Table 1

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| --- | --- | --- | --- | --- | --- |
|  | **Compares (1)** | **Cancer site** | **Simulation period (years)** | **ICER per QALY (Threshold)** | **Sensitivity Analysis** |
| Carter *et al.* [[27](https://www.zotero.org/google-docs/?R6mb4J)] | 3D-CRT vs. IMRT | Prostate | 20 | $41,572 ($50,000) | One-way, Probabilistic |
| Vanneste *et al.* [[28](https://www.zotero.org/google-docs/?GVrQFk)] | IMRT vs. IMRT + spacer for rectal structures | Prostate | 5 | €55,880 (€80,000) | One-way |
| Raldow *et al.* [[29](https://www.zotero.org/google-docs/?MCAMut)] | Five treatment  policies (2) | Breast (DCIS) | 10 | 1 vs. 2) $1,119,81 1 vs. 3) Policy 1 is dominant. 1 vs. 4) $3,218,759 1 vs. 5) $553,616 ($100,000) | One-way, Two-way |
| Peters *et al.* [[30](https://www.zotero.org/google-docs/?Cuhl6i)] | Focal vs. Total SB | Prostate | 3 | Focal SB is dominant. | One-way, Probabilistic |
| Leung *et al.* [[31](https://www.zotero.org/google-docs/?6gIeo3)] | Three treatment policies (3) | Pancreas | 5 | 1 vs. 2) $903,915 1 vs. 3) $71,516 ($67,392) (4) | One-way, Probabilistic |
| Mailhot Vega *et al.* [[32](https://www.zotero.org/google-docs/?18zHkH)] | Photon vs. Proton RT | Breast | The authors consider 6 scenarios with different simulation periods; ICER is reported as a function of photon MHD for each scenario. (5) | | Probabilistic |
| Lobo *et al.* [[33](https://www.zotero.org/google-docs/?97LXwF)] | Three treatment policies (6) | Prostate | 10 | 1 vs. 3) $90,833 3 vs. 2) Policy 3 is dominant. ($50,000 to $100,000) | One-way, Probabilistic |
| Qu *et al.* [[34](https://www.zotero.org/google-docs/?aBhW7b)] | Postoperative vs. Preoperative RT (7) | Soft tissue sarcoma (STS) | 5 | Base case: Pre-op is dominant. IMRT: $1,751 Lower extremity: Pre-op is dominant. ($50,000) | One-way, Probabilistic |
| Qu *et al.* [[35](https://www.zotero.org/google-docs/?Dd4B0p)] | C-PCI vs. HA-PCI | Lung (Small Cell) | 8 | $47,107 ($100,000) | One-way, Two-way, Probabilistic |
| Lundqvist *et al.* [[36](https://www.zotero.org/google-docs/?GyXd39)] | Gold Anchor GFM vs. other GFMs | Prostate | 9 | Gold Anchor GFM is dominant. | One-way |
| De Bleser *et al.* [[37](https://www.zotero.org/google-docs/?BUfXJq)] | Three treatment  policies (8) | Prostate | 5 | 3 vs. 1) Policy 3 is dominant. 2 vs. 3) €11,374 (€40,000) | One-way, Probabilistic |
| Li *et al.* [[38](https://www.zotero.org/google-docs/?fBTldr)] | IMRT vs. IMPT | Head & Neck | 13 | $24,135 ($33,558) (9) | Probabilistic |

**Abbreviations:** ICER = Incremental Cost-Effectiveness Ratio; QALY = Quality Adjusted Life Years; RT = Radiation Therapy; 3D-CRT = 3-Dimensional Conformal Radiation Therapy; IMRT = Intensity-Modulated (Photon) Radiation Therapy; DCIS = Ductal Carcinoma In Situ; SB = Salvage Brachytherapy; MDH = Mean Heart Dose; HA-PCI = Hippocampal Avoidance - Prophylactic Cranial Irradiation; C-PCI = Conventional - Prophylactic Cranial Irradiation; GFM = Gold Fiducial Marker; IMPT = Intensity-Modulated Proton Radiation Therapy.  
(1) A vs. B, where B is more costly.  
(2) The treatment policies include 1) no testing, no RT; 2) no testing, RT only for high-grade DCIS; 3) no RT for low-grade DCIS, test for  
 intermediate- and high-grade DCIS, RT for intermediate- or high-risk scores; 4) test all, RT for intermediate- or high-risk scores; 5) no  
 testing, RT for all. ICERs are reported for policies 2–4 in comparison with 1.  
(3) The treatment policies include 1) gemcitabine alone; 2) gemcitabine plus intensity-modulated radiotherapy (IMRT); 3) gemcitabine plus  
 stereotactic body radiotherapy (SBRT). ICERs are reported for policies 2–3 in comparison with 1.  
(4) The ICERs and societal willingness-to-pay threshold are converted from New Taiwan (NT) dollars to US dollars with an exchange rate of  
 NT$1 = US$0.03333 in 2015.  
(5) The cohorts are identified by patients’ age (40, 50, or 60 years old) as well as the presence or lack of cardiac risk factors.  
(6) The treatment policies include 1) “usual care” adjuvant RT post radical prostatectomy; 2) complete (100%) adjuvant RT post radical  
 prostatectomy; 3) genomic classifier (GC)-based treatment decisions post radical prostatectomy.  
(7) The authors provide analysis results for three scenarios: base case, IMRT, and lower extremity. For base case and lower extremity  
 scenarios, post-op RT proves more costly and is dominated by pre-op RT. In the case of IMRT, pre-op RT is more costly but proves  
 cost-effective.  
(8) The treatment policies include 1) immediate Androgen Deprivation Therapy (ADP); 2) surveillance + delayed ADT; 3)

