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Table S1. Model input parameters. The renal cell carcinoma study population of patients with T1 RCC (n = 4,109) was categorized into 2,604; (63.4%) patients with tumours 0–40 mm and 1,505; (36.6%). patients with tumour sizes 41–70 mm. The data was extracted from The National Swedish Kidney Cancer Register [2018-2022](#).

	Base value	Lower bound	Higher bound
Proportion benign tumors (0–40mm)	23.2%	18.7%	27.7%
Proportion benign tumors (41–70mm)	10.4%	9.4%	11.3%
Risk of developing metastatic disease after false negative biopsy (0–40mm)	4.1%	N/A	14.7%
Risk of developing metastatic disease after false negative biopsy (41–70mm)	14.7%	N/A	34.2%

Source: *The National Swedish Kidney Cancer Register (NSKCR)*

Tabell S2. Sensitivity analysis, costs.

	Base value (euro)	10 th percentile (euro)	90 th percentile (euro)
Open nephrectomy without complication	13 777	8 552	25 843
Laparoscopic nephrectomy without complication	10 975	5 996	18 762
Laparoscopic nephrectomy, robot assisted, without complication	13 421	8 985	19 663
Open renal resection without complication	12 130	9 283	22 987
Laparoscopic renal resection without complication	15 061	9 424	21 420
Laparoscopic renal resection, robot assisted, without complication	12 016	8 974	16 480
Open nephrectomy with complication	17 308	10 013	44 150
Laparoscopic nephrectomy with complication	13 094	8 982	21 077
Laparoscopic nephrectomy, robot assisted, with complication	15 246	7 985	28 749
Open renal resection with complication	14 180	10 894	25 541
Laparoscopic renal resection with complication	16 529	10 227	33 429
Laparoscopic renal resection, robot assisted, with complication	13 013	6 487	18 957
Biopsy outpatient care*	996	373	1 963

Comment. In the sensitivity analysis, surgery costs vary between the 10th and 90th percentile and the biopsy costs vary between the median costs from the healthcare regions with highest and lowest costs respectively. * Median costs for the two health care regions with the lowest and highest biopsy costs respectively was used in the sensitivity analysis.

Table S3. Budget impact analysis from sensitivity analysis for tumour size 0-40mm and 41-70mm. Total costs vary with surgery cost, biopsy cost and proportion of benign tumours for each group of tumour size.

	Year 1 (2025)	Year 2 (2026)	Year 3 (2027)	Year 4 (2028)	Year 5 (2029)
<i>Budget impact analysis – Sensitivity analysis 0–40mm (euro)</i>					
Base case	-399 460	-472 500	-545 540	-618 580	-691 620
Lower surgery cost (p10)	-215 910	- 246 480	-277 060	-307 630	-338 210
Higher surgery cost (p90)	-710 540	-858 690	-1 006 850	-1 155 010	-1 303 170
Lower biopsy cost	-534 600	-647 420	-760 230	-873 040	-985 850
Higher biopsy cost	-195 670	-208 740	-221 810	-234 880	-247 950
Lower proportion of benign tumors (18.7%)	-274 350	-319 230	-364 110	-408 990	-453 870
Higher proportion of benign tumors (27.7%)	-524 570	-625 770	-726 970	-828 180	-929 380
Metastatic disease false negative biopsy (14.7%)	-358 040	-419 050	-480 060	-541 060	-602 070
Lower proportion of benign tumors and higher biopsy cost	-70 560	-55 470	-40 380	-25 280	-10 190
<i>Budget impact analysis – Sensitivity analysis 41–70mm (euro)</i>					
Base case	24 140	35 010	45 880	56 760	67 630
Lower surgery cost (p10)	71 610	95 620	119 630	143 640	167 650
Higher surgery cost (p90)	-68 840	-83 310	-97 790	-112 260	-126 730
Lower biopsy cost	-53 380	-65 520	-77 650	-89 790	-101 920
Higher biopsy cost	141 040	186 600	232 170	277 740	323 300
Lower proportion of benign tumors (9.4%)	37 720	52 250	66 790	81 330	95 870
Higher proportion of benign tumors (11.3%)	10 560	17 770	27 980	32 180	39 390
Metastatic disease false negative biopsy (34.2%)	75 660	101 290	127 110	152 930	178 750
Lower proportion of benign tumors and higher biopsy cost	154 610	203 850	253 080	302 310	351 540

Comment. p10, lower cost according to the 10th percentile; p90, higher cost according to the 90th percentile.