CURRICULUM VITAE

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EDUCATION AND TRAINING

Undergraduate:

1977-1981	University of Vermont Burlington, Vermont	BA Zoology, Chemistry

Graduate:

1982-1986	University of Vermont College of Medicine Burlington, Vermont	MD

Post-Graduate:

1986-1987	Montefiore Hospital Pittsburgh, PA 15213	Medicine Internship – PGY 1
1987-1989	Montefiore Hospital Pittsburgh, PA 15213	Internal Medicine Residency PGY II – III
1989-1992	University of Pittsburgh Medical Center Hematology/Oncology Pittsburgh Cancer Institute	Fellowship PGY IV-VI
1992-1995	Allegheny General Hospital Pittsburgh, PA	Radiation Oncology Residency PGY VII - IX

APPOINTMENTS AND POSITIONS

Academic:

2017	University of Pittsburgh School of Medicine	Clinical Professor

2007	University of Pittsburgh School of Medicine	Clinical Associate Professor
2000	University of Pittsburgh School of Medicine	Clinical Assistant Professor
2000-2007	Radiation Oncology Residency Program Director University of Pittsburgh Cancer Institute, Department of Radiation Oncology	
1997 – 2000	Allegheny University of the Health Sciences MCP Hahnemann, School of Medicine Pittsburgh, PA	Assistant Professor
	Allegheny University of the Health Sciences MCP Hahnemann, School of Medicine Department of Radiation Oncology Pittsburgh, PA	Instructor

Non-Academic:

7/1995 – 9/2000	Allegheny Radiation Oncology 320 East North Avenue Pittsburgh, PA 15222
10/2000 – 2002	University of Pittsburgh Medical Center 200 Lothrop Street Pittsburgh, PA 15213
4/2002 – present	UPMC Cancer Centers Department of Radiation Oncology 5230 Centre Avenue Pittsburgh, PA 15232

CERTIFICATION AND LICENSURE

Certification:

1989	American Board of Internal Medicine
1991	American Board of Internal Medicine, Medical Oncology
1996	American Board of Radiology, Radiation Oncology

Licensure:

1989	PA #040064-E

PROFESSIONAL AND SCIENTIFIC SOCIETY MEMBERSHIPS

1995 Member, American Society of Therapeutic Radiology and Oncology
1995 Member, Pennsylvania Medical Society
1995 Member, Allegheny County Medical Society
2015 Member, Radiosurgery Society

HONORS

1981 BA Cum Laude
University of Vermont

1980 Phi Beta Kappa
University of Vermont

PUBLICATIONS

Referred Articles:

1. **Burton S.A.**, Brown D, Colonias A, Cohen, Miller R, Rooker G, Benoit R. Merlotti L, Quinn A, Kalnicki S. Salvage radiotherapy for prostate cancer recurrence following cryosurgical ablation. *Cancer* 1996 Apr 15;77(8)1501-4. (PMID: 8608536)

2. **Burton S.A.**, Chen A., Scicutella C., Brown D., Cohen J., Miller R., Rooker G., Merlotti L., Kalnicki S. Radiotherapy following cryosurgical ablation for adenocaricoma of the prostate. *American Society of Clinical Oncology*, Vol:16, P:1176, May, 1997.

3. **Burton SA**, Palijug WR, Kalnicki S, Werts ED. Hypothermia enhanced human tumor cell radiosensitivity. *Cryobiology* 1997 Aug; 35(1):70-8. (PMID: 9302769)

4. Gerszten P, Ozhasoglu C, **Burton S**, Kalnicki S, Welch W. Feasibility of Frameless Single-Fraction Stereotactic Radiosurgery for Spinal Lesions. *Neurosurg Focus*, 2002 Oct 15;Volume 13(4):e2 (PMID: 15771401)

5. Gerszten PC, Ozhasoglu C, **Burton SA**, Vogel WJ, Atkins BA, Kalnicki S, Welch WC. CyberKnife frameless single-fraction stereotactic radiosurgery for benign tumors of the spine. *Neurosurg Focus,* 2003 May 15;14(5):e16. (PMID: 15669812)

6. Gerszten PC, Ozhasoglu C, **Burton SA**, Welch WC, Vogel WJ, Atkins BA, Kalnicki S. CyberKnife frameless single-fraction stereotactic radiosurgery for tumors of the sacrum. *Neurosurg Focus*, 2003 Aug 15;15(2):E7. (PMID: 15350038)

7. Gerszten PC, Ozhasoglu C, **Burton SA**, Vogel W, Atkins B, Kalnicki S, Welch WC. Evaluation of CyberKnife frameless real-time image-guided stereotactic radiosurgery for spinal lesions. *Stereotact Funct Neurosurg.* 2003;81(1-4):84-9. (PMID: 14742969)

8. Gerszten PC, Ozhasoglu C, **Burton SA**, Vogel WJ, Atkins BA, Kalnicki S, Welch WC. CyberKnife Frameless Stereotactic Radiosurgery for Spinal Lesions: Clinical Experience in 125 Cases. *Neurosurgery* 2004 Jul, 55(1):89-98, 2004, discussion 98-9. Manuscript (PMID: 15214977)

9. Gerszten PC, Germanwala A, **Burton SA**, Welch WC, Ozhasoglu C, Vogel WJ: Combination kyphoplasty and spinal radiosurgery: a new treatment paradigm for pathological fractures. *Neurosurg Focus*. 2005 Mar 15;18(3):e8. (PMID: 15771398)

10. Bhatnagar AK, Gerszten PC, Ozhasoglu C, Vogel WJ, Kalnicki S, Welch WC, **Burton SA**: CyberKnife Frameless Radiosurgery for the Treatment of Extracranial Benign Tumors.. *Technol Cancer Res Treat* 2005 Oct; 4(5):571-6. (PMID: 16173828)

11. Gerszten PC, Germanwala A, **Burton SA**, Welch WC, Ozhasoglu C, Vogel WJ: Combination Kyphoplasty and Spinal Radiosurgery: a New Treatment Paradigm for Pathological Fractures. *J. Neurosurg: Spine* 2005 Oct; (3): 296-301. (PMID: 16266071)

12. Gerszten PC, **Burton SA**, Ozhasoglu C, Vogel WJ, Welch WC, Baar J, Friedland DM: Stereotactic Radiosurgery for Spinal Metastases from Renal Cell Carcinoma. *J. Neurosurg: Spine* 2005 Oct (3): 288-295. (PMID: 16266270)

13. Gerszten PC, **Burton SA**, Welch WC, Brufsky AM, Lembersky BC, Ozhasoglu, C, Vogel WJ: Single-Fraction Radiosurgery for the Treatment of Spinal Breast Metastases. *Cancer* 2005, Nov 15;104(10):2244-54. (PMID: 16216003)

14. Gerszten PC, **Burton SA**, Quinn AE, Agarwala SS, Kirkwood JM: Radiosurgery for the Treatment of Spinal Melanoma Metastases. *Stereotactic and Functional Neurosurgery* 2005; 83 (5-6): 213-21. (PMID: 16534253)

15. Brandner E, Wu A, Chen H, Heron DE, Kalnicki S, Komanduri K, Gerszten K, **Burton S**: Phase Lag Measurements of Abdominal Organs Relative to an External Marker Block Using Retrospective 4D CT Imaging. *Medical Physics* 2005, 32 (6): 1929

16. Voynov G, Heron DE, Lin CJ, **Burton S**, Chen A, Quinn A, Santos R, Colonias A, Landreneau RJ. Intraoperative I Vicryl Mesh Brachytherapy After Sublobar Resection for High-Risk Stage I Nonsmall Cell Lung Cancer. *Brachytherapy* 2005, (4): 278-285. (PMID: 16344258)

17. Gerszten PC, **Burton SA**, Belani CP, Ramalingam S, Friedland DM, Welch WC. Single fraction radiosurgery for the treatment of spinal metastases from lung cancer. *Journal of Neurosurger*y. 2005, 104(4):A667.

