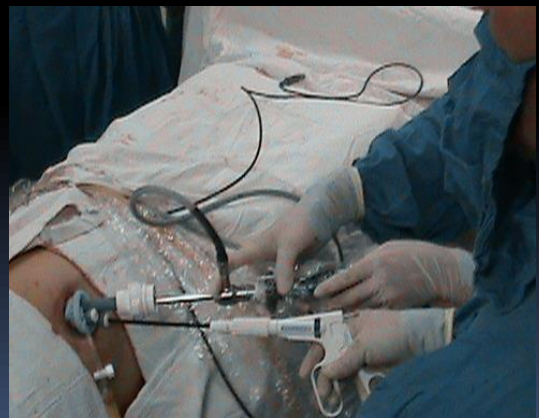
1<sup>st</sup> series of LaparoEndoscopic Single-site Surgery  
*Chuyen et al., 2011, Intraperitoneal*

- 76 patients (45 males, 31 females)
- Mean age: 46.8 (10-86)
- Operating time: 113.2 (30-240). minutes
- EBL: 81 (10-700) mL
- Mean postop. hospital stay: 3.3 (1-10) days

## LESS procedures: 76 patients

- renal cyst decortication: 22
- removal of adrenal cyst: 1
- orchidopexy : 1
- pyeloplasty: 11
- ureterolithotomy: 19
- pyelolithotomy: 4
- simple nephrectomy: 13
- radical nephrectomy: 3
- partial nephrectomy: 2

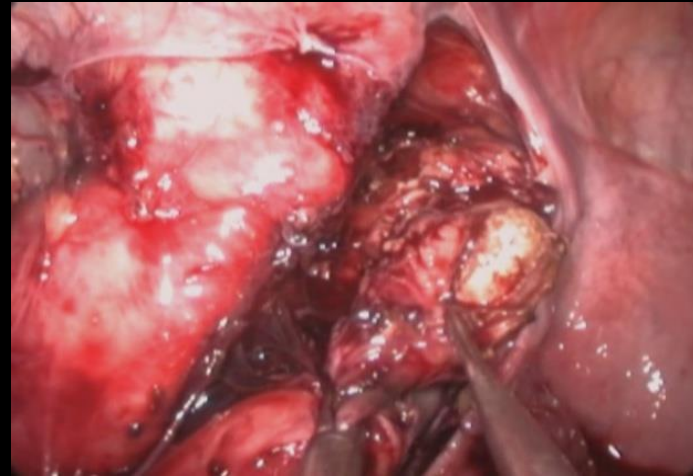
# LaparoEndoscopic Single-site Surgery (LESS)



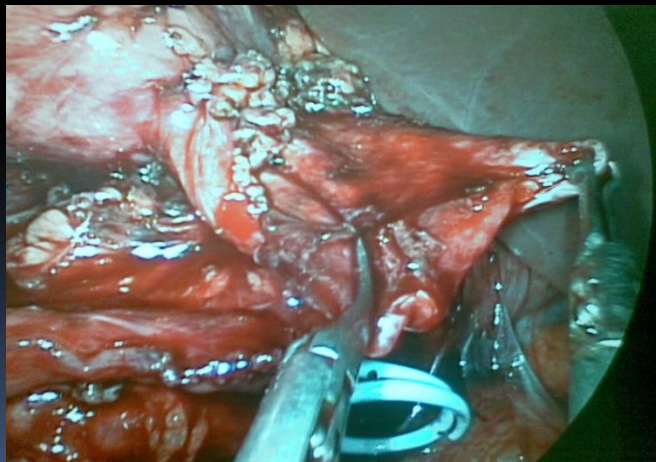
# LaparoEndoscopic Single-site Surgery (LESS)



