

Whoon Jong Kil, MD

BIOGRAPHICAL

Name: Whoon Jong Kil

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EDUCATION and TRAINING

UNDERGRADUATE

Dates Attended	Name & Location of Institution	Degree Received & year	Major
1991-1997	Soonchunhyang University College of Medicine Asan-si, Korea	Bachelor of Medicine 1997	Medicine

GRADUATE

Dates Attended	Name & Location of Institution	Degree Received & year	Major
1998-2002	Aiou University School of Medicine Suwon, Korea	Master of Medicine 2002	Medicine

POSTGRADUATE

Dates Attended	Name & Location of Institution	Degree Received & year	Program director
03/1997 – 02/1998	Aiou University Hospital Suwon, Korea	PGY1 Internship Transitional 1998	Hee-Suk Ryu, MD
03/1998 – 02/2002	Ajou University Hospital Suwon, Korea	PGY 2- 5 Residency Radiation oncology 2002	Mison Chun, MD
04/2005 - 12/2005	Asan Medical Center Seoul, Korea	Fellowship Radiation oncology 2005	Eun Kyung Choi, MD

12/2005 – 12/2010	National Cancer Institute/NIH Bethesda, MD, USA	Fellowship Translational research 2010	Kevin Camphausen, MD
01/2012 – 12/2012	University of Florida Jacksonville, FL, USA	Fellowship Adult proton therapy 2012	Roi Dagon, MD

APPOINTMENTS and POSITIONS

ACADEMIC

Years Inclusive	Name & Location of Institution	Rank/Title
2015 – 2018	Case Western Reserve university School of Medicine Cleveland, OH USA	Clinical assistant professor
2023 - present	University of Pittsburgh School of Medicine Pittsburgh, PA USA	Clinical assistant professor

NON-ACADEMIC

2002 - 2005	Military Service	Medical Officer
2013 - 2018	Veterans Affairs Medical Center	Radiation oncologist
2018 - 2022	Wellspan Health	Radiation oncologist
2022 - present	UPMC North Central PA	Radiation oncologist

CERTIFICATION and LICENSURE

SPECIALTY CERTIFICATION:

Korean Society for Therapeutic Radiology and Oncology	Since 2002	active
American Board of Radiology	Since 2013	active

MEDICAL or OTHER PROFESSIONAL LICENSURE:

Medical license: Korea	Since 1997	active
Medical license: Florida	Since 2012	inactive
Medical license: Pennsylvania	Since 2022	active

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Korean Society for Therapeutic Radiology and Oncology	Since 1998	active
American Society of Radiation Oncology	Since 2005	active

American Board of Radiology	Since 2013	active
Senior Editor (palliative RT) in the journal of ACRO	Since 2024	active
Co-Chair Liver Radiation Oncology Pathway Committee	Since 2024	active