18. Brandner ED, Wu A, Chen H, Heron DE, Kalnicki S, Komanduri K, Gerszten K, **Burton S**, Ahmed I, Shou Z. Abdominal Organ Motion Measured Using 4D CT. *Int J Radiat Oncol Biol Phys* 2006 Jun; 65(2)554-60. (PMID: 16690437)

19. Voynov G, Heron DE, **Burton S**, Grandis J, Quinn A, Ferris R, Ozhasoglu C, Vogel W, Johnson J. Frameless stereotactic radiosurgery for recurrent head and neck carcinoma. *Technol Cancer Res Treat.* 2006 Oct;5(5):529-35. (PMID: 16981796)

20. Gerszten PC, **Burton SA**, Belani CP, Ramalingam S, Friedland DM, Ozhasoglu C, Quinn AE, McCue KJ, Welch WC. Radiosurgery for the Treatment of Spinal Lung Metastases. *Cancer* 2006 Dec 107 (11): 2653-61. (PMID: 17063501)

21. Gerszten PC, **Burton SA**, Ozhasoglu C, Welch WC. Radiosurgery for Spinal Metastases: Clinical Experience in 500 Cases From A Single Institution. *Spine* 2007 Jan, 32(2): 193-199. (PMID: 17224814)

22. Pennathur A, Luketich JD, **Burton SA**, Abbas G, Heron DE, Fernando HC, Gooding WE, Ozhasoglu C, Ireland J, Landreneau RJ, Christie NA. Stereotactic Radiosurgery for the Treatment of Lung Neoplasm: Initial Experience. *Ann Thorac Surg* 2007 May, 83:1820–5; discussion 1824-5. (PMID: 17462406)

23. Smith RP, Schuchert M, Komanduri K, **Burton S**, Heron DE, Luketich JD, d'Amato T, Landreneau R. Dosimetric evaluation of radiation exposure during I-125 vicryl mesh implants: implications for ACOSOG z4032. *Ann Surg Oncol*. 2007 Dec;14(12):3610-3. Epub 2007 Oct 2. (PMID: 17909906)

24. Gerszten PC, **Burton SA**, Ozhasoglu C, McCue KJ, Quinn AE. Radiosurgery for benign intradural spinal tumors. *Journal of Neurosurgery.* 106(4):A742, 2008 Apr, (PMID: 18496194)

25. Gerszten PC, **Burton SA**, Ozhasoglu C, McCue KJ, Quinn AE. Radiosurgery for benign intradural spinal tumors. *Neurosurgery*. 2008 Apr; 62 (4) 887-98; discussion 895-6. (PMID: 18496194)

26. Coon D, Gokhale AS, **Burton SA**, Heron DE, Ozhasoglu C, Christie N. Fractionated stereotactic body radiation therapy in the treatment of primary, recurrent, and metastatic lung tumors: the role of positron emission tomography/computed tomography-based treatment planning. *Clin Lung Cancer* 9(4):217-221, 2008 Jul, (PMID: 18650169)

27. Gerszten PC, **Burton SA**. Clinical Assessment Of Stereotactic IGRT: Spinal Radiosurgery. *Med Dosim.* 2008 Summer; 33(2):107-16. Epub 2008 Mar 31. (PMID: 18456162)

28. Ozhasoglu C, Saw CB, Chen H, **Burton S**, Komanduri K, Yue NJ, Huq SM, Heron DE. Synchrony-Cyberknife Respiratory Compensation Technology. *Med Dosim* 2008 Summer; 33(2):117-123. (PMID: 18456163)

29. Gerszten PC, **Burton SA**. Clinical assessment of stereotactic IGRT: spinal radiosurgery. Med Dosim. 2008 Summer; 33(2): 107-16. (PMID: 18456162)

30. Christie NA, Pennathur A, **Burton SA**, Luketich JD. Stereotactic radiosurgery for early stage non-small cell lung cancer: rationale, patient selection, results and complications. *Semin Thorac Cardiovasc Surg*. 2008 Winter; 20(4): 290-7. (PMID: 19251167) 29.

31. Gibbs IC, Patil C, Gerszten, PC, Adler JR Jr, **Burton SA**. Delayed radiation-induced myelopathy after spinal radiosurgery. Neurosurgery. 2009 Feb: 64 (2 Suppl): A67-72. (PMID: 19165076)

32. Pennathur A, Luketich JD, Heron DE, Abbas G, **Burton S**, Chen M, Gooding WE, Ozhasoglu C, Landreneau RJ, Christie NA. Stereotactic Radiosurgery for the Treatment of Stage I Non-small Cell Lung Cancer in High-risk Patients. *J Thorax Cardiovasc Surg* 137(3):597-604, 2009 Mar, (PMID: 19258073.)

33. Pennathur A, Luketich JD, Heron DE, Schuchert MJ, **Burton S**, Abbas G, Gooding WE, Ferson PF, Ozhasoglu C, Gilbert S, Landreneau RJ, Christie NA. Stereotactic radiosurgery for the treatment of lung neoplasm: experience in 100 consecutive patients. *Ann Thorac Surg.* 88(5):1594-600, 2009 Nov, (PMID: 19853118.)

34. Heron DE, Ferris RL, Karamouzis M, Andrade RS, Deeb EL, **Burton S**, Gooding W, Branstetter BF, Mountz JM, Johnson JT, Argiris A, Grandis JR, Lai SY. Stereotactic Body Radiotherapy for Recurrent Squamous Cell Carcinoma of the Head and Neck: Results of a Phase I Dose-Escalation Trial. *Int J Radiat Oncol Biol Phys.* 2009 Dec, 1:75(5):1493-500. (PMID: 19464819)

35. Rwigema JC, Heron DE, Ferris RL, Gibson M, Quinn A, Yang Y, Ozhasoglu C, **Burton S**. Fractionated Stereotactic Body Radiation Therapy in the Treatment of Previously-Irradiated Recurrent Head and Neck Carcinoma: Updated Report of the University of Pittsburgh Experience. *Am J Clin Oncol.* 2010 June 33(3):286-93. (PMID: 19875950)

36. Sanders MK, Moser AJ, Khalid A, Fasanella KE, Zeh HJ, Burton S, McGrath K. EUS-guided Fiducial Placement for Stereotactic Body Radiotherapy in Locally advanced and Recurrent Pancreatic Cancer. *Gastrointestinal Endoscopy.* 2010 Jun;71(7)1178-84. (PMID: 20362284)

37. Rwigema JC, Heron DE, Parikh SD, Zeh HJ 3rd, Moser JA, Bahary N, Ashby K, **Burton SA**. Adjuvant Stereotactic Body Radiotherapy for Resected Pancreatic Adenocarcinoma with Close or Positive Margins. *J Gastrointest Cancer*. 2010 Sep 1. [Epub ahead of print]. (PMID: 20809393)

38. Paravati AJ, Heron DE, Gardner PA, Snyderman C, Ozhasoglu C, Quinn A, **Burton SA**, Seelman K, Mintz AH. Combined Endoscopic Endonasal Surgery and Fractionated Stereotactic Radiosurgery (fSRS) for Complex Cranial Base Tumors-Early Clinical Outcomes. *Technol Cancer Res Treat* 8(5):489-498, 2010 Oct, (PMID: 20815420)

39. Wegner RE, Rodriguez KD, Heron DE, Hirsch BE, Ferris RL, **Burton SA**. Linac-based Stereotactic Radiation Therapy for Treatment of Glomus Jugulare Tumors. *Radio Oncol* ;97(3):395-398, 2010 Dec, (PMID: 20950881)

40. Torok J, Wegner RE, **Burton SA**, Heron DE**.** Stereotactic body radiation therapy for adrenal metastases: a retrospective review of a noninvasive therapeutic strategy. *Future Oncol*. 2011 Jan; 7(1):145-151. (PMID: 21174545)

41. Bria C, Wegner RE, Clump DA, Vargo JA, Mintz AH, Heron DE, **Burton SA**. Fractionated stereotactic radiosurgery for the treatment of meningiomas. *J Cancer Res Ther*, 2011 Jan-Mar;7(1):52-7. (PMID: 21546743)

42. Rwigema JC, Parikh SD, Heron DE, Howell M, Zeh H, Moser AJ, Bahary N, Quinn A, **Burton SA**. Stereotactic Body Radiotherapy in the Treatment of Advanced Adenocarcinoma of the Pancreas. *Am J Clin Oncol.* 2011 Feb; 34(1):63-9. (PMID: 20308870)

43. Heron DE, Rwigema JC, Gibson MK, **Burton SA**, Quinn AE, Ferris RL. Concurrent Cetuximab With Stereotactic Body Radiotherapy for Recurrent Squamous Cell Carcinoma of the Head and Neck: A Single Institution Matched Case-Control Study. Am *J Clin Oncol.* 2011 Apr; 34(2):165-72. (PMID: 20686406)

44. Haley ML, Gerszten PC, Heron DE, Chang Y-F, Atteberry DS, **Burton SA**. Efficacy and cost-effectiveness analysis of external beam and stereotactic body radiation therapy in the treatment of spine metastases: a matched-pair analysis. *J Neurosurg Spine* 2011 Apr; 14(4):537-542. (PMID: 21314284)

45. Torok JA, Wegner RE, Mintz AH, Heron DE, **Burton SA**. Re-irradiation with Radiosurgery for Recurrent Glioblastoma Multiforme, *TCRT*, 2011 Jun; 10(3):253-258. (PMID: 2157131)

46. Rwigema JC, Heron DE, Ferris RL, Andrade RS, Gibson MK, Yang Y, Ozhasoglu C, Argiris AE, Grandis JR, **Burton SA**. The Impact of Tumor Volume and Radiotherapy Dose on Outcome in Previously Irradiated Recurrent Squamous Cell Carcinoma of the Head and Neck Treated With Stereotactic Body Radiation Therapy. *Am J Clin Oncol* 2011 Aug; 34(4):372-9. (PMID: 20859194)

47. DeFoe SG, Bernard ME, Rwigema J-C, Heron DE, Ozhasoglu C, **Burton S**. Stereotactic body radiotherapy for the treatment of presacral recurrences from rectal cancers. *J Cancer Res Therapeutics* Oct-Dec 2011;7:408-411. (PMID: 22269400)

48. Vargo JA, Wegner RE, Heron DE, Ferris RL, Rwigema JC, Quinn A, Gigliotti P, Ohr J, Kubicek GJ, **Burton S**. Stereotactic body radiation therapy for locally recurrent, previously irradiated nonsquamous cell cancers of the head and neck. *Head Neck.* 2011 Nov 11. (PMID:22076812)

