



# Extracorporeal Shockwave Therapy for Chronic Pelvic Pain Syndrome PYNEH experience

ESK Li, KL Lui, CK Tai, CK Chau,  
YC Lam, CM Li, TC Fung, CW Fan

# Chronic Pelvic Pain Syndrome



*Pelvic pain syndrome*

Persistent or recurrent episodic pelvic pain associated with symptoms suggesting lower urinary tract, sexual, bowel or gynaecological dysfunction. No proven infection or other obvious pathology (adopted from ICS 2002 report).

Eur Urol 2010;57(1):35-48

# Chronic Pelvic Pain Syndrome



- Estimated incidence 4.5%
- Clinical diagnosis
- Exclusion of more severe relevant disease
- Pain in the prostate , perineal, inguinal, scrotal and suprapubic region
- Urinary and erectile disturbance
- Etiology remain unknown

# CPPS



|                 |  |   |
|-----------------|--|---|
| <b>I</b>        | <b>Acute bacterial prostatitis</b>           | <b>Acute (urinary tract) infection</b>  |
| <b>II</b>       | <b>Chronic bacterial prostatitis</b>         | <b>Chronic/repeated (urinary tract) infection</b>   |
| <b>III CPPS</b> |  | <b>Pelvic area paresthesia/pain &gt;3 mo, no evidence of bacteria</b>                           |
| <b>IIIA</b>     | <b>Inflammatory CPPS</b>                     | <b>White blood cells in prostate fluid, urine, seminal fluid</b>                                |
| <b>IIIB</b>     | <b>Noninflammatory CPPS</b>                  | <b>No white blood cells in prostate fluid, urine, seminal fluid</b>                             |
| <b>IV</b>       | <b>Asymptomatic inflammatory prostatitis</b> | <b>White blood cells in prostate fluid, urine, seminal fluid, prostatic tissue; no symptoms</b> |

Prostatitis classification of the National Institute of Health (NIH):  
Clinical criteria.



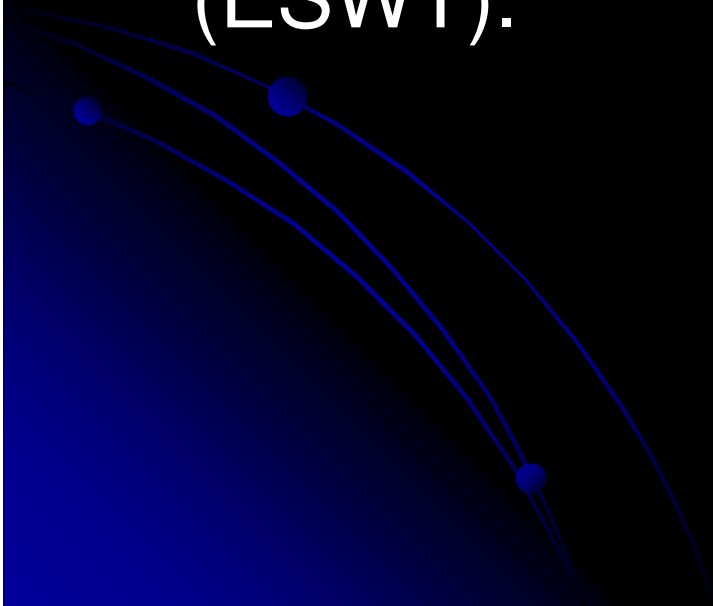
# Treatment

- $\alpha$ -Blocker
- Antimicrobial therapy
- Opioids
- Non-steroidal antiinflammatory drugs
- 5- $\alpha$ -reductase inhibitors
- Biofeedback, relaxation exercise, lifestyle changes, massage therapy and acupuncture

