

# MP67-14 PRE-OPERATIVE PELVIC FLOOR ENDURANCE ASSESSMENT MAY ALLOW PREDICTION OF EARLY RETURN TO CONTINENCE AFTER RADICAL PROSTATECTOMY

Peter Chang, MD, MPH<sup>1</sup>; Max Jackson BS<sup>2</sup>; Sara Hyde, BS<sup>1</sup>; Kyle McAnally, BS<sup>1</sup>; Adrian Waisman, MD<sup>1</sup>; Catrina Crociani, MPH<sup>1</sup>; Kristian Stensland, MD<sup>3</sup>; Marianne Chan, BS<sup>1</sup>; Allison Kleeman, BS<sup>1</sup>; Aaron Fleishman, MPH<sup>1</sup>; and Andrew A. Wagner, MD<sup>1</sup>

<sup>1</sup>Beth Israel Deaconess Medical Center, Boston MA; <sup>2</sup>Albany Medical college, Albany, NY; <sup>3</sup>Lahey Clinic, Burlington, MA



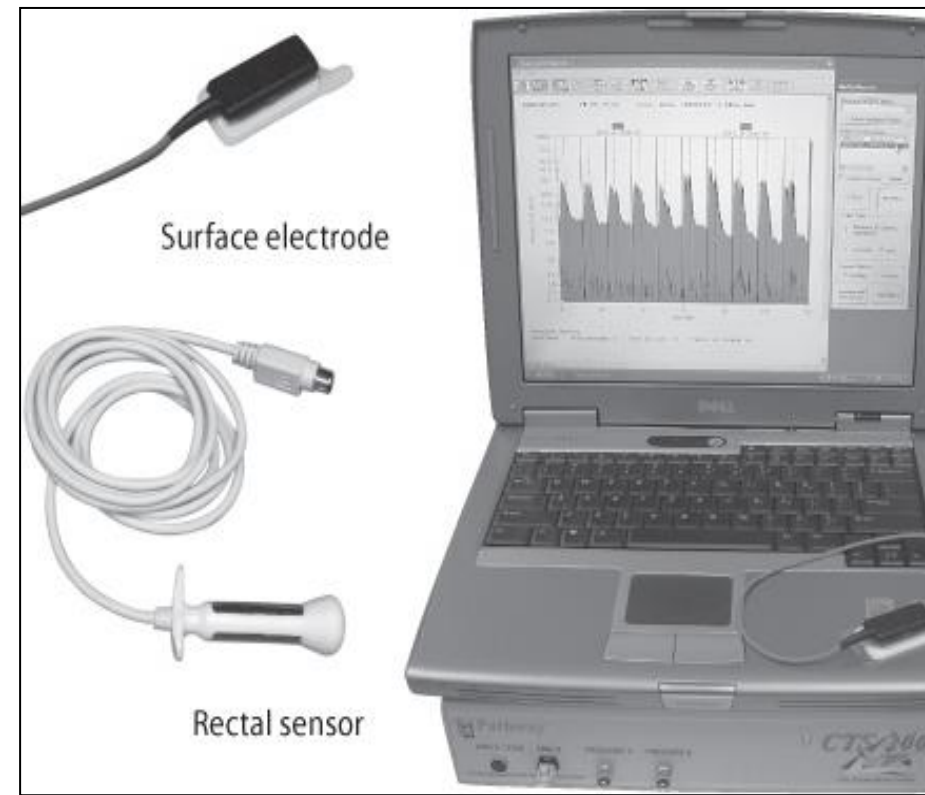
## Introduction

- After radical prostatectomy (RP), urinary incontinence is a common side effect, negatively affecting quality of life.
- It has been challenging to identify predictors of early return to urinary continence.
- Randomized trials evaluating the effect of pelvic floor physical therapy (PFPT) on continence have shown mixed results, and it is unknown whether information gathered from PFPT may be associated with urinary outcomes.

## Objective

- We evaluated the association of pre-operative PFPT parameters with early return of urinary continence after radical prostatectomy.

