

CURRICULUM VITAE

Kenneth Jon Dornfeld, Ph.D., M.D.

I. EDUCATIONAL AND PROFESSIONAL HISTORY

A. List of institutions attended, board certification, licensure

8/1980-5/1984 B.A. (*with honors*) University of Chicago,
Chicago IL

8/1984-6/1986 &
6/1991-6/1993 M.D. University of Minnesota,
Minneapolis MN

6/1986-6/1991 Ph.D. University of Minnesota,
Minneapolis MN

6/1993-6/1994 Transitional Internship, Hennepin County Medical Center,
Minneapolis, MN

7/1994-6/1999 Resident in Radiation Oncology, University of Michigan,
Ann Arbor, MI

Board certification:

May 1999 American Board of Radiology [Radiation Oncology]

Licensure

- Michigan
- Iowa

B. Professional and Academic Positions

7/1998-7/1999 Chief Resident, Department of Radiation Oncology
University of Michigan Ann Arbor, MI

7/1999-7/2002 Staff Physician, Department of Radiation Oncology
Veterans Administration Ann Arbor, MI

7/1999-7/2002 Staff Physician, Department of Radiation Oncology
University of Michigan Medical School Ann Arbor, MI

2000-7/2002 Chief of Service, Department of Radiation Oncology
Veterans Affairs Hospital Ann Arbor, MI

8/2002-*present* Assistant Professor, Department of Radiation Oncology
University of Iowa Iowa City, IA

C. Honors and Awards

1989	Cyrus P. Barnum, Jr. Memorial Teaching Fellowship, Department of Biochemistry
1999	Chief Resident, Department of Radiation Oncology University of Michigan Ann Arbor, MI
August 2000	Invited Participant, Radiation Research Program Young Investigators Workshop sponsored by the National Cancer Institute
2000-2001	Teacher of the Year Award, Dept. of Radiation Oncology University of Michigan Ann Arbor, MI

II. TEACHING**A. Teaching assignments on semester by semester basis
(least to most recent)**

11/1999-2000	Guest Lecturer University of Michigan, Ann Arbor, MI	Graduate Course in Radiobiology
1999-7/2002	Lecturer University of Michigan, Ann Arbor, MI	Department of Radiation Oncology
Fall 2002	Co-instructor 077:103 Radiation Biology (4 s.h.) Free Radical and Radiation Biology Program University of Iowa, Iowa City, IA	
Spring 2003	Invited Lecturer 077:288 Molecular and Cellular Biology of Cancer (3 s.h.) Free Radical and Radiation Biology Program University of Iowa, Iowa City, IA	<i>Strategies of anticancer chemotherapy</i>
Spring 2003	Co-Instructor 672:803 Radiobiology for the Radiation Therapist (12 s.h.) Department of Radiation Oncology University of Iowa, Iowa City, IA	
Fall 2003	Co-instructor 077:103 Radiation Biology (4 s.h.) Free Radical and Radiation Biology Program University of Iowa, Iowa City, IA	
Spring 2004	Co-instructor 672:803, 4 lectures	
Fall 2004	Co-instructor 077:103 Radiation Biology 5 lectures	

Fall 2004	Course Director 077:207, Seminars in Radiation Biology
Spring 2005	Course Director 077:208, Seminars in Radiation Biology
Spring 2005	Invited Lecturer <i>Strategies of anticancer chemotherapy</i> 077:288 Molecular and Cellular Biology of Cancer (3 s.h.) Free Radical and Radiation Biology Program University of Iowa, Iowa City, IA
Spring 2005	Co-Instructor 672:803 Radiobiology for the Radiation Therapist (12 s.h.) Department of Radiation Oncology University of Iowa, Iowa City, IA
Fall 2005	Co-instructor 077:103 Radiation Biology (4 s.h.) Free Radical and Radiation Biology Program University of Iowa, Iowa City, IA
Fall 2005	Course Director 077:207, Seminars in Radiation Biology
Spring 2006	Course Director 077:208, Seminars in Radiation Biology