# Extracorporeal Shockwave Therapy



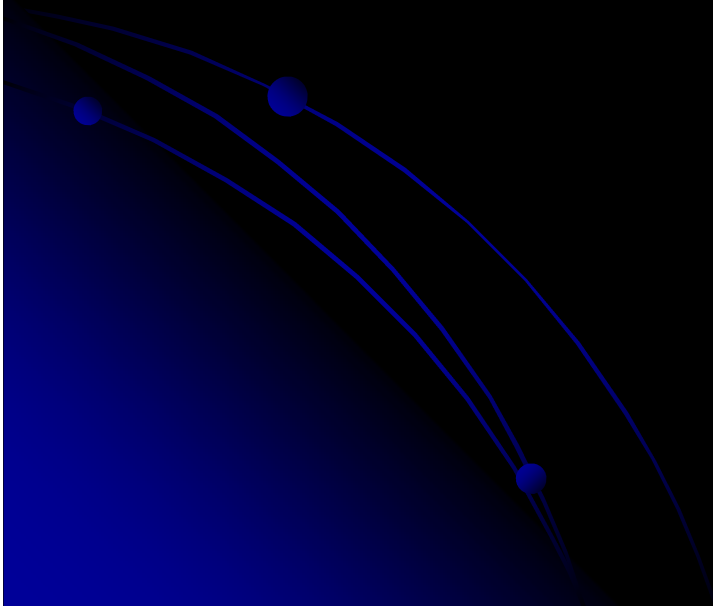
- First used in Renal stone disease
- Orthopaedic pain syndromes are successfully treated by low energy extracorporeal shock wave therapy (ESWT).





# ESWT

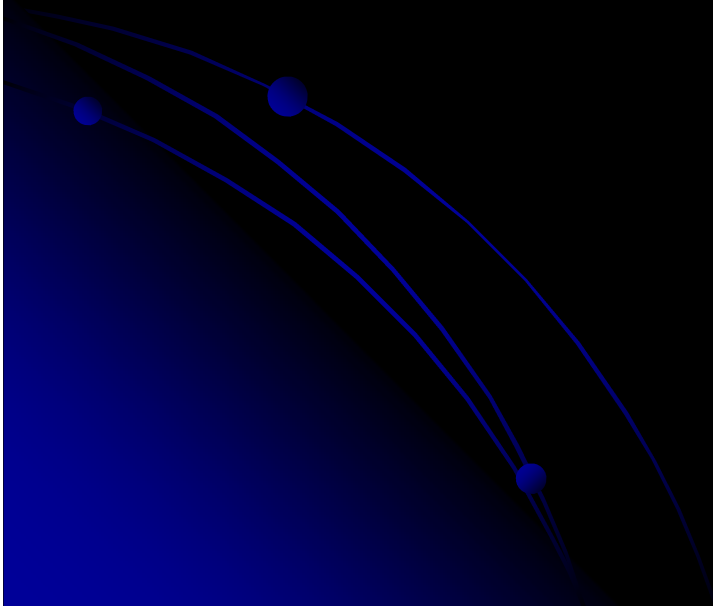
- Increase local microvascularisation
- Reduce muscle tone and spasticity
- Influence the neuroplasticity of the human pain memory





# Objectives

- To evaluate the effects of extracorporeal shock wave therapy ( ESWT ) for patients suffering from chronic pelvic pain syndromes ( CPPS )







