AAPM Residency

CAMPEP Self-Study Workshop

Appendices

Art Boyer

Scott & White Healthcare

Radiology Department

Temple, Texas

A. Letters of Invitation and Institutional Commitment

B. Documentation of Institutional Accreditation

C. Clinical Rotation Summaries

D. Program Graduates

E. Faculty Biographical Sketches and Primary Clinical Interest

Letters of Invitation

February 1, 2008

Bruce Gerbi, Ph.D.

Chair, CAMPEP Residency Education Program

Therapeutic Rad. - Rad. Oncology
University of Minnesota
Mayo Mail Code 494
420 Delaware St SE
Minneapolis , MN 55455

Dear Dr. Gerbi,

We formally invite the Commission on Accreditation of Medical Physics Education Programs (CAMPEP) to visit and review the Scott & White Radiology Department's Radiation Oncology Physics Residency Program. Attached you will find the self-study prepared by Dr. Arthur L. Boyer, the program director. The Scott & White Graduate Medical Education takes responsibility for the creation, implementation, and ongoing quality maintenance of graduate medical education training programs. We require that all of our residency and fellow training programs that are eligible be accredited. We applaud your efforts to set standards for quality training in medical physics programs and are willing to assist you in whatever you need to review the Scott & White Radiation Oncology Physics program. Please let us know if we can help any further.

Letters of Invitation

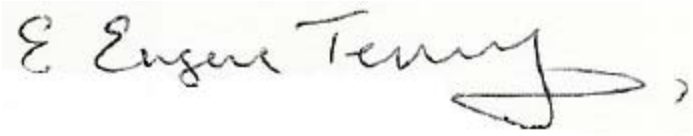
Sincerely,

Donald E. Wesson, M.D.

Vice-Dean Temple campus

Texas A&M College of Medicine

Chief Academic Officer, Scott & White



E. Eugene Terry, M.D.

Director, Graduate Medical Education

Letters of Institutional Commitment

February 1, 2008

Bruce Gerbi, Ph.D.
Chair, CAMPEP Residency Education Program
Therapeutic Rad. - Rad. Oncology
University of Minnesota
Mayo Mail Code 494
420 Delaware St SE
Minneapolis , MN 55455

Dear Dr. Gerbi,

The Administrative and Educational Leadership in the Radiology Department and the Division of Radiation Oncology at Scott & White Clinic supports this application for accreditation of our Radiation Oncology Physics Residency. Since its inception we have encouraged its existence and excellence.

We feel this program compliments our education mission and we are highly desirous that it achieve the designation "Accredited by CAMPEP, Inc" as an assurance that the program has achieved the level of excellence we strive for.

Letters of Invitation and Institutional Commitment

Sincerely,

Gil Naul, M.D.
Chair, Department of Radiology

Alan Cheung, M.D.
Director, Radiation Oncology Division

Documentation of Institutional Accreditation

1. Accreditation of University
2. Accreditation of Hospital
3. Accreditation of Residencies

Documentation of Institutional Accreditation

Scott and White Memorial Hospital and
Scott, Sherwood and Brindley Foundation
Temple, TX
has been Accredited by

THE JOINT COMMISSION
NATIONAL QUALITY APPROVAL

The Joint Commission

Which has surveyed this organization and found it to meet the requirements for the
Ambulatory Health Care Accreditation Program

March 25, 2008
Accreditation is customarily valid for up to 39 months.

David L. Nahrwold, M.D.
Chairman of the Board

9241
Organization ID #

Mark Chassin, M.D.
President

The Joint Commission is an independent, not-for-profit, national body that oversees the safety and quality of health care and other services provided in accredited organizations. Information about accredited organizations may be provided directly to The Joint Commission at 1-800-994-6610. Information regarding accreditation and the accreditation performance of individual organizations can be obtained through The Joint Commission's web site at www.jointcommission.org.