Renal cyst unroofing



Ureterolithotomy

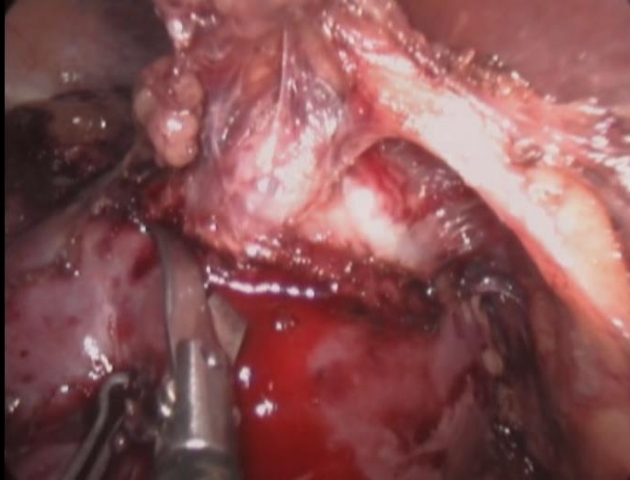


Pyeloplasty



Simple nephrectomy

# LaparoEndoscopic Single-site Surgery (LESS)



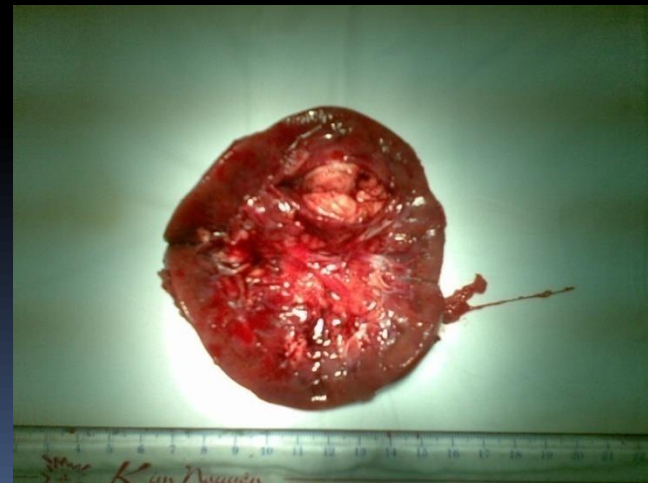
Partial nephrectomy



Partial nephrectomy (specimen)



Simple nephrectomy (specimen)



Radical nephrectomy (specimen)

# LaparoEndoscopic Single-site Surgery (LESS)





# Intraperitoneal Laparoscopy

- Advantages:
  - No time for ballooning
  - Wide operation space, safe
  - Can be done many times
  - Great, major operations
  - Multiple organ procedures
- Disadvantages:
  - Visceral injury
  - Aggressive drainage
  - “Pure” urologists dislike intraperitoneal

# Retroperitoneal Laparoscopy

- Advantages:
  - Previous abdominal surgery
  - Familiar with urologist
  - No visceral injury
  - Shorter operating time and hospital stay
- Disadvantages:
  - Time for ballooning
  - Narrow operative space
  - Previous urological surgery usually retroperitoneal
  - Large dissection: difficult

## LaparoEndoscopic Single-site Surgery (LESS)

- More cosmetic results
- Other benefits: functional, oncologic, cost ... not proven
- Difficulties: instrument fighting, space for staff
- LESS: real benefit to be defined

## Laparoscopic surgery

- Characteristics:

- Learning curve

- Minimally invasive

- Short post-op hospital stay: 1 -5 days

- Mild post-op pain

- Rapid convalescence

- No scars / concealed scar

- No incisional hernia

- No abdominal wall weakening

***SOURCE OF INTERNATIONAL PAPERS / REPORTS***

# Training

## Knowledge and skill acquaintance

- Overseas fellowship : France, Singapore, USA, UK,...  
IRCAD/AITS (France, Taiwan)  
FFI (French residency)
- Organizing workshop/congress inviting int. lap.  
Surgeons
- E-Surgery: WebSurg
- Lap.Videos

# Training

## Knowledge and skill acquaintance

- Attending training courses in regional / int Urol Congress (SIU, EAU, AUA, Urology fair,...)
- Int. lap. book / litterature
- Report in national / regional / int. congress

# Training Centre

Since 12/2009:  
EndoLaparoscopy  
Urology  
Training  
Centre (ELUTC)

National CME credits



704

SỞ Y TẾ TP.HCM

BỆNH VIỆN BÌNH DÂN

ĐƠN VỊ ĐÀO TẠO LIÊN TỤC  
NỘI SOI VÀ PHẪU THUẬT NỘI SOI NIỆU







# Training

Training time: 3 months

Programmes:

- Endoscopy: Basic, Advanced
- Laparoscopy: Basic, Advanced, Specialized

Techniques:

- Theory courses
- Hands-on practice (laparoscopist-cameraman)
- Dry lab (no animal lab)

# Training

- Enrollments : every 3 months  
Now: 10 enrollments (since 12/ 2009)
- Vietnamese urologists: whole country
- Foreigner urologist: beginning
  - 1 Singaporean
  - 1 Indonesian
  - 1 Phillipines

# Challenges

## Procedures

- Rad. Prostatocystectomy and complete intracorporeal ileal neobladder
- LESS major procedures

Open surgery – Standard lap. – Robotic ass. Lap-  
LESS

# Conclusions

From Open surgery to Laparocopy surgery is a long and difficult pathway

Should study both approaches: Intraperitoneal  
Retroperitoneal

Self-training

Training in institutions

Thank you for you attention