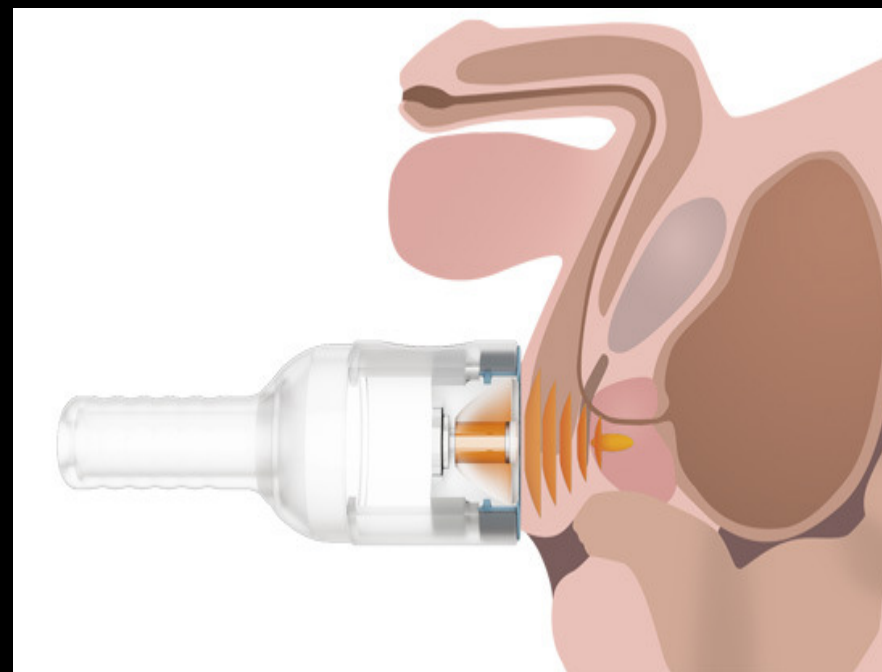
# Patients and methods

- CPPS for minimum of 6 months
- No evidence of bacteria in urinary and seminal culture tests
- Specific investigation performed for individual clinical presentation ( eg. USG scrotum, Flexible cystoscopy etc)
- Informed consent
- No other treatments were permitted during the study periods



# Methods

- Perineally applied ESWT weekly for 4 week
- 3000 pulse ( position changed every 500 pulse )
- Maximum total energy flow density:  $0.25\text{mJ}/\text{mm}^2$
- Frequency: 3.5 Hz





# Evaluations

- NIH-developed Chronic Prostatitis Symptom Index ( NIH-CPSI)
- International Prostate Symptom Score ( IPSS )
- International Index of Erectile Function ( IIEF)
- Pre-treatment and 4 weeks post-treatment



# NIH-Chronic Prostatitis Symptom Index (NHI-CPSI)

## NIH-Chronic Prostatitis Symptom Index (NIH-CPSI)

Pain or Discomfort

1. In the last week, have you experienced any pain or discomfort in the following areas?

|  |                                       |                                       |
|--|---------------------------------------|---------------------------------------|
|  | Yes                                   | No                                    |
| a. Area between rectum and testicles (perineum)    | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |
| b. Testicles                                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |
| c. Tip of the penis (not related to urination)     | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |
| d. Below your waist, in your pubic or bladder area | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |

2. In the last week, have you experienced:

|  |                                       |                                       |
|--|---------------------------------------|---------------------------------------|
|  | Yes                                   | No                                    |
| a. Pain or burning during urination?                               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |
| b. Pain or discomfort during or after sexual climax (ejaculation)? | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>0</sub> |

3. How often have you had pain or discomfort in any of these areas over the last week?

<sub>0</sub> Never  
<sub>1</sub> Rarely  
<sub>2</sub> Sometimes  
<sub>3</sub> Often  
<sub>4</sub> Usually  
<sub>5</sub> Always

4. Which number best describes your AVERAGE pain or discomfort on the days that you had it, over the last week?

|                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 0                        | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        | 10                       |

NO PAIN AS PAIN AS YOU CAN IMAGINE

Urination

5. How often have you had a sensation of not emptying your bladder completely after you finished urinating, over the last week?

<sub>0</sub> Not at all  
<sub>1</sub> Less than 1 time in 5  
<sub>2</sub> Less than half the time  
<sub>3</sub> About half the time  
<sub>4</sub> More than half the time  
<sub>5</sub> Almost always

6. How often have you had to urinate again less than two hours after you finished urinating, over the last week?

<sub>0</sub> Not at all  
<sub>1</sub> Less than 1 time in 5  
<sub>2</sub> Less than half the time  
<sub>3</sub> About half the time  
<sub>4</sub> More than half the time  
<sub>5</sub> Almost always

Impact of Symptoms

7. How much have your symptoms kept you from doing the kinds of things you would usually do, over the last week?

<sub>0</sub> None  
<sub>1</sub> Only a little  
<sub>2</sub> Some  
<sub>3</sub> A lot

8. How much did you think about your symptoms, over the last week?

<sub>0</sub> None  
<sub>1</sub> Only a little  
<sub>2</sub> Some  
<sub>3</sub> A lot

Quality of Life

9. If you were to spend the rest of your life with your symptoms just the way they have been during the last week, how would you feel about that?