Clinical Rotation Summaries

The AAPM Report No. 90, lists ten rotation topics related to routine clinical treatment planning and delivery

Rotation Topic	
1	Detectors and Dosimeters
2	Radiation Safety
3	Treatment Equipment
4	Imaging
5	Conventional Simulation
6	CT Simulation
7	Patient Treatment
8	IMRT
9	Brachytherapy
10	Other Duties

- **Identify specific procedures and processes already in place in your institution appropriate for the rotation categories**
- **Sort them into these categories**

A Boyer, P Bourland, V Mistry, et.al. "A Structured Approach to Constructing a Radiation Oncology Physics Residency Program", *Med. Phys.* 35, 2981, 2008.

Clinical Rotation Summaries

- **Phase I the Resident observes the mentor carry out the process and reads background material.**
- **Phase II the Resident carries out the process under close supervision by the mentor.**
- **Phase III the Resident carries out the process independently.**

Clinical Rotation Summaries

Rotation: *Detectors and Dosimeters*

Procedure: *Cylindrical Ionization Chamber*

Phase I: read "Ionization Chambers" by J.W. Boag

Procedures	Ionization Chambers (Rotation I Procedure 1)										
	Mentor	Initial	Date	Deliverable	Mentor	Initial	Date	Deliverable	Mentor	Initial	Da
	Phase I				Phase II				Phase		
1. Cylindrical Ionization Chambers											
Read:"Ionization Chambers by J.W. Boag	VM										
1. Calibrate Chamber & Electrometer thru ADCL	VM				VM				VM		
2. Constancy Check of Field vs Standard											
2.1 Perform constancy check on Farmer chamber	VM				VM				VM		
3. Disassemble /assemble an ionizaton chamber											
3.1 Disassemble/Assemble Farmer chamber	VM				VM				VM		
3.2 Repeat Constancy Check	VM				VM				VM		
3.3 Measure 6MV %DD Manually in plastic-water	VM				VM				VM		
4. Compute parameters for TG-51 calibration											
4.1.											
4.2.											
4.3.											
4.4.											
4.5.											
4.6.											
4.7.											

Procedures	Mentor	Initial	Date
	Phase I		
1. Cylindrical Ionization Chambers			
Read:"Ionization Chambers by J.W. Boag	VM		
1. Calibrate Chamber & Electrometer thru ADCL	VM		

Clinical Rotation Summaries

Phase III of Procedure: *Work Covidian Online Training Modules for Shipping and Receiving of Radioactive Materials*

Procedures	Radiation Safety (Rotation II)											
	Mentor	Initial	Date	Deliverable	Mentor	Initial	Date	Deliverable	Mentor	Initial	Date	Deliverable
	Phase I				Phase II				Phase III			
1. Take the S&W Radiation Safety Regulations Exam									PB			
2. Work the Covidien Online Training Modules for Shipping and Receiving of Radioactive Materials									PB			Training Certificate
3. Establish and maintain a mock personnel monitoring process	PB								PB			Process Description
4. Establish and maintain mock radiation safety training for staff	PB								PB			Training Description
5. Write a report of the x-ray and neutron survey data	PB								PB			Report
6. Write a mock survey instrument calibration report									VM			Report
7. Write a mock primary calibration and QA check report of a GM system									VM			Report
									PB			Report
									PB			Application

2. Work the Covidien Online Training Modules for Shipping and Receiving of Radioactive Materials

Phase III			
PB			
PB			Training Certificate

Clinical Rotation Summaries

Procedures Paranasal Sinus	Head and Neck-Paranasal Sinus (VII A.4.xi)											
	Mentor	Initial	Date	Deliverable	Mentor	Initial	Date	Deliverable	Mentor	Initial	Date	Deliverable
A. Preplanning – External Beam	Phase I				Phase II				Phase III			
A.1. Attend tumor board, ***Read Chapter 4, Head and Neck Cancer, in Coia Text***	LO											
A.2. Conventional Simulation	LO											
A.2.a. Patient positioning, immobilization, and	LO											
A.2.b. Tumor localization /patient contours	LO/TO											
A.3. CT Simulations	LO											
A.3.a. Patient positioning, immobilization, and	LO											
A.3.b. Image-guided modality	LO											
A.3.c. Image registration and fusion	LO/TO											
A.3.d. Contouring	LO/TO				LO/TO				LO/TO			
B. Treatment planning								***Teach, Paranasal Sinus***				***Patient, Paranasal Sinus***
B.1. Beam placement	TO				TO				TO			
B.2. Custom blocking and multileaf collimators	TO				TO				TO			
B.3. Wedges and compensators	TO				TO				TO			
B.4. Computer-assisted isodose generation	TO				TO				TO			
B.5. Calculation of DRRs	TO				TO				TO			
C. Post-Planning												
C.1. MU calculation					TO				TO			
C.2. Transfer plan to treatment server												
C.3. Treatment record entry and verification												
C.4. Monitor unit calculation rechecks												

