2006 AAPM TomoTherapy Scientific Posters

Poster Display Area in Exhibit Hall: July 31 – August 3, 2006

SU-DD-A3-3
A Dose-Guided Adaptive Therapy Process for Treatment Evaluation and Correction
K Ruchala*[1], G Olivera[1,2], W Lu[1], J Haimerl[1], E Schnarr[1], Q Chen[1], S Meeks[3], K Langen[3], P Kupelian[3]
(1)TomoTherapy Inc., Madison, WI (2)University of Wisconsin-Madison, Madison, WI (3)M. D. Anderson Cancer Center Orlando

SU-DD-A3-2
Evaluation of Helical TomoTherapy Megavoltage CT System for Daily Automatic Patient Setup Correction and Manual Prostate Gland Motion Correction
C Han*, T Schultheiss, A Liu, J Wong, City of Hope National Medical Center, Duarte, CA

SU-FF-T-439
Treatment Planning to Achieve Skin Sparing with TomoTherapy
R Studinski*[1], A Cherpak[2], J Cygler[1], L Gerig[1], A Saoudi[1], K Carty[1], G Fox[1], L Montgomery[1], (1) The Ottawa Hosptial Regional Cancer Centre, Ottawa , Ontario, CA, (2) Carleton University, Ottawa, ON, CA

SU-FF-T-453
Verification of Head Leakage as the Primary Source of Shielded Radiation from a TomoTherapy Unit
M West*, A Sen, Cancer Treatment Center, Tulsa, OK

SU-FF-T-193
Dosimetric Study and In-Vivo Dose Verification for Conformal Avoidance Helical TomoTherapy of Anal Adenocarcinoma
C Han*, Y Chen, A Liu, T Schultheiss, J Wong, City of Hope National Medical Center, Duarte, CA

SU-FF-T-71
A Useful Tool Developed for Trial Comparison and Developing Composite Plan Between TomoTherapy and Pinnacle
N Papanikolaou*, C Shi, Cancer Therapy and Research Center, San Antonio, TX

SU-FF-T-101
Application of the Post-Processing Dose Tool (PPD) to Dosimetrically Compare Gamma Knife and Hi Art TomoTherapy
C Shi*[1],J Penagaricano [2], Y Yan[2], N Papanikolaou[1],(1) Cancer Therapy and Research Center, San Antonio, TX, (2) University of Arkansas for Medical Sci, Little Rock, AR, University of Arkansas Medical Science, Little Rock, AR

SU-FF-T-172
Dose Mapping for Interrupted TomoTherapy Treatments
P Rassiah*[1], N Papanikolaou [1], M Fuss[2], (1)Cancer Therapy and Research Center, San Antonio, TX, (2) UT Health Science Center at San Antonio, San Antonio, Texas

SU-FF-T-292
Inter-Institution Comparison of Patient Quality Assurance Analysis for TomoTherapy
C Shi*[1], Y Yan[2], C. Wu [3], N Papanikolaou[1] (1) Cancer Therapy and Research Center, San Antonio, TX,(2) University of Arkansas Medical Science, Little Rock, AR, University of Arkansas for Medical Sci, Little Rock, AR,(3) University of California at Davis

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SU-FF-T-195
Dosimetry Audit for TomoTherapy Using Alanine/EPR
S Duane*[1], D Nicholas[2], H Palmans[1], B Schaeken[3], J Sephton[1], P Sharpe[1], R Thomas[1], M Tomsej[4], K Tournel[5], D Verellen[5], S Vynckier[4], (1)National Physical Laboratory, Teddington, Middlesex, GB, (2)Cromwell Hospital, London, GB, (3)ZNA-Middelheim, Antwerpen, BE, (4)Cliniques Univ St. Luc, Hoeilaart, BE, (5)AZ VUB, Brussels, BE

SU-FF-T-377
Radiation Shielding Calculations and Measurement for a Helical TomoTherapy Unit in An Existing Treatment Room
C Wu*, F Guo, C Yang, R Stern, J Purdy, University of California - Davis, Sacramento, CA, University of California, Davis, Sacramento, CA,

SU-FF-J-110
Quantification of Image Alignment Differences for TomoTherapy Prostate Patients
R Rivest*, T Riauka, A Murtha, B Fallone, Cross Cancer Institute, Edmonton, Alberta, CA

SU-FF-J-73
Helical TomoTherapy Sinogram Deformation for Daily Adaptive Therapy
S Outten*[1], C Ramsey[2], (1) University of Tennessee, Knoxville, TN, (2) Thompson Cancer Survival Center, Knoxville, TN