49. Rwigema J-C M, Wegner RE, Mintz AH, Paravati AJ, **Burton SA**, Ozhasoglu C, Heron DE. Stereotactic Radiosurgery to the Resection Cavity of Brain Metastases: A Retrospective Analysis and Literature Review. *Stereo Funct Neuro* 89(6):329-337, 2011 (PMID: 22005839)

50. Rwigema JC, Wegner RE, Mintz AH, Paravati AJ, **Burton SA**, Ozhasoglu C, Heron DE. Stereotactic radiosurgery to the resection cavity of brain metastases: a retrospective analysis and literature review. *Stereotact Funct Neurosurg*. 2011;89(6):329-37. Epub 2011 Oct 14. (PMID:22005839)

51. Patel VB, Wegner RE, Heron DE, Flickinger JC, Gerszten P, **Burton SA**. Comparison of Whole versus Partial Vertebral Body Stereotactic Body Radiation Therapy for Spinal Metastases. *Technol Cancer Res Treat.* 2012 Apr;11(2):105-15. (PMID: 22335404)

52. Bernard ME, Wegner RE, Reineman K, Heron DE, Kirkwood J, **Burton SA**, Mintz AH. Linear accelerator based stereotactic radiosurgery for melanoma brain metastases. *J Cancer Res Ther.* 2012 Apr-Jun;8 (2):215-21. (PMID:22842364)

53. Heron DE, Rajagopalan MS, Stone B, **Burton S**, Gerszten PC, Dong X, Gagnon GJ, Quinn A, Henderson F. Single-session and multisession CyberKnife radiosurgery for spine metastases-University of Pittsburgh and Georgetown University experience. *J Neurosurg Spine*. 2012 May 11. [Epub ahead of print] (PMID:22578235)

54. Vargo JA, Heron DE, Ferris RL, Rwigema JC, Wegner RE, Kalash R, Ohr J, Kubicek GJ, **Burton S.** Prospective evaluation of patient-reported quality-of-life outcomes following SBRT±cetuximab for locally-recurrent, previously-irradiated head and neck cancer. *Radiother Oncol.* 2012 Jun 5. [Epub ahead of print] (PMID:22677037)

55. Leeman JE, Clump DA, Wegner RE, Heron DE, **Burton SA**, Mintz AH. Prescription dose and fractionation predict improved survival after stereotactic radiotherapy for brainstem metastases. *Radiat Oncol*. 2012 Jul 11;7:107. (PMID:22784482) [PubMed - in process]

56. Olson AC, Wegner RE, Rwigema JC, Heron DE, **Burton SA**, Mintz AH. Clinical outcomes of reirradiation of brain metastases from small cell lung cancer with Cyberknife stereotactic radiosurgery. *J Cancer Res Ther.* 2012 Jul-Sep;8(3):411-6. (PMID:23174724)

57. Horne ZD, Clump DA, Shah S, Vargo JA, **Burton SA**, Christie NA, Schuchert MJ, Landreneau RJ, Luketich JD, Heron DE. Pretreatment SUVmax as a Marker for Progression-Free Survival in Stage I NSCLC Treated With SBRT. Pract Radiat Oncol. 2013 Apr-Jun;3(2 Suppl 1):S3-4. Epub 2013 Mar 25. PMID: 24674539.

58. Horne ZD, Clump DA, Shah S, Vargo JA, Burton SA, Christie NA, Schuchert MJ, Landreneau RJ, Luketich JD, Heron DE. Pretreatment SUVmax as a Marker for Progression-Free Survival in Stage I NSCLC Treated With SBRT. Pract Radiat Oncol. 2013 Apr-Jun;3(2 Suppl 1):S3-4. Epub 2013 Mar 25. (PMID:24674539)

59. Vargo JA, Heron DE, Ferris RL, Rwigema JC, Kalash R, Wegner RE, Ohr J, **Burton S**. Examining tumor control and toxicity following stereotactic body radiotherapy in locally-recurrent, previously-irradiated head-and-neck cancers: Implications of treatment duration and tumor volume. Head Neck. 2013 Aug 22. doi: 10.1002/hed.23462. [Epub ahead of print] PMID: 24038398

60. Vargo JA, Kubicek GJ, Ferris RL, Duvvuri U, Johnson J, DO JO, Clump DA, **Burton S**, Heron DE. Adjuvant stereotactic body radiotherapy ± cetuximab following salvage surgery in previously-irradiated head-and-neck cancer. Laryngoscope. 2013 Oct 1. doi: 10.1002/lary.24441. [Epub ahead of print] PMID: 24123056.

61. Kim CH, Ling DC, Wegner RE, Flickinger JC, Heron DE, Zeh H, Moser AJ, **Burton SA**. Stereotactic body radiotherapy in the treatment of pancreatic adenocarcinoma in elderly patients. *Radiat Oncol.* 2013 Oct 16;8:240. (PMID:24131503)

62. Rajagopalan MS, Heron DE, Wegner RE, Zeh HJ, Bahary N, Krasinskas AM, Lembersky B, Brand R, Moser AJ, Quinn AE, **Burton SA**. Pathologic response with neoadjuvant chemotherapy and stereotactic body radiotherapy for borderline resectable and locally-advanced pancreatic cancer. *Radiat Oncol.* 2013 Oct 31;8:254. (PMID:24175982)

63. Leeman JE, Clump DA, Flickinger JC, Mintz AH, **Burton SA**, Heron DE. Extent of perilesional edema differentiates radionecrosis from tumor recurrence following stereotactic radiosurgery for brain metastases. *Neuro Oncol.* 2013 Dec;15(12):1732-8. (PMID:24243914)

64. Horne ZD, Clump DA, Vargo JA, Shah S, Beriwal S, **Burton SA**, Quinn AE, Schuchert MJ, Landreneau RJ, Christie NA, Luketich JD, Heron DE. Pretreatment SUVmax predicts progression-free survival in early-stage non-small cell lung cancer treated with stereotactic body radiation therapy. *Radiat Oncol.* 2014 Jan 30;9:41. (PMID:24479954)

65. Vivas EX, Wegner R, Conley G, Torok J, Heron DE, Kabolizadeh P, **Burton S**, Ozhasoglu C, Quinn A, Hirsch BE. Treatment Outcomes in Patients Treated With CyberKnife Radiosurgery for Vestibular Schwannoma. *Otol Neurotol*. 2014. Jan;35(1):162-70. PMID: 24335934

66. Davis KS, Vargo JA, Ferris RL, **Burton SA**, Ohr JP, Clump DA, Heron DE. Stereotactic body radiotherapy for recurrent oropharyngeal cancer - influence of HPV status and smoking history. *Oral Oncol.* 2014 Nov;50(11):1104-8. Epub 2014 Aug 28. PMID: 25175942.

67. Ling DC, Vargo JA, Wegner RE, Flickinger JC, **Burton SA**, Engh J, Amankulor N, Quinn AE, Ozhasoglu C, Heron DE. Postoperative stereotactic radiosurgery to the resection cavity for large brain metastases: clinical outcomes, predictors of intracranial failure, and implications for optimal patient selection. Neurosurgery. 2015 Feb;76(2):150-6; discussion 156-7; quiz 157. PMID: 25549189.

68. Holt DE, Gill BS, Clump DA, Leeman JE, **Burton SA**, Amankulor NM, Engh JA, Heron DE. Tumor bed radiosurgery following resection and prior stereotactic radiosurgery for locally persistent brain metastasis. Front Oncol. 2015 Apr 8;5:84.

69. Wegner RE, Leeman JE, Kabolizadeh P, Rwigema JC, Mintz AH, **Burton SA**, Heron DE. Fractionated Stereotactic Radiosurgery for Large Brain Metastases. *Am J Clin Oncol.* 2015 Apr 38(2): 135-9. (PMID: 23563213)

70. Gill BS, Clump DA, **Burton SA**, Christie NA, Schuchert MJ, Heron DE. Salvage stereotactic body radiotherapy for locally recurrent non-small cell lung cancer after sublobar resection and i(125) vicryl mesh brachytherapy. Front Oncol. 2015 May 11;5:109.

71. Quan K, Xu KM, Lalonde R, Horne ZD, Bernard ME, McCoy C, Clump DA, **Burton SA**, Heron DE. Treatment Plan Technique and Quality for Single-Isocenter Stereotactic Ablative Radiotherapy of Multiple Lung Lesions with Volumetric-Modulated Arc Therapy or Intesity-Modulated Radiosurgery. Front Oncol. 2015 Oct 6;5:213.

72. Li T, Ozhasoglu C, **Burton S**, Flickinger J, Heron DE, Huq MS. A method to improve dose gradient for robotic radiosurgery. J Appl Clin Med Phys. 2015 Nov 8;16(6):5748.

73. Pennathur A, Luketich JD, Heron DE, Schuchert MJ, Bianco V, Clump D, **Burton S,** Abbas G, Gooding WE, Ozhasoglu C, Landreneau RJ, Christie NA. Stereotactic Radiosurgery/Stereotactic Body Radiotherapy for Recurrent Lung Neoplasm: An Analysis of Outcomes in 100 Patients. Ann Thorac Surg. 2015 Dec; 100(6):2019-24.