**B. Students supervised
(name, degree objective, outcome)**

Ling Li (committee member, masters defense committee)	M.S.	Conferred December 2002
Ehab Sarsour (committee member)	PhD	Passed Oral Preliminary April 2004
Ling Xiao (committee member)	PhD	Passed Oral Preliminary April 2004
Chang Ming Chen	PhD	Passed Oral Comprehensive 2005
Bryan Allen	MD•PhD	Summer research, 2004-5
Michael Lin	MD•PhD	Summer research, 2005
Kenneth Sykes	MD•PhD	Clinical rotation, 2005
Joel Simmons, MD	Resident	Clinical research, 2005-06
David Mattson, MD	Resident	Lab & clinical research, 2005-06
Shane Hopkins	Medical student	Clinical rotation & research, 2005

C. Other contributions to institutional programs

Holden Comprehensive Cancer Center Forum <i>The Role of DNA Repair in Thymineless Death</i>	December 17, 2002
Head and Neck Basic Science Course Instructor	August 2004
Head and Neck Cancer Course Panelist	June 2004
Carver Medical Research Initiative Grant Reviewer	January 2005
HCCC Protocol Review Committee Member	November 2004 to <i>present</i>
Head and Neck Basic Science Course Instructor	August 2005
Head and Neck Cancer Course Panelist	June 2005
Carver Medical Research Initiative Grant Reviewer	January 2006
Department of Otolaryngology Grand Rounds	November 2005

III. SCHOLARSHIP

A. Publications or creative works (least to most recent)

peer-reviewed papers

1. Ahn BY, **Dornfeld KJ**, Fagrelus TJ, and Livingston DM. Effect of limited homology on gene conversion in a *Saccharomyces cerevisiae* plasmid recombination system. *Molecular and cellular biology* 1988;8:2442-2448.
2. **Dornfeld KJ**, and Livingston DM. Effects of controlled RAD52 expression on repair and recombination in *Saccharomyces cerevisiae*. *Molecular and cellular biology* 1991;11:2013-2017.
3. **Dornfeld KJ**, and Livingston DM. Plasmid recombination in a rad52 mutant of *Saccharomyces cerevisiae*. *Genetics* 1992;131:261-276.
4. Barkan AL, Halasz I, **Dornfeld KJ**, Jaffe CA, Friberg RD, Chandler WF, and Sandler HM. Pituitary irradiation is ineffective in normalizing plasma insulin-like growth factor I in patients with acromegaly. *The Journal of clinical endocrinology and metabolism* 1997;82:3187-3191.
5. Radany EH, **Dornfeld KJ**, Sanderson RJ, Savage MK, Majumdar A, Seidman MM, and Mosbaugh DW. Increased spontaneous mutation frequency in human cells expressing the phage PBS2-encoded inhibitor of uracil-DNA glycosylase. *Mutation research* 2000;461:41-58.
6. **Dornfeld KJ**, and Lawrence TS. A predisposition supposition for glioma. *Journal of the National Cancer Institute* 2001;93:1512-1513.
7. Nyati MK, Symon Z, Kievit E, **Dornfeld KJ**, Rynkiewicz SD, Ross BD, Rehemtulla A, and Lawrence TS. The potential of 5-fluorocytosine/cytosine deaminase enzyme prodrug gene therapy in an intrahepatic colon cancer model. *Gene Therapy* 2002;9:844-849.