SU-FF-J-97
Modeling of Lung Tumor Response to Image-Guided Radiation Therapy
R Seibert*[1],C Ramsey[1], J Hines[2], (1) Thompson Cancer Survival Center, Knoxville, TN (2) University of Tennessee, Knoxville, TN

SU-FF-T-292
Inter-Institution Comparison of Patient Quality Assurance Analysis for TomoTherapy
C Shi*[1], Y Yan[2], C. Wu [3], N Papanikolaou[1] (1) Cancer Therapy and Research Center, San Antonio, TX,(2) University of Arkansas Medical Science, Little Rock, AR, University of Arkansas for Medical Sci, Little Rock, AR,(3) University of California at Davis

SU-FF-T-428
The Use of a Commercial QA Device for Daily Output Check of a Helical TomoTherapy Unit
P Alaei*, S Hui, P Higgins, B Gerbi, Univ Minnesota, Minneapolis, MN

SU-FF-T-228
Evaluation of Surface and Superficial Dose for Head and Neck Treatments Using Conventional or Intensity-Modulated Techniques
P Higgins*, E Han, J Yuan, S Hui, C Lee, Therapeutic Radiology-Radiation Oncology, University Minnesota, Minneapolis, MN 55455

SU-FF-I-53
Mega-Voltage CT Image: An Attempt to Enhance Image Quality
C Overbeck*, S Hui, University of Minnesota, Minneapolis, MN, Therapeutic Radiology, Minneapolis, MN

SU-FF-T-284
Independent Calculation of Dose for a Helical TomoTherapy Treatment Plan
J Gibbons*[1,2], K Smith[2], D Cheek[1], I Rosen[1,2](1) Mary Bird Perkins Cancer Center, Baton Rouge, LA, (2) Louisiana State University, Baton Rouge, LA

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SU-FF-T-447
Utility of Film Dosimetry for Assessing TomoTherapy Treatments of Superficial PTVs
D Cheek*[1], K Hogstrom[1,2], J Gibbons[1,2], I Rosen[1], (1) Mary Bird Perkins Cancer Center, Baton Rouge, LA, (2) Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA

SU-FF-J-19
Adaptive Radiation Therapy Using Helical TomoTherapy
S Meeks* [1] , R Manon[1], P Kupelian[1], K Langen[1], W Lu [2] , Q Chen[2], J Haimerl[2], K Ruchala[2], G Olivera[3], M. D. Anderson Cancer Center Orlando, Orlando, FL, M. D. Anderson Cancer Center Orlando, Orlando, FL, TomoTherapy Inc., Madison, WI, Tomotherapy Inc, Madison, WI, Univ of Wisconsin-Madison, Madison, WI

SU-FF-T-176
Dose Verification in Moving Targets During Helical TomoTherapy Beam Delivery
O Zeidan*, K Langen, S Meeks, T Willoughby, T Wagner, P Kupelian, M D Anderson Cancer Center Orlando, Orlando, FL

SU-FF-T-254
Helical TomoTherapy Radiosurgery Planning
[1]T Wagner*, [1]K Langen, [1]T Willoughby, [1]O Zeidan, [2]K Ruchala, [3]G Olivera, [1]P Kupelian, [1]S Meeks, (1) M.D. Anderson Cancer Center-Orlando, Orlando, FL, (2) TomoTherapy Inc., Madison, WI, (3) University of Wisconsin-Madison, Madison, WI

SU-FF-T-421
The Influence of Field Length, Pitch, and Modulation Factor On the Quality of Helical TomoTherapy Plans
C Bhavin*[1], K Langen[1], S Meeks[1], O Zeidan[1], S Jeswani[1], (1)M.D. Anderson Cancer Center Orlando, Orlando, FL, (2) TomoTherapy, Inc., Madison, WI

SU-FF-I-98
Segmentation of CT Image Using Fast-Marching and Active-Contour
Q Chen*[1], W Lu[1], K Ruchala[1], G Olivera[1,2], (1) TomoTherapy Inc., Madison, WI, (2) Univ of Wisconsin-Madison, Madison, WI

SU-FF-J-25
An Optimized Dose-Based Patient Alignment Method for On-Line Adaptive Radiotherapy
Y Pan*[1], W Lu[1], K Ruchala[1], M Chen[1], Q Chen[1], P Kupelian[2], K Langen[2], S Meeks[2], G Olivera[1,3], (1) Tomotherapy Inc., Madison, WI, TomoTherapy Inc., Madison, WI, (2) M.D. Anderson Cancer Center-Orlando, Orlando, FL, (3) University of Wisconsin-Madison, Madison, WI