74. Quan K, Xu KM, Lalonde R, Horne ZD, Bernard ME, McCoy C, Clump DA, **Burton SA**, Heron DE. Treatment Plan Technique and Quality for Single-Isocenter Stereotactic Ablative Radiotherapy of Multiple Lung Lesions with Volumetric-Modulated Arc Therapy or Intensity-Modulated Radiosurgery. Front Oncol. 2015 Oct 6;5:213.

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76. Quan K, Xu KM, Zhang Y, Clump DA, Flickinger JC, Lalonde R, **Burton SA**, Heron DE. Toxicities Following Stereotactic Ablative Radiotherapy Treatment of Locally-Recurrent and Previously Irradiated Head and Neck Squamous Cell Carcinoma. Semin Radiat Oncol. 2016 Apr;26(2): 112-9.

77. Jang SY, Lalonde R, Ozhasoglu C, **Burton S**, Heron D, Huq MS. Dosimetric comparison between cone/Iris-based and InCise MLC-based CyberKnife plans for single and multiple brain metastases. J Appl Clin Med Phys. 2016 Sep 8; 17(5):6260.

78. Holt DE, Bernard ME, Quan K, Clump DA, Engh JA**, Burton SA**, Heron DE. Salvage stereotactic radiosurgery for recurrent glioblastoma multiforme with prior radiation therapy. J Cancer Res Ther. 2016 Oct-Dec; 12(4): 1243-1248.

79. Sutera PA, Bernard ME, Gill BS, Harper KK, Quan K, Bahary N, **Burton SA**, Zeh H, Heron DE. One vs. Three-Fraction Pancreatic Stereotactic Body Radiation Therapy for Pancreatic Carcinoma: Single Institution Retrospective Review. Front Oncol. 2017 Nov 14;7:272.

80. Horne ZD, Richman AH, Dohopolski MJ, Clump DA, **Burton SA**, Heron DE. Stereotactic Body Radiation Therapy for isolated hilar and mediastinal non-small cell lung cancers. Lung Cancer. 2018 Jan; 115:1-4.

81. Sutera P, Bernard ME, Wang H, Bahary N, **Burton S**, Zeh H, Heron DE. Stereotactic Body Radiation Therapy for Locally Progressive and Recurrent Pancreatic Cancer after Prior Radiation. Front Oncol. 2018 Mar 7;8:52.

82. Dohopolski MJ, Horne Z, Clump D, **Burton SA**, Heron DE. Stereotactic Body Radiation Therapy for Pulmonary Oligometastases Arising from Non-lung Primaries in Patients Without Extrapulmonary Disease. Cureus. 2018 Feb 7;10(2):e2167.

83. Horne ZD, Dohopolski MJ, Clump DA, **Burton SA**, Heron DE. Thoracic reirradiation with SBRT for residual/recurrent and new primary NSCLC within or immediately adjacent to a prior high-dose radiation field. Pract Radiat Oncol. 2018 May-Jun;8(3):e117-123.

84. Kalash R, Glaser SM, Flickinger JC, **Burton S**, Heron DE, Gerzten PC, Engh JA, Amankulor NM, Vargo JA. Stereotactic body radiation therapy for benign spine tumors: is dose de-escalation appropriate? J Neurosurg Spine. 2018 May 25:1-6.

85. Initial Results of a Multicenter Phase 2 Trial of Stereotactic Ablative Radiation Therapy for Oligometastatic Cancer. Sutera P, Clump DA, Kalash R, D'Ambrosio D, Mihai A, Wang H, Petro DP, Burton SA, Heron DE. Int J Radiat Oncol Biol Phys. 2019 Jan 1; 103 (1):116-122.

86. Salvage Curative-Intent Reirradiation Stereotactic Body Radiation Therapy for Isolated Pelvic and/or Paraortic Recurrences of Gynecologic Malignancies. Ling DC, Vargo JA, Burton SA, Heron DE, Beriwal S. Pract Radiat Oncol. 2019 Nov;9(6):418-425.

87. Long term outcomes with linear accelerator stereotactic radiosurgery for treatment of jugulotympanic paragangliomas. Patel AK, Rodriguez-Lopez JL, Hirsch BE, Burton SA, Flickinger JC, Clump DA. Head Neck. 2020 Oct 13.

Reviews:

1. Gerszten PC, **Burton SA**, Ozhasoglu C. CyberKnife radiosurgery for spinal neoplasms. *Prog Neurol Surg.* 2007;20:340-58. Review. (PMID: 17318002)

2. Flickinger JC, **Burton S**. Radiotherapy of cranial nerve Schwannomas. *Prog Neurol Surg*. 2008: 21: 238-46 (Review) (PMID: 18810225)

Book Chapter:

1. Gerszten PC, **Burton SA**, Ozhasoglu C, Vogel WJ, Quinn AE. CyberKnife spinal radiosurgery: A successful treatment option for spinal tumors. In *Pioneering Techniques in Robotic Surgery*. Edited by RF Mould. Sunnyvale, CA, The CyberKnife Society Press, 2005, pp. 171-186.
2. Gerszten PC, **Burton SA**, Ozhasoglu C. Cyberknife Radiosurgery for Spinal Neoplasms. *Progress in Neurological Surgery*, 2007, 20: pp. 340-358

3. Gerszten PC, **Burton SA**. Radiosurgery for Spinal Metastases. In Gerszten PC, Ryu S (eds). *Spine Radiosurgery*. New York, Thieme Publishers, 2008, pp 82-90.
4. Haley M, Gerszten P, **Burton S**. The Role of Radiosurgery in the Treatment of Bone Localized Cancers. *Bone and Cancer*, volume 5 of *Topics in Bone Biology*, Springer, 2009.

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19. Wu A, Brandner E, Chen H, Heron DE, Henning G, Gerszten K, **Burton S**, Kalnicki S: Studies of Organ Motion Resulting from Respiration by 4D CT Imaging – 2004 ICRR Abstract May 2004, Seoul,

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20. Agarwal A, **Burton SA**, Kalnicki S, Gerszten PC: CyberKnife Stereotactic Radiosurgery: Response and Toxicity in a Series of 291 Lesions Accepted Poster 2004 ASCO Abstracts June 5-8, 2004 New Orleans, LA

21. Gerszten PC, Welch WC, **Burton S**, Ozhasoglu C. CyberKnife spinal radiosurgery: A new treatment modality for spinal neoplasms. Annual Meeting of the Pennsylvania Neurosurgical Society, Hershey, PA, July 17, 2004.

22. Wu A, Chen H, Heron DE, Kalnicki S, Henning G, Gerszten K, **Burton S**, Ahmed I: Quantitative Studies of Abdominal Organ Motions Resulting from Respiration Using Retrospective 4D CT Imaging – Abstract Poster for AAPM, July 25-29, 2004, Pittsburgh, PA, Presenting Author, Brandner E

23. Gerszten PC, Agarwal A, Ozhasogul CW, Vogel WJ, Kalnicki S, Welch WC, **Burton SA**: CyberKnife Frameless Radiosurgery for the Treatment of Benign Tumors – Accepted Poster, ASTRO, October 3-7, 2004, Atlanta, GA, Presenting Author Bhatnagar A

24. Wu A, Chen H, Heron D, Kalnicki S, **Burton S**: Lung Tumor Motion Measured Using Retrospective 4D CT and Correlated with Tumor Location and Attachment – Accepted Poster Discussion, ASTRO, October 3-7, 2004, Atlanta, GA, Presenting Author Brandner E

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26. Agarwal, A, **Burton SA**, Duvvuri U, Gerszten PC, Kalnicki S, Heron DE, Johnson J: CyberKnife Stereotactic Radiotherapy for the Treatment of Advanced Head and Neck Tumors, Accepted Poster for the 2004 Malignancies of the Chest and Head & Neck Conference, October 7-9, 2004, Chicago, IL

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Surgeons and Congress of Neurological Surgeons Section on Disorders of the Spine and Peripheral Nerves. Phoenix, AZ. March 10, 2005.

