## What Makes Men Leak?

### An Analysis of 1 Hour and 24 Hour Pad Tests After Radical Prostatectomy

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### Introduction

- The goal of pelvic floor muscle training before and after radical prostatectomy is to reduce the severity and duration of post-prostatectomy urinary incontinence.

### Methods

**Study Participants**

Men (n=15) having radical prostatectomy under the care of one urological cancer surgeon (MP) across three private hospitals in Sydney, and presenting for perioperative pelvic floor muscle training at Westmead Private Physiotherapy Services (see table below).

<table>
<thead>
<tr>
<th>Age (y)</th>
<th>60 ± 1</th>
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<tbody>
<tr>
<td>Weight (kg)</td>
<td>1.75 ± 0.05</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>28.9 ± 3.2</td>
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<tr>
<td>Preoperative PSA (ng/mL)</td>
<td>5.1 ± 3.3</td>
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**ICIQ-SF vs 1HPT**

3 Weeks (blue) and 6 Weeks (yellow) Postoperative

**ICIQ-SF vs 24HPT**

3 Weeks (blue) and 5 Weeks (yellow) Postoperative

**Conclusion of Specific Activities to Overall 1HPT Leakage**

<table>
<thead>
<tr>
<th>Activity</th>
<th>% of Overall 1HPT Leakage</th>
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<tbody>
<tr>
<td>Drinker 500 mL of water</td>
<td>12 ± 16%</td>
</tr>
<tr>
<td>Walking on a treadmill</td>
<td>17 ± 21%</td>
</tr>
<tr>
<td>Coughing vigorously</td>
<td>4 ± 4%</td>
</tr>
<tr>
<td>Washing hands under running water</td>
<td>1 ± 1%</td>
</tr>
</tbody>
</table>

**Results**

- Overall leakage for the 1HPT was 15 ± 30 mL at 3 weeks and 7 ± 8 mL at 6 weeks postoperatively (p = 0.32).
- Walking on a treadmill (3 weeks: 35 ± 15%, 6 weeks: 35 ± 20%), running on the spot (3 weeks: 14 ± 24%, 6 weeks: 13 %± 11%) and coughing (3 weeks: 12 ± 16%, 6 weeks: 12 ± 15%) were the greatest contributors to overall leakage (Figures 1 and 2). There was significant correlation between overall leakage as measured by the 1HPT and 24HPT at 3 weeks postoperatively (r = 0.98, p < 0.001), but not at 6 weeks postoperatively (r = 0.21, p = 0.46).
- There was no significant correlation between overall leakage as measured by the 1HPT and the ICIQ-SF at either 3 weeks (r = 0.41, p = 0.14) or 6 weeks (r = 0.02, p = 0.94) postoperatively (Figure 3).
- There was no significant correlation between overall leakage as measured by the 24HPT and the ICIQ-SF at either 3 weeks (r = 0.39, p = 0.17) or 6 weeks (r = 0.29, p = 0.29) postoperatively (Figure 4).

**Conclusions**

- Walking and running on the spot are significant contributors to urine leakage in the first six weeks after radical prostatectomy.
- Training men to specifically contract the pelvic floor muscles before and during walking and running may reduce overall urinary leakage.
- Comprehensive assessment of urinary incontinence in men after radical prostatectomy should include pad tests and self-report measures.

### References

1. The International Consultation on Incontinence Questionnaire – Short Form (ICIQ-SF), after radical prostatectomy.

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**The Clinical Research Institute**