metastasis-directed therapy + delayed ADP.  
(9) The ICER and societal willingness-to-pay threshold are converted from the Chinese currency RMB to US dollars with an exchange rate of  
 US$1 = 6.47 RMB in 2021.

Table 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Compares** | **Cancer site** | **Utility Measure** | **Sensitivity Analysis** |
| Lester-Coll *et al.* [[39](https://www.zotero.org/google-docs/?oZjMH0)] | RT without HT vs. RT + 6 months  of HT vs. RT + 3 years of HT | Prostate | QALE | One-way, Probabilistic |
| Lester-Coll *et al.* [[40](https://www.zotero.org/google-docs/?U1gNKT)] | SRS vs. SRS + WBRT | Brain | QALE, QALM | One-way, Two-way, Probabilistic |
| Louie *et al.* [[41](https://www.zotero.org/google-docs/?3RhIUZ)] | Surveillance vs. PET scan-directed  SABR vs. PET scan-biopsy-SABR | Lung  (Non-small Cell) | Prior probability threshold | Probabilistic |
| Kelly *et al.* [[42](https://www.zotero.org/google-docs/?AsNYvt)] | No CRT vs. CRT only for leukemic involvement vs. CRT | Brain | LE, QALY | Probabilistic |
| de Geus *et al.* [[43](https://www.zotero.org/google-docs/?lo5VYI)] | Neoadjuvant chemoradiotherapy vs.  Upfront surgery followed by chemoradiotherapy | Pancreas | LE, QALE | One-way, Two-way, Probabilistic |
| Lobo *et al.* [[4](https://www.zotero.org/google-docs/?okdozX)4] | Adjuvant vs. Delayed salvage RT | Prostate | QOL, Recurrence, OS, QALY | One-way, Probabilistic |
| Sanyal *et al.* [[4](https://www.zotero.org/google-docs/?X5iXvO)5] | The authors consider different treatment policies for patients based on the level of risk at the time of diagnosis. (1) | Prostate | Lifetime direct  costs, QALY | Probabilistic |
| Wallis *et al.* [[4](https://www.zotero.org/google-docs/?czdlmB)6] | Adjuvant vs. Salvage RT | Prostate | QALE, LE | Probabilistic |
| Austin, *et al.* [[4](https://www.zotero.org/google-docs/?W54XcU)7] | Proton vs. X-ray RT | Brain (SBC) | QALY | None |
| Rinkel *et al.* [[4](https://www.zotero.org/google-docs/?WG5St8)8] | Neurosurgical vs. Radiosurgical vs. Conservative management | Brain (CCM) | QALY, Risk of  5-year recurrence | Probabilistic |
| [de Buck van Overstraeten](https://pubmed.ncbi.nlm.nih.gov/?term=de+Buck+van+Overstraeten+A&cauthor_id=32398412)  *et al.* [49] | Nonoperative management vs. Radical resection following neoadjuvant chemoradiotherapy | Rectum | LY, QALY | One-way, Two-way |
| Nair, *et al.* [[5](https://www.zotero.org/google-docs/?6pw6fw)0] | The authors develop multiple models  and consider seven post-RT surveillance policies for each model. (2) | Head & Neck | Recurrence detection time | None |

**Abbreviations:** QALE = Quality Adjusted Life Expectancy; QALM = Quality Adjusted Life Month; LE = Life Expectancy; QALY = Quality Adjusted Life Year; QOL = Quality of Life; OS = Overall Survival; LY = Life Years; HT = Hormonal Therapy; SRS = Stereotactic Radiation Surgery; WBRT = Whole-Brain Radiation Therapy; SABR = Stereotactic Ablative Radiotherapy; CRT = Cranial Radiation Therapy; RT = Radiation Therapy; SBC = Skull Base Chordoma; CCM = Cerebral Cavernous Malformations.   
(1) The treatment policies for low-risk patients include: Active Surveillance (AS) vs. Radical Prostatectomy (RP) vs. Brachytherapy (BT) vs.  
 Intensity-Modulated Radiation Therapy (IMRT). The treatment policies for patients at intermediate risk include: RP vs. IMRT vs. IMRT  
 + BT vs. IMRT + Androgen Deprivation Therapy (ADT). The treatment policies for high-risk patients include: RP vs. IMRT + ADT vs.  
 IMRT + ADT + BT.  
(2) The models differ based on HPV status (positive or negative) and the stage of the disease (III, IVA, or IVB). Each policy is composed of  
 a PET scan at month 3 (after the treatment) followed by a series (of 0 to 6) CT scans at fixed intervals.