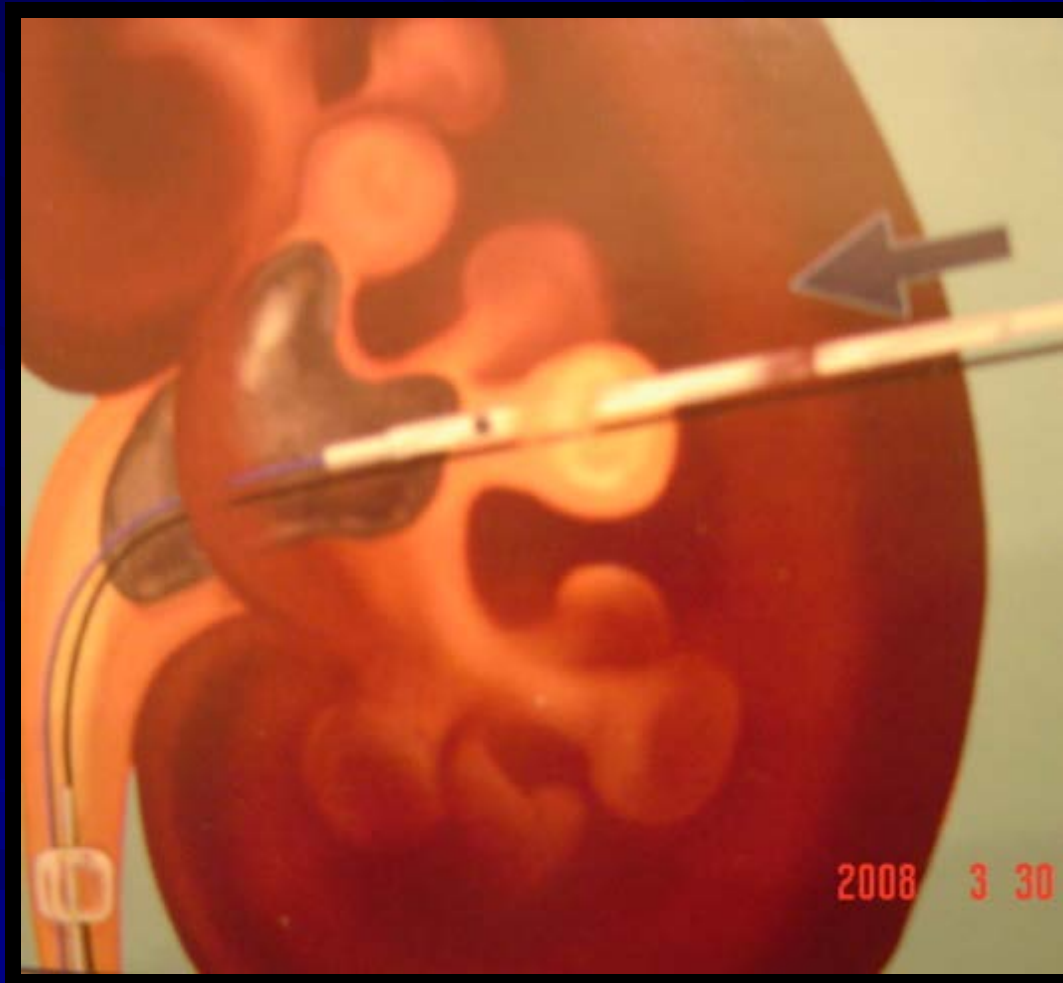


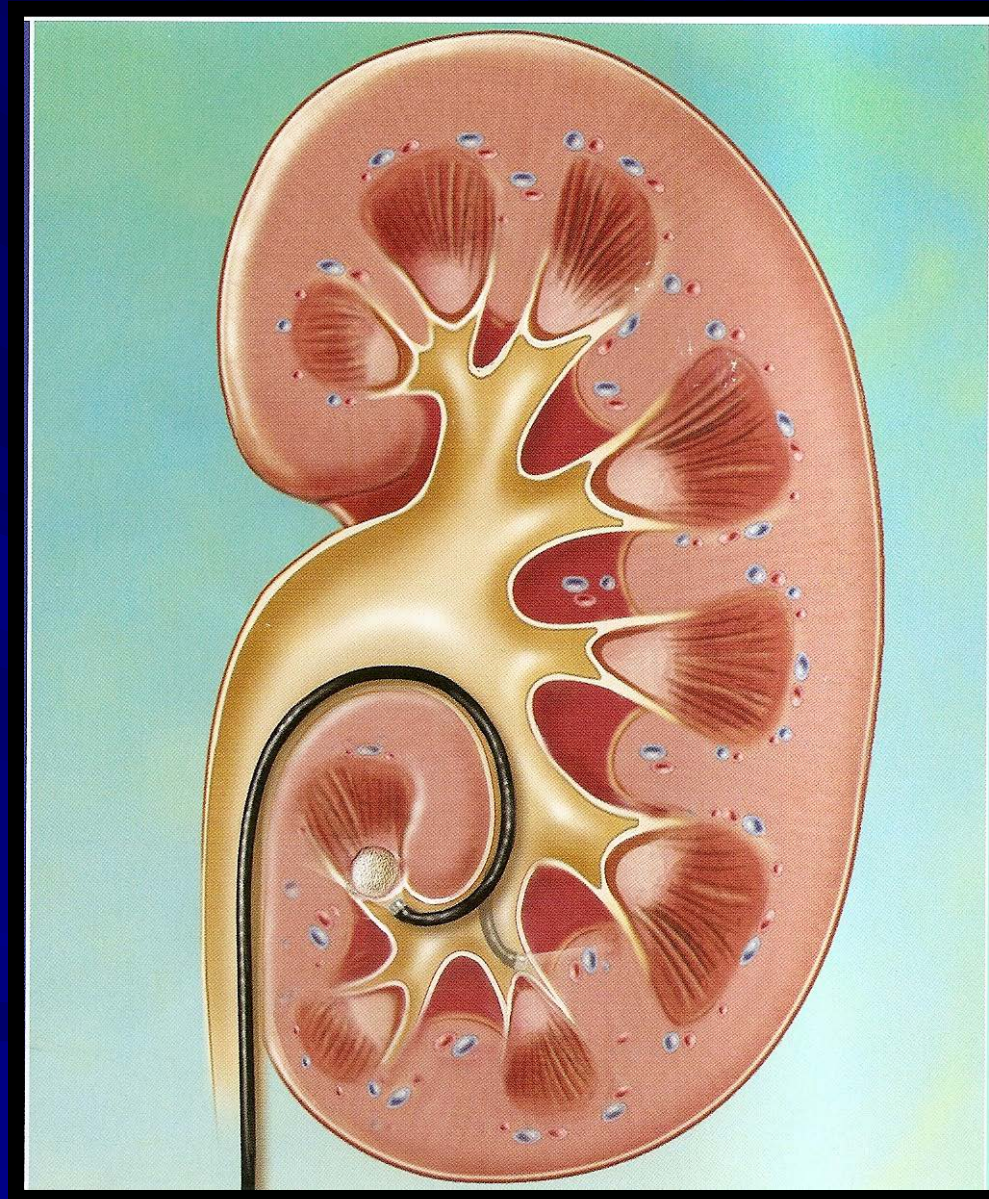
# Capitulo de Endourología 2015



# Resumen