SU-FF-J-98
Motion Encoded Beamlets for Optimization and Evaluation in Four-Dimensional (4D) Radiotherapy
W Lu*[1], G Olivera[12], Q Chen[1], M Chen[1], Y Pan[1], E Schnarr[1] , K Ruchala[1], (1)TomoTherapy Inc., Madison, WI, (2)Univ of Wisconsin-Madison, Madison, WI

SU-FF-J-117
Respiration Monitoring Using Radiotherapy Treatment Beam
Q Chen*[1], W Lu[1], M Chen[1], K Ruchala[1], G Olivera[1,2], (1) TomoTherapy Inc., Madison, WI, (2) University of Wisconsin-Madison, Madison, WI

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SU-FF-T-1
A Delivery Transfer Function (DTF) Analysis of Helical TomoTherapy
M Kissick*, T Mackie, R Jeraj, University of Wisconsin - Madison, Madison, WI, University of Wisconsin, Madison, WI

SU-FF-T-41
A Novel TomoTherapy Design for the Breast
S J Becker*, R A Shaw, R T Flynn, T R Mackie, University of Wisconsin, Madison, WI

SU-FF-T-108
Automatic Machine Commissioning for a Helical TomoTherapy Machine
G Olivera*[1, 2], B Cravens[1], A Cox[1], C De Souza[1], K Ruchala[1], D Lucas[1], Q Chen[1], W Lu[1], D Henderson[1], (1)Tomotherapy Inc, Madison, WI, (2) Univ of Wisconsin-Madison, Madison, WI

SU-FF-T-150
Consequence of CT Couch Sag in Radiation Therapy
A Gutiérrez*[1], S Boswell[1], T Mackie[1,2], (1) University of Wisconsin, Madison, WI, (2) TomoTherapy Inc., Madison, WI

SU-FF-T-332
Monte Carlo Simulation of TomoTherapy: Derivation of a Dual Source Model for Treatment Planning
Y Hsiao*[1], R Stewart[1], G Olivera[2], K Ruchala[3], X Li[4], (1) Purdue University, West Lafayette , IN, (2) University of Wisconsin-Madison, Madison, WI, (3) TomoTherapy Inc., Madison, WI, (4) Medical College of Wisconsin, Milwaukee, WI

SU-FF-T-336
Multi-Slice TomoTherapy Delivery Methods Using a Novel Multileaf Collimator
P Cadman*[1], T Mackie[2,3], P Reckwerdt[3], (1) Saskatoon Cancer Centre, Saskatoon, SK, CA, (2) University of Wisconsin, Madison, WI, (3) TomoTherapy Inc., Madison, WI

SU-FF-T-338
MVCT Superiority Over KVCT in Assessment of Electron Density for Treatment Planning
R Shaw*, T Mackie, University of Wisconsin, Madison, WI

SU-FF-T-369
Propagation of Linac Output and Fluence Discretization Error to Dose Distributions in IMRT
R Flynn*, M Kissick, R Jeraj, T Mackie, M Mehta, G Olivera, S Srinavasan, University of Wisconsin, Madison, WI

MO-D-224A-8
Automated Patient-Specific IMRT Quality Assurance Using Exit Detector Data
R Seibert*, C Ramsey, Thompson Cancer Survival Center, Knoxville, TN

MO-E-224C-5
Comparison of TomoTherapy with Conventional Electron/X-Ray Treatment Plans for Chest Wall
M Ashenafi*, R Boyd, K Lo, T Lee, K Hogstrom, Mary Bird Perkins Cancer Center, Baton Rouge, LA, Louisiana State University, Baton Rouge, LA

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TU-C-224C-4
Computed Radiography for Helical TomoTherapy Quality Assurance
C Ramsey, C Harris*, Thompson Cancer Survival Center, Knoxville, TN, Thompson Cancer Center, Knoxville, TN

TU-C-ValA-2
A Simple Iterative Method to Invert a Deformation Field
M Chen*[1], W Lu[1], K Ruchala[1], Q Chen[1], Y Pan[1], G Olivera[1,2], (1)TomoTherapy Inc., Madison, WI, (2) Univ of Wisconsin-Madison, Madison, WI

TU-E-224A-3
Image and Dosimetric Verification of Positioning Accuracy for Helical TomoTherapy Intensity Modulated Stereotactic Radiosurgery
A Liu*, C Han, C Staud, S Sun, T Schultheiss, J Wong, City of Hope National Medical Center, Duarte, CA

TU-E-ValB-1
Helical TomoTherapy Targeting Total Bone Marrow – Initial Clinical Experience at the University of Minnesota
S Hui*, M Verneris, P Higgins, B Gerbi, B Weigel, S Baker, C Fraser, M Tomblyn, A Petryk, T DeFor, K Dusenbery, Therapeutic Radiology, Minneapolis, MN, University of Minnesota, Minneapolis, MN, Univ Minnesota, Minneapolis, MN, University of Minnesota Medical School, Minneapolis, MN