HONORS

Title of Award	Year
ASTRO Translational Research Symposium Travel Award	2008

PUBLICATIONS

1. ORIGINAL PEER REVIEWED ARTICLES

1. Oh YT, Park KJ, **Kil WJ**. Radiation effect on NO, NOS and TGF- β expression in rat lung. The journal of Korean Society for Therapeutic Radiology and Oncology. 2000;20(4):321-328. (PMID not available)
2. Chun M, Kang SH, **Kil WJ**, Oh YT. Radiation induced proctitis in rat and role of nitric oxide. The journal of the Korean Society of Therapeutic Radiology and Oncology. 2001;19(3):265-274. (PMID not available)
3. **Kil WJ**, Chun M, Kang S, Oh YT. Radiotherapy results in stage IIB uterine cervical cancer. The Journal of the Korean Society for Therapeutic Radiology and Oncology. 2001;19(4):345-352. (PMID not available)
4. **Kil WJ**, Ahn SD, Shin SS, Lee S, Choi EK, Kim JH, Son BH, Ahn S, Kim WK, Kim SB. Treatment-induced menstrual changes in very young (<35 years old) breast cancer patients. Breast Cancer Res Treat. 2006;96(3):245-50. PMID: 16555128.
5. **Kil WJ**, Kim DY, Kim TH, Park SJ, Kim SH, Park KW, Lee WJ, Shin KH, Park JW. Geometric shifting of the porta hepatis during posthepatectomy radiotherapy for biliary tract cancer. Int j Radiat Oncol Biol Phys. 2006;66(1):212-216. PMID: 16793215.
6. **Kil WJ**, Cerna D, Burgan WE, Beam K, Carter D, Steeg PS, Tofilon PJ, Camphausen K. In vitro and in vivo radiosensitization induced by DNA methylating agent temozolomide. Clin Cancer Res. 2008;14(3):931-938. PMID: 18245557.
7. Lee S, **Kil WJ**, Chun M, Jung YS, Kang SY, Kang SH, Oh YT. Chemotherapy-related amenorrhea in premenopausal women with breast cancer. Menopause. 2009;16(1):98-103. PMID: 18849877.
8. Park KJ, Oh YT, **Kil WJ**, Park W, Kang SH, Chun M. Bronchoalveolar lavage findings of radiation induced lung damage in rats. J Radiat Res. 2009;50(3):177-182. PMID: 19377267.
9. De Siervi A, De Luca P, Mouola C, Gueron G, Tongabi R, Chandramouli GV Heggerty I, Peterson D, Kawasaki E, **Kil WJ**, Camphausen K, Longo D, Gardner K. Identification of new

Rel/NF Kappa B regulatory networks by focused genome location analysis. *Cell Cycle*. 2009;18(13):2093-2100. PMID: 18502793.

10. Avondolgio D, Scott, T, **Kil WJ**, Sproull M, Tofilon P, Camphausen K. High throughput evaluation of gamma-H2AX. *Radiat Oncol*. 2009;24:4:31. PMID: 19703306.

11. **Kil WJ**, Tofilon P, Camphausen K. Post-radiation increase in VEGF enhances glioma cell motility in vitro. *Radiat Oncol*. 2012;22:7:25. PMID: 22356893.

12. Gordon I, Grave C, **Kil WJ**, Meushaw T, Tofilon P, Camphausen K. Radiosensitization by the novel DNA intercalating agent Vosaroxin. *Radiat Oncol*. 2012;27:7:25. PMID: 22369205.

13. **Kil WJ**, Nichols RC Jr., Hoppe BS, Morris CG, Marcus RB Jr., Mendenhall WM, Mendenhall NP, Li Z, Costa JA, Williams CR, Henderson RH. Hypofractionated passively scattered proton radiotherapy for low- and intermediate-risk prostate cancer is not associated with post-treatment testosterone suppression. *Act Oncol*. 2013;52(3):492-497. PMID: 23477360.

14. Tandle AT, Kramp T, **Kil WJ**, Halhore A, Gehlhaus K, Shankavaram U, Tofilon PJ, Caplen NJ, Camphausen K. Inhibition of polo-like kinase 1 in glioblastoma multiforme induces mitotic catastrophe and enhances radiosensitization. *Eur J Cancer*. 2013;49(14): 3020-3028. PMID 23790466.

14. **Kil WJ**, Mendenhall NP, Morris CG, Nichols RC Jr., Henderson R, Mendenhall WM, Bryant C, Williams C, Li Z, Hoppe BS. Patient-reported Hip symptoms following treatment with proton therapy for prostate cancer. *Int J Part Ther*. 2014;1(1):14-21.

15. **Kil WJ**, Kulasekera C, Derrwaldt R, Bugno J, Hatch C. Decreased radiation doses to tongue with “stick-out” tongue position over neutral tongue position in head and neck cancer patients who refused or could not tolerate an intraoral device (bite-block, tongue blade, or mouthpiece) due to trismus, gag reflex, or discomfort during intensity-modulated radiation therapy. *Oncotarget*. 2016; 167(33):53029-53036. PMID: 27447973.