8. Nussenbaum B, Rutherford RB, Teknos TN, **Dornfeld KJ**, and Krebsbach PH. Ex vivo gene therapy for skeletal regeneration in cranial defects compromised by postoperative radiotherapy. *Human gene therapy* 2003;14:1107-1115.
9. Yao M, **Dornfeld KJ**, and Buatti JM. In regard to Lee et al. Intensity-modulated radiation therapy for head-and-neck cancer: the UCSF experience focusing on target volume delineation. (*Int J Radiat Oncol Biol Phys* 2003;57:49-60). *International Journal of Radiation Oncology, Biology, Physics* 2004;58:1639; author reply 1639-1640.
10. Yao M, Graham MM, Smith RB, **Dornfeld KJ**, Skwarchuk M, Hoffman HT, Funk GF, Graham SM, Menda Y, and Buatti JM. Value of FDG PET in assessment of treatment response and surveillance in head-and-neck cancer patients after intensity modulated radiation treatment: a preliminary report. *International Journal of Radiation Oncology, Biology, Physics* 2004;60:1410-1418.
11. Yao M, Graham MM, Hoffman HT, Smith RB, Funk GF, Graham SM, **Dornfeld KJ**, Skwarchuk M, Menda Y, and Buatti JM. The role of post-radiation therapy FDG PET in prediction of necessity for post-radiation therapy neck dissection in locally advanced head-and-neck squamous cell carcinoma. *International Journal of Radiation Oncology, Biology, Physics* 2004;59:1001-1010.
12. Rehemtulla A, Hamstra DA, Kievit E, Davis MA, Ng EY, **Dornfeld K**, and Lawrence TS. Extracellular expression of cytosine deaminase results in increased 5-FU production for enhanced enzyme/prodrug therapy. *Anticancer Research* 2004;24:1393-1399.
13. Hamstra DA, Lee KC, Tychevicz JM, Schepkin VD, Moffat BA, Chen M, **Dornfeld KJ**, Lawrence TS, Chenevert TL, Ross BD, Gelovani JT, and Rehemtulla A. The use of ¹⁹F spectroscopy and diffusion-weighted MRI to evaluate differences in gene-dependent enzyme prodrug therapies. *Molecular therapy: the journal of the American Society of Gene Therapy* 2004;10:916-928.
14. **Dornfeld K**, and Johnson M. AP endonuclease deficiency results in extreme sensitivity to thymidine deprivation. *Nucleic Acids Research* 2005;33:6644-6653.
15. Yao M, Buatti JM, **Dornfeld KJ**, Graham MM, Smith RB, Funk GF, and Hoffman HT. Can post-RT FDG PET accurately predict the pathologic status in neck dissection after radiation for locally advanced head and neck cancer? In regard to Rogers et al. (*Int J Radiat Oncol Biol Phys* 2004;58:694-697). *International Journal of Radiation Oncology, Biology, Physics* 2005;61:306-307; author reply 307.
16. Yao M, Smith RB, Graham MM, Hoffman HT, Tan H, Funk GF, Graham SM, Chang K, **Dornfeld KJ**, Menda Y, and Buatti JM. The role of FDG PET in

management of neck metastasis from head-and-neck cancer after definitive radiation treatment. *International Journal of Radiation Oncology, Biology, Physics* 2005;63:991-999.

17. El-Deiry M, Funk GF, Nalwa S, Karnell LH, Smith RB, Buatti JM, Hoffman HT, Clamon GH, Graham SM, Trask DK, **Dornfeld KJ**, and Yao M. Long-term quality of life for surgical and nonsurgical treatment of head and neck cancer. *Archives of Otolaryngology--Head & Neck Surgery* 2005;131:879-885.
18. Yao M, **Dornfeld KJ**, Buatti JM, Skwarchuk M, Tan H, Nguyen T, Wacha J, Bayouth JE, Funk GF, Smith RB, Graham SM, Chang K, and Hoffman HT. Intensity-modulated radiation treatment for head-and-neck squamous cell carcinoma--the University of Iowa experience. *International Journal of Radiation Oncology, Biology, Physics* 2005;63:410-421.
19. Lee KC, Hamstra DA, Bullarayasamudram S, Bhojani MS, Moffat BA, **Dornfeld KJ**, Ross BD, and Rehemtulla A. Fusion of the HSV-1 tegument protein vp22 to cytosine deaminase confers enhanced bystander effect and increased therapeutic benefit. *Gene Therapy* 2006;13:127-137.
20. Allen B, Johnson M, Marsh A, and Dornfeld KJ. Base excision repair of both uracil and oxidatively damaged bases contribute to thymidine deprivation induced radiosensitization. *International Journal of Radiation Oncology, Biology, Physics* 2006, under revision.

