Table B-2. Comparative study design and patient characteristics

| Study (year) | Study design(USPSTF rating) | RT modalities (n) | Treatment setting | Tumor setting | Age | Sex | AJCC stage | T classification | N classification |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Gupta (2012)1 | RCT(fair) | 3DCRT (28)IMRT (32) | CCRT | Hypopharynx3DCRT: 29%IMRT: 28%Larynx3DCRT: 18%IMRT: 19%Oropharynx3DCRT: 53%IMRT: 53% | 3DCRTMedian 55 years(range 33-65 years)IMRTMedian 51 years(range 31-65 years) | 3DCRT89% Male11% FemaleIMRT91% Male9% Female | 3DCRT18% I-II50% III32% IVIMRT22% I-II50% III28% IV | 3DCRT43% T1-T257% T3IMRT44% T1-T256% T3 | 3DCRT68% N0-N132% N2a-bIMRT66% N0-N134% N2a-b |
| Rathod (2013)2 | RCT(fair) | 3DCRT (28)IMRT (32) | CCRT | Hypopharynx3DCRT: 29%IMRT: 28%Larynx3DCRT: 18%IMRT: 19%Oropharynx3DCRT: 53%IMRT: 53% | 3DCRTMedian 55 years(range 33-65 years)IMRTMedian 51 years(range 31-65 years) | 3DCRT89% Male11% FemaleIMRT91% Male9% Female | 3DCRT18% I-II50% III32% IVIMRT22% I-II50% III28% IV | 3DRT43% T1-T257% T3IMRT44% T1-T256% T3 | 3DCRT68% N0-N132% N2a-bIMRT66% N0-N134% N2a-b |
| Al-Mamgani (2013)3 | ComparativeRetrospective(poor) | 3DCRT (65) IMRT (139) | CCRT | Oropharynx100% | Median 54 yearsa(range 40-84 years) | 69% Malea31% Female | 34% IIIa59% IVA7% IVB | 62% T3a33% T4a5% T4b | 34% N0a14% N14% N2a31% N2b12% N2c5% N3 |