16. **Kil WJ**, Kulasekera C, Hatch C, Bugno J, Derrwaldt R. Tongue-out versus tongue-in position during intensity-modulated radiotherapy for base of tongue cancer: Clinical implications for minimizing post-radiotherapy swallowing dysfunction. *Head Neck*. 2017; 39(8):E85-91. PMID: 28475284.

17. **Kil WJ**, Lee IJ, Pham T, Cho IH. Practical Heart sparing breast cancer radiation therapy using continuous positive airway pressure (CPAP) in resource-limited radiation oncology clinics. *Am J Clin Oncol*. 2019;42(10):797-801. PMID: 31503062.

18. Yun HS, Lee J, **Kil WJ**, Kramp TR, Tofilon PJ, Camphausen K. The radiosensitizing effect of AZD0530 in glioblastoma and glioblastoma stem-like cells. *Mol Cancer Ther*. 2021;20(9):1672-1679. PMID: 34158343.

19. **Kil WJ**. Rapid and durable symptom palliation with Quad shot radiation therapy to nonosseous metastatic/recurrent cancer in elderly or frail patients in a rural community clinic. *Adv Radiat Oncol*. 2021;7(2):100871. PMID: 35079665.
20. **Kil WJ**, Collins R, Branton S, Wilhite T, Eisaman SH. Breast-directed quad shot radiation therapy for effective breast symptoms palliation without interrupting or delaying systemic cancer therapy schedule in patients with neglected breast cancer. *Adv Radiat Oncol*. 2023;8(4):101229. PMID: 37132002.
21. **Kil WJ**, Smith W, Herndon C, Shipe W. Continuous positive airway pressure-assisted breathing with supine tangential left breast radiation therapy when deep inspiration breath-hold radiation therapy was ineffective or unsuitable: Clinical implications for an affordable heart-sparing breast radiation therapy to reduce the health care disparities in low-resource settings. *Adv Radiat Oncol*. 2024;9(6):101472. PMID: 38681888.
22. **Kil WJ**, Eisaman S, Wilke C, Mowery Y, Smith W, Herndon C, Cousins D. Pharyngeal constrictor-sparing stereotactic body radiation therapy with tongue-out for in-field recurrence after definitive radiation therapy for head & neck cancer: Guide to Tongue-out radiation therapy (TORT). *Practical Radiation Oncology*. 2024. PMID: 39047905.

2. OTHER PEER REVIEWED PUBLICATIONS

1. **Kil WJ**, Nichols RC Jr., Kilkenny JW, Huh SY, Ho MW, Gupta P, Marcus RB, Indelicato DJ. Proton therapy versus photon radiation therapy for the management of a recurrent desmoid tumor of the right flank: a case report. *Radiat Oncol*. 2012;26:7:178. PMID: 23098082.
2. **Kil WJ**, Camphausen K. Cyclical hypofractionated radiotherapy also known as “QUAD shot” alone using intensity-modulated radiotherapy for squamous cell carcinoma of the parotid gland in an 85-year-old patient with multiple comorbidities. *Head Neck*. 2017;39(4):E55-60. PMID 28170130.
3. **Kil WJ**, Pham T, Hossain S, Casaigne J, Jones K, Khalil M. The impact of continuous positive airway pressure on radiation dose to heart and lung during left-sided postmastectomy radiotherapy when deep inspiration breath hold technique is not applicable: a case report. *Radiat Oncol J*. 2018;36(1):79-84. PMID: 29506325.
4. **Kil WJ**, Pham T, Kim K. Heart sparing breast cancer radiotherapy using CPAP and conventional supine tangential fields: an alternative method for patients with limited accessibility to advanced radiotherapy techniques. *Acta Oncol*. 2019;58(1):105-109. PMID: 30106320.
5. **Kil WJ**. Novel use of CPAP permits heart- and lung-sparing mediastinal involved-site radiation therapy for patient with Hodgkin lymphoma in community clinic when deep inspiration breath hold technique is not available. *Pract Radiat Oncol*. 2019;9(3):142-146. PMID: 30731272

6. **Kil WJ**, Camphausen K, Cho IH. Clinical and radiobiological consideration of cyclical hypofractionated radiation therapy also known as Quad shot for neglected skin cancer disfiguring the face of a non-compliant patient who was refusing surgery and protracted radiation therapy: case report. *Radiat Oncol J*. 2019;37(2):143-148. PMID: 31266294.