de novedades Capitulo endourología hacia donde vamos ?

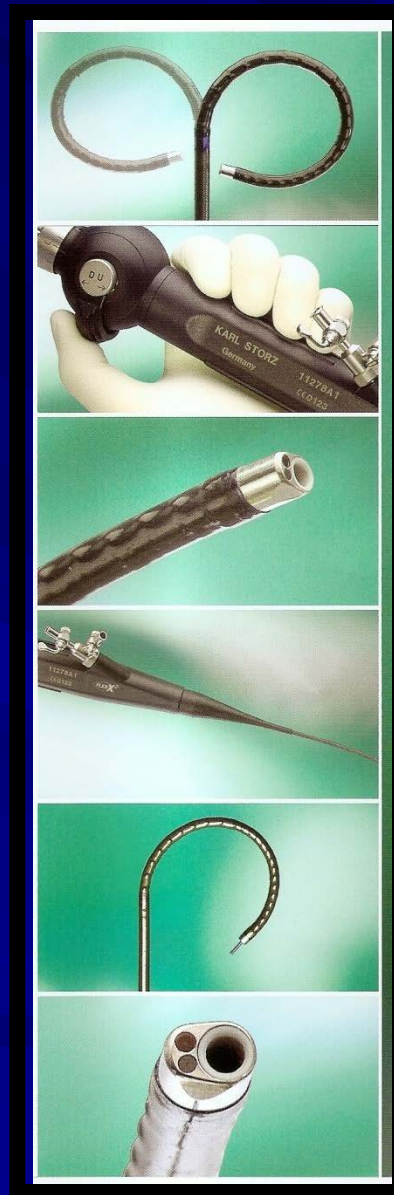


¿Hacia dónde vamos ?