32. Extracranial Stereotactic Radiosurgery Immobilization Experience in Over 500 Cases - Vogel II WJ, Gerszten PC, Ozhasoglu C, **Burton SA**, Quinn A – Accepted Poster, CyberKnife User's Meeting, January 27-30, 2005, Half Moon Bay, CA

33. Voynov G, **Burton S**, Gerszten PC, Ozhasoglu C, Vogel W, Quinn A, Johnson J, Heron DE: Frameless Stereotactic Radiosurgery for Recurrent Squamous Cell Carcinoma of the Head and Neck Region – Accepted Poster, ARS 87th Meeting, Barcelona Spain, April 30 – May 4, 2005

34. Brandner E, Wu A, Chen H, Heron DE, Kalnicki S, Komanduri K, Gerszten K, **Burton S**: Phase Lag Measurements of Abdominal Organs Relative to an External Marker Block Using Retrospective 4D CT Imaging. Accepted Poster, AAPM 2005, July 24-28, Seattle, WA

35. Voynov G, Gerszten PC, Ozhasoglu1 C, Vogel W, Quinn A, **Burton S**: Repeat Stereotactic Radiosurgery for Spinal Lesions: Lessons Learned - Accepted Poster for the Pennsylvania Radiological Society, September 23-24, 2005

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38. Pennathur A, **Burton S**, Luketich JD, Abbas G, Fernando HC, Heron DE, Ireland J, Landreneau R, Christie NA: Stereotactic Radio Surgery (SRS) for the Treatment of Lung Neoplasm –Accepted Oral Presentation for the Southern Thoracic Surgical Association (STSA), November 10-12, 2005, Orlando, Florida

39. Smith RP, Komanduri, K, **Burton, S**, Heron, DE, Chen H, Zhuo Z, Li F, Landreneau RJ: Dosimetric Evaluation of Physicians and Staff Radiation Exposure During ^{125}I Vicryl Mesh Implants –Accepted Poster for the RSNA 91ST Annual Meeting, November 27-December 2, 2005, Chicago, Illinois

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47. Parikh SD, **Burton SA**, Heron DE, Zeh HJ, Moser AJ, Bahary N, Lembersky BC, Ozhasoglu C, Quinn A. Stereotactic Radiosurgery in Patients with Resected Pancreatic Positive Margins. Poster American Society for Therapeutic Radiology and Oncology (ASTRO), Boston, MA September 21-25, 2008 72(1):S272-S273.

48. Single Versus Multi-fraction Radiosurgery for Metastatic Spine Tumors: Results from a Multi-institutional Study. Heron DE, **Burton SA**, Gerszten PC, Mintz A, Dong XX, Quinn AE, Henderson FC. Poster American Society for Radiology Oncology (ASTRO), Chicago, IL November 1-5, 2009. Int J Radiat Oncol Biol Phys 75(3) Supplement 1, S493, 2009.

49. Stereotactic Body Radiotherapy (SBRT) in the Treatment of Locally-advanced, Recurrent and Unresectable Pancreatic Cancer. Rwigema JSM, Parikh SD, **Burton SA**, Quinn AE, Bahary N, Moser AJ, Zeh HJ, Lembersky B, Howell M, Heron DE. Poster American Society for Radiology Oncology (ASTRO), Chicago, IL November 1-5, 2009. Int J Radiat Oncol Biol Phys 75(3) Supplement 1, S266-S267, 2009.

50. Re-irradiation with Radiosurgery for Recurrent Glioblastoma Multiforme: A Single Institution's Retrospective Review. R.E. Wegner, A.H. Mintz, D.E. Heron, G.K. Bejjani, **S.A. Burton**. Accepted Int J Radiat Oncol Biol Phys 75(3) Supplement 1, S, 2009.

51. Intensity-Modulated Arc Therapy for Stereotactic Radiotherapy of Spinal & Paraspinal Tumors. X Li*, Y Yang, T Li, **S. Burton**, D. E. Heron, G. Bednarz and M. Saiful Huq. Poster American Association of Physicists in Medicine (AAPM), Philadelphia, PA July 18-22, 2010 Med Phys 37(6):3311, 2010.

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for Radiology Oncology (ASTRO), San Diego, CA October 31-November 4, 2010 Int J Radiat Oncol Biol Phys 78(3);S105, 2010.

53. Stereotactic Body Radiosurgery is a Safe and Efficacious Treatment Modality following RFA for Medically Inoperable NSCLC. Clump DA, Wegner RE, Heron DE, Abbas R, Schuchert MJ, Landreneau RJ, Luketich MJ, **Burton SA**. Poster American Society for Radiology Oncology (ASTRO), San Diego, CA October 31-November 4, 2010 Int J Radiat Oncol Biol Phys 78(3);S540, 2010.

54. Comparison of Whole versus Partial Vertebral Body Radiosurgery for Spinal Metastases: The Experience of a Single Institution. Patel VE, Wegner RE Heron DE, Flickinger JC, Mintz AH, **Burton SA**, Gerszten P, Huq MS. Poster American Society for Radiology Oncology (ASTRO), San Diego, CA October 31-November 4, 2010 Int J Radiat Oncol Biol Phys 78(3);S799, 2010.

55. Kabolizadeh P, Rwigema J-C, S. DeFoe G, Heron DE, Ozhasoglu C, Quinn A, **Burton SA**. Stereotactic Body Radiotherapy (SBRT) for Presacral Recurrence of Rectal Cancer. Accepted Poster American Society for Radiology Oncology (ASTRO), Miami, FL October 2-6, 2011 Int J Radiat Oncol Biol Phys 81(2):S368. Int J Radiat Oncol Biol Phys 81(2):S366.

56. Clump DA, Wegner RE, Heron DE, **Burton SA**, Christie NA, Schuchert MJ, Abbas G Stereotactic Body Radiotherapy (SBRT) for Recurrent and Early-Stage Centrally-Located Non-Small Cell Lung Cancer. Accepted Poster American Society for Radiology Oncology (ASTRO), Miami, FL October 2-6, 2011 Int J Radiat Oncol Biol Phys 81(2):S615.

57. Rwigema J-C, Wegner RE, Mintz AH, **Burton SA**, Heron DE. Stereotactic Radiosurgery to the Resection Cavity of Brain Metastases. Accepted Poster "Foreign Language Poster Walk with a Professor" program on Monday, October 3 from 10:45 p.m. to 12:15 p.m. American Society for Radiology Oncology (ASTRO), Miami, FL October 2-6, 2011 Int J Radiat Oncol Biol Phys 81(2):S298-S299.

58. Kabolizadeh P, Wegner RE, Bernard M, Heron DE, Mintz AH, **Burton SA**. The Effect of Treatment Time on Outcome in Nonsmall Cell Lung Cancer Brain Metastases treated with Stereotactic Radiosurgery. Accepted Poster American Society for Radiology Oncology (ASTRO), Miami, FL October 2-6, 2011 Int J Radiat Oncol Biol Phys 81(2):S301.

PROFESSIONAL PRESENTATIONS

Oral and Poster Presentations:

1. **Burton, S.A.**, Ohashi, M., Yoshino, K., Herberman, R.B., Goldfarb, R.H. Linomide-enhanced Accumulation of IL-2 Activated NK Cells into B16 Melanoma Metastases. Presented in San Diego at the 83rd Annual Meeting of the American Association of Cancer Research, May 21, 1992.

2. **Burton, S.A.**, Werts, E.D., Burholt, D.R., Kalnicki, S., Paljug, W.R. Radiosensitization of Cultured Tumor Cells by Hypothermia. 42nd Annual Meeting RRS/NAHG, May 1, 1994, Nashville, TN.

3. **Burton, S.A.**, Werts, E.D., Burholt, D.R., Kalnicki, S., Paljug, W.R. Precooling Sensitization of Human Tumor Cells to Radiation. Presented at the Hypothermic Medicine Symposium, September 10-11, 1994, Pittsburgh, PA.

4. Bhatnagar A, Heron DE, Gerszten K, Bahri S, Deutsch M, Rosenstein M, Varlotto JM, **Burton S**, Flickinger JC. Definitive Concurrent Chemoradiation Therapy Results in Improved Survival in Patients with Squamous Cell Carcinoma of the Anal Canal. Radiologic Society of North America (RSNA), Chicago, IL, 2003.

5. Wu A, Brandner E, Chen H, Heron DE, Henning G, Gerszten K, **Burton S**, Kalnicki S. Studies of Organ Motion Resulting from Respiration by 4D CT Imaging. ICRR, Seoul, Korea, 2004.

6. Agarwal A, **Burton SA**, Duvvuri U, Gerszten PC, Kalnicki S, Heron DE, Johnson J, Cyber-Knife Stereotactic Radiotherapy for the Treatment of Advanced Head and Neck Tumors. Malignancies of the Chest and Head & Neck, Chicago, IL 2004.

7. Voynov G, Heron DE, Degirmenci B, Gerszten PC, Johnson J, **Burton S**, Avril N. PET-CT Response After Stereotactic Radiosurgery for Recurrent Head and Neck Malignancies. Annual Meeting of the Pennsylvania Radiological Society, Philadelphia, PA 2004.

8. Voynov G, **Burton S**, Gerszten PC, Ozhasoglu C, Vogel W, Quinn A, Johnson J, Heron DE. Frameless Stereotactic Radiosurgery for Recurrent Squamous Cell Carcinoma of the Head and Neck Region. American Radium Society (ARS), Barcelona, Spain, 2005.

9. Gerszten PC, **Burton SA**, Ozhasoglu, McCue KJ, Quinn AE: Repeat Radiosurgery for Malignant Spinal Tumors. Oral Presentation at the Annual Meeting of the Congress of Neurological Surgeons. San Diego, CA. September 17, 2007.

10. Atteberry DA, Gerszten PC, Heron D, **Burton SA**, Haley ML, Chang YF. A Matched Pair Cost Effective Analysis Comparing Patients with Previously Untreated Spinal Metastases Treated with Stereotactic Radiosurgery vs. Conventional External Beam Radiotherapy. Poster Presentation at the Annual Meeting of the Congress of Neurological Surgeons. San Diego, CA. September 17-20, 2007.

11. Pennathur A, **Burton S**, Luketich JD, Abbas G, Fernando HC, Heron DE, Ireland J, Landreneau R, Christie NA. Stereotactic Radiosurgery (SRS) for the Treatment of Lung Neoplasm. Southern Thoracic Surgical Association, Orlando, FL, 2005.