<sub>0</sub> Delighted  
<sub>1</sub> Pleased  
<sub>2</sub> Mostly satisfied  
<sub>3</sub> Mixed (about equally satisfied and dissatisfied)  
<sub>4</sub> Mostly dissatisfied  
<sub>5</sub> Unhappy  
<sub>6</sub> Terrible

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Scoring the NIH-Chronic Prostatitis Symptom Index Domains

*Pain:* Total of items 1a, 1b, 1c, 1d, 2a, 2b, 3, and 4 = \_\_\_\_\_

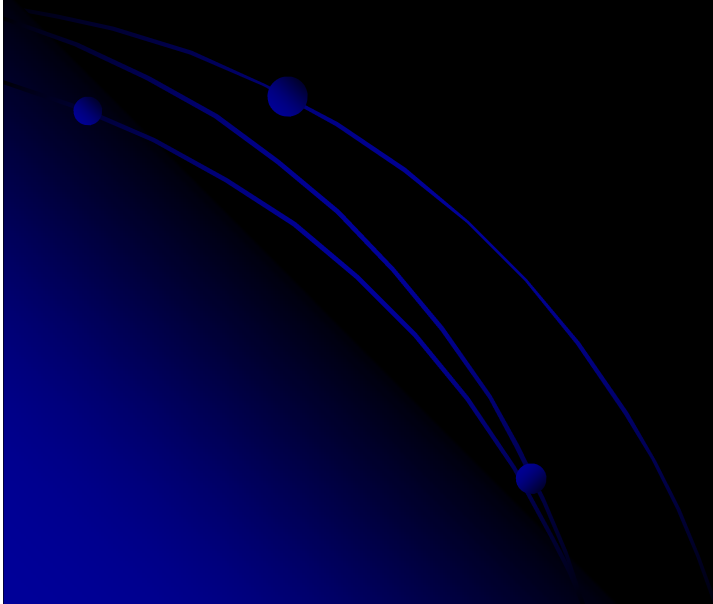
*Urinary Symptoms:* Total of items 5 and 6 = \_\_\_\_\_

*Quality of Life Impact:* Total of items 7, 8, and 9 = \_\_\_\_\_



# Results

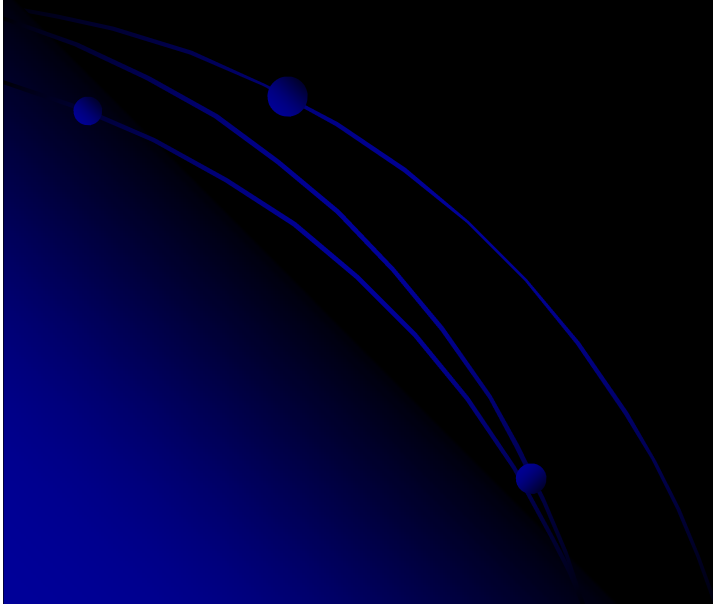
- 12 patients recruited
- Mean age: 48.2
- Average duration of symptoms: 18months





# Results

- 8 out of 12 patients ( 66.67%) showed improvement of symptoms ( NHI-CPSI)
- No analgesic required
- No complications reported





# Results

- No significant change in IPSS and IIEF-5 after treatment
  - Pre-treatment IPSS: Post-treatment IPSS
    - 12.75: 13.75 ( P=0.59)
  - Pre-treatment IIEF-5: Post-treatment IIEF-5
    - 17.25: 19.5 ( P=0.25)