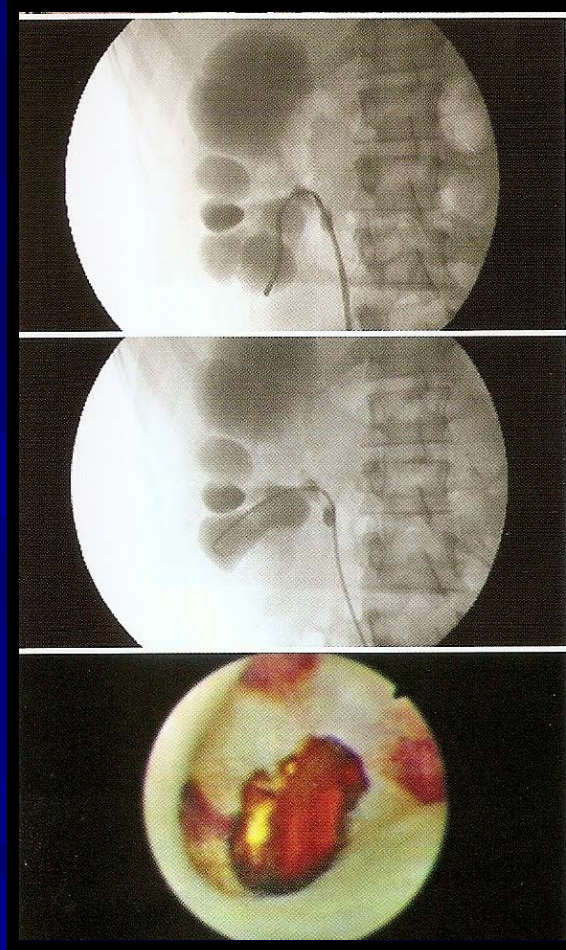
SAU

# Instrumentales maleables y más durables



SAU

# Instrumentales cada vez mas finos ,con nuevas fuentes de energías Láser



# Alta complejidad va en aumento



# Nuevos electro bisturí de múltiples energía



# Litotritores neumático pequeños y transportables





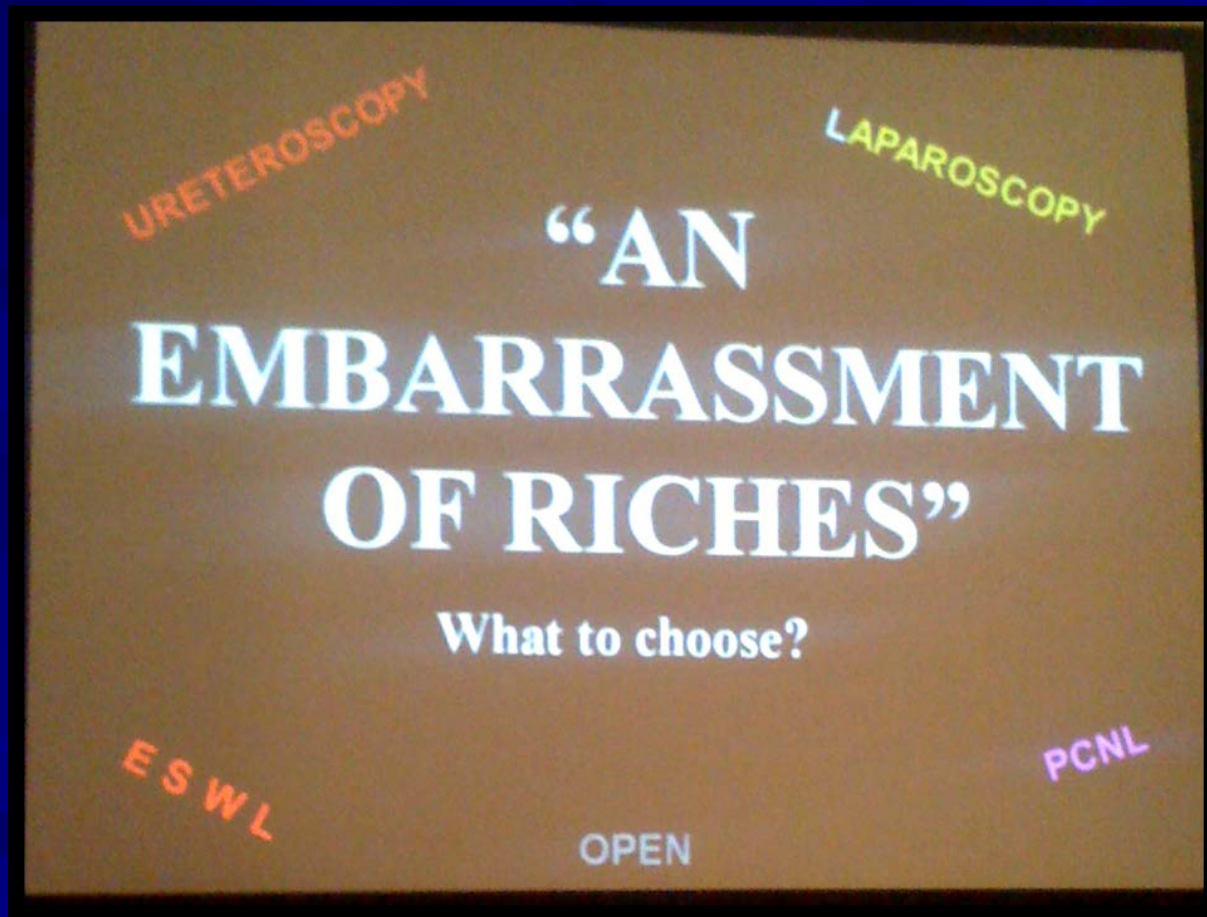
# Energía doble neumática y ultrasónica

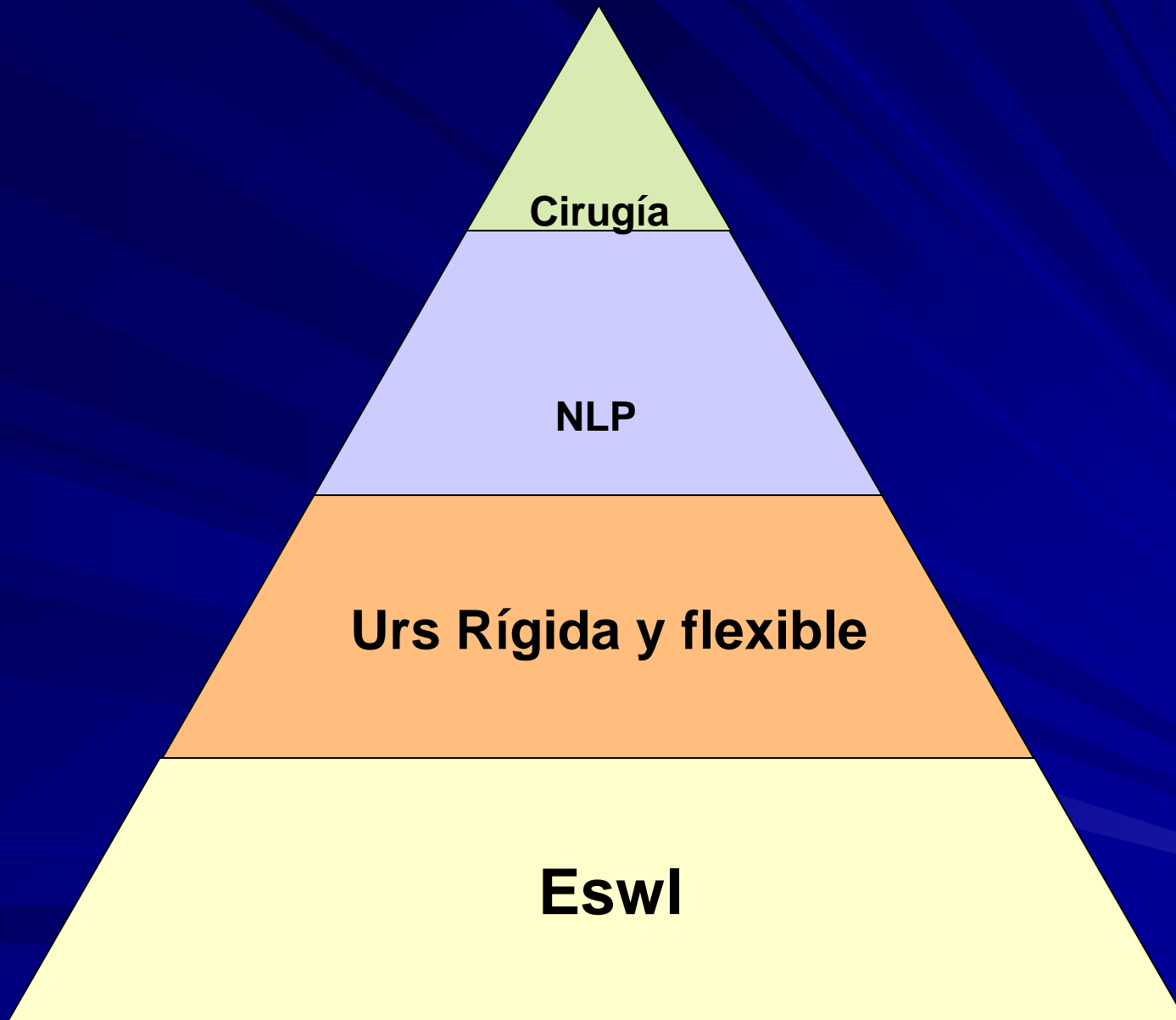
## CyberWand Dual Ultrasonic Lithotripter

- Dual probe to produce simultaneous 'jackhammer' and ultrasonic actions to fragment stones efficiently
- Calculi are fragmented and suctioned from the site



# Desconcierto de opciones





Litiasis, tumores  
Estenosis

```
graph TD; A[Litiasis, tumores Estenosis] --- B[Urs Rígida o flexible + Eswl?]; A --- C[NLP Rígida o flexible +eswl?]; A --- D[Cirugía Laparoscopica? abierta ? Combinadas?];
```

Urs  
Rígida o flexible  
+ Eswl?

NLP  
Rígida o flexible  
+eswl?

Cirugía  
Laparoscopica?  
abierta ?  
Combinadas?

# LA ENDOUROLOGIA EN PLENA TRANSFORMACION



# ■ Nuevas siglas para la Endourologia

■ RTU P.

■ RTU V.

■ URS (RIGIDA).

■ URS (FLEXIBLE ).

■ NLP.

■ CIRR.

■ CIRRR.