abstracts

1. Buatti J, Yao M, **Dornfeld K**, Skwarchuk M, Hoffman HT, Funk GF, Smith RB, Graham SM, Menda Y, and Graham MM. Efficacy of IMRT in head and neck cancer as monitored by post-RT PET scans. *International Journal of Radiation Oncology, Biology, Physics* 2003;57:S305.
2. Yao M, Buatti J, **Dornfeld KJ**, Skwarchuk M, Menda Y, Graham MM, Smith RB, Graham SM, Funk GF, and Hoffman HT. Is neck dissection necessary when post-radiation PET is negative after radiation treatment for locally advanced head and neck cancer? *International Journal of Radiation Oncology, Biology, Physics* 2003;57:S244-245.
3. Simmons JR, **Dornfeld K**, Karnell L, Karnell M, Funk G, Yao M, Wacha J, and Zimmerman B. Radiation doses to structures within and adjacent to the larynx are correlated with long term diet and speech related quality of life. *International Journal of Radiation Oncology, Biology, Physics* 2005;63:S132-S132.
4. Yao M, Nguyen T, **Dornfeld KJ**, Tan H, Wacha J, Bayouth JE, and Buatti JM. Prognostic significance of FDG PET for head and neck cancer treated with IMRT. *International Journal of Radiation Oncology, Biology, Physics* 2005;63:S149-S150.

B. Areas of Research Interest and Current Projects

1. DNA Repair
2. Radiosensitizing Agents
3. Translational Research

Current Projects

1. Identifying genes that interact with mismatch repair function
2. Understanding the role of DNA repair and oxidative damage in thymineless death
3. Understanding the biological mechanism behind 2-deoxy-D-glucose radiosensitization

Current Clinical Trials: Investigator Initiated (Dornfeld, PI)

1. Long-term treatment efficacy of parotid-sparing radiation therapy techniques: the University of Iowa Experience (IRB 200508767)
2. A phase I clinical trial: 2DG + stereotactic radiosurgery (SRS) protocol for treatment of intracranial metastases (IRB 200506744)
3. Serial blood and salivary sampling for validation of quantitative amifostine assays. (IRB 200406002)
4. A phase I study of fractionated radiation therapy combined with 2-deoxyglucose for treatment of squamous cell carcinoma of the head and neck (IRB 200311079)

Current Clinical Trials: Investigator Initiated (Dornfeld, co-principal investigator)

1. Biodistribution and radiation dosimetry of F-18 Fluorothymidine (FLT) Imaged with positron emission tomography (PET) in patients with head and neck cancer: a radioactive drug research committee (RDRC) study (IRB 200502799)
2. Development of radiation fibrosis in patients treated with pentoxifylline and vitamin E: a prospective randomized study (IRB 200211003)

Current Clinical Trials: Investigator Initiated (Dornfeld, co-investigator)

1. The complementary medicine "reflexology" in head and neck cancer patients undergoing radiation treatment: a pilot study. (IRB 200512732)
2. Assessment of tissue response to hyperbaric oxygen therapy for osteoradionecrosis (IRB 200510757)

3. Swallowing function in patients after Intensity Modulated Radiation Therapy for head and neck cancer. Does dose delivered to critical structures determine functional outcome? (IRB 200411740; Faculty mentor)
4. Pilot study to evaluate esomeprazole (Nexium) in treating gastro-esophageal reflux in patients with head and neck cancer with prior external beam radiation therapy: a randomized, prospective, placebo-controlled, double-blind study. (IRB 200308067)
5. PET Imaging in the Management of Head and Neck Cancer (IRB 200304023)

Current Clinical Trials: National Cooperative Group (Dornfeld, local co-investigator)

1. CALGB 30407: A randomized phase II study of radiation therapy, pemetrexed and carboplatin with or without cetuximab in stage III non-small cell lung cancer (IRB 200510703)
2. CALGB 30501: a phase II trial of induction chemoradiotherapy with cisplatin/etoposide followed by surgical resection, followed by docetaxel, for non-small cell lung cancer involving the superior sulcus (pancoast tumors) (IRB 200509731)
3. RTOG 0212: A Phase II/III randomized trial of two doses (phase III-standard vs. high) and two high dose schedules (phase II-once vs. twice daily) for delivering prophylactic cranial irradiation for patients with limited disease small cell lung cancer. (IRB 200505727)
4. RTOG 0214: A Phase III comparison of prophylactic cranial irradiation versus observation in patients with locally advanced non-small cell lung cancer (IRB 200411779)
5. CALGB 30206: induction cisplatin/irinotecan followed by combination carboplatin, etoposide and chest radiotherapy in limited stage small cell lung cancer: a phase II study (IRB 200402028)
6. University of Iowa Cancer and Leukemia Group B Project (CALGB) – Overall (IRB 198608388)

