

# Douglas Blaine Tippin, M.D., Ph.D.

Littleton Radiation Oncology  
5 West Dry Creek Circle • Littleton, CO 80120  
W: (303) 738-8700 • F: (303) 794-8287  
E-mail: [dbtippin@littletonradonc.com](mailto:dbtippin@littletonradonc.com)



## Education

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| <b>Board Certification</b>   | <b>Radiation Oncology -- June 2, 2003</b>  |
| <b>Nov. 1999 – Dec. 2002</b><br><i>Residency</i>                     | The James Cancer Hospital & Solove Research Institute<br>Division of Radiation Oncology, The Ohio State University                     |
| <b>July 1998 – Oct. 1999</b><br><i>Residency</i>                     | The University of Chicago Center for Radiation Therapy<br>Department of Radiation & Cellular Oncology, The Pritzker School of Medicine |
| <b>June 1997 – April 1999</b><br><i>Residency &amp; Internship</i>   | The University of Chicago Hospitals<br>Department of Medicine, Division of Biological Sciences   |
| <b>Aug. 1990 – June 1997</b><br><i>Medical &amp; Graduate School</i> | The Ohio State University Medical Center<br>MD/PhD Fellowship in Molecular Biophysics/X-ray Crystallography                            |
| <b>Aug. 1988 – Aug. 1990</b><br><i>Masters, M.S.</i>                 | Baylor University<br>Physical Chemistry/X-ray Crystallography Research Fellowship  |
| <b>Aug. 1984 – June 1988</b><br><i>Undergrad, B.A.</i>               | Baylor University<br>Chemistry/Honors Program graduate with Honors & Distinction   |

## Professional Experience

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- ◆ Medical Director of Highlands Surgical Center: 2/2007 to present.
- ◆ Attending oncologist at Littleton Radiation Oncology: 1/2003 to present.
- ◆ Prostate seed implants, breast brachytherapy, gynecologic implants, hyperthermia, respiratory gating, intensity modulated radiotherapy (IMRT of pelvic, thoracic, abdominal, and Head & Neck tumors), high-dose-rate and low-dose-rate brachytherapy, intraoperative electron therapy and high-dose-rate brachytherapy.
- ◆ Clinical research experience in pediatric brachytherapy, intraoperative irradiation and radiation sensitizers. Construction of a full body nodal atlas for therapeutic radiation.
- ◆ Co-Investigator: NCI phase I study of induction Carboplatin/Paclitaxel chemotherapy, pre-operative radiotherapy with Gadolinium Texaphyrin [a radiation sensitizer], and surgical resection in stage IIIA (N2) non-small cell lung cancer.
- ◆ Basic research experience in the tertiary and quaternary structure of DNA in response to DNA-binding proteins, polyamines, methylation and hydration
- ◆ Chief Resident, Radiation Oncology @ The James Cancer Hospital, Ohio State University (2001, 2002)
- ◆ President of the OSU Medical Scientist Student Organization (1992, 1993 & 1994), Vice President (1991, 1992)

## Achievements

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- ◆ Chief resident in Radiation Oncology, The James Cancer Hospital, 2002
- ◆ American Brachytherapy Society Resident Travel Grant Award, 23<sup>rd</sup> annual meeting, 2002
- ◆ Honors paper presentation at Grand Rounds, OSU Medical Center, 1996: *Cystic Fibrosis: From A to Gene Therapy*
- ◆ MD/PhD Fellowship with full tuition and stipend, The Ohio State University, 1990-1997
- ◆ Who's Who among students in American Universities and Colleges, 1988 & 1989
- ◆ Baylor University: Undergrad Award in Analytical Chemistry, pre-med & chemistry scholarships, Dr. Pepper Scholar

## Professional Societies

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- ◆ American Society of Therapeutic Radiation & Oncology
- ◆ American Association for the Advancement of Science
- ◆ American Crystallographic Association
- ◆ Colorado Medical Society
- ◆ American Brachytherapy Society
- ◆ American Medical Association
- ◆ American Chemical Society
- ◆ Arapahoe Medical Society

