

PELVIC REHABILITATION AFTER RADICAL PROSTATECTOMY

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Radical prostatectomy (RP) remains the gold standard for managing localized prostate cancer (PCa) in patients with good overall health and longer life expectancy.¹ However, two of the most significant and common complications following RP—urinary incontinence (UI) and erectile dysfunction (ED)—can severely impact the quality of life (QoL). Reported rates of these side effects vary widely in the literature, often due to differing definitions, timing, and methods of assessment (patient-reported vs. physician-reported outcomes).^{2–3} These complications not only diminish patient satisfaction but also impose additional burdens, including prolonged recovery time, increased healthcare costs, and time off work, affecting both individuals and society at large. The continence mechanism involves a complex interplay between the bladder, bladder neck, urethra, and the surrounding musculoskeletal and neural structures. Aging itself may impair this functional unit, meaning many patients already have compromised urinary function prior to surgery.

Postoperative continence outcomes are further influenced by several local anatomical and surgical factors. Among these, urethral length, preservation of the neurovascular bundle (NVB), and surgical technique are especially critical. Numerous studies have confirmed that urethral anatomy plays a significant role in post-RP UI. A range of treatment strategies is employed to mitigate these side effects, including conservative, pharmacological, and surgical interventions. Conservative management often starts with pelvic floor muscle training (PFMT), either alone or in combination with adjunctive modalities such as biofeedback, transcutaneous or intracavitary electrical stimulation, and functional magnetic stimulation (FMS). Mechanical devices (e.g., penile clamps) and various medications may also be used. PFMT is the most commonly recommended first-line conservative approach for restoring pelvic floor and bladder function after RP.³ However, existing studies present conflicting evidence regarding its effectiveness and optimal application protocol. In recent years, the role of FMS has garnered interest in the management of UI post-RP. Although the number of published studies is limited, available data generally suggest that FMS—either as a standalone treatment or in conjunction with other modalities—offers promising benefits. These include faster recovery of continence, increased maximal urethral closure pressure, suppression of detrusor overactivity, and improved bladder capacity.

Despite technological advances in PCa treatment that have reduced the relative incidence of post-RP UI, the absolute number of affected patients is expected to rise in parallel with the increasing number of prostatectomies performed annually. While most patients eventually regain continence, the recovery timeline can vary considerably—from as little as two months to over a year. Given this variability, it is

crucial to explore and offer evidence-based, noninvasive therapies that may accelerate recovery. Doing so not only improves patient QoL but also yields economic benefits for the healthcare system.

References

1. Heidenreich A, Aus G, Bolla M, Joniau S, Mateev VB, Schmid HP. EAU Guidelines on prostate cancer. *Eur Urol*. 2008;53:68-80.
2. Jonler M, Madsen FA, Rhodes PR, Sall M, Messing EM, Bruskewitz RC. A prospective study of quantification of urinary incontinence and quality of life in patients undergoing radical retropubic prostatectomy. *Urology*. 1996;48:433-40.
3. Kielb S, Dunn RL, Rashid MG, Murray S, Sanda MG, Montie JE, et al. Assessment of early continence recovery after radical prostatectomy: patient reported symptoms and impairment. *J Urol*. 2001;166:958-61.
4. Stanford JL, Feng Z, Hamilton AS, Gilliland FD, Stephenson RA, Eley JW, et al. Urinary and sexual function after radical prostatectomy for clinically localized prostate cancer: the Prostate Cancer Outcomes Study. *JAMA*. 2000;283:354-60.
5. Wille S, Sobottka A, Heidenreich A, Hofmann R. Pelvic floor exercises, electrical stimulation and bio-feedback after radical prostatectomy: results of a prospective randomised trial. *J Urol*. 2003;170:490-3. 10.1097/01.ju.0000076141.33973.75.
6. Chang PC, Wu CT, Huang ST, Chen Y, Huang HC, Hsu YC, et al. Extracorporeal magnetic innervation increases functional bladder capacity and quality of life in patients with urinary incontinence after robotic-assisted radical prostatectomy. *Urol Sci*. 2015;26:250-3.