C. Published reviews of Scholarship

D. Grants Received

Plasmid Substrates for Recombination Studies

Source:	National Science Foundation Medical Student Research		
Direct Funds:	\$10,000	Period of Funding:	1986
PI:	Dennis M. Livingston	% of Effort:	20

Genetic Identification of Recombination Participants

Source:	Minnesota Medical Foundation Student Research Center		
Direct Funds:	\$2,000	Period of Funding:	1992
PI:	Kenneth J. Dornfeld	% of Effort:	25

Selective Toxicity in Mismatch Repair Defective Cells

Source: Munn Idea Grant, University of Michigan Cancer Center
 Direct Funds: \$10,000 Period of Funding: 10/00-9/01
 PI: Kenneth J. Dornfeld % of Effort: 10

A Gene Therapy Model for Head and Neck Cancer

Source: American Society for Therapeutic Radiation and Oncology
 Direct Funds: \$60,000 Period of Funding: 6/00-6/02
 PI: Kenneth J. Dornfeld % of Effort: 25

Gene Therapy and Prodrug Treatment for Head and Neck Cancer

Source: Veterans Affairs Mentored Merit Review
 Direct Funds: \$50,000 annually Period of Funding: 4/02-4/03
 PI: Kenneth J. Dornfeld and Alnawat Rehemtulla
 % of Effort: 25

The Role of Oxidative DNA Damage and its Repair in Mediating the Toxicity and Radiosensitization of Thymine Deprivation

Source: American Cancer Society via Holden Cancer Center
 Direct Funds: \$20,000 Period of Funding: 12/03-11/04
 PI: Kenneth J. Dornfeld % of Effort: 5

F-18 Fluorothymidine (FLT) Positron Emission Tomography (PET) Imaging in Squamous Cell Head and Neck Cancer Patients Treated with Concurrent Chemotherapy and Radiotherapy

Source: University of Iowa Carver College of Medicine
 Direct Funds: \$47,000 Period of Funding: 04/04-03/06
 PI: Kenneth J. Dornfeld % of Effort: 5

The use of 2-deoxy-d-glucose and stereotactic radiosurgery for intracranial malignancies

Source: GCRC Clinical Research Pilot Grant
 Direct Funds: \$20,000 Period of Funding: 01/04-12/04
 PI: Kenneth J. Dornfeld % of Effort: 5

F-18 Fluorothymidine (FLT) Positron Emission Tomography (PET) Imaging in Squamous Cell Head and Neck Cancer Patients Treated with Concurrent Chemotherapy and Radiotherapy

Source: Holden Comprehensive Cancer Center Seed Grant
 Direct Funds: \$10,000 Period of Funding: 1/04-12/04
 PI: Kenneth J. Dornfeld % of Effort: 5

