

## Long term outcomes of robotic assisted radical prostatectomy (RALP) for cancer prostate in a large single surgeon series

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### Introduction & Objectives:

Though short term outcomes of RALP is well established the long term outcomes in the literature is scarce. We evaluated the long-term outcomes following RALP in a single surgeon series with a follow up of upto 120 months.

**Materials & Methods:** We retrospectively analyzed all men that underwent RALP between 2002 to 2018 with minimum 6 months to 120 months with a mean of 49 months from a prospectively collected IRB approved prostate cancer database. 7268 patients were available for analysis after excluding patients less than 6 months follow up and ones that were lost to follow up. A logistic regression analysis was used to determine the factors predicting trifecta, pentafecta and potency outcomes.

**Results:** Median age was 62 years and BMI 28.3. Overall 42.5% had D'Amico low-risk disease and another 42% had intermediate risk prostate cancer. The remaining 15.5% had high risk disease. Bilateral full nerve sparing (FNS) RALP was performed on 46.6%, 50.7% had partial nerve sparing (PNS). The post operative complication rates was 8.9% and positive surgical margin (PSM) was 16%. Overall 96.2% patients achieved continence. Irrespective of age, pre-operative SHIM score and NS status 61.4% men were potent. In post-operative period 3.7% had PSA persistence and 9.6% had PSA recurrence. Overall Trifecta rate and pentafecta rates were 53.8% and 45.7% respectively. In the multivariate logistic regression analysis, age, pre-operative SHIM score, Charlson comorbidity index, D'Amico risk category and nerve sparing status predicted the trifecta.

Table 1: - Outcomes after RALP (6 – 120 months follow up)

Parameters	All patients (n = 7268)
Nerve Sparing	
Bilateral full Nerve Sparing	3390 (46.6%)
Partial nerve sparing	3688(50.7%)
Non-nerve sparing	190 (2.6%)
Pathological stage	5063 /7268
Organ confined ( $\leq$ pT2c)	(69.6%)
Extra prostatic extension (pT3a)	1584/7268 (21.7%)
Seminal vesicle invasion (pT3b)	528 /7268(7.2%)
Adjacent organ involved (pT4)	93 /7268 (1.3%)
Pathological Node Positive	126 (1.7%)
Positive Surgical Margin	1172 (16%)
In D'Amico, low risk	305/2901 (10.5%)
Intermediate risk	543/3162(17%)
High risk	324/1203 (27%)
Positive Surgical Margin	1172 (16. %)
pT2	460 /5063 (9%)
pT3a	403 / 1584(25.5%)
pT3b	219 /528(41.4%)
pT4	90/93 (96.7%)
Follow up in months (Mean, Range)	49.1 (6-120)
Continence	6991 (96.2%)
Days to continence (mean)	88.5
Potency achieved (Irrespective of Age, Pre-op potency and NS)	4463 (61.4%)
Days to potency (mean)	185.4 days
PSA persistence	271 (3.7%)
PSA recurrence	700 (9.6%)
Days to BCR (mean)	887.32
Trifecta achieved	3908 (53.8%)

**Conclusions:** RALP has constantly evolved technique allowing more nerve preservation and consistently proven to be safe and efficacious over a long follow up with significantly maintaining the quality of life.