

Continence criteria of 193,618 patients after open, laparoscopic, and robotic radical prostatectomy

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ABSTRACT

Objectives: to apply a new evidence-gathering methodology, called reverse systematic review (RSR), to analyze the influence of different continence classification criteria on urinary continence rates among open (RRP), laparoscopic (LRP) and robotic (RARP) radical prostatectomy.

Materials and methods: a search was carried out in 8 databases between 2000 and 2020 through Systematic Reviews (SR) studies referring RRP, LRP or RARP (80 SR). All references used in these SR were captured referring to 910 papers in a global database called EVIDENCE. A total of 422 studies related to post-prostatectomy urinary continence were selected for the final analysis, totaling 782 reports referring to 193,618 patients.

Results: 206 (26.4%) reports for RRP, 243 (31.0%) reports for LRP and 333 (42.6%) reports for RARP were found. Mean overall continence rates, respectively for RRP, LRP, and RARP, were: 42, 34, and 42% at 1 month; 62, 64 and 65% in 3 months; 73, 77 and 79% at 6 months and 81, 85 and 86% at 12 months. The most used criterion was No PAD (53.3%), followed by Safety PAD (19.3%), Not described (10.6%) and No leak (9.9%). No PAD showed the lowest discrepancy in continence rates in each period compared to the global average, for each technique, demonstrating less ability to influence the final results, favoring any of the techniques.

Conclusion: RSR demonstrated that “No PAD” criterion was the most used in the literature and showed the lowest bias capable of influencing the results and favoring any of the techniques and is the fairest option for future comparisons.

Patient Summary: Comparing 193,618 patients submitted to open, laparoscopic and robotic radical prostatectomy, there was no difference on urinary continence rates between surgical techniques.

INTRODUCTION

Urinary incontinence after prostate treatment (IPT) is an iatrogenic clinical condition that is much feared and studied by urologists. Despite the controversies, researchers have always tried to answer an iconic question: which technique has the lowest IPT rates? Retropubic (RRP), laparoscopic (LRP) or robotic (RARP)?

After more than 20 years of coexistence of the three radical prostatectomy (RP) techniques, the guidelines of the main urological societies (EAU - European Association of Urology, AUA - American Urology Association and ICS - International Continence Society) do not consider the choice of technique as a predictor of lower rates of IPT (1-3).

Despite the large number of studies comparing functional results of these techniques, one of the main factors that hinder this analysis is the heterogeneity of the methods of clinical evaluation, which can range from self-assessment questionnaires, simple questions asked by the physician, as well as more objective measurements such as the PAD test.

IPT rates based on the patient's own perception are about two to three times higher when evaluated from the perspective of the physician's clinical observation. Studies evaluating these two approaches confirmed that physicians can underestimate incontinence outcomes by up to 75% (4-7), and that self-assessment questionnaires resulted in higher rates of IPT compared to the Pad test (8, 9).

Given this large number of biases, our study sought to assess which are the main continence assessment criteria used by researchers and how the choice influenced the results of IPT rates in patients submitted to RRP, LRP and RARP.

To answer this question, the urological scientific community relied on several studies with different levels of evidence, from expert opinions to the most robust systematic review (SR) with meta-analysis. Considering the best evidence based on systematic reviews, our study used a new methodology for searching and selecting studies called reverse systematic review (RSR), where the studies selected for analysis were obtained from systematic reviews to compose a population and heterogeneous database and allow an overview of the literature results.

MATERIALS AND METHODS

Description of the methodology

In classic SR, a systematic search in databases is performed to locate original clinical studies that answered a specific question. After this search, studies that are homogeneous and comparable are elected for inclusion and can be merged into the same statistical analysis, the meta-analysis (10, 11).

In the case of RSR, we followed the opposite path. The literature search is carried out with the objective of identifying all SRs in the history of the technique under study, regardless of the question of interest, and gathering as many of them as possible, generating a heterogeneous scenario that encompasses complete information about the outcomes that most interested the research scientific environment in that area. At this stage, when gathering all the SRs, the main focus is to capture all the studies included in these reviews that were used to answer the scientists' questions (12).

Search methodology and study design

In December 2020, a literature search was carried out using 8 databases: PubMed, Web of Science, Cochrane Library, Embase, ProQuest, CINAHL (The Cumulative Index to Nursing and Allied Health Literature), VHL/Bireme and Scopus (**Appendix A**). We searched for SR articles, with or without meta-analysis, that addressed the technique of RRP, LRP and RARP, with a general strategy based on health descriptors (MeSH terms) and synonyms referring to the terms: "Laparoscopy", "Open", "Retropubic", "Prostatectomy", "Robotic Surgical Procedures", "Systematic Review" and "Meta-analysis" through the "Title, Abstract and Subject." Afterwards, limiters were used: "humans", gender ("male"), language ("English") and type of studies ("Systematic Review"). The period in the literature was between 01/01/2000 and 12/05/2020. In each database, the necessary adaptation of the search methodology was carried out (**Appendix B**).

After the reviews were identified by the initial search, two researchers (Moretti TBC, Reis LO) independently selected reviews that included at least one of the three RP techniques. After the initial screening, the full texts were analyzed and any discrepancies were resolved after open discussion between the authors. Reviews without

systematization of the search or integrative methodology, conference or congress abstracts and other techniques were excluded.

Due to the difficulty of the databases in standardizing health descriptors (*MeSH terms*) and classifying a study as SR, studies were included that, despite not mentioning in their methodology, that respected the PRISMA criteria (13), provided a clear description of the systematization of criteria of search.

Once all the SRs were chosen, the next step was to extract all the articles cited in the bibliographic references that were included in these for analysis, including all study designs (case series, retrospective, prospective, RTC, etc.). Publications in “Abstracts” and citations in “Report meetings” or “Congress Annals” were excluded. As before, two researchers separately reviewed the studies (Moretti TBC, Reis LO) and discrepancies in selection were resolved with open discussion between them.

After the sample was chosen through the systematization described above, all were analyzed by the main author (Moretti TBC) and the largest amount of available data was captured and tabulated in a dedicated spreadsheet (*Excel, Microsoft Corporation*[®]).

When a study evaluated more than one cohort, each one was considered an isolated study and was called a *report*, which is the unit of publication used in the study.

The global content of all selected studies, including bibliographic, demographic, and clinical-surgical variables, generated a reference population database for various studies and analyzes, called EVIDENCE Database.

Analyzed variables

For this study, perioperative variables separated into the three groups (RRP, LRP and RARP) were analyzed, including: age (years), BMI (kg/m²), initial PSA (mg/dl), clinical Gleason score (cGS - mean and stratified), clinical staging (cT); intraoperative variables: operative time (min), pelvic lymphadenectomy rate (%), nerve sparing rate (unilateral or bilateral), estimated blood loss (ml) blood transfusion rate (%), length of hospital stay (days), time of bladder catheterization (days) and oncological variables: pathological Gleason Score (pGS), pathological staging (pT) and positive surgical margin rate (PSM) (mean and stratified). These variables were studied in order to characterize the profile of patients in each group.

The main variables of analysis were the urinary continence rates recorded at 1, 3, 6 and 12 months after surgery. In addition, all criteria for clinical evaluation of loss intensity, stratified by surgical technique, were analyzed. Subgroup analysis was performed among the most frequent criteria used in the literature.

Statistical analysis

The measures of central tendency were represented by the mean and dispersion by the standard error of the mean (SE). All descriptive analyzes were weighted by the number of patients, thus, due to the population nature of the samples, any comparison of means generated showed a statistical difference, given the high “N” and narrow “SE”. The difference in continence rates for each criterion with the population mean was calculated, as well as the mean variation in the continence rate over time (1 to 12 months), called mean discrepancy. Statistical analyzes were performed using IBM-SPSS® V.24 and graphs using Microsoft Excel®.

RESULTS

In the first stage of the systematic search for SR on radical prostatectomy, 634 studies were identified in 8 databases. After excluding 107 duplications (17%) and 447 studies that did not meet the inclusion criteria, 80 review studies were chosen for the second stage (**Appendix C**).

In the second stage, all selected SRs were read by the first author (Moretti TBC) and primary studies used were captured, resulting in a total of 2,356 citations. After excluding 1,172 (49.7%) duplications and 274 studies that did not meet the inclusion criteria, 910 studies were selected for the global database (EVIDENCE Database). After excluding studies on other subjects, 422 papers on IPT were selected for final analysis (**Appendix D**). Due to the existence of more than one cohort in some studies, each cohort was considered separately, resulting in 782 publication units or reports (Nr). Separated by technique, 206 (26.4%) reports for RRP, 243 (31.0%) reports for LRP and 333 (42.6%) reports for RARP were included (**Appendix A**).

Descriptive statistics among three techniques of clinical, surgical and pathological variables studied are listed in **Table 1**.

Regardless of the technique employed, overall continence rates at 1, 3, 6 and 12 months were: 40.35 (Np=42.492; SE=0.10), 64.35 (Np=68.292; SE=0.08), 77.26 (Np=66.899; SE =0.07) and 84.66 (Np=130.657; SE=0.03).