## Methods

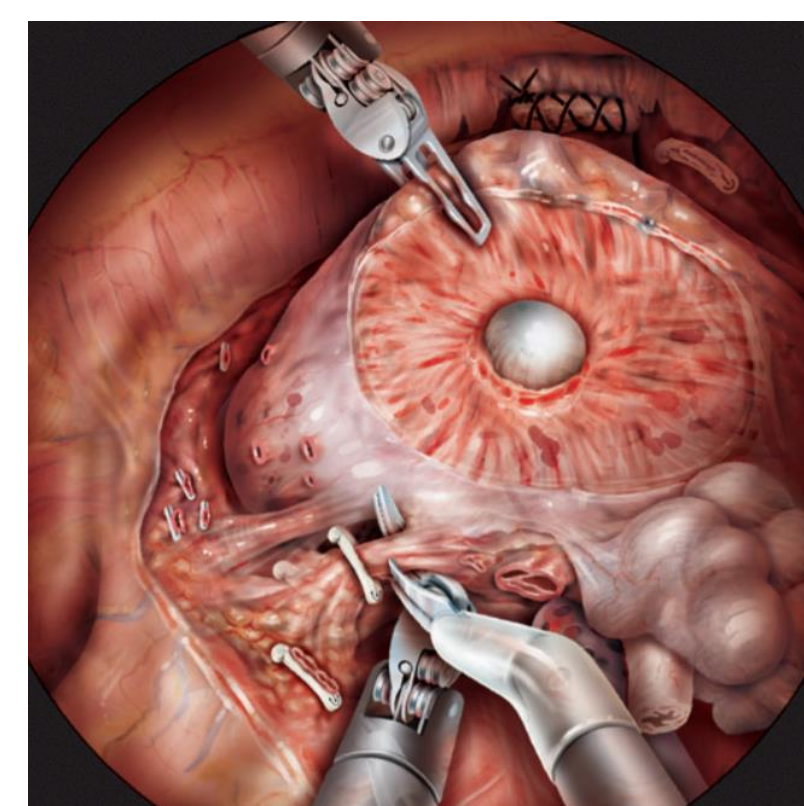


### Pre-operative Pelvic Floor Physical Therapy with Biofeedback:

- Pelvic floor resting tone
- Pelvic floor working tone
- Pelvic floor endurance (**ability to hold a 10-second pelvic floor muscle contraction**)
- Dominant hand grip strength

## Surgery:

### Robot Assisted Radical Prostatectomy (n=144)



Gillitzer et al. © 2009 BJU INTERNATIONAL by STEPHAN SPITZER

### Early Urinary Outcomes:

- Patient-reported 3 month post operative urinary HRQoL gathered prospectively using EPIC-CP

Expanded Prostate Cancer Index Composite for Clinical Practice (EPIC-CP)  
A Clinical Tool to Measure Urinary, Bowel, Sexual and Vitality (Hormonal Health) ...

1. Overall, how much of a problem has your urinary function been for you?  
 No problem  Very small problem  Small problem  Moderate problem  Big problem

2. Which of the following best describes your urinary control?  
 Total control  Occasional dribbling  Frequent dribbling  No urinary control

3. How many pads or adult diapers per day have you been using for urinary leakage?  
 None  One pad per day  Two pads per day  Three or more pads per day

4. How big a problem, if any, has urinary dripping or leakage been for you?  
 No problem  Very small problem  Small problem  Moderate problem  Big problem

5. How big a problem, if any, has each of the following been for you?  
 a. Pain or burning with urination  No problem  Very small problem  Small problem  Moderate problem  Big problem  
 b. Weak urine stream/incomplete bladder emptying  No problem  Very small problem  Small problem  Moderate problem  Big problem  
 c. Need to urinate frequently  No problem  Very small problem  Small problem  Moderate problem  Big problem

6. How big a problem, if any, has each of the following been for you?  
 a. Rectal pain or urgency of bowel movements  No problem  Very small problem  Small problem  Moderate problem  Big problem  
 b. Increased frequency of your bowel movements  No problem  Very small problem  Small problem  Moderate problem  Big problem  
 c. Overall problems with your bowel habits  No problem  Very small problem  Small problem  Moderate problem  Big problem

## Methods cont.

- We used multivariable logistic regression to evaluate the association of PFPT parameters with urinary continence at 3 months, defined as **using 0 or 1 urinary pads/day**.
- We adjusted for other factors that could affect continence, including age, BMI, D'Amico risk classification, nerve sparing, and prostate volume.