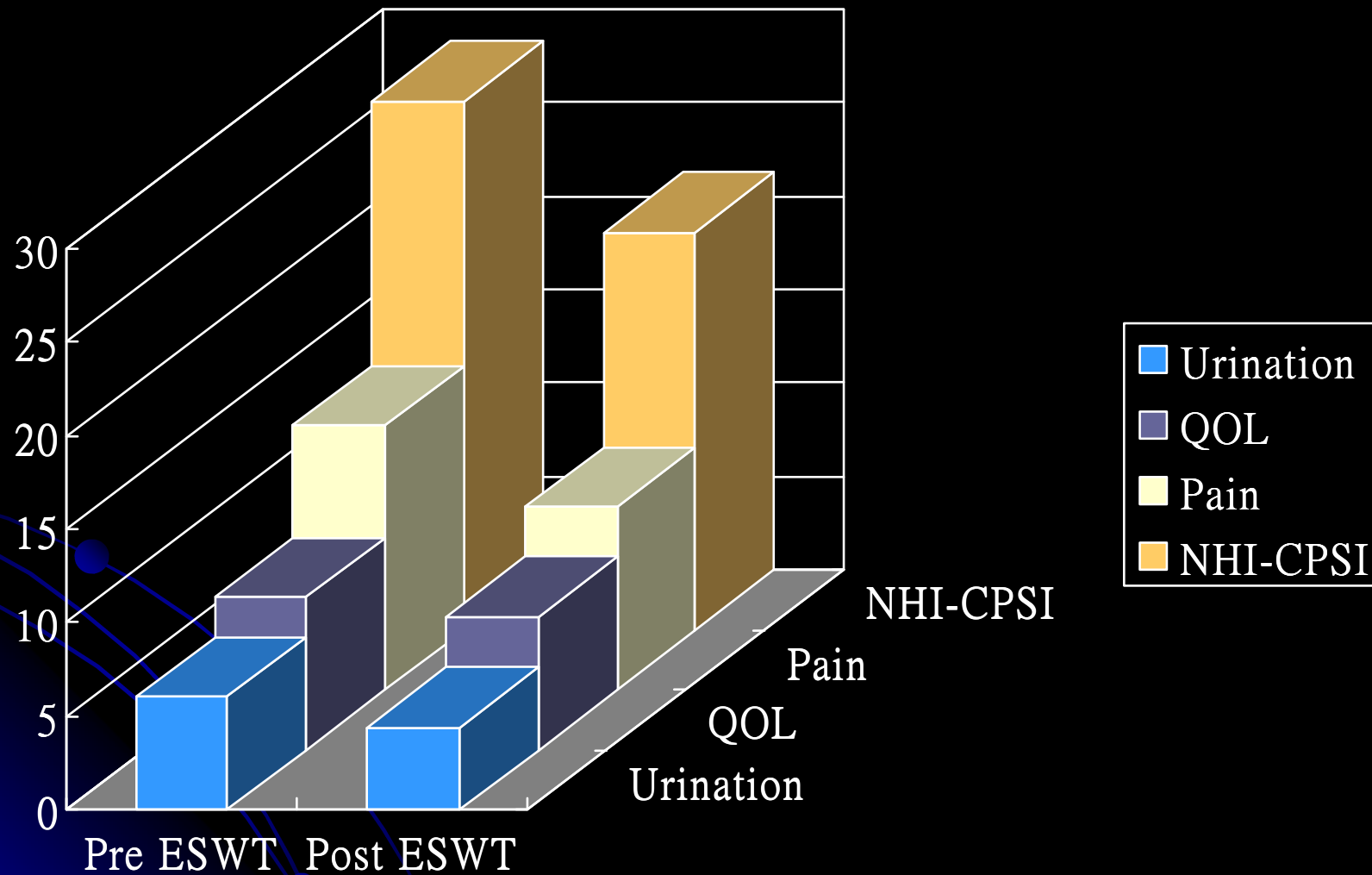
# Results

- NIH-CPSI improved by **24.78%** ( 28.25 to 21.25)  $P = 0.00038$
- Overall pain score reduced by **30.97%** ( 14.125 to 9.75)  $P = 0.0023$
- Urination symptom improved by **27.08%** ( 6 to 4.375)  $P = 0.013$
- Quality of life score improved by **12.31%** ( 8.125 to 7.125)  $P = 0.067$





# Treatment response





# Conclusions

- ESWT of the prostate region is a safe and effective therapeutic option for CPPS.