Regarding the global distribution of the urinary incontinence classification criteria in the three techniques, twenty-three different criteria were found, and when the study did not specify the classification method, it was called “Not described” (**Table 2**). Urinary continence rates for each criterion are detailed in supplementary material (**Appendix E**).

Among the four most cited criteria, “No PAD” was the most frequent: 53% RRP, 55% LRP and 53% RARP. In the RRP, the second most frequent criterion was “Not described” (16%), followed by “No Leak” (15%). However, in minimally invasive surgery, the second most used criterion was “Safety PAD” (25% LRP and 28% RARP), followed by “Not described” (25% LRP and 28% RARP) (**Figure 1**).

Overall continence rates, regardless of the technique employed at 1, 3, 6 and 12 months, when using “No PAD” criterion were, respectively: 34.94 (Np=25.150; SE=0.13), 61.81 (Np=45.359; SE=0.09), 77.36 (Np=44.498; SE=0.08) and 84.98 (Np=68.538; SE=0.04). When using “Safety Pad”, the highest rates: 49.46 (Np=6.954; SE=0.23), 70.5 (Np=11.554; 0.16), 80.58 (Np=11.949; SE=0.15) and 89.72 (Np=24.422; SE=0.06).

The rates of urinary continence stratified by the three techniques and by the time after surgery are shown in **Table 3**.

The graphic distributions of urinary continence rates among the most used criteria are illustrated in **Figure 2**. Comparatively, highest urinary continence rates were found when the authors did not describe the evaluation criterion (**Figure 2-D**). Among the clearly described criteria (“Safety PAD”, “No PAD” and “No leak”), the use of “Safety PAD” favors RARP results (**Figure 2-A**), which does not occur when using “No PAD” criterion (**Figure 2-B**).

To understand the influence of each criterion on continence rates, **Figure 3** describes the distribution of differences between urinary continence rates by the most used criteria with the overall mean. The smallest discrepancies with the global population average were found in “No PAD” criterion (**Figure 3-B**), where there is a slight reduction in early continence rates, with stabilization from 6 to 12 months. “Safety PAD” positively favors RARP, especially in relation to early continence (1 and 3 months) (**Figure 3-A**).

Values with the greatest discrepancy occur in “No leak” and “Not described” criteria, with heterogeneous behavior over time (**Figures 3-C and 3-D**).

DISCUSSION

The current study uses a new methodology for capturing evidence called reverse systematic review (RSR), which resulted in a population database called EVIDENCE database, which allowed the study of various comparative aspects among RP techniques (12, 14-20). The intention of this methodology is not to worry about heterogeneity when capturing studies and to generate the largest possible database with different clinical scenarios, thus increasing the representativeness of the sample. In this essay, we selected from EVIDENCE papers that studied urinary continence rates from 1 to 12 months and their different criteria for classifying continence. So far, this is the first population study with this new methodology that allows a panoramic look at the evidence, avoiding the hyperfiltration of evidence as performed by classic SR.

The EAU guideline on radical prostatectomy, in its most recent version (3), cites a prospective controlled non-randomized study by Haglind et al., who studied patients undergoing RP in 14 centers using RALP or RRP and demonstrated that at 12 months after RALP, 21.3% were incontinent, as were 20.2% after RRP. The unadjusted OR was 1.08 (95% CI: 0.87–1.34) (21). However, the criterion used to define incontinence was a change of pad less than once in 24h vs. one time or more per 24h. It is noteworthy that this study is included in our study database, composing the heterogeneous scenario of our database.

In the EAU chapter on incontinence, the panel of experts discusses the need to use specific questionnaires and validated PROMs (Patient Reported Outcome Measurement) and recommends following the recommendations of the ICS guideline.

The ICS guideline extensively discusses the use of several questionnaires and PROMs available in the literature in order to describe, as faithfully as possible, the patient's clinical condition. It is advised that the PROMs be adequate to the objective of the study and directed to the outcome that will be evaluated, preferably the modular ICIQ for the specific area, with grade A of recommendation and validated with the most rigorous criteria determined by the ICS (2).

Despite the ICS's strict recommendations regarding the use of PROMs, our study evaluated all references used in systematic reviews over 20 years and history demonstrated a more simplified behavior by surgeons. Among all the criteria used to assess urinary continence rates, 82.5% were subjective and simple criteria summarized as “No PAD”, “Safety PAD”, “No leak”, and to complement, another 10.6% did not even describe any criteria (“Not described”). That is, the remaining 6.9% used more specific criteria, including PROMs recommended by ICS.

The AUA Guideline only guides the description of the history and physical examination, and objectively with the use of PADs, in order to quantify the urinary loss, with preference for evaluations correlated to the impact on QoL. However, it does not specify the use of specific and validated PROMs as proposed by ICS (1).

Despite the recommendation to validate the use of questionnaires for the population to be studied, our study demonstrated that there was validation by use, that is, by scientific precedent. From the moment that renowned scientists in the field of prostatectomy publish studies of great impact with simpler criteria, without the use of grade A PROMs, it generates a type of “authorization” for other studies to use the same criteria. Especially because with the popularization of a method, there are more studies in the literature that can be compared and used in systematic reviews.

The most robust SR on IPT was published by Ficarra et al. and gathered 51 studies with a mean continence rate at 12 months of 84% (Range: 69-96%) when the No PAD criterion was used and 91% (Range: 89-92%) when the Safety Pad criterion was used. Our study, with 782 reports referring to 193,618 patients, showed practically the same result with 85% using No PAD and 90% using Safety PAD (22).

Still on the SR by Ficarra et al. (22), in a meta-analysis compiling 5 studies, a superiority of the continence rate of RARP was demonstrated in relation to LRP (OR=2.39; 95% CI 1.29-4.45; p=0.006), however with a cumulative 302 patients for LRP and 436 for RARP. In our study, with a substantially larger number than Ficarra, there was no difference between continence rates between LRP and RARP, respectively, 85.6% (Np=42.870; SE=0.05) and 86.7% (Np=44.740; SE= 0.06). Only RRP showed an average of 5% less continence compared to minimally invasive techniques. Importantly, the five studies included by Ficarra considered different continence criteria (“No PAD” and

“Safety PAD”), resulting in a heterogeneous sample, as demonstrated by our methodology, which presented a number of patients 118 times bigger.

When we evaluate the differences in continence rate among techniques stratified by the most used definitions, it is noted that, if we use the most frequent criterion (“No PAD”) there is a smaller discrepancy among techniques in all months, proving to be a criterion that suffers minimal influence of surgical technique (**Figure 3-B**). Comparing with the “Safety PAD” data, it is noted that in every month there is a tendency to increase the continence rates in the RARP (**Figure 3-A**). Knowing that “Safety PAD” was the second most used criterion in RARP, there is a classification bias in robotics studies that favor its results compared to others.

In addition, the use of the “No leak” criterion, which is the second most used in the RRP, worsens its results, influencing less the LRP and the RARP (**Figure 3-C**). The “Not described” criterion values early continence rates for RRP, but cannot be scientifically accepted due to lack of precision (**Figure 3-D**).

Thus, given the greater presence of classification bias found in the “Safety PAD” criteria (favors RARP) and “No leak” (disfavors RRP), we conclude that the “No PAD” criterion was “fairer” with the population sample, influencing less the results. In addition, “No PAD” was the most used criterion in the literature, possibly because historically and within good scientific sense, it allows greater comparisons among studies.

Considering the “No PAD” criterion, there is no way to prove the superiority of one technique over another in relation to urinary continence from 1 to 12 months after RP, since the values are clinically very similar (**Figure 2-B**). It is noteworthy that this study did not statistically compare the results, as the data were weighted by the number of patients. Thus, any difference, even clinically insignificant, becomes statistically significant and the results presented are descriptive and should be analyzed critically.

In view of this, a question arises: if the RSR presented similar results as the previous classic SR, what are the pros and cons of this new methodology in view of the results found?

The main advantage of this new methodology is that it has the power to greatly increase the number of patients. Statistically, the population sample and its inclusive and heterogeneous temporal nature, results in a narrow standard error of the mean (SE), increasing the precision of the population mean. Due to the large number of studies with

different scenarios, these results found in the RSR will hardly be modified, since new studies have little power to modify these presented results in the short and medium term. Another advantage of the RSR is the heterogeneity of the scenarios where the studies were carried out, since there are no exclusion criteria for the mentioned studies in the SR. The presence of several different clinical scenarios encompassed in the global sample allows the results to also be extrapolated to a broader context, increasing the chance that the results will be closer to a “real world” population average and more tangible to urologists and researchers belonging to this “world”.

Another advantage of the generated population sample is being able to compare results from the literature and evaluate new techniques against the population mean of EVIDENCE. For example, within an evolutionary process of the radical prostatectomy technique, minimally invasive surgery, mainly RARP, allowed the improvement of anatomical concepts and the development of techniques for preserving periprostatic structures to favor the global and early functional restoration of the patient, namely, the Retzius Sparing technique, the Hood Technique and TAR (Total Anatomical Reconstruction). Wagaskar et al. described a Hood technique in 2021 and reported continence rates (No PAD) at 1, 6 and 12 months of 83%, 94% and 95%, respectively (23). Regarding Retzius Sparing, among the 3 SR included in our study, the best results for continence rates (No PAD) were described by Asimakopoulos et al, with 51%, 84% and 94% at 1, 3 and 6 months, respectively (24). Regarding TAR, Liao X et al demonstrated continence rates (No leak) of 66%, 82%, 90% and 95% at 1, 3, 6 and 12 months (25). All studies described showed results above the 95th mean percentile compared to our results (data not shown), demonstrating the excellent results of the technical evolution of RARP.