■ ONAS

# CIRRR



SAU

# CIRRR







# CIRRR



SAU



SAU

# Cirugía Ambulatoria ,Nuevos modelos de hospitales



# Salas de recuperaciones simples



# Espacios reducidos





**Gracias Capitulo de Endourología**





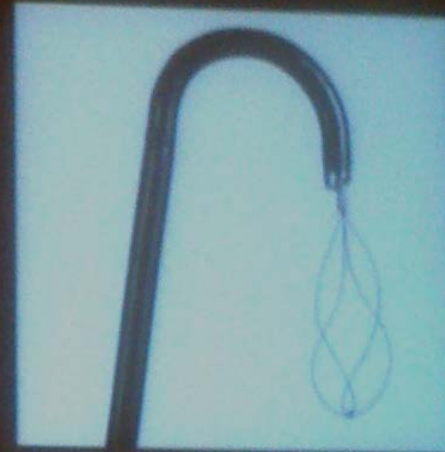




# Ureteroscopia con impresionante tecnología

## Ureteroscopes: Impressive technology

- 👍 Flexible endoscopy commonplace, small caliber < 7.5 Fr scopes
- 👍 Laser fibers more flexible, disposable
- 👍 Dual deflection and unique deflection designs
- 👍 Durability and repair costs a substantive issue





SAU

# Láser Holmiun

## Holmium Laser Lithotripsy

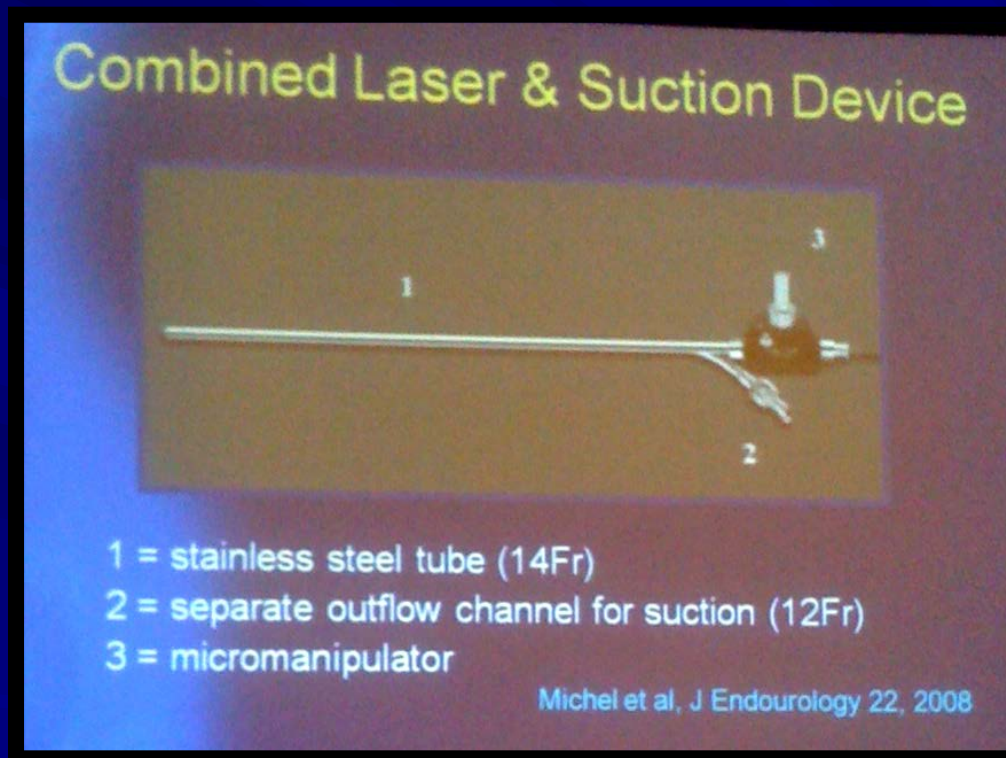
- **Advantages**

- Fragments all calculi
- Small diameter fibers

- **Disadvantages**

- Time consuming in treating large stone burden
- Expensive
- Tissue effect

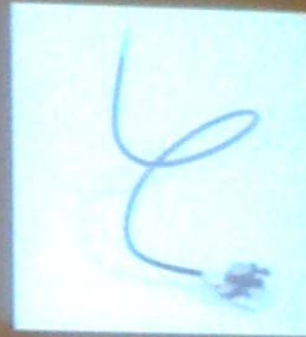
# Energía Láser Holmiun en litotricia intracorporea con aspiración continua