## Extracurricular Activities

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- ◆ Tae Kwon Do & Hap Ki Do Instructor
- ◆ Scuba Diving
- ◆ Yoga
- ◆ Hiking & Biking

## Texts

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- ◆ Nag S. & **Tippin DB**. Brachytherapy for Pediatric Tumors. In the textbook of Principles and Practice of Brachytherapy, 2<sup>nd</sup> edition. Edited by S. Nag. Futura Publishing Company. In Press
- ◆ Reviewed & Edited: Nag S. Clinical Aspects of High-Dose-Rate Brachytherapy. In the text book: Principles and Practice of Radiation Oncology, 4<sup>th</sup> edition (2004). Edited by C. Perez, L. Brady, E. Halperin & R. Schmidt-Ullrich.

## Presentations

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- ◆ Mullica DF, Haines RA, **Tippin DB**, Perkins HO. "Application of a X-ray diffractometer with an energy dispersive detector to X-ray absorption spectrometry." The 42nd S.W. Regional Meeting of the American Chemical Society; 1986.
- ◆ **Tippin DB**, Mullica DF, Sappenfield EL, Leschnitzer D. "Synthesis, spectroscopic study and crystal structure analysis of zinc nitrosylpentacyanoferrate trihydrate,  $Zn[Fe(CN)_5NO] \cdot 3H_2O$ ." The 44th S.W. Regional Meeting of the ACS; 1988.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. "Synthesis and crystal structures of  $CdFe(CN)_5NO \cdot 3H_2O$ ,  $MnFe(CN)_5NO \cdot 3H_2O$  and  $FeFe(CN)_5NO \cdot 3H_2O$ ." The 45th S.W. Regional Meeting of the ACS; 1989.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. "Crystallographic and thermal analyses of several nitroprussides." The 47th Southwest Regional Meeting of the American Chemical Society; 1991.
- ◆ Sekharudu C, Yathindra N, **Tippin DB**, Sundaralingam MS. "DNA triple helices with structural features of B and A-DNA: a molecular dynamics study." The 8th Conversation in Biomolecular Stereodynamics, SUNY @ Albany, NY; 1993.
- ◆ **Tippin DB**, Ramakrishnan B, Sundaralingam MS. "Crystal structures of three decamers: the role of base methylation and spermine binding in condensation of A-DNA." The 9th Conversation in Biomolecular Stereodynamics, Albany, NY; 1995
- ◆ **Tippin DB**. "A-DNA conformation: the effects of base methylation and spermine binding." presentation and defense of Ph.D. dissertation, The Ohio State University; 1995.
- ◆ **Tippin DB**, Nag S, Ruymann F. "Intraoperative high-dose-rate brachytherapy in the treatment of soft tissue sarcomas." Presented at The Ohio State Radiological Society's Annual Meeting and Children's Hospital 21<sup>st</sup> Annual Research Forum, 2000; and the International Society of Intraoperative Radiation Therapy in Boston, Massachusetts, 2000.
- ◆ **Tippin DB**, Nag S. "Intraoperative high-dose-rate brachytherapy in locally advanced tumors of the paranasal sinuses." To be presented at the American Brachytherapy Society 23<sup>rd</sup> Meeting, Orlando, Florida, 2002.
- ◆ Nag S, Mehmet K, Schuller DE, **Tippin DB** and Grecula JC. "Intraoperative single fraction high-dose-rate brachytherapy for head and neck cancers." GEC-ESTRO meeting in Budapest, Hungary, May 4-7, 2005.