E. Invited Lectures, Conference Presentations, Visiting Professorships

1. **Dornfeld K** and Livingston D. Plasmid Recombination in the Death and Abundance of *RAD52*. Presented at Yeast Genetics Meeting, 1999.
2. **Dornfeld K**, Chandler W, Jaffe C, and Sandler H. Effects of Pituitary Irradiation on Somatomedin C Levels in Acromelgic Patients. Presented to Radiological Society of North America, 1995.
3. Fields MT, Parsels JD, **Dornfeld KJ**, Maybaum J, Lawrence TS, and Radnany EH. The Role of Uracil DNA Glycosylase in Fluorodeoxyuridine (FUDR) Mediated Radiosensitization. Presented at the Radiation Research Society Meeting by Mr. Fields, 1998.
4. **Dornfeld KJ** and Radany EH. Toward a Transgenic Model of Mouse Gliomas. Presented at the American Society of Therapeutic Radiology and Oncology, 1998.
5. **Dornfeld KJ**. DNA Repair in Head and Neck Cancer. Presented at the Iowa & Minnesota Head and Neck Cancer Retreat, 2003.
6. **Dornfeld KJ**. Prostate Cancer. Presented at the American Cancer Society at Galesburg IL, April 2003.
7. **Dornfeld KJ**. Translational Research at UIHC. Presented at the Spring Conference for the Iowa Society for Therapeutic Radiation Oncologists, June 2003.
8. **Dornfeld, KJ** The Use of 2-Deoxyglucose in Head and Neck Cancer. Presented at the Midwest Head and Neck Cancer Retreat, Minneapolis, MN February 2004.
9. Simmons JR, **Dornfeld K**, Karnell L, Karnell M, Funk G, Yao M, Wacha J, and Zimmerman B. Radiation Doses to Structures Within and Adjacent to the Larynx are Correlated with Long Term Diet and Speech Related Quality of Life. Oral Presentation. American Society for Therapeutic Radiology and Oncology [ASTRO] 47th Annual Meeting. Denver, Colorado; 2005.
10. Chen, CM and **Dornfeld, K**. Azidothymidine (AZT) Enhances Radiosensitization of Fluorodeoxyuridine, Poster Presentation. American Society for Therapeutic Radiology and Oncology [ASTRO] 47th Annual Meeting. Denver, Colorado; 2005.

F. Pending Decisions

Mitochondrial Oxidative Stress in Thymineless Death

Source:	National Institutes of Health –K08		
Direct Costs:	\$126,075 annually	Period of Funding:	5 years
PI:	Kenneth J. Dornfeld	% of Effort:	80

submitted in February 2004, score of 187; resubmit in March 2006.

Oxidative Events in Cancer Therapy

Source: National Institutes of Health –P01
 Direct Costs: \$1,012,000 annually Period of Funding: 5 years
 PI: Larry W. Oberley % of Effort 20
 Co-PI: Douglas Spitz, Kenneth J Dornfeld
 Project Budget: \$202,000 annually for 5 years

Manipulations of Respiration, DNA Repair and Cell Cycle Can Enhance the Efficacy of Thymidine Deprivation Based Cancer Therapy

Source: Kimmel Foundation
 Direct Costs: \$100,000 annually Period of Funding: 2 years
 PI: Kenneth J. Dornfeld
 submitted 12/1/2005

Novel Approach to Augment Thymidine Deprivation Based Chemotherapy

Source: Culpepper Foundation
 Direct Costs: \$25,000
 PI: Kenneth J. Dornfeld
 Submitted 11/15/2005

Cell Cycle and Mitochondrial Events During Thymidine Deprivation

Source: Biological Sciences Funding Initiative • University of Iowa
 Direct Costs: \$30,000
 PI: Kenneth J. Dornfeld
 Submitted 12/1/2005

The Use of 2-Deoxyglucose in Head & Neck Cancer

Source: Carver College of Medicine Collaborative Grant
 PI: Kenneth J. Dornfeld
 Direct Costs: \$50,000
 Submitted 12/1/2005

Uracil Glycosylase and Superoxide Dismutase in Aging and Response to Chemotherapy

Source: Cancer & Aging Program
 PI: Kenneth J. Dornfeld
 Letter of intent submitted 11/30/2005

Perfusion and Oxygenation in Mouse Tumors Following Radiotherapy

Source: Holden Comprehensive Cancer Center
 PI: Michael Graham (Kenneth J. Dornfeld, Co-I)
 Direct Costs: \$10,000
 Submitted 12/5/2005

The Use of 2-Deoxyglucose in Pancreatic Cancer

Source: Holden Comprehensive Cancer Center
 PI: Kenneth J. Dornfeld
 Direct Costs: \$10,000
 Submitted 12/5/2005

IV. SERVICE

A. Memberships in Professional Organizations

<i>2000-current</i>	American Society of Therapeutic Radiology and Oncology
<i>current</i>	American College of Radiology
<i>2002-current</i>	American Association of Cancer Research
<i>current</i>	Genetics Society of America

B. Clinical assignments since last promotion

1. Multi-disciplinary Lung Tumor Board
2. Chair, Translational Research Committee
3. Process Improvement Committee Member (Radiation Oncology)