In contrast, the heterogeneity of the sample generated by the RSR is one of the main points of criticism of this methodology, since it does not respect the criteria defined for performing a classic SR, which advocates the homogenization of the sample to be able to be compared. However, this point of criticism, on a population scale and in the face of a 20-year temporal context, becomes a quality of the methodology, since never before in the literature have data been analyzed from this point of view. Another point of criticism is the lack of registration of the study on the PROSPERO platform, since, as it is a new method, the study design is not compatible with the structure of a classic systematic review. Obviously, because it only included studies that were cited in

systematic reviews, many important studies were not included. Although systematic reviews are the highest level of evidence, the studies that were included do not necessarily have the best evidence in the literature.

Another disadvantage of the RSR is that the need to include a greater amount of information to generate this heterogeneous and population database prevents exploring subgroup analyzes and making more global analyzes on broad outcomes, as in the case of urinary continence and its criteria. Subgroup or multivariate analyzes can be easily biased since there is no pre- and post-statistical control of the studies included in this type of analysis.

Obviously, this methodology brings a new look at population data of great evidence, adding a tool for the interpretation of secondary scientific data. However, there is no methodological structure strong enough to answer specific questions in the literature, a responsibility that is very well assumed by the classic SR with meta-analysis.

CONCLUSION

Faced with a population and heterogeneous sample, represented by evidence chosen by systematic reviews over more than 20 years of history, RSR was able to show biases generated by the choices of methods for defining incontinence. The “No PAD” criterion had less ability to generate classification bias and influence urinary continence rates regardless of the technique employed, being naturally the most used by the scientific community and with the largest number of papers available for comparisons in classic SR.

Despite the practicality of using the “No PAD” as a criterion and the wide acceptance by scientists, it does not have sufficient complexity and scope in relation to the quantification of loss and impact on quality of life as the criteria suggested by the ICS.

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TBCM, LAM: data collection, analysis, statistics and manuscript writing, methodology development.

LOR: supervision, data analysis, manuscript editing, methodology development.

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The authors report no conflicts of interest.

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The data that support the findings of this study are available from the corresponding author upon reasonable request.

Compliance with Ethical Standards:

Research involving Human Participants: The authors certify that the study was performed under the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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Tables

Table 1

	RRP				LRP				RARP			
	Nr	Np	Mean	SE	Nr	Np	Mean	SE	Nr	Np	Mean	SE
Age (years)	172	58,103	63.87	0.02	230	54,138	62.94	0.01	298	58,797	61.57	0.01
BMI (Kg/m²)	50	7,337	26.37	0.02	107	21,338	26.28	0.01	224	47,431	26.95	0.01
Initial PSA (mg/dl)	133	31,679	8.04	0.02	221	48,219	9.04	0.01	286	53,445	7.40	0.01
cGS (mean)	33	2,412	5.97	0.01	83	13,994	6.09	0.00	58	7,833	6.32	0.00
cGS < 7 (%)	55	21,817	69.66	0.11	89	20,032	61.35	0.10	171	39,370	54.41	0.08
cGS = 7 (%)	50	20,012	24.28	0.08	81	19,288	31.92	0.08	162	38,298	35.04	0.05
cGS > 7 (%)	54	22,057	4.64	0.04	77	18,000	7.05	0.05	154	39,759	10.25	0.05
cT1 (%)	81	36,851	58.28	0.11	129	24,986	55.97	0.13	172	40,943	73.62	0.07
cT2 (%)	82	34,367	38.27	0.11	128	22,046	41.62	0.12	165	35,172	26.74	0.07
cT3 (%)	39	15,474	4.21	0.07	62	14,117	7.65	0.10	87	23,499	3.85	0.04
cT4 (%)	4	275	2.17	0.11	3	206	0.48	0.08	5	1,012	1.52	0.03
Operative Time (min)	87	17,522	152.86	0.41	210	50,205	188.75	0.20	229	46,815	170.34	0.23
Pelvic Lymphadenectomy rate (%)	35	13,947	91.66	0.19	84	26,454	50.12	0.13	74	11,028	47.77	0.32
NS rate (%)	66	19,118	74.20	0.21	127	31,377	54.90	0.14	132	29,482	85.65	0.07
Unilateral NS rate (%)	46	14,581	14.99	0.15	111	28,316	17.98	0.07	112	27,706	28.95	0.12
Bilateral NS rate (%)	65	29,884	79.72	0.11	128	30,808	40.91	0.16	134	31,124	61.17	0.15

EBL (mL)	84	18,741	793.19	3.40	175	32,290	390.93	1.32	214	45,234	197.19	0.49
Blood Transfusion rate (%)	52	9,268	15.84	0.18	146	35,888	4.19	0.03	127	28,368	1.55	0.02
LOS (days)	59	11,203	7.63	0.05	148	33,374	5.69	0.02	169	36,247	2.59	0.01
Catheter time (days)	57	6,114	10.87	0.05	160	33,642	8.19	0.02	155	29,531	7.49	0.01
pGS (mean)	23	3,147	6.53	0.01	62	7,653	6.40	0.01	30	4,817	6.79	0.00
pGS < 7 (%)	54	16,259	50.25	0.11	92	23,977	39.55	0.13	155	39,276	35.15	0.08
pGS = 7 (%)	50	12,999	42.03	0.11	85	21,870	52.31	0.12	157	39,289	55.41	0.07
pGS > 7 (%)	54	15,340	11.42	0.07	76	20,326	16.39	0.09	158	41,335	9.24	0.03
pT2 (%)	112	38,479	67.52	0.06	182	47,247	67.35	0.06	227	44,764	76.85	0.05
pT3 (%)	100	23,937	33.60	0.07	169	46,272	29.98	0.06	215	46,951	24.31	0.05
pT4 (%)	30	5,150	3.87	0.05	54	19,371	1.57	0.01	47	16,242	0.99	0.01
PSM rate (%)	103	35,445	21.98	0.05	204	52,355	19.82	0.03	247	51,533	17.16	0.04
PSM - pT2 (%)	43	13,888	17.33	0.09	114	37,829	12.18	0.02	133	22,744	10.49	0.04
PSM - pT3 (%)	32	8,204	42.00	0.20	99	35,404	38.70	0.05	110	19,465	36.67	0.09
PSM - pT4 (%)	3	344	100.0	0.00	26	5,789	94.54	0.17	16	3,020	76.87	0.46

Legends: Nr: number of reports; Np: number of patients; SE: standard error of mean; BMI: body mass index; PSA: Prostate Specific Antigen; cGS: clinical Gleason Score; cT: clinical tumor staging (TNM); NS: nerve sparing; EBL: estimated bleeding loss; LO: length of stay; pGS: pathological Gleason Score; pT: pathological tumor staging (TNM); PSM: positive surgical margins.

Table 2-

Continence criteria	Np	Total %	Cumulative %
No PAD	103,291	53.3	53.3
Safety PAD	37,411	19.3	72.7
Not described	20,607	10.6	83.3
No leak	19,077	9.9	93.2
< 2 PAD	4,677	2.4	95.6
HRQOL no bother	2,002	1.0	96.6
UCLA-PCI baseline	1,553	0.8	97.4
ICIQ-SF > 6	1,419	0.7	98.2
EPIC baseline	906	0.5	98.6
HRQOL baseline	372	0.2	98.8
PAD Test = 0g	280	0.1	99.0
PAD Test < 1g	248	0.1	99.1
PAD Test < 8g	205	0.1	99.2
ICIQ-SF >7	199	0.1	99.3
Baseline	179	0.1	99.4
ICIQ-SF > 10	178	0.1	99.5
PAD Test < 2g	178	0.1	99.6
ICIQ-SF > 8	165	0.1	99.7
ICIQ-SF > 11	152	0.1	99.7

ICIQ-SF > 5	146	0.1	99.8
ICIQ-SF > 12	126	0.1	99.9
ICIQ-SF > 9	111	0.1	99.9
ICS-SF baseline	106	0.1	99.9
ICS-SF = 0	30	<0.1	100.0
Total	193,618	100.0	