Clinical Rotation Summaries

Tracking Resident Progress

		Rotation Calendar for NNNNNNNNNN							
			200X	200X	200Y	200Y	200Y	200Y	200Z	200X
		Task Color Legend: Blue'= Complete Red= In Progress Black= Scheduled	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
			Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Processes	1. Detectors and Dosimeters									
10	1	Calibrate an ionization chamber and electrometer through an ADCL				1,2	3			
	2	Perform and report constancy checks between standard and field instruments	1,2,3							
	3	Disassemble and assemble an ionizaton chamber	1,2,3							
	4	Compute parameters for TG-51 calibration procedures				1,2	3			
	5	Perform and report TLD exposures for RPC checks		1,2,3						
	6	Measure and report in vivo dose with MOSFETs	1			2	3			
	7	Measure and report relative dose with diodes			1,2		3			
	8	Characterize film a for quantitative measurements							1,2,3	
	9	Measure and report GM measurements before an HDR treatment				1,2,3				
	10	Measure and report x-ray and neutron dose levels around a linear accelerator		1,2			3			
	2. Radiation Safety		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
9	1	Take Scott & White Radiation Regulation Exam	1,2,3							
	2	Radioactive Materials On-line training			1,2,3					
	3	Establish and maintain a mock personnel monitoring process						1,2,3		
	4	Establish and maintain mock radiation safety training for staff					1,2,3			
	5	Perform linac vault survey		1,2,3						
	6	Mock survey instrument calibration report				1			2,3	
	7	Report primary calibration and QA checks of a GM system						1,2,3		
	8	Write mock incident report				1		2,3		
	9	Write mock Radioactive Materials License				1,2,3				