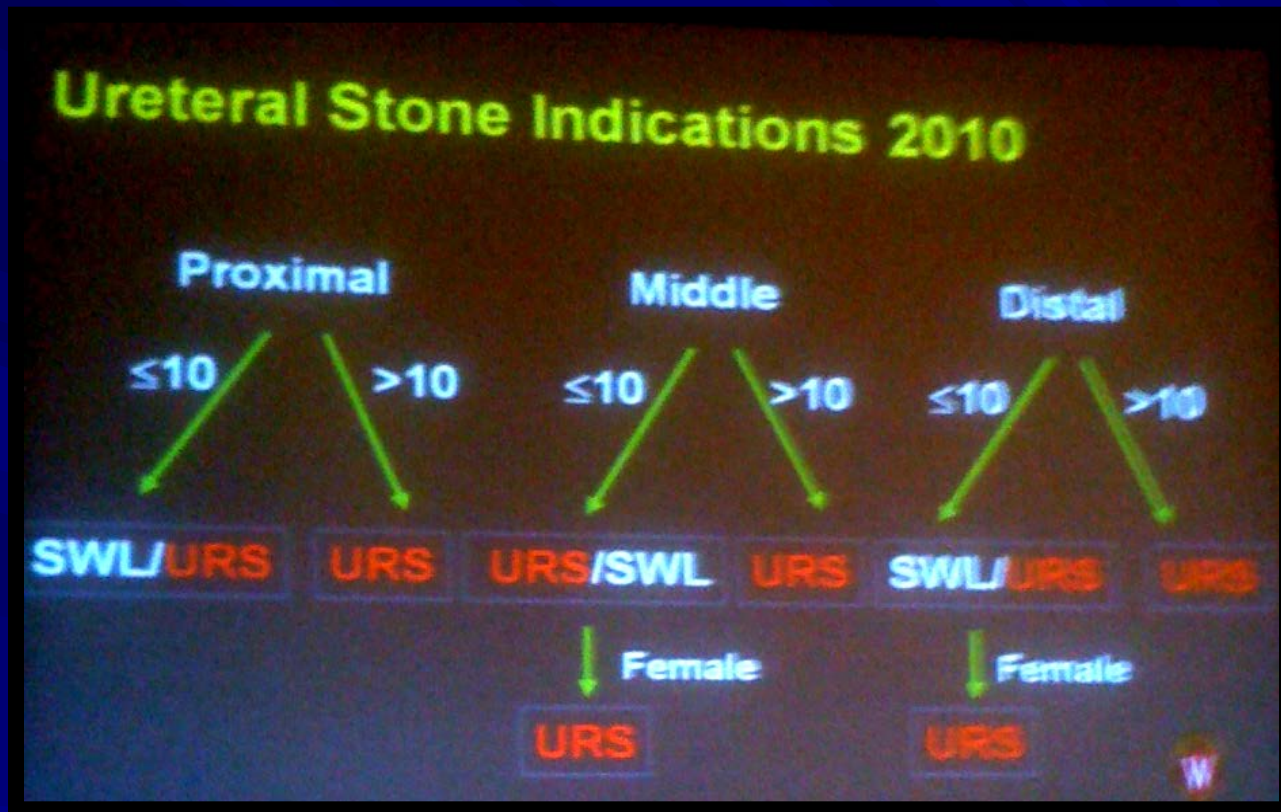
# Uso de vainas

## Access sheaths: Use them

- All the time
- For cases when you cannot access the ureter
- For cases in which you remove stones, treat strictures, or tumors
- For cases where you want to keep pressures in the kidney lower



# Indicaciones Litiasis ureteral 2010





# Nuevos lineamientos en el tratamiento de litiasis ureteral

## Consenso AUA/ EAU .

### AUA/EAU Ureteral Stone Guidelines Preminger, Tiselius, et al. 2007

- **Standard:** Stone removal should be considered if a persistent high grade ureteral obstruction occurs, or stone migration is absent or prolonged, or in the presence of increasing colic.
- URS and SWL **both** first line therapies and should be discussed as options
- Stenting after routine URS- **optional**

# Consideraciones de la Urs 2010

## Ureteroscopy 2010: Any innovations?

- *Regarding URS technique*
  - Distract the stone, use sheaths, no wires
- *Regarding URS Technology*
  - Go digital, NBI for TCC, disposable scopes
- *Regarding URS Indications*
  - Proximal ureteral stones, bleeding diathesis  
unilateral hematuria, strictures

# Urs es mas eficaz que eswl litos ureterales > 10 MN

## Comment

- Larger stones (>10 mm) in the ureter are better treated with ureteroscopy compared to SWL.

# Costos

## URETERAL CALCULI

### MEDICAL EXPULSIVE THERAPY – POTENTIAL COST SAVINGS

Surgical intervention for urolithiasis is costly

URS - \$2645

SWL - \$4225 (+ need for 2<sup>o</sup> Rx)

MET relies mostly on generic drugs

A one month course of MET:

Doxazosin - \$11 (28 days)

Tamsulosin - \$104 (42 days)

# Estudio metabólico de la litiasis urinaria: bajo riesgo y alto riesgo

¿como la controlo? ,¿como la trato ?