3. OTHER NON-PEER REVIEWED PUBLICATIONS

1. **Kil WJ**. Shape of the Heart: A 68-year-old man with a primary cardiac non-Hodgkin lymphoma. *Int J Radiat Oncol Biol Phys*. 2020;106(3):460-461. PMID: 32014143.

2. **Kil WJ**. Rapid physical and emotional palliation from Quad shot radiotherapy to a frail elderly patient with stage IV parotid gland cancer-associated facial paralysis and pain when no other palliative intervention was available during COVID-19 pandemic. *Oral Oncol*. 2022;130:105930. PMID: 35617749.

3. **Kil WJ**, Eisaman SH, Barry P. In reply to Wada et L. *Adv Radiat Oncol*. 2023;8(5):101294. PMID: 37719311.

4. ABSTRACTS (not published in Scientific Journals)

1. ECCO 13th: The European Cancer Conference, Paris, France, 2005. Treatment induced menstrual changes in very young (<35 years old) breast cancer patients.

2. ASCO Gastrointestinal Cancer Symposium, San Francisco, CA, USA, 2006. Discrepancy of abdominal intrafraction organ movement between supine and prone position; Measurement using 4D-CT.

3. ECCO 14th: The European Cancer Conference, Barcelona, Spain, 2007. Enhancement of tumor cell radiosensitivity by the DNA methylating agent Temozolomide.

4. ASTRO's 50th annual meeting, Boston, MA, USA, 2008. The Src kinase inhibitor AZD0530 enhances response to radiation in glioma cell line.

5. 20th EORTC-NCI-AACR symposium. Geneva, Switzerland, 2008. Enhancement of invasion and migration with radiation-induced VEGF in glioma.

6. AACR 100th annual meeting, Denver, Colorado, USA, 2009. Enhancement of tumor cell radiosensitivity by novel functional class of thalidomide analogs.

7. ASTRO's Translation advances in radiation oncology and cancer imaging conference, St. Louis, MO, USA, 2009. Enhanced radiation response in human carcinoma cell lines by the cardiovascular drug hydralazine.

8. 32th CTRC-AACR San Antonio Breast Cancer Symposium. San Antonio, TX, USA, 2009. Increased radiation resistance of breast cancer cells by endocrine disrupting chemical bisphenol A.
9. Radiation research society 56th annual meeting. Maui, HI, USA, 2010. Inhibition of MGMT by letiracetam enhances temozolomide-induced radiosensitization in glioma.
10. ASTRO 51th annual meeting. San Diego, CA, USA, 2010. Radiation exposure of parotid gland during whole brain radiation therapy.
11. ASCR 102th annual meeting, Orland, FL, USA, 2011. Targeting Polo-like kinase 1 enhances radiosensitivity in glioma cancer cells.
12. The European multidisciplinary cancer congress (Joint meeting of ECCO 16th, ESMO 36th, and ESTRO 30th), Stockholm, Sweeden, 2011, Parotid gland irradiation during craniospinal plus brain boost treatment of pediatric brain tumor: a dosimetric evaluation.
13. ASTRO 53th annual meeting, Miami, FL, USA, 2011, Levatiracetam sensitized glioblastoma multiforme cells to temozolomide plus radiation therapy.
14. ASTRO 54th annual meeting, Boston, MA, USA, 2012, Hypofractionated passively scattered proton radiotherapy for low- and intermediate-risk prostate cancer is not associated with post-treatment testosterone suppression.
15. ASTRO 55th annual meeting, Atlanta, GA, USA, 2013, Patient-reported hip symptoms following treatment with proton therapy for prostate cancer.
16. Multidisciplinary Head and Neck symposium, Scottsdale, AZ, USA, 2016, Dosimetric comparison of oral cavity dose in different tongue position during IMRT for oropharyngeal cancer.
17. ASTRO 59th annual meeting, San Diego, CA, USA, 2017, Decreased radiation dose to swallowing oranges at risk during IMRT for base of tongue cancer: Clinical implication for minimizing post radiotherapy swallowing dysfunction.
18. ASTRO 60th annual meeting, San Antonio, TX, USA, 2018, Dosimetric benefits of continuously positive airway pressure instead of free-breathing during radiation therapy for breast cancer patients with favorable, unfavorable, and challenging cardiac-thoracic anatomy.
19. ASTRO 61th annual meeting, Chicago, IL, USA, 2019, Practical heart sparing left-breast radiation therapy using CPAP in resource-limited radiation oncology clinics.
20. ESTRO 2024 annual meeting, Glasgow, UK, 2024, CPAP-assisted breathing and supine tangent left breast RT when DIBH-RT was ineffective or unsuitable.