Table 3-

Continence criteria	Cohort	1 month (%)				3 months (%)				6 months (%)				12 months (%)					
		Nr	Np	Mean	SE	Nr	Np	Mean	SE	Nr	Np	Mean	SE	Nr	Np	Mean	SE		
Global	RRP	43	7,427	42.2	0.2	87	12,020	62.6	0.1	80	12,985	73.3	0.1	14	43,042	81.6	0.0		
				1	7		0	5	9		5	6	8		2	7	2	7	
	LRP	79	11,547	34.6	0.1	14	25,489	63.7	0.1	12	23,975	77.0	0.0	16	41,873	85.6	0.0		
				7	5	9		9	3	7	1		5	5	9	9		3	0
	RARP	13	23,518	42.5	0.1	18	30,786	65.5	0.1	18	29,939	79.0	0.1	20	44,742	86.6	0.0		
				5	8	6	2		6	9	7	2		0	9	9	0		2
Safety PAD	RRP	5	546	43.9	0.8	14	1,002	63.8	0.6	13	1,015	78.6	0.4	20	4,277	90.9	0.1		
				6	8			4	5			5	6			6	0		
	LRP	19	1,004	37.7	0.7	39	2,960	61.9	0.3	26	2,764	68.8	0.4	37	7,438	87.1	0.1		
				3	5			8	5			8	0			8	2		
	RARP	32	5,404	52.1	0.2	45	7,592	74.7	0.1	47	8,170	84.7	0.1	62	12,707	90.7	0.0		
				9	3			0	7			7	4			7	8	7	
No PAD	RRP	23	4,460	41.3	0.3	47	6,745	60.9	0.2	38	7,813	75.7	0.2	77	18,202	81.8	0.0		
				3	8			3	3			7	4			2	4	9	
	LRP	42	8,206	31.4	0.2	85	19,637	64.4	0.1	82	19,413	78.2	0.0	10	25,813	85.3	0.0		
				5	0			7	2	2		3	1	9		3	4	2	7
	RARP	79	12,484	34.9	0.1	11	18,976	59.4	0.1	10	17,273	77.1	0.1	11	24,520	86.9	0.0		
				4	5	7		6	7	2	7		3	2	3	3		0	2
No leak	RRP	3	1,174	32.8	0.0	3	526	26.9	1.1	4	1,080	63.6	0.9	15	4,436	76.4	0.2		
				2	8			6	2			9	3			3	8		
	LRP	8	1,186	49.6	0.8	8	1,558	59.7	0.4	5	998	76.3	0.6	9	1,683	86.2	0.3		
				6	0			9	9			6	4			0	4		
	RARP	11	4,824	48.9	0.0	6	1,601	82.4	0.3	6	813	82.3	0.7	9	3,610	84.2	0.0		
				8	9			9	7			0	2			1	9		
Not described	RRP	1	54	74.1	0.0	1	55	54.6	0.0	2	159	89.6	0.4	5	10,796	81.3	0.0		
				0	0			0	0			8	2			6	2	2	
	LRP	3	442	43.1	0.9	8	562	69.6	0.8	5	529	82.5	0.6	7	7,218	85.9	0.0		
				7	3			5	8			2	5			7	4		
	RARP	5	107	59.9	2.0	5	194	81.3	0.5	3	81	89.8	0.6	1	215	92.0	0.0		
				8	6			0	7			9	5			0	0		

Legends: Nr: number of reports; Np: number of patients; SE: standard error of mean.

FIGURES

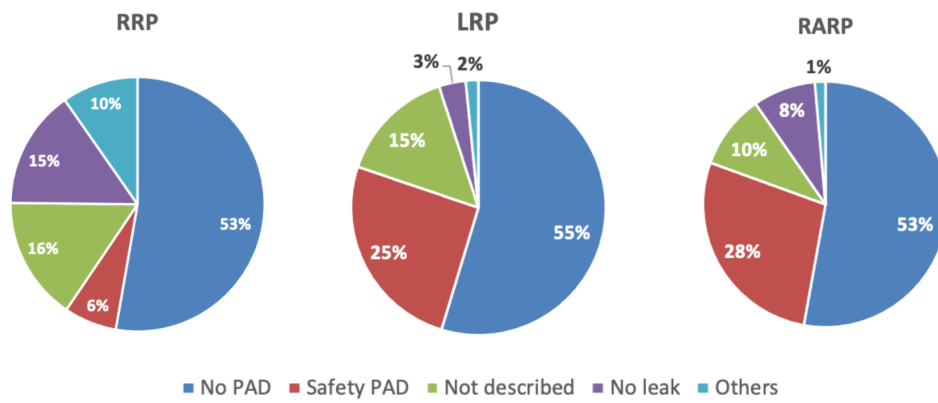


Figure 1: Graphic percentage distribution of the main continence criteria stratified by surgical technique (RRP, LRP and RARP).

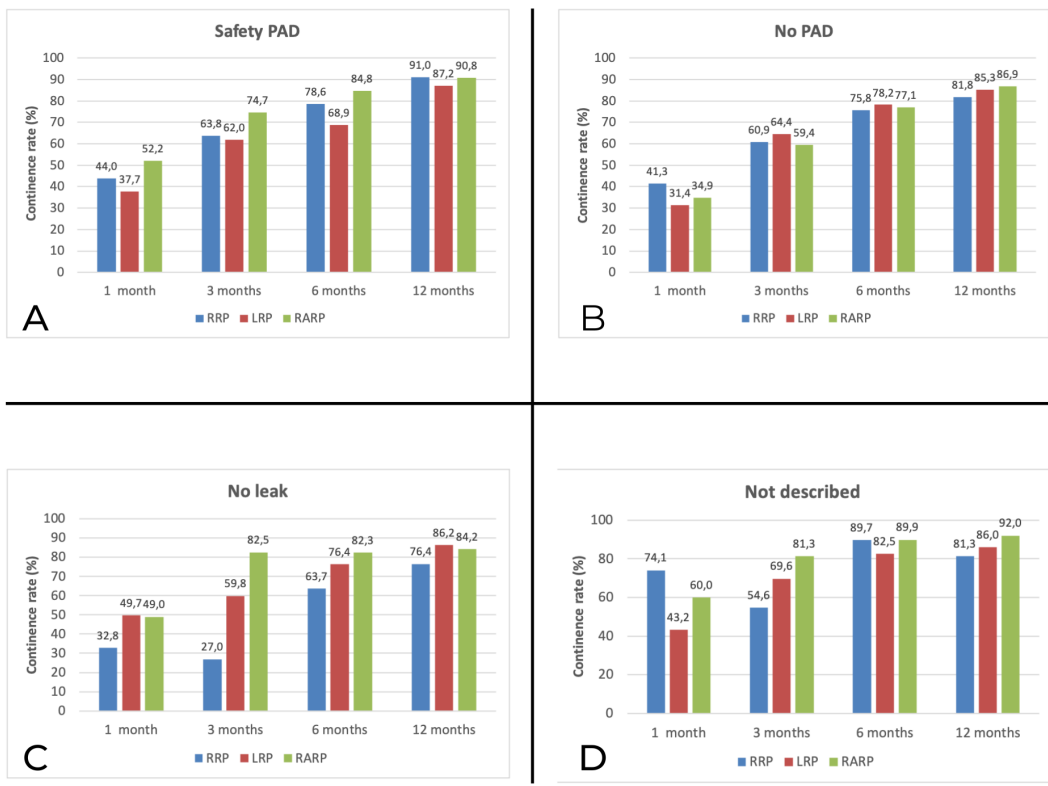


Figure 2: Graphic distribution of post-prostatectomy urinary continence rates at 1, 3, 6 and 12 months stratified by surgical techniques (RRP, LRP and RARP) and by different continence criteria.