12. Smith RP, Komanduri, K, **Burton, S**, Heron, DE, Chen H, Zhuo Z, Li F, Landreneau RJ. Dosimetric Evaluation of Physicians and Staff Radiation Exposure During 125I Vicryl Mesh Implants. Poster Radiological Society of North America (RSNA), Chicago, IL, 2005.

13. Bhatnagar AK, Heron DE, **Burton S**, Ferris R, Ozhasglu C , Huq MS. Stereotactic Radiotherapy for Head and Neck Tumors. European Society for Therapeutic Radiology and Oncology (ESTRO), Leipzig, Germany. 2006.

14. Andrade R, Heron DE, Voynov G, **Burton S**, Ferris R, Grandis J, Avril N. Re-irradiation with Stereotactic Radiosurgery in Patients with Head and Neck Tumors using Hybrid FDG-PET/CT to Improve Target Localization – Preliminary Results. European Society for Therapeutic Radiology and Oncology (ESTRO), Leipzig, Germany, 2006.

15. Bhatnagar AK, Heron DE, **Burton S**, Ferris R, Ozhasglu C, Huq MD. Stereotactic Radiotherapy for Head and Neck Tumors. Oral 2007 6th Annual CyberKnife Users' Meeting, Palm Springs, CA, 2007.

16. de Andrade RS, Heron DE, **Burton SA**, Bhatnagar AK, Huq MS. The Value of Positron Emission Tomography and Computed Tomography (PET/CT) for Stereotactic Radiosurgery (SRS) Re-irradiation of Head and Neck Cancers in Treatment Planning and Response Assessment– Preliminary Results. CyberKnife Users' Meeting, Palm Springs, CA, 2007.

17. Schuchert MJ, Smith RP, Komanduri K, **Burton S**, Heron DE, Chen H, Zhuo Z, Li F, Luketich JD, Landreneau RJ. Radiation Exposure to Treatment Team from Intraoperative 125I Brachytherapy Implants as Adjuvant Therapy to Sublobar Resection in Stage I Lung Cancer. Society of Surgical Oncology (SGO), Washington, DC, 2007

18. Mintz A, Heron DE, **Burton S**, Ozhasoglu C, Lozanne K, Steelman K, Kassam A. CyberKnife Radiosurgery as an Important Modality in the Corridor Based Surgical Management of Complex Skull Base Tumors. CyberKnife Users' Meeting, Scottsdale, AZ, 2008

19. Heron DE, Rwigema JC, Ferris RL, Quinn A, **Burton S**, Gibson M, Argiris E, Ozhasoglu C, Yang Y. Fractionated Stereotactic Body Radiation Therapy (SBRT) in the Treatment of Previously-Irradiated Recurrent Head and Neck Carcinoma-Updated Report of the University of Pittsburgh Experience. Poster American College of Radiation Oncology (ACRO), Las Vegas, NV February 27-28, 2009.

20. Ramalingam S, Kotsakis A, Heron D, Tarhini A, **Burton S**, Smith R, Gooding W, Friedland D, Petro D, Flaugh R, Raez L, Brahmer J, Greenberger J, Landreneau R, Luketich J, Belani C, Argiris A. Multi-center Phase II Study of Cetuximab in Combination with Thoracic Radiotherapy Followed by Consolidation Chemotherapy in Patients with Unresectable Stage III Non-small Cell Lung Cancer (NSCLC): A Preliminary Report. Poster International Association for the Study of Lung Cancer, San Francisco, CA July 31-August 4, 2009.

21. Arai Y, Luketich J, Christie N, Pennathur A, Abhas, Schuchert M, Gilber, **Burton S**, Heron DE. Outcome of Real-time Tumor Tracking Stereotactic Radiosurgery of NSCLC. Oral Japanese Society for Therapeutic Radiation and Oncology, Kyoto, Japan, September 17-19, 2009.

22. Henderson FC, Gerszten PC, Gagnon G, **Burton S**, Mintz, A, Dong XX, Quinn AE, Heron DE. Single versus Multi-session Radiosurgery for Metastatic Spine Tumors: Results from a Multi-Institutional Study. Interactive Oral Poster Congress of Neurological Surgeons (CNS), New Orleans, LA October 24-29, 2009.

23. Wegner RE, Rwigema JC, Heron DE, Mintz A, **Burton S**. Fractionated SRS for large brain mets. Poster American College of Radiation Oncology (ACRO), San Diego, CA February 24-26, 2011.

24. Wegner RE, Mintz AH, Heron DE, **Burton SA**. Reirradiation with Radiosurgery for Recurrent Glioblastoma Multiforme: A Single Institution's Retrospective Review. Poster American College of Radiation Oncology (ACRO), San Diego, CA February 24-26, 2011.

25. Rwigema J-C, Wegner R, Bernard M, Heron DE, Mintz AH, **Burton SA**. Stereotactic Radiosurgery for the Treatment of Brain Metastases from Non-small Cell Lung Cancer. Poster American College of Radiation Oncology (ACRO), San Diego, CA February 24-26, 2011.

26. Clump DA, Wegner RE, Bria C, Mintz AH, Heron DE, **Burton SA**. Fractionated Stereotactic Radiosurgery for the Treatment of Meningioma. Poster American College of Radiation Oncology (ACRO), San Diego, CA February 24-26, 2011.

27. Wegner RE, Vargo JA, Heron DE, Ferris RL, **Burton S**. Fractionated Stereotactic Body Radiation Therapy as a Non-operative Salvage Strategy for Locally-Recurrent, Previously-Irradiated Non-Squamous Cell Cancers of the Head and Neck. Poster American Association for Cancer Research, Orlando, FL April 2-6, 2011.

28. Wegner R, Reineman K, Heron DE, Mintz A, **Burton S**. Stereotactic radiosurgery for the treatment of melanoma brain metastases. 10TH Annual Congress International Stereotactic Radiosurgery Society (ISRS), Paris, France May 8-12, 2011.

29. Vargo JA, Heron DE, Ferris RL, Rwigema JCM, Wegner RE, Kalash R, Ohr J, Kubicek GJ, **Burton S** Prospective Evaluation of Patient-Reported Quality-of-Life Outcomes Following SBRT ± Cetuximab for Locally-Recurrent, Previously-Irradiated Head-and-Neck Cancer. Accepted Poster American College of Radiation Oncology (ACRO), Fort Myers, FL, February 23-25, 2012.

30. Horne ZD, Clump DA, Shah S, Vargo JA, **Burton SA**, Christie NA, Schuchert MJ, Landreneau RJ, Luketich JD, Heron DE. Pretreatment SUV max as a marker for progression-free survival in stage 1 NSCLC treated with SBRT. Accepted Poster; Cancer Imaging and Radiation Therapy Symposium, Orlando, FL, February 8-9, 2013.

31. Gill BS, Clump DA, Vargo JA, Heron DE, Schuchert MJ, Christie NA, **Burton SA**. Salvage stereotactic body radiotherapy for local failures after sublobar resection with I-125 vicryl mesh brachytherapy. Accepted abstract; American College of Radiation Oncology (ACRO) Annual Meeting, San Antonio, TX, February 14-16, 2013.

32. Horn ZD, Clump DA, Shah S. Vargo JA, Beriwal S, **Burton SA**, Christie NA, Schuchert MJ, Landreneau RJ, Pennathur A, Luketich JD, Heron DE. Stereotactic body radiation therapy for early-stage non-small cell lung cancer: location matters. Accepted abstract; American College of Radiation Oncology (ACRO) Annual Meeting, San Antonio, TX, February 14-16, 2013.

33. Vargo JA, Lehman J, Clump DA, Schuchert M, Christie N, Heron DE, Quinn A, **Burton S**. Stereotactic Body Radiotherapy Salvage for Locally-Recurrent Central Non-Small-Cell Lung Cancers. Accepted Oral; The Radiosurgery Society Annual Meeting 2013, Carlsbad, CA, February 20-23, 2013

34. Clump DA, Vargo JA, Rwigema JC, Davis K, Ferris R, Heron DE, Quinn A, **Burton S**. Stereotactic Body Radiotherapy for Recurrent Oropharyngeal Cancer - Influence of HPV and smoking history. Accepted Oral; The Radiosurgery Society Annual Meeting 2013, Carlsbad, CA, February 20-23, 2013.

35. Rajagopalan MD, Heron DE, Zeh HJ, Krasinskas AM, Quinn A, **Burton SA**. Pathologic Response after Stereotactic Body Radiotherapy for Borderline Resectable and Locally-Advanced Pancreatic Cancer. Accepted Oral; The Radiosurgery Society Annual Meeting 2013, Carlsbad, CA, February 20-23, 2013.

36. Kabolizadeh P, Horne Z, Shah S, Clump DA, Vargo JA, Heron DE, Quinn A, **Burton S**, Christie N, Schuchert MJ. Salvage Stereotactic Body Radiation Therapy (SBRT) for Medically Inoperable Patients with NSCLC following RFA. Accepted Oral; The Radiosurgery Society Annual Meeting 2013, Carlsbad, CA, February 20-23, 2013.

