

# DORNIER DOLI LITHOTRIPTOR: SUCCESS RATE AND PREDICTIVE VALUE OF PRE-OP CT SCAN

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## Background

- Dornier Doli lithotripsy clinical success rate of 68% - 84%
  - Urology 2003, Nakada; 270 pts
  - J Endourol 1998, Fuselier; 50 pts
- Does stone density correspond with stone fragility?
  - J Urol 2002: 30 pts, overall 80% success rate:

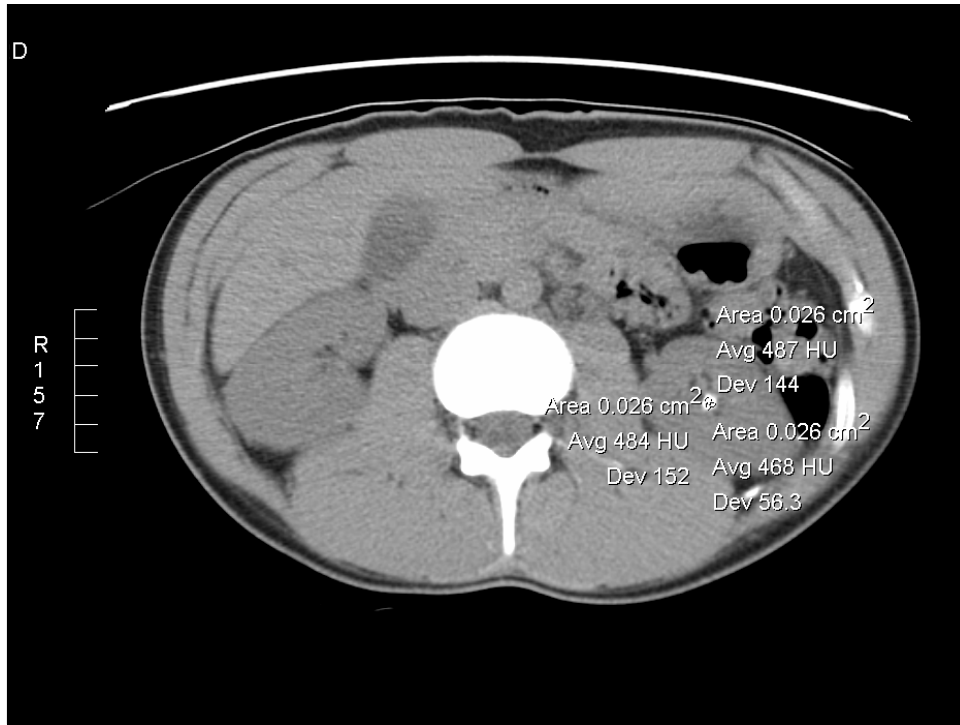
> 1000 HU	55% success rate
< 500 HU	100% success rate

## Objectives

- What is the success rate of Dornier Doli lithotripter?
- Can successful treatment be predicted by preoperative CT scan?

## Methods

- Retrospective chart review
- Dornier Doli S lithotripsy
  - First ESWL treatment
  - 4-20 mm diameter
  - F/u imaging
- Standard Pre-op CTKUB
  - 3 non-overlapping regions ( $0.026 \text{ cm}^2$ ) per stone calculated average density in Hounsfield Units (25 pixels)



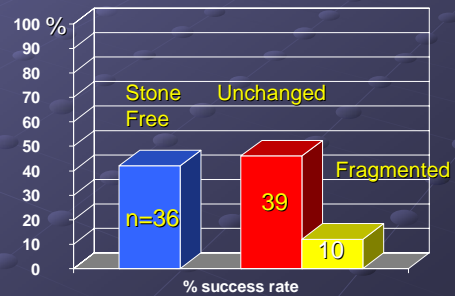
## Results

Overall success rate with Dornier Doli lithotripter  
(n=85):

Stone-free = 42%

Unchanged = 46%

Fragmented (> 4mm) = 12%



### Stones characteristics on preoperative CT:

	Stone-free	Fragmented	No change	p-value
N =76	39% (30)	12% (9)	49% (37)	0.01
Stone size (mm)	8.4 ± 2.9	7.9 ± 3.4	8.6 ± 4.0	0.76
Stone density (HU +/- SD)	703 ± 281	961 ± 458	902 ± 291	0.01
% pts >1000 HU	16%	63%	41%	0.01
Subset >1000 HU	1192 ± 115	1330 ± 133	1195 ± 133	0.12

### Predictive value of preoperative stone density:

	<1000 HU	≥1000 HU	
n = 76	51 (67%)	25 (33%)	
Size (mm)	6.7	8.6	p =
Stone free rate	50%	20%	p=0.03

For all stones, stone-free rate ~ 40%

## Conclusions

- Dornier Doli lithotripsy success rate ~40%
- Stones rendered stone-free have relatively low density
- Stone density > 1000 HU had poor predictive value for successful treatment