PROFESSIONAL ACTIVITIES

TEACHING

Medical Student Teaching:

1998 - 2002	Ajou University Hospital Suwon, Korea	Supervising and teaching general radiation oncology 10-20 students per year
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Resident Teaching:

2004 - 2005	National Cancer Center Il-San, Korea	Supervising and teaching general radiation oncology 5 residents
2015 - 2018	Veterans Affairs Medical Center Cleveland, OH	Supervising and teaching general radiation oncology 4 residents

Faculty Development Teaching:

1/5/2024	Visiting Professor Lecture: Rapid and durable symptoms palliation with Quad shot RT	UPMC North Central PA Over 50 learners, 1 hour
5/20/2024	e-Lecture: Quad shot RT for various symptoms palliation	UPMC Hillman cancer center 50-60 learners, 1 hour
8/7/2024	Create template of RT for Dupuytren's contracture	UPMC Hillman cancer center 50-60 learners

Mentoring:

2009	Mentoring a radiation oncology resident (Sunyoung Lee, MD) for writing manuscript	Manuscript being published in peer-reviewed journal: Chemotherapy-related amenorrhea in premenopausal women with breast cancer. PMID: 18849877.
2024	Mentoring a physician assistant school student (Emma Stinger) during her clinical rotation at radiation oncology clinic.	Mentoring general radiation oncology
2024	Mentoring Igor Poltinnikov, MD	Radiation Oncology Faculty promotion

RESEARCH

LIST of CURRENT RESEARCH INTERESTS

1. Mitigating radiation therapy-related dysphasia, oral mucositis and dysgeusia using Tongue-Out Radiation therapy for head & neck cancer patients
2. Durable local tumor control using breast-directed Quad shot radiation therapy for fungating skin-infiltrating breast cancer
3. Utilizing CPAP for radiation therapy for thoracic & abdominal malignancy.

INVITED SEMINARS AND LECTURESHIPS

2022	Heart-sparing left breast radiation therapy	Breast Cancer survivorship program, UPMC Hillman Cancer Center Williamsport, PA
2023	Urinary & Rectal Symptoms after Pelvic radiation therapy for prostate cancer	Prostate cancer survivorship program, UPMC Hillman Cancer Center Williamsport, PA

SERVICE

2024 - present	Member of UPMC RO portion committee	Mentorship subcommittee
2022 - present	Member of Clinical Pathway	Lung cancer, Breast cancer, Palliative care
2024 – present	Co-chair of Clinical Pathway	Liver cancer in GI clinical pathway
2024 – present	Associated editor for the Journal of ACRO (CURIE)	Palliative radiation therapy section
2022 - 2023	Volunteer to community garden	Growing vegetables in community garden to supply free foods to the low-income community residents Williamsport, PA
2022 - 2024	Volunteer to Little League Parade	Participating annual World Little League Welcome Parade as a team UPMC Williamsport, PA