## Results

Table 1. Demographics

| Variable   | n = 144          |
|--|------------------|
| Age, mean (SD)   | 62.2 (6.0)       |
| BMI, mean (SD)   | 28.8 (4.4)       |
| Race, n (%)  |                  |
| Caucasian  | 110 (76.4)       |
| Black or African American                              | 19 (13.2)        |
| Asian  | 5 (3.5)          |
| Hispanic or Latino                                     | 7 (4.9)          |
| Other  | 2 (1.4)          |
| Missing / Unknown                                      | 1 (0.7)          |
| Nerve Sparing, n (%)                                   |                  |
| Bilateral Non-Nerve Sparing                            | 11 (7.6)         |
| Unilateral/Bilateral Complete or Partial Nerve Sparing | 133 (92.4)       |
| D'Amico Risk Classification, n (%)                     |                  |
| Low  | 16 (11.1)        |
| Intermediate   | 90 (62.5)        |
| High   | 38 (26.4)        |
| Prostate Weight (g), median (IQR)                      | 49.0 (41.8-60.2) |

Table 2. Number of pads per day at 3 months post-op

| Pads per day use at 3 months | Patients |
|------------------------------|----------|
| 0                            | 40 (28%) |
| 1                            | 50 (35%) |
| 2                            | 33 (23%) |
| 3+                           | 21 (15%) |

## Results. cont

Table 3. Multivariable Logistic Regression for post-op Urinary Continence

| Variable   | Adjusted OR (95% CI)    | p-value      |
|--|-------------------------|--------------|
| Age  | 0.96 (0.89,1.03)        | 0.25         |
| BMI  | 0.94 (0.86,1.04)        | 0.23         |
| D'Amico risk classification                                  |                         | 0.54         |
| Low Risk (ref)   | --                      | --           |
| Intermediate Risk  | 0.81 (0.22,2.78)        | --           |
| High Risk  | 0.50 (0.11,2.08)        | --           |
| Nerve Sparing  |                         |              |
| Bilateral Non-Nerve Sparing                                  | 0.52 (0.09,2.78)        | 0.45         |
| Unilateral/Bilateral Complete or Partial Nerve Sparing (ref) | --                      | --           |
| <b>Prostate Weight</b>                                       | <b>0.98 (0.96,1.00)</b> | <b>0.036</b> |
| Pelvic Floor Resting Tone (mV)                               | 1.06 (0.82,1.36)        | 0.64         |
| Pelvic Floor Working Tone (mV)                               | 0.98 (0.94,1.03)        | 0.45         |
| Pelvic floor endurance                                       |                         |              |
| <b>Yes</b>   | <b>2.70 (1.23,6.25)</b> | <b>0.015</b> |
| No (ref)   | --                      | --           |
| Dominant Hand Grip Strength (lbs.)                           | 1.01 (0.99,1.04)        | 0.17         |
| Prostate Weight (g)  | 0.99 (0.96,1.01)        | 0.17         |

Table 4. Post-op Urinary Continence at 3 months by Pelvic Floor Endurance

|              | Continent | Non-Continent | p-value |
|--------------|-----------|---------------|---------|
| Endurance    | 56 (74%)  | 20 (26%)      | 0.006   |
| No Endurance | 34 (50%)  | 34 (50%)      |         |

Endurance: ability to hold a 10-second pelvic floor muscle contraction  
Continence: using 0 or 1 urinary pads/day

## Conclusions

- Beyond the potential benefits of PFPT itself, pre-operative assessment of pelvic floor endurance may allow more accurate prediction of early continence return after radical prostatectomy.