## Publications

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- ◆ **Tippin DB**, Sappenfield EL, Leschnitzer D, Mullica DF. Synthesis, spectroscopic study and crystal structure analysis of zinc nitrosylpentacyanoferrate trihydrate,  $Zn[Fe(CN)_5NO] \cdot 3H_2O$ . *Inorganica Chimica Acta* 1989; **164**: 99-103.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. The crystal structures of two nitroprussides:  $Mn[Fe(CN)_5NO] \cdot 3H_2O$  and  $Cd[Fe(CN)_5NO] \cdot 3H_2O$ . *Inorganica Chimica Acta* 1990; **174**: 129-135.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. The crystal structure analysis of iron nitroprusside,  $Fe[Fe(CN)_5NO] \cdot 3H_2O$ . *Journal of Crystallographic and Spectroscopic research* 1991; **21**: 81-85.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. Synthesis, spectroscopic studies and X-ray crystal structure analysis of cobalt nitroprusside,  $Co[Fe(CN)_5NO] \cdot 3H_2O$ . *Journal of Coordination Chemistry* 1991; **24**: 83-91.
- ◆ **Tippin DB**, Sappenfield EL, Mullica DF. The Jahn-Teller effect in the crystallization of copper nitroprusside  $Cu[Fe(CN)_5NO] \cdot 3H_2O$ . *Journal of Coordination Chemistry* 1992; **25**: 175-182.
- ◆ **Tippin DB**, Sundaralingam MS. Crystal and molecular structure of d(CCCTAGGG): comparison with nine isomorphous sequences reveals four distinct patterns of sequence-dependent intermolecular interactions. *Acta Cryst sec D* 1996; **52**: 997.
- ◆ **Tippin DB**, Sundaralingam MS.. A comparison of major groove hydration in isomorphous A-DNA octamers and the dependence of base sequence and local helix geometry. *Biochemistry* 1997; **36** (3): 536-543.
- ◆ **Tippin DB**, Sundaralingam MS. Three polymorphic crystal structures of d(CCCGGGCCm5CGG): base methylation and spermine binding in the condensation of duplex A-DNA. *J. Molecular Biology* 1997; **267** (5): 1170-1185.
- ◆ **Tippin DB**, Ramakrishnan B, Sundaralingam MS. Methylation of the Z-DNA decamer d(GC)5 potentiates the formation of A-DNA: crystal structure of d(Gm5CGm5CGCGCGC). *J. Molecular Biology* 1997; **270** (2): 247-258.
- ◆ Shi K, **Tippin DB**, Sundaralingam MS. Methylation of the octamer d(GCGCGCGC) stabilizes the A-DNA conformation in the crystalline state. *Acta Crystallographica Section D* 1997; **52**:
- ◆ Shi K, Pan B, **Tippin DB**, Sundaralingam MS. Structures of d(Gm5CGm5CGCGC) and d(GCGCGm5CGm5C): effects of methylation on alternating DNA octamers. *Acta Cryst* 2004; **D60**: 61-65.

- ◆ **Tippin DB**, Reeves W, Vogelzang N. Diagnosis and treatment of leptomeningeal metastases in a patient with renal carcinoma responding to 5-fluorouracil and gemcitabine. *Journal of Urology* 1999; **162**(1): 155-156.
- ◆ Hoop J, Eisenbeis CF, **Tippin DB**, Matteo L, Ratain MJ. Vincristine-induced myocardial ischemia 1999. *J. Invest. Med.*; **47**: 233A.
- ◆ Nag S, **Tippin DB**, Ruymann FB. Intraoperative high-dose-rate brachytherapy for the treatment of pediatric soft tissue sarcomas. *International Journal of Radiation Oncology, Biology & Physics* 2001; **51**(3): 729-735.
- ◆ Nag S, **Tippin DB**, Smith S, Ruymann F. Intraoperative electron beam for the treatment of pediatric malignancies. *Medical & Pediatric Oncology* 2003; **40**: 360-366.
- ◆ Nag S, **Tippin DB**, Smith S, Ruymann F. Long-term morbidity in children treated with fractionated high-dose-rate brachytherapy for soft tissue sarcomas. *J. Pediatric Hematology/Oncology* 2003; **25** (6): 448-452.
- ◆ Nag S & Tippin DB. Brachytherapy for pediatric tumors. *Brachytherapy* **2** (2003), 131-138.
- ◆ Nag S, **Tippin DB**, Grecula J, Schuller D. Intraoperative high-dose-rate brachytherapy for paranasal sinus tumors. *International Journal of Radiation Oncology, Biology & Physics* 2004; **58**(1): 155-160.
- ◆ Nag S, Koc, **Tippin DB**, Grecula J, Schuller D. Intraoperative single-fraction high-dose-rate brachytherapy for head & neck cancers, *Brachytherapy* **4** (2005), 217-223.