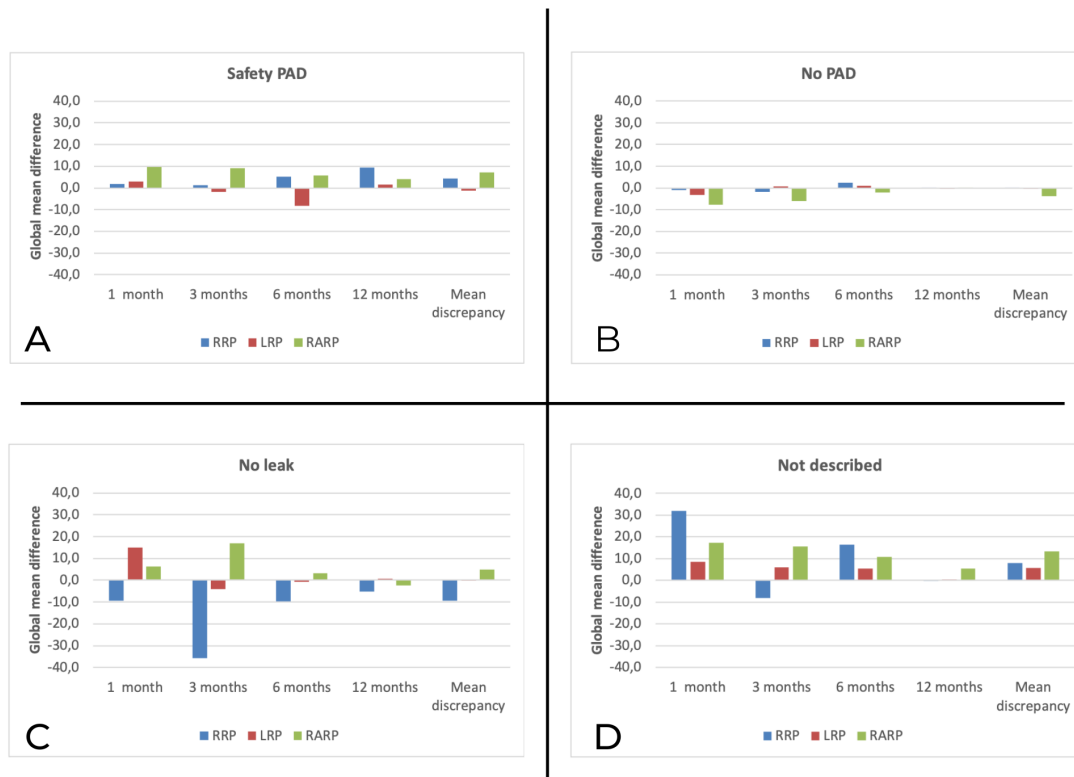
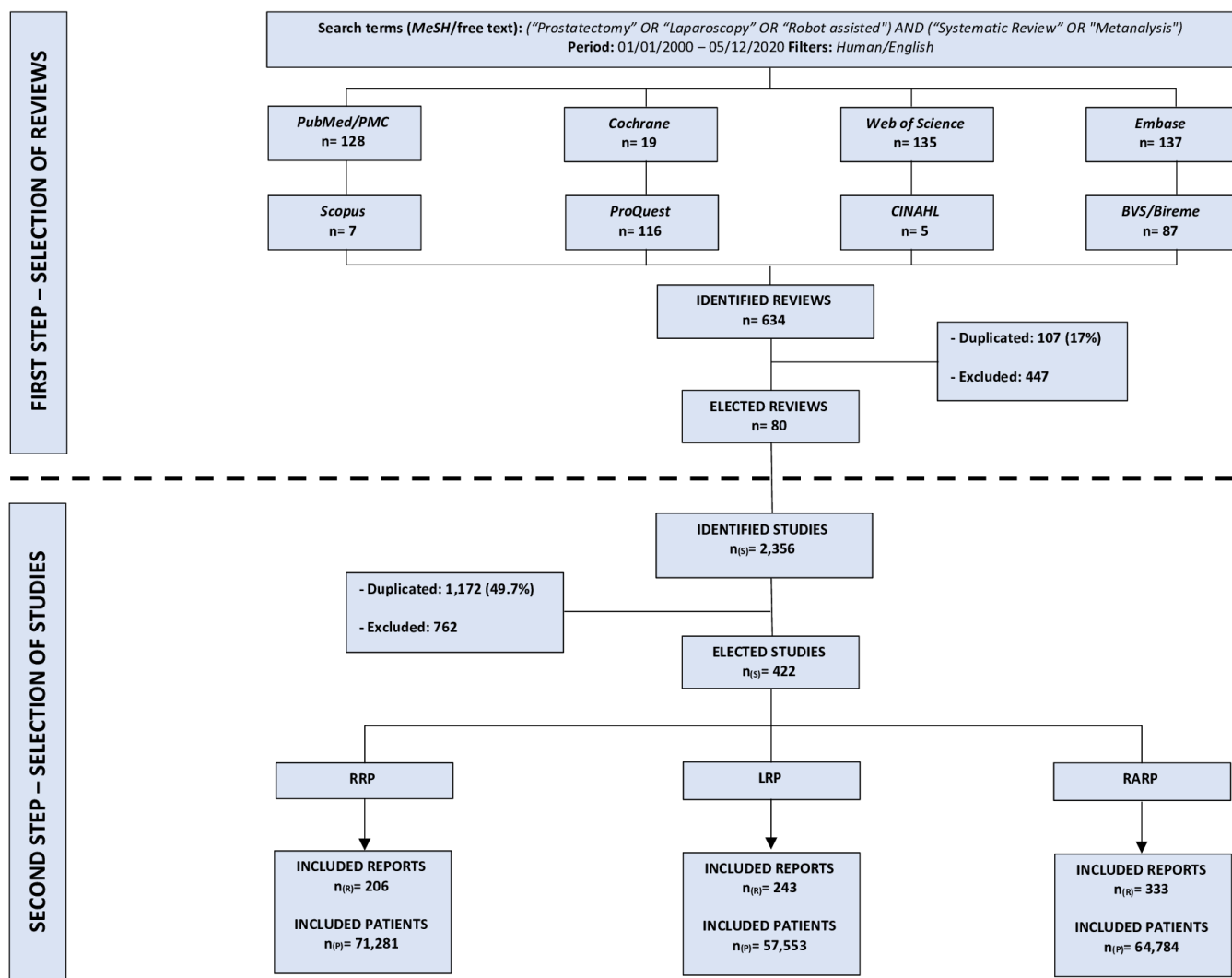


Figure 3: Graphical distribution of the difference in the mean post-prostatectomy continence rates at 1, 3, 6 and 12 months with the overall mean rate (mean discrepancy) stratified by different techniques (RRP, LRP and RAR) and by different continence criteria.

APPENDIX A – STUDY DESIGN

Study design representing the two phases of the Reverse Systematic Review that involves the selection of review studies and later the primary studies.



APPENDIX B – SEARCH STRATEGY

Search strategy was systematized in 8 databases described below and were done using health descriptors specific to each base. It was complemented with use of synonyms in open search in title, abstract and subject through Boolean indicators.

1) Health Science Descriptors

Search Base	Vocabulary of subjects	Health Science Descriptors		
		1	2	3
PUBMED	MeSh	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>

BVS/BIREME	DeCS	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>
SCOPUS	--	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>
WEB OF SCIENCE	--	<i>Prostatectomy</i>	<i>Laparoscopic</i>	<i>Robotic Surgical Procedures</i>
EMBASE	Emtree	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i> <i>Use preferred term: Robotic Surgical Procedure</i>
COCHRANE LIBRARY	MeSh	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>
PROQUEST	MeSh	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>
CINAHL	MH	<i>Prostatectomy</i>	<i>Laparoscopy</i>	<i>Robotic Surgical Procedures</i>

2) Key-words (synonymous):

- ***Prostatectomy***: Prostatectomy OR Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" OR "Retropubic Prostatectomy".

- ***Laparoscopy***: Laparoscopy OR Laparoscopies OR Celioscopy OR Celioscopies OR Peritoneoscopy OR Peritoneoscopies OR "Surgical Procedures, Laparoscopic" OR "Laparoscopic Surgical Procedure" OR "Procedure, Laparoscopic Surgical" OR "Procedures, Laparoscopic Surgical" OR "Surgery, Laparoscopic" OR "Laparoscopic Surgical Procedures" OR "Laparoscopic Surgery" OR "Laparoscopic Surgeries" OR "Surgeries, Laparoscopic" OR "Laparoscopic Assisted Surgery" OR "Laparoscopic Assisted

Surgeries" OR "Surgeries, Laparoscopic Assisted" OR "Surgery, Laparoscopic Assisted" OR "Surgical Procedure, Laparoscopic".

- **Robotic Surgical Procedures:** "Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic".

- **Cystectomy:** Cystectomy OR Cystectomies.

3) Free Terms (not descriptors)

- **All the search bases:** "laparoscopic radical prostatectomy (LRP)" OR LRP OR "laparoscopic assisted radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR RALRP OR "Robotic assisted laparoscopic prostatectomy (RALP)" OR "robot-assisted radical prostatectomy (RARP)" OR "robot assisted radical prostatectomy (RARP)" OR RARP OR "Endoscopic extraperitoneal radical prostatectomy (EERP)" OR EERP OR "Endoscopic extraperitoneal radical prostatectomy (EERPE)" OR EERPE OR "Robot-assisted" OR "Robot assisted" OR "robotic prostatectomy" OR "radical prostatectomy (RP)" OR "radical prostatectomy" OR RP OR RRP OR "retropubic radical prostatectomy" OR "open prostatectomy" OR "laparoscopic radical prostatectomy" OR "robot-assisted prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP OR "Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP OR "Robot-

assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)"
OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR
RARP OR "Robotic prostatectomy".

- **Embase:** "robot-assisted prostatectomy" OR "robot-assisted prostatectomy" OR
"laparoscopic radical prostatectomy" OR "Robotic radical prostatectomy" OR "Robotic-
assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy".

4) Systematic Review Filter

- **PubMed:** (systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR
systematic literature review [ti] OR this systematic review [tw] OR pooling project [tw] OR
(systematic review [tiab] AND review [pt]) OR meta synthesis [ti] OR meta-analy*[ti] OR
integrative review [tw] OR integrative research review [tw] OR rapid review [tw] OR
umbrella review [tw] OR consensus development conference [pt] OR practice guideline
[pt] OR drug class reviews [ti] OR cochrane database syst rev [ta] OR acp journal club [ta]
OR health technol assess [ta] OR evid rep technol assess summ [ta] OR jbi database
system rev implement rep [ta]) OR (clinical guideline [tw] AND management [tw]) OR
((evidence based[ti] OR evidence-based medicine [mh] OR best practice* [ti] OR evidence
synthesis [tiab]) AND (review [pt] OR diseases category[mh] OR behavior and behavior
mechanisms [mh] OR therapeutics [mh] OR evaluation studies[pt] OR validation
studies[pt] OR guideline [pt] OR pmcbook)) OR ((systematic [tw] OR systematically [tw]

OR critical [tiab] OR (study selection [tw]) OR (predetermined [tw] OR inclusion [tw] AND criteri* [tw]) OR exclusion criteri* [tw] OR main outcome measures [tw] OR standard of care [tw] OR standards of care [tw]) AND (survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR reviews [tiab] OR search* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR appraisal [tw] OR (reduction [tw] AND (risk [mh] OR risk [tw]) AND (death OR recurrence))) AND (literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR pooled data [tw] OR unpublished [tw] OR citation [tw] OR citations [tw] OR database [tiab] OR internet [tiab] OR textbooks [tiab] OR references [tw] OR scales [tw] OR papers [tw] OR datasets [tw] OR trials [tiab] OR meta-analy* [tw] OR (clinical [tiab] AND studies [tiab]) OR treatment outcome [mh] OR treatment outcome [tw] OR pmcbook)) NOT (letter [pt] OR newspaper article [pt]).