TU-FF-A1-5
A Motion Phantom Study On Helical TomoTherapy: The Dosimetric Impacts of Delivery Technique and Motion
B Kanagaki**[1], P Read*[1], J Larner*[1], J Molloy*[2], K Sheng*[1], (1) University of Virginia, Charlottesville, VA, (2) Mayo Clinic, Rochester, MN

WE-D-224C-7
A Comprehensive Patient-Specific IMRT Quality Assurance Procedure On Hi-Art TomoTherapy® Unit
Y Yan*[1], H Jiang[1], X Weng[1], J Penagaricano[1], E Moros[1], N Papanikolaou[2], C Shi[2], P Novak[1], V Ratanatharathorn[1], (1) University of Arkansas for Medical Sciences, Little Rock, AR, (2) Cancer Therapy and Research Center, San Antonio, TX

WE-D-224C-3
Surface Dose Measurements for Intensity Modulated Radiation Therapy
MJ Mitchell*, C Ramsey, Thompson Cancer Survival Center, Knoxville, TN

WE-D-224C-5
Investigation of Superficial Dose From a Static TomoTherapy Beam
K Smith*[1], J Gibbons[1,2], K Hogstrom[1,2], B Gerbi[3], (1) Louisiana State University, Baton Rouge, LA, (2) Mary Bird Perkins Cancer Center, Baton Rouge, LA, (3) Univ Minnesota, Minneapolis, MN

WE-D-224C-5
Investigation of Superficial Dose From a Static TomoTherapy Beam
K Smith*[1], J Gibbons[1,2], K Hogstrom[1,2], B Gerbi[3], (1) Louisiana State University, Baton Rouge, LA, (2) Mary Bird Perkins Cancer Center, Baton Rouge, LA, (3) Univ Minnesota, Minneapolis, MN

WE-A-224C-1
Daily Localization III: TomoTherapy
S Meeks*, M. D. Anderson Cancer Center Orlando, Orlando, FL

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WE-E-224C-1
Dose Reconstruction Quality Assurance for Helical TomoTherapy
D Chase*, C Ramsey, R Seibert, Thompson Cancer Survival Center, Knoxville, TN

WE-E-224C-7
Image-Guided Helical TomoTherapy for Localized Prostate Cancer: Technique and Initial Clinical Observations
C Ramsey, D Scaperoth, R Seibert, D Chase, C Harris*, Thompson Cancer Survival Center, Knoxville, TN,

TH-C-ValB-1
Prostate Contouring Uncertainty in Mega-Voltage Computed Tomography (MVCT) Images Acquired with a Helical TomoTherapy Unit During Image-Guided Radiation Therapy (IGRT)
W Song*[1], B Chiu[2], G Bauman[1], M Lock[1], G Rodrigues[1], R Ash[1], C Lewis[1], A Fenster[2], J Battista[1], J Van Dyk[1], (1) London Regional Cancer Program, London, Ontario, CA, (2) Imaging Research Laboratories, Robarts Research Institute, London, Ontario, CA

TH-C-224A-1
IMRT Patient QA
C Ramsey*, Thompson Cancer Survival Center, Knoxville, TN

TH-D-224A-1
QA for TomoTherapy
W Tome*, H Jaradat, D Westerly, J Fenwick, N Orton, T Mackie, B Paliwal, University of Wisconsin, Madison, WI, University of Wisconsin - Madison, Madison, WI

TH-D-ValA-1
Preliminary Investigation of Multi-Pass Respiratory Gated Helical TomoTherapy (MRG-HT)
B Kim*, T Kron, J Chen, J Battista, London Regional Cancer Centre, London, ON, CA

TH-E-ValA-2
Simultaneous Multi-Pencil Fan-Beam-Based Intensity-Modulated Proton Therapy
T Mackie*[1], M Kissick[1], R Flynn[1], D Westerly[1], P Hill[1], P DeLuca[1], R Jeraj[1], A Schreuder[2], J Farr[2], 1. University of Wisconsin, Madison, WI, 2 Indiana Univ, Bloomington, IN, MPRI, Bloomington, IN

TH-E-ValA-
Topographic Leaf-Sequencing Using a Genetic Algorithm
D Desai*[1], M Breinig[2], C Ramsey[3], (1) The University of Kentucky, Lexington, KY, (2) The University of Tennessee, Knoxville, TN, (3) Thompson Cancer Survival Center, Knoxville, TN