## CONCLUSIONS

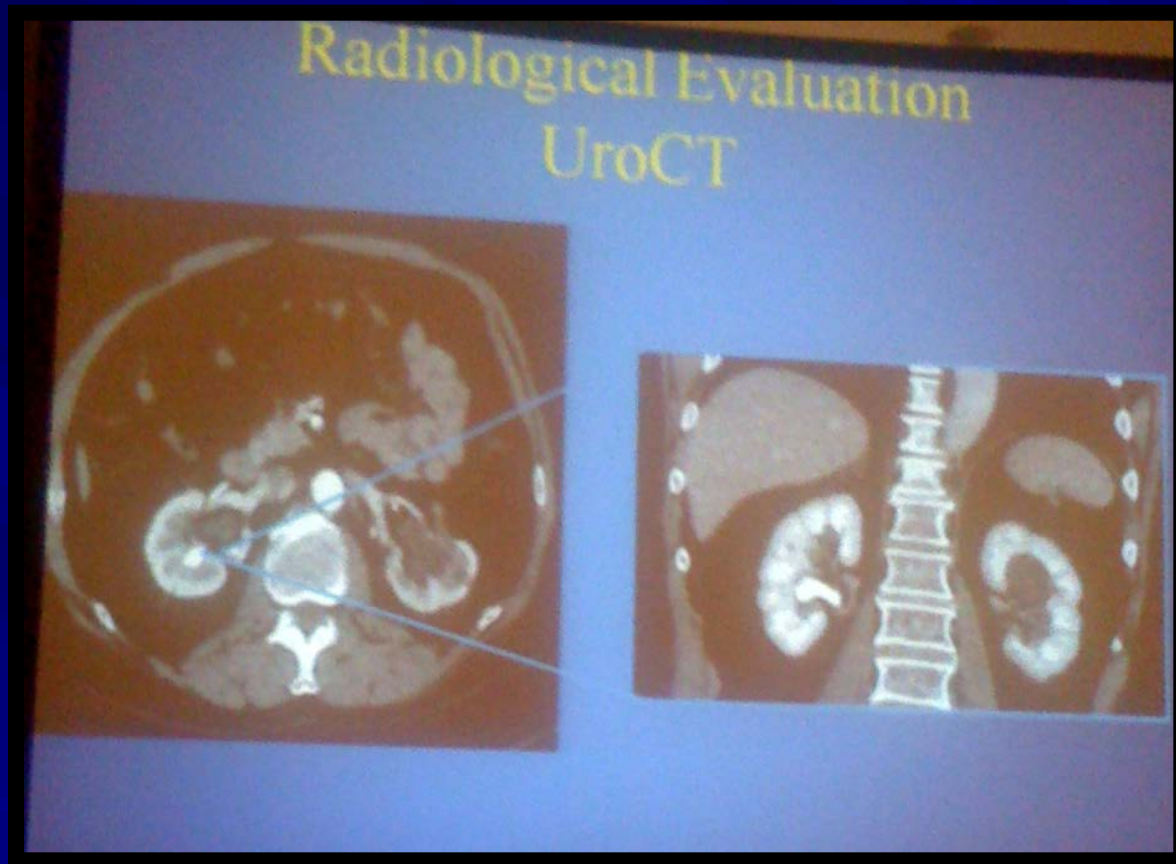
- All stone formers should be undergo a simple screen for medical risk factors
- First time/low risk stone former are treated with conservative dietary measures
- High risk stone formers should undergo a simple metabolic evaluation and undergo treatment with dietary and pharmacologic measures

## **EFFECT OF CITRUS FRUIT**

**Are all juices the same?**

- **Fruits/juices w/ high citrate content are good source of dietary citrate**
- **Most citrate metabolized to bicarbonate**
- **Some renal excretion of unmetabolized citrate**
- **Bicarbonate provides an alkali load that ↑'s Ucit excretion and ↑'s urinary inhibitory activity**

**EL uso de la TC es fundamental antes de la NLP**



# Distintos accesos en la punción renal :caliz inferior, medio o superior y distintas posiciones decúbito ventral y dorsal

## “ENDOSCOPIC ACCESS”

1. Position prone on spreader bars, legs abducted 30°
2. Flexible cystoscopy – secure initial guidewire (Bentson or nitinol)
3. Introducer catheter – place a second guidewire – (superstiff)
4. Place 9.5/11F ureteral access sheath over second “working” guidewire
5. Pass flexible ureteroscope (needs to be a true 7.5F)
6. Double contrast (air and hypaque) nephrogram through ureteroscope
7. Advance ureteroscope into calyx of choice
8. Laser lithotripsy of any calculi, blocking access to calyx



