



THE AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE
Advancing the Science, Education and Professional Practice of Medical Physics

Hub and Spoke Webinar #1: General Structure, Basics & Responsibilities from a Main Site Perspective



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Hub & Spoke Therapy Medical Physics Residency Training Program

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Acknowledgements

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⁶Mary Bird Perkins Cancer Center, Baton Rouge, LA

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Outline

- About MBPCC
- MBPCC Hub & Spoke Residency Program Description
 - Motivation
 - Residency Consortium
 - Program Governance
- Resident Recruitment & Placement
- Resident Training
- Resident Evaluation
- Program Growth and Milestones
- Accreditation Process
- Conclusions

Mary Bird Perkins Cancer Center

To improve survivorship and lessen the burden of cancer through expert treatment, compassionate care, early detection, research and education

- Community owned, nonprofit center
- 5 locations across Southeast Louisiana
- Treat ~200 patients per day



Residency Program Description

Motivation

- Joint Louisiana State University (LSU) and Mary Bird Perkins Cancer Center (MBPCC) M.S. and Ph.D. in Medical Physics program (CAMPEP accredited)
 - Graduates ~6 students per year
 - Consider ABR Residency mandate
 - Want residency positions for each LSU program graduate
 - Goal to accommodate ~6 new residents per year (12 total)
- MBPCC cannot accommodate all 12 positions
 - AAPM Report 90 recommended physicist-to-resident ratio of 2:1
 - 11 MBPCC physicists → 5 total residents maximum
 - 2-3 new residents per year (2-year program)
 - Financial constraints

Residency Program Description

How do we accommodate additional positions per year?

- Solution has been to develop partnerships with regional medical physics groups to provide clinical residency training
- Hub-and-spoke model (TG-133)
 - MBPCC (hub) responsible for initial accreditation, curriculum development, resident performance tracking, scheduling exams, clinical training, etc.
 - Partner sites (spokes) responsible for clinical training

Residency Program Description

Residency Consortium

- Benefits from facilities with good clinical physics that are interested in training medical physicists but limited administrative resources to start and maintain program
- Offers both hub & spokes access to broader range of clinical procedures, technology, etc. than typically available at a single institution
- MBPCC began approaching potential partners in 2010
 - Currently 3 partner sites in Consortium with MBPCC
- MBPCC continues to explore potential partners to expand training capacity