| Table B-2. Comparative study design and patient characteristics (continued) |
| --- |
| Study (year) | Study design(USPSTF rating) | RT modalities (n) | Treatment setting | Tumor setting | Age | Sex | AJCC stage | T classification | N classification |
| Lambrecht (2013)4  | ComparativeRetrospective(poor) | 3DCRT (135)IMRT (110) | CCRT | Hypopharynx 3DCRT: 16%IMRT: 3%Larynx 3DCRT: 21%IMRT: 25%Nasopharynx3DCRT: 2%IMRT: 4%Oral cavity 3DCRT: 4%IMRT: 4%Oropharynx3DCRT: 56%IMRT: 40% | 3DCRTMean 57 yearsMedian 56 years(SD 9 years)IMRTMean 61 yearsMedian 60 years(SD 9 years) | 3DCRT86% Male14% FemaleIMRT85% Male15% Female | 3DCRT24% III76% IVIMRT18% III82% IV | 3DCRT7% T121% T233% T339% T4IMRT5% T117% T236% T342% T4 | 3DCRT14% N024% N14% N2a30% N2b26% N2c2% N3IMRT14% N010% N13% N2a30% N2b38% N2c5% N3 |
| Al-Mamgani (2012)5 | Comparative Retrospective(poor) | 3DCRT (62) IMRT (114) | RT ± CCT  | Hypopharynx100% | Median 60 yearsa (range 36-87 years) | 79% Malea21% Female | Not reported | 10% T1a31% T232% T320% T4a7% T4b | 24 % N0a17% N14% N2a30% N2b15% N2c10% N3 |
| Chen (2012)6 | Comparative Retrospective(poor) | 3DCRT (71) IMRT (84) | RT ± CCT  | Hypopharynx 3DCRT: 12%IMRT: 13% Larynx3DCRT: 12%IMRT: 13% Nasopharynx3DCRT: 7%IMRT: 10%Oropharynx3DCRT: 41%IMRT: 38%Unknown primary3DCRT: 10%IMRT: 12% | Median 56 years(range 21-93 years)3DCRT51% < 56 years49% > 56 yearsIMRT45% < 56 years55% > 56 years | 59% Malea41% Female | Not reported | 3DCRT10% T017% T120% T225% T328% T4IMRT12% T018% T119% T223% T329% T4 | Not reported |
| Al-Mamgani (2012)7 | Comparative Retrospective(poor) | 3DCRT (25) IMRT (57) | CCRT ± surgery | Paranasal sinus100% | Median 62 yearsa (range 28-86 years) | 67% Malea33% Female | Not reported | 9% T2a27% T337% T4a27% T4b | 87 % N0a13% N+ |
| Kruser (2013)8 | Comparative Prospective (poor) | 3DCRT (41)IMRT (137) | CCRT ± surgery | Hypopharynx Larynx Nasopharynx Oral cavityOropharynxUnknown primary | 3DCRTMedian 54 years (range 39-78 years)IMRTLINAC-IMRT: Median 53 years (range 36-77 years)Tomotherapy:Median 57 years (39-77 years) | 3DCRT75.6% Male24.4% FemaleIMRT78.8% Male22.2% Female | 11.8% IIIc88.2% IVa-b | 6.7% T0c16.3% T132.6% T225.3% T319.1% T4 | Not reported |
| Dirix (2010)9 | Comparative Prospective IMRTRetrospective 3DCRT(poor) | 3DCRT (41)IMRT (40) | Postoperative RT | Nasal cavity3DCRT: 5%IMRT: 15%Paranasal sinus3DCRT: 95%IMRT: 85% | 3DCRTMedian 61 years(range 37-85 years)IMRTMedian 63 years(range 37-84 years) | 3DCRT82.9% Male17.1% FemaleIMRT85.0% Male15.0% Female | Not reported | 3DCRT24.4% T256.1% T312.2% T4a7.3% T4bIMRT22.5% T247.5% T317.5% T4a12.5% T4b | 3DCRT100.0% N0IMRTNot reported |
| Guan (2013)10 | ComparativeRetrospective(poor) | 3DCRT (16)IMRT (43) | RT ± CCT ± surgery | Nasal cavity68%Paranasal sinus32% | Median 56 yearsa (range 19-83 years)63.7% ≤ 60 years37.3% > 60 years | 69.5% Malea30.5% Female | 5.1% Ia6.8% II16.9% III45.8% IVa28.8% IVb | 6.8% T1a10.2% T218.6% T340.7% T4a23.7% T4b | 69.4% N0a15.3% N111.9% N23.4% N3 |
| Kong (2013)11 | Comparative Retrospective(poor) | 3DCRT (30)IMRT (37) | RT ± CCT ± surgery | Hypopharynx3DCRT: 16.2%IMRT: 3.3%Larynx3DCRT: 13.5%IMRT: 13.3%Nasopharynx3DCRT: 8.1%IMRT: 33.3%Oral Cavity3DCRT: 40.5%IMRT: 33.3%Oropharynx3DCRT: 13.5%IMRT: 13.3%Paranasal sinus3DCRT: 8.1%IMRT: 3.3% | 3DCRTMedian 63 years(range 20-84 years)IMRTMedian 56 years(range 29-84 years) | 3DCRT70.3% Male29.7% FemaleIMRT73.3% Male26.7% Female | 3DCRT35.1% ≤ III64.9% ≥ IVAIMRT60.0% ≤ III40.0% ≥ IVA | 3DCRT8.2% T135.1% T229.7% T327.0% T4IMRT20.0% T156.7% T210.0% T313.3% T4 | 3DCRT40.5% N08.1% N148.6% N22.8% N3IMRT30.0% N023.3% N146.7% N20.0% N3 |
| Huang(2013)12 | ComparativeRetrospective(poor) | 3DCRT (53)IMRT (30) | RT ± CCT | Nasopharynx100% | 3DCRTMean 52.3 ± 13.9 years(range 18-78 years)IMRTMean 48.2 ± 14.0 years(range 19-78 years) | 3DCRT83% Male17% FemaleIMRT83.3% Male16.7% Female | Not reported | All included patients were enrolled with Nonmetastatic T4 lesions | 3DCRT22.6% N032.1% N143.4% N21.9% N3IMRT10.0% N023.3% N163.3% N23.3% N3 |
| Lohia (2014)13 | Comparative Retrospective (poor) | 3DCRT (56)IMRT (103) | RT ± CCT | Oropharynx100% | 3DCRTMedian 58.5 years(range 33-78 years)IMRTMedian 58.5 years(range 37-82 years) | 3DCRT80.4% Male19.6% FemaleIMRT85.4% Male14.6% Female | 3DCRT0% I5% II30% III21% IVIMRT0% I11% II65% III27% IV | 3DCRT8.9% T135.7% T219.6% T328.6% T4a7.1% T4bIMRT10.7% T147.6% T221.4% T312.6% T4a7.8% T4b | 3DCRT7.1% N019.6% N117.9% N2a21.4% N2b32.1% N2c1.8% N3IMRT9.7% N09.7% N19.7% N2a37.9% N2b27.2% N2c5.8% N3 |
| Mok(2014)14 | ComparativeRetrospective(poor) | 3DCRT (90)IMRT (91) | RT ± CCT | Hypopharynx100% | 3DCRTMedian 62 years(range 43-84 years)IMRTMedian 67 years(range 35-85 years) | 3DCRT84.0% Male16.0% FemaleIMRT81.0% Male19.0% Female | Not reported | 3DCRT46% T1-T254% T3-T4IMRT38% T1-T262% T3-T4 | 3DCRT58% N0-N2a42% N2b-N3IMRT37% N0-N2a63% N2b-N3 |
| Ozyigit (2011)15 | Comparative Retrospective(poor) | 3DCRT (27) SBRT (24) | rRT ± CCT  | Nasopharynx100% | Median 46 years(range 13-70 years)3DCRTb52% < 46 years48% ≥ 46 yearsSBRT42% < 46 years58% ≥ 46 years | 3DCRTb78% Male22% FemaleSBRT63% Male37% Female | 3DCRTb7% I (11% rI)30% II (11% rII)30% III (37% rIII)33% IV (41% rIV)SBRT8% I (21% rI)17% II (8% rII)46% III (25% rIII)29% IV (46% rIV) | 3DCRTb30% TI (15% rT2)18% T2 (7% rT2)26% T3 (37% rT3)26% T4 (41% rT4)SBRT29% TI (21% rT1)17% T2 (8% rT2)29% T3 (25% rT3)25% T4 (46% rT4) | Not reported |

**Abbreviations:** AJCC = American Joint Commission on Cancer; CCT = concurrent chemotherapy; CCRT = concurrent chemoradiotherapy; IMRT = intensity-modulated radiotherapy; RCT = randomized clinical trial; RT = radiotherapy; SBRT = stereotactic body radiotherapy; 3DCRT = three-dimensional conformal radiotherapy; USPSTF = United States Preventive Services Task Force.
aNo breakdown of the characteristic between treatment arms was provided.
bSix (22.2%) of patients in the 3DCRT treatment arm also received high-dose rate brachytherapy. As reported, these data do not reflect a discrimination between positive brachytherapy and negative brachytherapy subjects.

cNo breakdown of the characteristic between RT regimen was provided, however, it was reported that there was no significant difference between treatment arms.