# Limitaciones de la posición supina

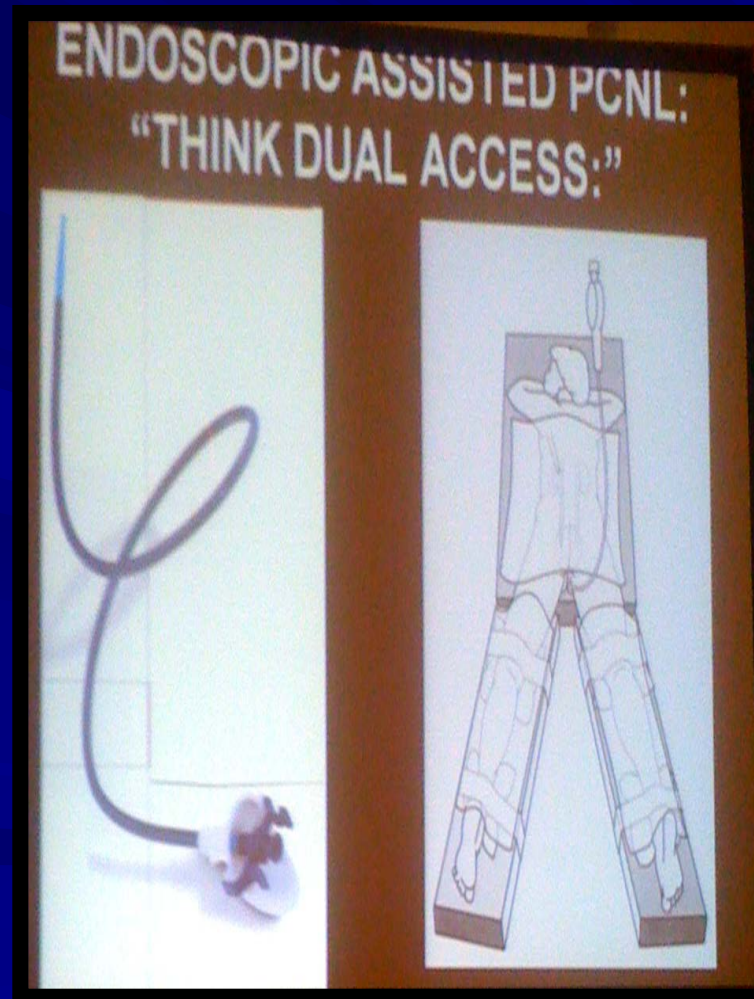
## TECHNICAL LIMITATIONS OF SUPINE POSITION

- Instrument movement limited by OR table.
- Pyelocalyceal system is collapsed, impairing visibility.
- Longer OR times when treating staghorn calculi.
- Upper pole puncture is challenging as it is posterior and deep in the rib cage.
- May be associated with higher transfusion rate.

# Accesos para NLP



# Distintas posiciones para doble accesos



# Terapia renal 2010

## RENAL STONE THERAPY: 2010

### Black and white:

< 1 cm: all types /  $\leq 10$  cm distance /  $\leq 1000$  HU: SWL  
(If > 1000 HU or > 10 cm distance: URS)

> 2 cm: all types/all locations/all HU: PCNL

### Grey zone: 1 - 2 cm

All locations: SWL (if  $\leq 10$  cm distance /  $\leq 500$  HU)

URS\* / PCNL (if > 10 cm distance / > 500 HU)

# Terapia de la litiasis renal :2010

## RENAL STONE THERAPY: 2010

### Black and white:

< 1 cm: all types /  $\leq 10$  cm distance/ $\leq 1000$ HU: SWL  
(If  $> 1000$  HU or  $> 10$  cm distance: URS)

> 2 cm: all types/all locations/all HU: PCNL

### Grey zone: 1 - 2 cm

All locations: SWL (if  $\leq 10$  cm distance/ $\leq 500$ HU)

URS\*/PCNL (if  $> 10$  cm distance/ $> 500$ HU)

Cystine: URS\*/PCNL

Hydronephrosis (Gr3/4): PCNL

\*URS for stones up to 1.5 cm

# Como optimizar el tratamiento de la NLP

## PCNL: "HOW TO OPTIMIZE THE TREATMENT?"

### CONCLUSIONS:

- Who should do the access? You
- Method of access: Consider endoscopic
- Getting to stone free:
  - Ureteral access sheath
  - Dual lithotriptors
  - Flexible endoscopy and nitinol baskets
- **Tube or no tube? No tube**

# Dejar tubo o no luego de la NLP?

**NO TUBE...  
"IT'S NEW, BUT IS IT BETTER?"**

**Yes: Prospective Randomized Study**

	20F N tube <sup>1</sup>	9F N tube <sup>1</sup>	No tube <sup>2</sup>
<b>Patients:</b>	10	10	10
<b>Analgesics*:</b>	217mg	140mg	88mg**
<b>Hosp. stay:</b>	4.4 d.	4.3 d.	3.4 d.**

(<sup>1</sup>N tubes removed after 48 hrs; <sup>2</sup>6F double pigtail stent / tract sutured – stent removed after 4 weeks)

\*(diclofenac sodium) \*\*( $p < .05$  vs. both 20F and 9F N tubes)  
(Desai, M., Kukreja, R., et al.: J. Urol. 172: 565, 2004)

# Complicaciones

## SURGICAL COMPLICATIONS

Incidence %

- Early/intra-operative bleeding: 1-26
- Peri-operative transfusion: 0.4-11
- Late bleeding: 0.3-1.5
- Renal pelvis perforation: 1.5-5%
- Pleural/Supracostal lesion: 0.1-10.4
- Colon perforation: 0-2.8
- Conversion to open surgery: 0-1.8