Clinical Rotation Summaries

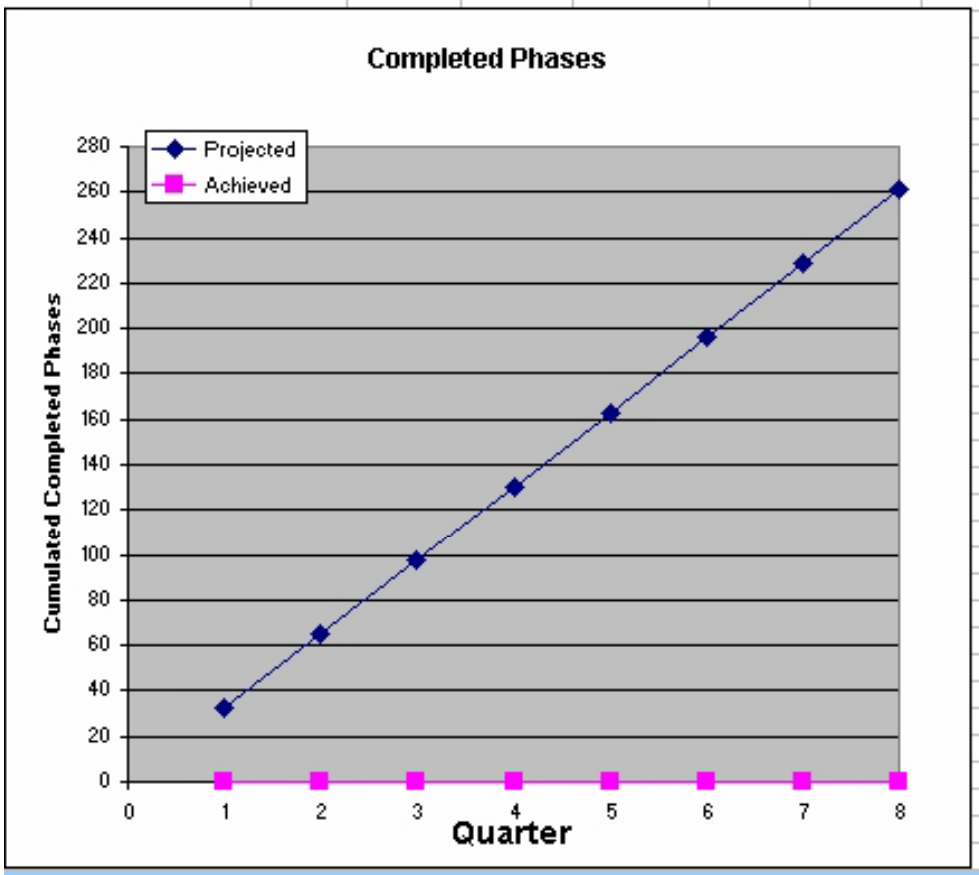
Tracking Resident Progress

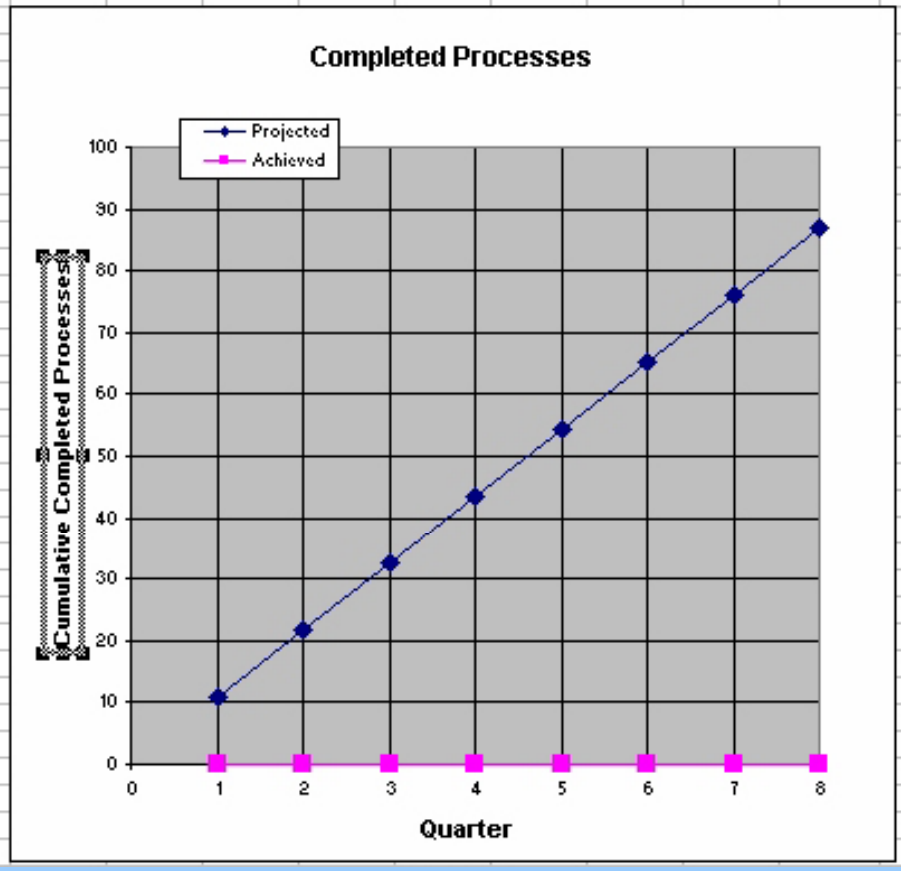
								2007	2008	2008	2008	2008	2009	2009	2009	
	Task Color Legend:	Blue=	Complete	Red=	In Progress	Black=	Scheduled	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sept	Work with Jason & Pasquale to develop monthly QA procedures
6. Treatment Equipment								Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
1	Establish action levels for daily linac output check system							1,2,3`								
2	Perform and report bi-weekly superficial QA.							1,2,3`								
3	Perform and report monthly linac QA.							1	2,3`							
4	Perform and report annual linac QA							1	2	3`						
5	Perform and report annual superficial unit QA							1			2	3`				
6	Design and document a linear accelerator vault										1,2,3`					
7	Write a mock license application to register a linear accelerator											1,2,3`				
8	Perform acceptance tests on a linac and accessories (e.g. MV-EPIDs, KV-EPIDs)										1		2,3			
9	Perform and report calibration of dose/MU for linac x-ray and electron modes										1,2	3`				
10	Linac Acceptance/Commissioning										1		2,3	ABOYER: do in February		
7. Patient Treatment For a typical set of treatment sites (e.g. lung, breast, GYN, ...)								Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
1	Compute mock treatment plan for Breast					CT Simulation									1,2,3	
2	Compute mock treatment plan for Prostate					CT SimulationPelvis					2,3`		1			
3	Compute mock treatment plan for Lung					CT SimulationChest						1,2	3			
4	Compute mock treatment plan for Head & Neck - Larynx					CT Simulation Conformal/IMRT							1,2,3			
5	Compute mock treatment plan for Head & Neck - Base of Tongue					CT Simulation Conformal/IMRT							1,2,3			
6	Compute mock treatment plan for Head & Neck - Paranasal Sinus					CT Simulation Conformal/IMRT							1,2,3			
7	Compute mock treatment plan for Pancreas					CT Simulation					2,3`		1			
8	Compute mock treatment plan for Endometrium					CT Simulation					2,3`	1				
9	Compute mock treatment plan for Esophagus					CT SimulationChest						1,2	3			
10	Compute mock treatment plan for Hodgkins Disease					CT Simulation				1		2	3			
11	Compute mock treatment plan for Brain					CT SimulationWholeBrain				1			2,3			
12	Compute mock treatment plan for Cranial-Spinal Axis					CT SimulationCranioSpinal					1			2,3		
13	Compute mock treatment plan for Rectum					CT SimulationPelvisProne				2,3`		1				
14	Compute mock treatment plan for Bladder					CT SimulationPelvis				2,3`			1			
15	Compute mock treatment plan for stereotactic radiosurgery					CT SimulationSRS			1,2,3`							