Available in: (https://www.nlm.nih.gov/bsd/pubmed_subsets/sysreviews_strategy.html)

5) Filters

- **Search period:** from January 1, 2000 to December 5, 2020.
- **Language:** English
- **Type of study:** Systematic Review and Meta-analysis
- **Species:** Human

6) Search Strategy

Each specific search strategy for each database is described below, with the date of the search and the number of articles found:

1 – PUBMED/PMC (MEDLINE)

- **Search Date:** December 5, 2020.
- **Number of articles found: 128**
- **Search Strategy:** (((((((((Robotics[MeSH Terms]) OR Robotics[Title/Abstract])) OR (((((((Robotic Surgical Procedures[MeSH Terms]) OR "Robotic Surgical Procedures"[Title/Abstract]) OR "Procedure, Robotic Surgical"[Title/Abstract]) OR "Procedures, Robotic Surgical"[Title/Abstract]) OR "Robotic Surgical Procedure"[Title/Abstract]) OR "Surgical Procedure, Robotic"[Title/Abstract]) OR "Surgical Procedures, Robotic"[Title/Abstract])) OR (((((((("Robot-assisted laparoscopic radical prostatectomy (RALRP)") OR "Robot assisted laparoscopic radical prostatectomy (RALRP)") OR "Robot assisted laparoscopic radical prostatectomy") OR "Robot-assisted laparoscopic radical prostatectomy") OR RALRP)) OR (((("Robot-assisted radical prostatectomy (RARP)") OR "Robot assisted radical prostatectomy (RARP)") OR "Robot-assisted radical prostatectomy") OR "Robot assisted radical prostatectomy") OR RARP)) OR "Robotic prostatectomy") OR (("Robot-assisted prostatectomy") OR "Robot assisted prostatectomy")) OR "Robotic radical prostatectomy") OR (("Robotic-assisted radical prostatectomy") OR "Robotic assisted radical prostatectomy")) OR (((((((("Robotic assisted laparoscopic prostatectomy (RALP)") OR "Robot-assisted laparoscopic prostatectomy (RALP)") OR "Robot assisted laparoscopic prostatectomy") OR "Robot-assisted laparoscopic prostatectomy") OR RALP)))))) AND (((((((((Prostatectomy[MeSH Terms]) OR Prostatectomy[Title/Abstract]) OR Prostatectomies[Title/Abstract]) OR "Prostatectomy, Suprapubic"[Title/Abstract]) OR "Prostatectomies, Suprapubic"[Title/Abstract]) OR "Suprapubic Prostatectomies"[Title/Abstract]) OR "Suprapubic Prostatectomy"[Title/Abstract]) OR

"Prostatectomy, Retropubic"[Title/Abstract]) OR "Prostatectomies, Retropubic"[Title/Abstract]) OR "Retropubic Prostatectomies"[Title/Abstract]) OR "Retropubic Prostatectomy"[Title/Abstract])) AND systematic [sb] Filters: Publication date from 2000/01/01 to 2020/12/05; Humans; English.

2 - BVS / BIREME

- **Search Date:** December, 2020
- **Number of articles found:** 87 (MEDLINE, LILACS, IBECs)
- **Search Strategy:** (tw:(prostatectomy OR prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" OR "Retropubic Prostatectomy")) AND (tw:(robotics)) OR (tw:("Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR ralrp)) OR (tw:("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR ralp)) OR (tw:("Robot-assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR rarp)) OR (tw:("Robotic prostatectomy")) OR (tw:("Robot-assisted prostatectomy"or "Robot assisted prostatectomy")) OR (tw:("Robotic radical prostatectomy")) OR (tw:("Robotic-assisted radical

prostatectomy" OR "Robotic assisted radical prostatectomy")) OR (tw:("Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic")) AND (tw:("SYSTEMATIC REVIEWS" OR "SYSTEMATIC REVIEW")) AND (instance:"regional") AND (la:"en"))

3 - CINAHL (The Cumulative Index to Nursing and Allied Health Literature)

- **Search Date:** December 5, 2020
- **Number of articles found:** 05
- **Search Strategy:** (MH "Prostatectomy") OR "Prostatectomy" OR Prostatectomy OR Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" OR "Retropubic Prostatectomy" AND (MH "Robotics") OR "Robotics" OR ("Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP) OR ("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ("Robot-assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR RARP) OR "Robotic prostatectomy" OR "Robot-assisted prostatectomy" OR "Robot assisted prostatectomy" OR "Robotic radical

prostatectomy" OR ("Robotic-assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy") OR (MH "Robotic Surgical Procedures") OR "Robotic Surgical Procedures" OR "Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic" AND TI "SYSTEMATIC REVIEWS" OR TI "SYSTEMATIC REVIEW"

4 - WEB OF SCIENCE

- **Search Date:** December 5, 2020
- **Number of articles found:** 135
- **Search Strategy:** (("Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP) OR ("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ("Robot-assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR RARP) OR ("Robotic prostatectomy") OR ("Robot-assisted prostatectomy" OR "Robot assisted prostatectomy") OR ("Robotic radical prostatectomy") OR ("Robotic-assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy")) OR (("Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic")) OR (Robotics)) AND

(Prostatectomy OR Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" OR "Retropubic Prostatectomy") AND (2020 OR 2019 OR 2012 OR 2005 OR 2018 OR 2011 OR 2004 OR 2017 OR 2010 OR 2003 OR 2016 OR 2009 OR 2002 OR 2015 OR 2008 OR 2001 OR 2014 OR 2007 OR 2000 OR 2013 OR 2006) AND ("SYSTEMATIC REVIEWS" OR "SYSTEMATIC REVIEW")

5 – EMBASE

- **Search Date:** December 5, 2020
- **Number of articles found:** 137
- **Search Strategy:** ('prostatectomy'/exp OR 'prostatectomy'/syn) AND ('systematic reviews':ab,ti OR 'systematic review':ab,ti) AND ('robotics'/exp OR 'robotic assisted laparoscopic prostatectomy'/exp OR 'robotic assisted laparoscopic prostatectomy (ralp)' OR 'robot-assisted laparoscopic prostatectomy (ralp)' OR 'robot assisted laparoscopic prostatectomy'/exp OR 'robot assisted laparoscopic prostatectomy' OR 'robot-assisted laparoscopic prostatectomy'/exp OR 'robot-assisted laparoscopic prostatectomy' OR ralp OR 'robot-assisted prostatectomy'/exp OR 'robot-assisted prostatectomy'/syn OR 'robot-assisted laparoscopic radical prostatectomy (ralrp)' OR 'robot assisted laparoscopic radical prostatectomy (ralrp)' OR 'robot assisted laparoscopic radical prostatectomy'/exp OR 'robot assisted laparoscopic radical prostatectomy' OR 'robot-assisted laparoscopic radical prostatectomy'/exp OR 'robot-assisted laparoscopic radical prostatectomy' OR ralrp OR 'robot-assisted radical prostatectomy (rarp)' OR 'robot assisted radical prostatectomy (rarp)' OR

'robot-assisted radical prostatectomy'/exp OR 'robot-assisted radical prostatectomy'
OR 'robot assisted radical prostatectomy'/exp OR 'robot assisted radical
prostatectomy' OR rarp OR 'robotic prostatectomy'/exp OR 'robotic prostatectomy'
OR 'robotic radical prostatectomy'/exp OR 'robotic radical prostatectomy' OR
'robotic-assisted radical prostatectomy'/exp OR 'robotic-assisted radical
prostatectomy' OR 'robotic assisted radical prostatectomy'/exp OR 'robotic assisted
radical prostatectomy' OR 'robotic surgical procedure'/exp OR 'robotic surgical
procedure'/syn) AND [english]/lim AND (2000:py OR 2001:py OR 2002:py OR 2003:py
OR 2006:py OR 2007:py OR 2008:py OR 2009:py OR 2010:py OR 2011:py OR 2012:py
OR 2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py OR 2019:py
OR 2020:py)

6 - COCHRANE LIBRARY

- **Search date:** December 5, 2020
- **Number of articles found:**19
- **Search Strategy:**