37. Gill BS, Clump DA, Vargo JA, Heron DE, Schuchert MJ, Christie NA, **Burton SA**. Salvage stereotactic body radiotherapy for local failures after sublobar resection with I-125 vicryl mesh brachytherapy. Accepted; American College of Radiation Oncology (ACRO), San Antonio, TX. February 14-16, 2013.

38. Horn ZD, Clump DA, Shah S, Vargo JA, Beriwal SD, **Burton SA**, Christie NA, Schuchert MJ, Landreneau RJ, Pennathur A, Luketich JD, Heron DE. Stereotactic body radiation therapy for early-stage non-small cell lung cancer: location matters. Accepted; American College of Radiation Oncology (ACRO), San Antonio, TX. February 14-16, 2013.

39. Clump DA, Leeman J, Flickinger J, Mintz A, **Burton S**, Heron DE. Extent of perilesional edema diffeentiaties radionecrosis from tumor recurrence following stereotactic radiosurgery for brain metastases. Accepted Oral; American Radium society (ARS) Annual Meeting, Scottsdale, AZ, April 27-May 1, 2013.

Invited Lectures:

1. **Burton, S.A.**, "Stereotactic Surgery for Spine Metastasis," Presented in Pittsburgh at the Hillman Cancer Center at the Meeting: Clinical and Technical Advances in the Management of Primary and Secondary Neoplasms of the Brain and Spine: A Multi-Disciplinary Approach, September 9-10, 2005

2. **Burton, S.A.**, "Stereotactic Body Radiation Therapy," Presented to Highmark Policy Review Committee, Harrisburg, PA, June 20, 2007

3. **Burton, S.A.**, "Stereotactic Body Radiation Therapy," Presented to Radiation Oncology Residents, Pittsburgh, PA, July 2007.

4. **Burton, S.A.**, "Stereotactic Body Radiation Therapy for Lung Tumors," Presented at the First Pittsburgh Lung Cancer Conference: A Multidisciplinary Approach to Lung Cancer, Pittsburgh, PA, May 2, 2008.

5. **Burton, S.A.**, "Stereotactic Body Radiation Therapy (SBRT) for Lung Cancer." Presented to Radiation Oncology Residents, Pittsburgh, PA, August 2010.

6. **Burton, S.A.**, "Stereotactic Body Radiation Therapy (SBRT) for Lung Cancer." Presented to Thoracic Surgeons, Pittsburgh, PA, August 2010.

7. **Burton, S.A.**, "TBI, TLI." Presented to the Radiation Oncology Residents, UPMC Shadyside, February 26, 2013.

8. **Burton, S.A.**, "SBRT for Pancreatic Cancer." Invited Speaker at the UPMC GI Cancer Conference in Pittsburgh, PA on April 20, 2013.

9. **Burton, S.A.**, "The Role of SBRT in Pancreatic Cancer: Case Study". Invited Speaker at The Radiosurgery Society Annual Meeting Minneapolis, MN May 10, 2014.

PROFESSIONAL ACTIVITIES

2002 started Radiation Oncology Residency Program with Dr. Shalom Kalnicki and Dr. Dwight Heron.

Head of the Radiation Oncology Residency Program 2002-2007.

Teaching:

Radiation Oncology residents and medical students 2002-2017

Residency Clinical Setting and Lectures: In 2015-2016 our 8 residents participated in over 2,000 hours of lectures, clinic precepting and supervision through our residency program office (average per year x 15 years).

Medical Students and Fellows: In 2015-2016 I mentored approximately 15 medical students and/or fellows within the radiation oncology department at UPMC Shadyside.

RESEARCH

Ongoing Current Clinical Research:

Title: Phase II study for curative intent treatment for patients with oligometastatic disease at initial presentation (Dr. Burton - PI) (10-027)
Primary Outcome Measures: Feasibility of SRS/SBRT in patients with metastatic disease at initial presentation
Secondary Outcome Measures: 1.) Quality of life (as measured by FACT surveys). 2.) Local control of metastatic sites. 3.) Local control of primary site. 4.) Overall survival. 5.) Analysis of patterns of failure post-SRS
Intervention Details: Radiation: Stereotactic Radiosurgery (SRS); Dose and fractionation will be dependent on the lesion location and lesion size, the exact fractionation and dose is at the discretion of the treating physician. A minimum of 48 hours must be used in between SRS treatments at each site. Note that patients can have SRS everyday or multiple SRS sessions in one day as long as the minimum time for each treatment site is met. For example, if two lung lesions, adrenal, and liver sites were being treated, both lung sites could be treated Monday, Wednesday, and Friday, the liver on Tuesday, Thursday and the following Tuesday, and the adrenal on Monday, Wednesday, Friday of the second week.
Detailed Description: Patients with oligometastatic disease (defined here as 5 or fewer sites of metastatic disease involving 3 or fewer organ systems) are potentially curable with stereotactic radiosurgery (SRS) or stereotactic radiotherapy (SRT) (collectively referred to as stereotactic body radiotherapy or SBRT) to the metastatic disease sites in combination with standard curative therapy to the primary site.

Title:Phase II study of stereotactic body radiation for patients with oligometastatic disease at recurrence (Dr. Burton - PI) (10-028)
Primary Outcome Measures: Phase II study to evaluate feasibility of stereotactic radiation (SRS) in patients with oligometastatic disease
Secondary Outcome Measures: 1.) Toxicity (as measured by common toxicity criteria version. 2.) Quality of life surveys (as measured by FACT quality of life studies). 3.) Local control of metastatic sites. 4.) Overall survival of patients as compared to historical norms. 5.) Analysis of patterns of failure post-SRS

Intervention Details: Radiation: Stereotactic Radiosurgery (SRS); Dose and fractionation will be dependent on the lesion location and lesion size and is up to the exact fractionation and dose is at the discretion of the treating physician. A minimum of 48 hours must be used in between SRS treatments at each site. Note that patients can have SRS everyday or multiple SRS sessions in one day as long as the minimum time for each treatment site is met. For example, if two lung lesions, brain, adrenal, and liver sites were being treated both lung sites could be treated Monday, Wednesday, and Friday and the adrenal, liver and brain lesions treated Tuesday, Thursday.
Detailed Description: Patients with limited disease recurrence, known as oligometastatic or oligorecurrent disease (defined here as 5 or fewer sites of metastatic disease) will benefit in terms of overall survival and disease progression from reduced tumor burden and improved local control via radiation to oligometastatic sites.

Title: Prospective evaluation of hypofractionated stereotactic radiosurgery for low and intermediate risk prostate cancer (09-031)
Primary Outcome Measures: 1.) To determine, in both low-risk and intermediate-risk cohorts, the rates of acute and late grade 3 or higher GI and GU toxicity observed during a 24 month follow up. 2.) To estimate the rate of biochemical Disease-Free Survival
Secondary Outcome Measures: To determine the rate of local failure, the rate of distant failure, the overall survival, the quality of life in generic and organ-specific domains
Intervention Details: Radiation: Stereotactic Body Radiation Therapy (36.25 Gy in 5 fractions (7.25 Gy/fx) delivered over a 2-week period)
Detailed Description: Radiosurgery should be ideal for treating prostate cancer because: targeting accuracy for static targets is excellent, with an error of about 1mm, it can adjust for intra-fractional organ motion, reducing the volume of the target PTV and therefore the dose to surrounding organs, by using over one-hundred non-conplanar beams, the dose gradient between the prostate and surrounding tissues may be superior to that achieved with conventional linear accelerators, the radiobiology of prostate cancer may favor large dose per fractions.

Title: Phase I/III study of image guided radiosurgery/SBRT for localized spine metastasis (09-082)
Outline: This is a multicenter, phase II study followed by a randomized phase III study. Patients enrolled in the phase III portion are stratified according to the number of spine metastases to be treated (1 vs 2-3).
Phase II: Patients undergo 1 high-dose image-guided radiosurgery or stereotactic body radiotherapy (SBRT) treatment over 60 minutes.
Phase III: Patients are randomized to 1 of 2 treatment arms.
Arm I: Patients undergo 1 high-dose image-guided radiosurgery or SBRT treatment over 60 minutes.
Arm II: Patients undergo 1 standard-dose external beam radiotherapy treatment over 5 minutes.