Clinical Rotation Summaries

Tracking Resident Progress

				scheduled	phase	goal	33	65	98	131	163	196	228	261
				cumulative	complete	phases								
				Scheduled	process	goal	11	22	33	44	54	65	76	87
				cumulative	complete	processes								





Program Graduates

Reverse Chronological List of Residency Program Graduates - past 10 years

Name	*Time in Program (dates)*	*Supervisor*	*Current Occupation*	*Board Certification*
Jose Bloe, Ph.D.	07/01/00 06/30/02	D. Obermeister, Ph.D Program Director	Chief Medical Physicist Silber Kugel Radiation Oncology San Diego, CA	ABR - 2005
Wanda Wanka, Ph.D.	07/01/01 06/30/03	D. Obermeister, Ph.D Program Director	Director of Medical Physics Harvard School of Medicine Boston, MA	ABR - 2006

Appendix E - Staff Biographical Sketches and Primary Clinical Interest in alphabetical order

Name	*Primary Clinical Interest*
Albert Einstein, Ph.D.	**Relativity**
Richard Feynmann, Ph.D.	**Rocket Safety**
Bruce Gerbi, Ph.D.	**Radiation Klefnebolism**

Appendix E - Staff Biographical Sketches and Primary Clinical Interest in alphabetical order

Biographical Sketch – Name (3 pages maximum)

Academic Appointments:

Clinical Appointments:

Role in Residency Program:

Committee:

Rotation Mentor:

Residents supervised:

Education:

Post Graduate Training:

Appendix E - Staff Biographical Sketches and Primary Clinical Interest in alphabetical order

Continuing education:

Certification:

Clinical Responsibilities:

Research Interests:

Inter and Extra-mural Support:

Research: Summary

Selected Publications