MeSH descriptor: [Prostatectomy] explode all trees OR (Prostatectomy OR
Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic"
OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR
"Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic
Prostatectomies" OR "Retropubic Prostatectomy"):ti,ab,kw AND MeSH descriptor:
[Robotics] explode all trees OR (Robotics):ti,ab,kw OR ("Robot-assisted laparoscopic
radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical

prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP) OR ("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ("Robot-assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR RARP) OR ("Robotic prostatectomy") OR ("Robot-assisted prostatectomy" OR "Robot assisted prostatectomy") OR ("Robotic radical prostatectomy") OR ("Robotic-assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy") OR MeSH descriptor: [Robotic Surgical Procedures] explode all trees OR ("Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic"):ti,ab,kw AND ("SYSTEMATIC REVIEWS"):ti,ab,kw OR ("SYSTEMATIC REVIEW"):ti,ab,kw

7 – PROQUEST CENTRAL

- **Search Date:** December 5, 2020
- **Number of articles found:** 116
- **Search Strategy:** ((MJMESH.EXACT.EXPLODE("Prostatectomy") OR (Prostatectomy OR Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" OR "Retropubic Prostatectomy"))) AND ((MESH.EXACT("Robotics"))

OR Robotics) OR (("Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP) OR ("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ("Robot-assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR RARP) OR "Robotic prostatectomy" OR ("Robot-assisted prostatectomy" OR "Robot assisted prostatectomy") OR "Robotic radical prostatectomy" OR ("Robotic-assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy")) OR ((MJMESH.EXACT.EXPLODE("Robotic Surgical Procedures:E.04.749.500") OR MJMESH.EXACT.EXPLODE("Robotic Surgical Procedures:L.01.313.500.750.100.710.800.500") OR MJMESH.EXACT.EXPLODE("Robotic Surgical Procedures:E.02.950.875.500")) OR ("Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic")))) AND (ti("SYSTEMATIC REVIEWS") OR ti("SYSTEMATIC REVIEW")) AND (la.exact("ENG") AND pd(20000101-20201205))

8 – SCOPUS

- **Search date:** December 5, 2020
- **Number of articles found:** 7

- Search Strategy:** (TITLE-ABS-KEY(Prostatectomy OR Prostatectomies OR "Prostatectomy, Suprapubic" OR "Prostatectomies, Suprapubic" OR "Suprapubic Prostatectomies" OR "Suprapubic Prostatectomy" OR "Prostatectomy, Retropubic" OR "Prostatectomies, Retropubic" OR "Retropubic Prostatectomies" O)) and ((TITLE-ABS-KEY(Robotics)) or ((ALL("Robot-assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy (RALRP)" OR "Robot assisted laparoscopic radical prostatectomy" OR "Robot-assisted laparoscopic radical prostatectomy" OR RALRP) OR ALL("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot-assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ALL("Robotic assisted laparoscopic prostatectomy (RALP)" OR "Robot assisted laparoscopic prostatectomy" OR "Robot-assisted laparoscopic prostatectomy" OR RALP) OR ALL("Robotic assisted radical prostatectomy (RARP)" OR "Robot assisted radical prostatectomy (RARP)" OR "Robot-assisted radical prostatectomy" OR "Robot assisted radical prostatectomy" OR RARP) OR ALL("Robotic prostatectomy") OR ALL("Robot-assisted prostatectomy" OR "Robot assisted prostatectomy") OR ALL("Robotic radical prostatectomy") OR ALL("Robotic-assisted radical prostatectomy" OR "Robotic assisted radical prostatectomy")))) or (TITLE-ABS-KEY("Robotic Surgical Procedures" OR "Procedure, Robotic Surgical" OR "Procedures, Robotic Surgical" OR "Robotic Surgical Procedure" OR "Surgical Procedure, Robotic" OR "Surgical Procedures, Robotic")) and ((TITLE-ABS-KEY("SYSTEMATIC REVIEWS") OR TITLE-ABS-KEY("SYSTEMATIC REVIEW")))

APPENDIX C - INCLUDED SYSTEMATIC REVIEWS

Selected systematic review studies for analysis are listed below:

1. Abboudi H, Khan MS, Guru KA, et al. Learning curves for urological procedures: A systematic review. *Review. BJU International.* 2014;114(4):617-629. doi:10.1111/bju.12315
2. Allan C, Ilic D. Laparoscopic versus Robotic-Assisted Radical Prostatectomy for the Treatment of Localised Prostate Cancer: A Systematic Review. *Review. Urologia Internationalis.* 2016;96(4):373-378. doi:10.1159/000435861
3. Autorino R, Zargar H, White WM, et al. Current applications of near-infrared fluorescence imaging in robotic urologic surgery: A systematic review and critical analysis of the literature. *Review. Urology.* 2014;84(4):751-759. doi:10.1016/j.urology.2014.05.059
4. Bai Y, Pu C, Yuan H, et al. Assessing the Impact of Barbed Suture on Vesicourethral Anastomosis During Minimally Invasive Radical Prostatectomy: A Systematic Review and Meta-analysis. *Urology.* Jun 2015;85(6):1368-75. doi:10.1016/j.urology.2015.02.033
5. Baladakis J, Perera M, Bolton D, Lawrentschuk N, Adam A. Is There an Optimal Curative Option in HIV-Positive Men with Localized Prostate Cancer? A Systematic Review. *Curr Urol.* Jul 2019;12(4):169-176. doi:10.1159/000499309
6. Bellangino M, Verrill C, Leslie T, Bell RW, Hamdy FC, Lamb AD. Systematic Review of Studies Reporting Positive Surgical Margins After Bladder Neck Sparing Radical Prostatectomy. *Review. Current Urology Reports.* 2017;18(12)doi:10.1007/s11934-017-0745-0
7. Berryhill R, Jhaveri J, Yadav R, et al. Robotic prostatectomy: a review of outcomes compared with laparoscopic and open approaches. *Urology.* Jul 2008;72(1):15-23. doi:10.1016/j.urology.2007.12.038

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9. Bertolo R, Hung A, Porpiglia F, Bove P, Schleicher M, Dasgupta P. Systematic review of augmented reality in urological interventions: the evidences of an impact on surgical outcomes are yet to come. World Journal of Urology. Mar 2019 2019:1-10. doi:http://dx.doi.org/10.1007/s00345-019-02711-z
10. Cao L, Yang Z, Qi L, Chen M. Robot-assisted and laparoscopic vs open radical prostatectomy in clinically localized prostate cancer: perioperative, functional, and oncological outcomes: A Systematic review and meta-analysis. Medicine (Baltimore). May 2019;98(22):e15770. doi:10.1097/MD.00000000000015770
11. Carneiro A, Cha JD, Baccaglioni W, et al. Should aspirin be suspended prior to robot-assisted radical prostatectomy? A systematic review and meta-analysis. Review. Therapeutic Advances in Urology. 2019;11doi:10.1177/1756287218816595
12. Cathcart P, Murphy DG, Moon D, Costello AJ, Frydenberg M. Perioperative, functional and oncological outcomes after open and minimally invasive prostate cancer surgery: experience from Australasia. BJU Int. Apr 2011;107 Suppl 3:11-9. doi:10.1111/j.1464-410X.2011.10053.x
13. Checcucci E, Amparore D, De Luca S, Autorino R, Fiori C, Porpiglia F. Precision prostate cancer surgery: an overview of new technologies and techniques. Minerva Urol Nefrol. Oct 2019;71(5):487-501. doi:10.23736/S0393-2249.19.03365-4
14. Checcucci E, Veccia A, Fiori C, et al. Retzius-sparing robot-assisted radical prostatectomy vs the standard approach: a systematic review and analysis of comparative outcomes. BJU Int. Jan 2020;125(1):8-16. doi:10.1111/bju.14887

15. Choo MSMD, Kim MMD, Ku JHMDP, Kwak CMDP, Kim HHMDP, Jeong CWMDP. Extended versus Standard Pelvic Lymph Node Dissection in Radical Prostatectomy on Oncological and Functional Outcomes: A Systematic Review and Meta-Analysis. *Annals of Surgical Oncology*. 2017;24(7):2047-2054. doi:<http://dx.doi.org/10.1245/s10434-017-5822-6>
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19. Du Y, Long Q, Guan B, et al. Robot-Assisted Radical Prostatectomy Is More Beneficial for Prostate Cancer Patients: A System Review and Meta-Analysis. *Med Sci Monit*. 2018/01 2018;24:272-287.
20. Fernando H, Garcia C, Hossack T, et al. Incidence, Predictive Factors and Preventive Measures for Inguinal Hernia following Robotic and Laparoscopic Radical Prostatectomy: A Systematic Review. *J Urol*. 06 2019;201(6):1072-1079. doi:10.1097/JU.000000000000133

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22. Ficarra V, Cavalleri S, Novara G, Aragona M, Artibani W. Evidence from Robot-Assisted Laparoscopic Radical Prostatectomy: A Systematic Review. *Review. European Urology.* 2007;51(1):45-56. doi:10.1016/j.eururo.2006.06.017
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24. Ficarra V, Novara G, Artibani W, et al. Retropubic, Laparoscopic, and Robot-Assisted Radical Prostatectomy: A Systematic Review and Cumulative Analysis of Comparative Studies. *Review. European Urology.* 2009;55(5):1037-1063. doi:10.1016/j.eururo.2009.01.036
25. Ficarra V, Novara G, Rosen RC, et al. Systematic review and meta-analysis of studies reporting urinary continence recovery after robot-assisted radical prostatectomy. *Review. European Urology.* 2012;62(3):405-417. doi:10.1016/j.eururo.2012.05.045
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27. García-Perdomo HA, Correa-Ochoa JJ, Contreras-García R, Daneshmand S. Effectiveness of extended pelvic lymphadenectomy in the survival of prostate cancer: a systematic review and meta-analysis. *Central European Journal of Urology.* 2018;71(3):262-269. doi:http://dx.doi.org/10.5173/cej.2018.1703