Title: A Pilot Study of Stereotactic Body Radiation Therapy (SBRT) for Treatment of Liver Metastases (09-051)
Primary Outcome Objective: To determine the maximum tolerated dose (MTD) and safety of SBRT for liver metastases using dose escalation.
Secondary Outcome Objectives: 1.)evaluate the local control associated with this local regional therapy. 2.) determine local response based on FDG-PET/CT compared to CT alone. 3.) evaluate the Health Related Quality of Life (HRQL) associated with this therapy.
Patient population: In order to be eligible for this study, patients must have liver metastases intended for treatment with a combined volume no more than 100 cm3 in size, ≤ 3 total lesions, or one lesion ≤ 6cm in greatest dimension. Patients will be required to have adequate pre-treatment baseline liver function, defined as total bilirubin ≤ 3mg/dl, albumin > 2.5mg/dl, and INR ≤ 2.3. Serum liver enzymes must be less than three times the upper limit of normal. Baseline renal function must be adequate with a creatinine < 1.8mg/dl or

creatinine clearance > 50ml/min. Patients muse be at least 18 years of age and able to give informed consent. They must have a Karnofsky Performance Status ≥ 70 and a life expectancy of at least 3 months. Eligible patients will have also had a FDG-PET/CT (or if insurance does not allow for a PET, then a contrast enhanced CT) scan performed at least 45 days prior to being enrolled in this study, with no chemotherapy within 4 weeks before SBRT and 2 weeks after.
Study design and methodology: This is a phase I dose escalation study. Dose escalation will be via the traditional "up and down" scheme
Treatments administered: SBRT: Patients will receive one of the following radiation regimens: 1.) 50 Gy in 5 fractions (10 Gy/fx) delivered over a 2-week period. 2.) 60 Gy in 5 fractions (12 Gy/fx) delivered over a 2-week period. 3.) 75 Gy in 5 fractions (15 Gy/fx) delivered over a 2-week period.
Efficacy data collected: The following evaluations will be performed to assess the efficacy of stereotactic body radiation therapy: 1.) Locoregional control. 2.) Objective tumor response (by RECIST and EORTC 1999 criteria). 3.) Radiological assessment using FDG-PET/CT to evaluate local control compared to CT. 4.) Quality of life assessment, FACT-HEP score, a validated measure of HRQL in hepatobiliary disease.

Title: SBRT for close or positive margins after resection of pancreatic adenocarcinoma: A prospective evaluation in select patients with resected pancreas (10-123)
Primary Outcome Objective: To determine the rate of local progression-free survival (LPFS) achieved in subjects with close (<2.5 mm) or positive margins after pancreatic cancer resection treated with SBRT
Secondary Outcome Objectives: 1.) determine the time to progression (TTP) and overall survival (OS) evaluate the acute and late toxicities associated with SBRT in this patient population. 2.) evaluate quality of life (QOL) of locally-advanced pancreatic cancer subjects treated adjuvantly with SBRT
Subject population: Subjects with primary adenocarcinoma of the pancreas that has been resected with positive margins or close margins (<2.5 mm)
Study design and methodology: This is a phase II study
Treatments administered: 12 Gy x 3 fractions (36 Gy total)
Efficacy data collected: The following evaluations will be conducted to assess the efficacy of SBRT: 1.) Local progression-free survival (LPFS). 2.) Locoregional and distant control. 3.) Time-to-progression (TTP)

Title: Randomized Phase II Trial of Stereotactic Body Radiation Therapy (SBRT) with Cetuximab +/- Docetaxel followed by Adjuvant Cetuximab +/- Docetaxel in Recurrent, Previously-Irradiated Squamous Cell Carcinoma of the Head and Neck (SCCHN) (UPCI 11-112)
Objective: Compare the overall survival of patients with the addition of docetaxel to the overall survival of patients treated with SBRT and cetuximab alone. In addition, we will determine the difference in progression free survival (PFS), the rate of local recurrence (LR) and of distant metastases (DM) across the SBRT and cetuximab + docetaxel arm and the arm receiving SBRT and cetuximab alone. To better resolve the impact of the experimental treatment on PFS, LR, and DM, patients will be stratified by the presence/absence of prior cetuximab treatment and then randomized to either the control arm (cetuximab and SBRT only) or the experimental arm (cetuximab, SBRT, and docetaxel).
The primary objectives of this study are:
1. To determine the 1-year locoregional progression-free survival (PFS) of previously-irradiated patient with SCCHN treated with SBRT, cetuximab, and docetaxel
2. To evaluate the acute and late toxicities associated with the above therapy
The secondary objectives are:
1. To evaluate the impact of adjuvant docetaxel and cetuximab on incidence of distant disease
2. To determine the objective response rate, PFS, and overall survival (OS)
3. To evaluate the impact of docetaxel on response rates with SBRT
4. To assess the toxicity of combination docetaxel-cetuximab & SBRT
5. To evaluate changes in tumor glucose metabolism post-therapy as assessed by FDG-PET

6. To evaluate the expression of tumor-specific biomarkers before and after treatment
7. To evaluate the impact of study interventions on patient-reported quality of life (PR-QOL)
Patient population: Patients with recurrent or second primary squamous cell carcinoma of the head and neck (SCCHN) with locoregionally-confined disease will be eligible to participate. Other criteria include ECOG PS <2 (KPS >60), normal hepatic and renal function, age >18, deemed to be medically or surgical inoperable or patient refusal of surgery.
Number of patients
92
Study design and methodology:
Open-label randomized 2-arm phase II

Treatment administered:
Fractionated stereotactic radiosurgery: 8.8-10 Gy per fraction (total: 44-50 Gy)-dose is dependent on treatment volume
Cetuximab: 400 mg/m2 day -7, then 250 mg/m2 days 0 & 8, then weekly for 3 months
Docetaxel: 25 mg/m2 day 0 & 8, then weekly for 3 months

Title: Phase I Study of Fractionated Stereotactic Radiosurgery for Large Brain Metastases (UPCI 11-091)
Primary Objectives: To determine the maximum tolerated dose (MTD) and safety of fractionated SRS when treating brain metastases
Secondary Objectives:
1. To evaluate the local control associated with this therapy.
2. To evaluate regional intracranial failure associated with this therapy.
3. To evaluate the Health Related Quality of Life (HRQL) associated with this therapy.
Overall design and plan of study: Prior to enrollment, all patients will be evaluated with a physical exam, review of pathology and laboratory values to confirm diagnosis, and baseline imaging studies
Accelerator: Physicians will treat patients with linear accelerator-based stereotactic radiosurgery system using 6MV photons.
Doses: Patients will receive a total dose of 24 to 36 Gy in 3 fractions (8-12 Gy/fx). Dose will be escalated between patients as described in Section 7. In determining the radiation dose and fractionation scheme for this protocol, we used the linear-quadratic model for radiation cell killing to "equate" schemes that care the dose/fraction and number of fractions. This concept of biologically equivalent dose (BED) states that the total effect is given by: $n \times d \times (1 + d/(\alpha/\beta))$ where n is the number of fractions and d is the dose/fraction. The "alpha-beta ratio" characterizes the radiation response of a particular tissue; a higher value is indicative of a tissue that responds acutely to the effects of radiation. Due to their highly proliferative nature, most tumors fall into this category. This first dose scheme (total dose 24 Gy) is biologically equivalent to the previously studied best recommended doses in the literature (15 Gy, one fraction). We would favor treating in three fractions, as opposed to a single dose, to allow more repair of normal tissue, reoxygenation of tumor cells, and redistribution of tumor cells to more radiosensitive parts of the cell cycle. Using small fraction sizes, 8- 12 Gy, will also help reduce late effects of radiation therapy. SRS treatment will be given on an every other day schedule, excluding weekends. The prescription dose will be prescribed to the isodose line best encompassing the planning target volume (PTV) depending on the volume of tumor.

Title: Phase II Study Of Stereotactic Radiosurgery or Other Local Ablation Followed by Erlotinib for Patients with EGFR Mutation Who Have Previously Progressed on an EGFR Tyrosine Kinase Inhibitor (TKI) (UPCI 12-150)

The SOC radiosurgery incorporated in this multicenter protocol was referred to and specific for CyberKnife®. However, the intent of this protocol is not to dictate which SOC radiosurgery is used, as there are many brands of stereotactic radiosurgery. No core content has been modified. The new parameters will not affect in any way how stereotactic radiosurgery is done for UNC patients—it remains SOC. Similarly, it defines the SOC in such a way that parallel procedures will take part at our partner institutions so that their patients will also be treated per SOC.
Primary Objective: To estimate PFS after locally ablative therapy and erlotinib in EGFR-mutant NSCLC patients who progressed on prior EGFR-TKI therapy
Required Sample Size: 40

Committees

Member Cancer Committee UPMC Shadyside Hospital

Service – Community

Date	Hospital	Category
7/00-present	UPMC Presbyterian Department of Radiation Oncology 200 Lothrop Street Pittsburgh, PA 15213	Active
5/01-present	UPMC Shadyside Department of Radiation Oncology 5230 Centre Avenue Pittsburgh, PA 15232	Active
7/01 –present	Magee-Womens Hospital Department of Radiation Oncology 300 Halket Street Pittsburgh, PA 15213	Courtesy
12/01-present	UPMC Passavant Department of Radiation Oncology 9100 Babcock Boulevard Pittsburgh, PA 15237	Associate
1995-1996	Allegheny General Hospital Department of Radiation Oncology 320 East North Avenue Pittsburgh, PA	Prov. Active
1995	Sewickley Valley Hospital 720 Blackburn Road Sewickley, PA 15143	Consulting
1996	Allegheny General Hospital	Sr. Attending

	Department of Radiation Oncology	
1999	Forbes Regional Health System AUH, Department of Radiation Oncology 2570 Haymaker Road Monroeville, PA 15146	Consulting
1998-1999	Forbes Regional Health System Department of Radiology, AUH 2570 Haymaker Road Monroeville, PA 1514	Provisional
1998	Somerset Hospital 225 South Center Avenue Somerset, PA 15501	Consulting
1998	Sharon Regional Hospital Department of Radiation Oncology 740 East State Street Sharon, PA 16146	Affiliate & Provisional

Continuing Medical Education:

Pennsylvania Medical Society Certificate
Revised: 5/18/17