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30. Heer R, Raymond I, Jackson MJ, Soomro NA. A critical systematic review of recent clinical trials comparing open retropubic, laparoscopic and robot-assisted laparoscopic radical prostatectomy. Article. *Reviews on Recent Clinical Trials*. 2011;6(3):241-249. doi:10.2174/157488711796575513
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Published Literature. Article. European Urology. 2010;57(6):930-937.

doi:10.1016/j.eururo.2010.01.034

35. Kilminster S, Müller S, Menon M, Joseph JV, Ralph DJ, Patel HR. Predicting erectile function outcome in men after radical prostatectomy for prostate cancer. *BJU Int.* Aug 2012;110(3):422-6. doi:10.1111/j.1464-410X.2011.10757.x

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42. Li MX, Cheng P, Yao L, et al. Suprapubic tube compared with urethral catheter drainage after robot-assisted radical prostatectomy: A systematic review and meta-analysis. Article. *Asian journal of surgery*. 2019;42(1):71-80. doi:10.1016/j.asjsur.2018.08.004
43. Lim SK, Kim KH, Shin TY, Rha KH. Current status of robot-assisted laparoscopic radical prostatectomy: how does it compare with other surgical approaches? *Int J Urol*. Mar 2013;20(3):271-84. doi:10.1111/j.1442-2042.2012.03193.x
44. Lin YF, Lai SK, Liu QY, et al. Efficacy and safety of barbed suture in minimally invasive radical prostatectomy: A systematic review and meta-analysis. Review. *Kaohsiung Journal of Medical Sciences*. Mar 2017;33(3):107-115. doi:10.1016/j.kjms.2016.12.005
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treatment of localised prostate cancer: A systematic review and mixed treatment comparison meta-analysis. Article. *BJU International*. 2013;112(6):798-812. doi:10.1111/bju.12247

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69. Tewari A, Sooriakumaran P, Bloch DA, Seshadri-Kreaden U, Hebert AE, Wiklund P. Positive surgical margin and perioperative complication rates of primary surgical treatments for prostate cancer: A systematic review and meta-analysis comparing retropubic, laparoscopic, and robotic prostatectomy. *Review. European Urology.* 2012;62(1):1-15. doi:10.1016/j.eururo.2012.02.029
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72. Trinh QD, Bjartell A, Freedland SJ, et al. A Systematic Review of the Volume–Outcome Relationship for Radical Prostatectomy. *Eur Urol.* Nov 2013;64(5):786-98. doi:10.1016/j.eururo.2013.04.012
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APPENDIX D - INCLUDED STUDIES

Selected studies for analysis are listed below:

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Continence criteria	Cohort	1 month (%)				3 months (%)				6 months (%)				12 months (%)			
		Nr	Np	Mean	SE	Nr	Np	Mean	SE	Nr	Np	Mean	SE	Nr	Np	Mean	SE
1- Safety PAD	RRP	5	546	43.96	.88	14	1,002	63.8	.65	13	1,015	78.6	.46	20	4,277	90.9	.10
	LRP	1	1,004	37.73	.75	39	2,960	61.9	.35	26	2,764	68.8	.40	37	7,438	87.1	.12
	RARP	3	5,404	52.19	.23	45	7,592	74.7	.17	47	8,170	84.7	.14	62	12,707	90.7	.07
2- No PAD	RRP	2	4,460	41.33	.38	47	6,745	60.9	.23	38	7,813	75.7	.24	77	18,202	81.8	.09
	LRP	4	8,206	31.45	.20	85	19,637	64.4	.12	82	19,413	78.2	.09	10	25,813	85.3	.07
	RARP	7	12,489	34.95	.17	11	18,976	59.4	.17	10	17,273	77.1	.13	11	24,520	86.9	.07
3- No leak	RRP	3	1,174	32.82	.08	3	526	26.9	1.1	4	1,080	63.6	.93	15	4,436	76.4	.28
	LRP	8	1,186	49.66	.80	8	1,558	59.7	.49	5	998	76.3	.64	9	1,683	86.2	.34
	RARP	1	4,824	48.98	.09	6	1,601	82.4	.37	6	813	82.3	.72	9	3,610	84.2	.09

4- < 2 PAD	RRP	4	433	61.47	.76	9	1,989	81.8	.19	5	223	81.2	.28	11	2,593	94.4	.03
								7				4				8	
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	2	32	87.4	1.5
																7	7
	RARP	3	270	65.26	.31	4	1,370	79.9	.14	6	1,330	88.4	.07	5	1,174	92.5	.06
								1				9				4	
5- Not described	RRP	1	54	74.10	.00	1	55	54.6	.00	2	159	89.6	.42	5	10,79	81.3	.02
								0				8			6	2	
	LRP	3	442	43.17	.93	8	562	69.6	.88	5	529	82.5	.65	7	7,218	85.9	.04
							5				2				7		
	RARP	5	107	59.98	2.06	5	194	81.3	.57	3	81	89.8	.65	1	215	92.0	.00
								0				9				0	
6- UCLA-PCI baseline	RRP	2	256	49.91	.79	2	256	65.2	.22	3	391	61.0	1.15	2	256	57.8	1.5
								6				7				3	1
	LRP	2	169	27.66	.34	2	169	53.6	.09	2	169	69.0	.00	1	45	75.8	.00
								7			0				0		
	RARP	1	82	33.00	.00	3	171	56.3	.39	8	993	52.1	.77	5	822	59.2	.93
								7				0				4	
7- ICIQ-SF > 6	RRP	0	0	N.A.	N.A.	1	234	48.6	.00	2	810	68.7	.02	1	234	86.0	.00
								0				8				0	
	LRP	4	50	32.01	.69	4	50	50.0	1.37	4	50	70.0	1.03	0	0	N.A.	N.A.
								1			3				N.A.		
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	559	81.6	.00	0	0	N.A.	N.A.
												0			N.A.		
8- EPIC baseline	RRP	1	163	74.50	.00	1	163	83.8	.00	0	0	N.A.	N.A.	0	0	N.A.	N.A.
								0									
	LRP	1	490	40.60	.00	1	490	62.7	.00	0	0	N.A.	N.A.	1	490	73.8	.00
								0							0		
	RARP	2	253	48.19	1.94	2	253	59.3	1.96	1	90	35.9	.00	1	90	64.7	.00
								4				0				0	
9- HRQOL no bother	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	1,117	48.0	.00
																0	
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	885	50.0	.00
																0	
10- HRQOL baseline	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	372	63.0	.00	0	0	N.A.	N.A.
												0					
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.

11- Baseline	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	86	71.0	.00
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	93	70.7	.00
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
12- ICIQ-SF > 10	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	1	178	68.7	.00	1	178	86.5	.00	1	178	94.1	.00
13- ICIQ-SF > 11	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	1	152	62.7	.00	1	152	75.4	.00	1	152	88.2	.00
14- ICIQ-SF > 12	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	1	126	56.1	.00	1	126	62.7	.00	1	126	75.3	.00
15- ICIQ-SF > 5	RRP	0	0	N.A.	N.A.	1	146	53.8	.00	1	146	51.9	.00	1	146	91.2	.00
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
16- ICIQ-SF >7	RRP	0	0	N.A.	N.A.	1	199	47.3	.00	1	199	67.2	.00	1	199	85.1	.00
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
17- ICIQ-SF > 8	RRP	0	0	N.A.	N.A.	1	165	45.1	.00	1	165	63.5	.00	1	165	82.8	.00
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.

18- ICIQ-SF > 9	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	1	111	69.7	.00	1	111	88.6	.00	1	111	95.4	.00
19- ICS-SF baseline	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	54	87.0	.00	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	1	52	88.0	.00	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
20- PAD Test < 1g	RRP	1	131	40.00	.00	2	182	71.2	.33	4	248	67.7	.94	2	182	81.1	.13
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
21- PAD Test < 2g	RRP	2	94	10.66	.73	2	94	36.1	1.2	2	94	55.3	1.3	2	94	68.1	1.8
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	3	84	63.2	1.5
22- PAD Test < 8g	RRP	0	0	N.A.	N.A.	1	148	42.0	.00	0	0	N.A.	N.A.	1	148	12.8	.00
	LRP	0	0	N.A.	N.A.	2	57	34.7	.69	0	0	N.A.	N.A.	2	57	83.4	.56
	RARP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
23- PAD Test = 0g	RRP	1	116	42.00	.00	1	116	78.0	.00	2	216	85.6	.61	1	116	96.0	.00
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	1	64	69.00	.00	1	64	87.0	.00	1	64	95.0	.00	1	64	97.0	.00
24- ICS-SF = 0	RRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	LRP	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.
	RARP	1	30	100.0	.00	0	0	N.A.	N.A.	0	0	N.A.	N.A.	0	0	N.A.	N.A.