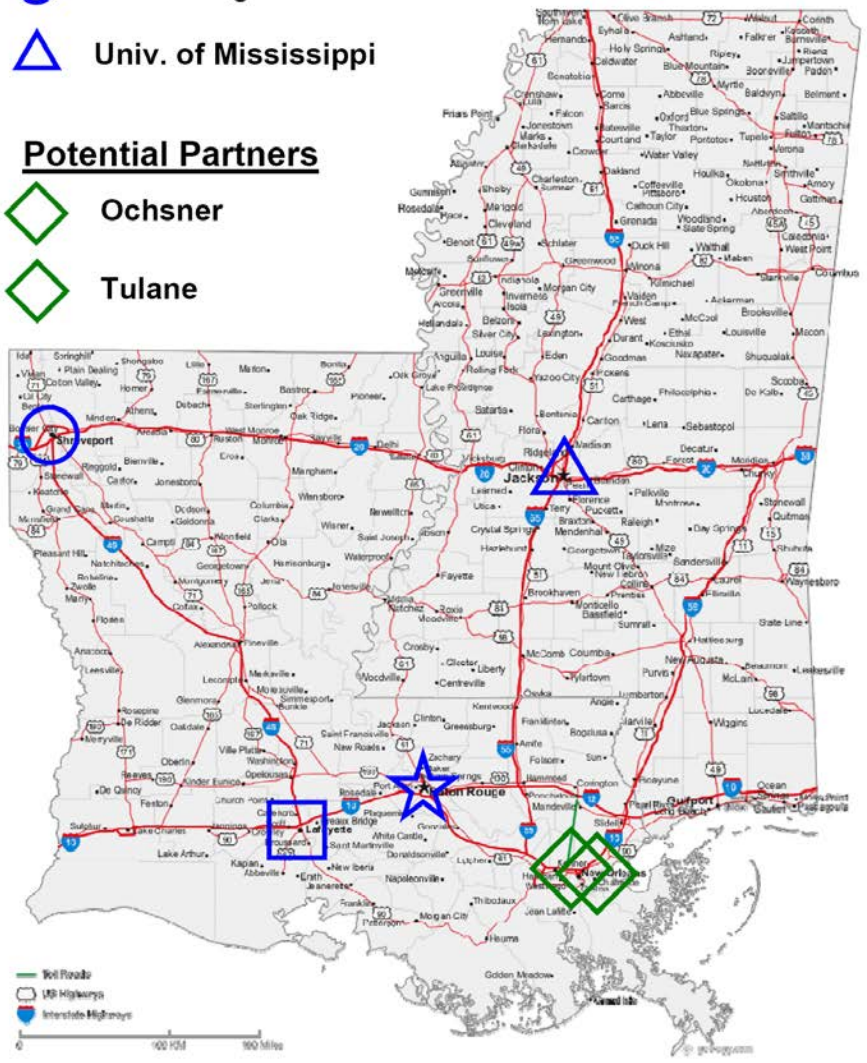


Current Partners

- ★ Mary Bird Perkins
- OncoLogics
- Willis-Knighton
- △ Univ. of Mississippi

Potential Partners

- ◇ Ochsner
- ◇ Tulane



Residency Program Description

Hub & Spoke Commitment to Program

- MBPCC (Hub) :
 - Develop the program curriculum
 - Program administration (coordinating advisory committee, resident evaluations, oversee compliance with training requirements)
 - Work with affiliates to obtain/maintain CAMPEP accreditation
- Affiliate (Spoke) :
 - Accept new residents
 - Provide for residents' salary (at appropriate PGY levels), benefits, and professional development funds
 - Appoint affiliate program director responsible for implementation of program
 - Provide appropriate resources to support the residency program (e.g., space, administrative, equipment)

Residency Program Description

Affiliate Agreements

- Generic agreement developed outlining roles & responsibilities of MBPCC and affiliate sites
- Minor changes (i.e., unrelated to residency training) made in each agreement specific to the affiliate's program
- Completion of final agreements took ~1 year

Medical Physics Residency Program Affiliate Agreement

This Medical Physics Residency Program Affiliate Agreement (the "**Agreement**") is entered into by and between:

Mary Bird Perkins Cancer Center, a Louisiana non-profit corporation, represented herein by its President and Chief Executive Officer, Todd D. Stevens (hereinafter called "**MBPCC**"); and

who did declare as follows:

WHEREAS, the purpose of this Agreement is to set forth the roles and responsibilities of each party that elects to and which MBPCC permits to participate in MBPCC's Medical Physics Residency Program (the "Residency Program");

WHEREAS, MBPCC will affiliate with those institutions that, from time to time, agree to participate in the Residency Program as described in this Affiliate Agreement;

WHEREAS, initially, MBPCC proposes to affiliate with institutions capable of fulfilling the Affiliate obligations; those organizations include, but are not limited to, Willis-Knighton Cancer Center in Shreveport, LA, OncoLogics, Inc. (for the Louisiana locations exclusively) and The University of Mississippi Cancer Center in Jackson, MS;

WHEREAS, the primary purpose of the Residency Program is to provide clinical residency training in radiation oncology physics for M.S. and Ph.D. degree holders, to address a national shortage of medical physics residency positions;

WHEREAS, the Residency Program is not a component of the joint LSU / Mary Bird Perkins Medical Physics Program;

WHEREAS, this Agreement is intended to establish an Affiliate that will maintain at least one medical physics resident in radiation oncology physics and work with MBPCC to provide clinical medical physics training;

WHEREAS, the Residency Program will be operated pursuant to the guidelines set forth in the American Association of Physicists in Medicine (AAPM) Report 90, "Essentials and Guidelines for Hospital-Based Medical Physics Residency Training Programs" and the Commission on Accreditation of Medical Physics Educational Programs, Inc. (CAMPEP) "Guidelines for Accreditation of Residency Education Programs in Medical Physics";

Program Governance

- Program Committee oversees program policies and resident progress
- Committee meetings:
 - Frequency: ~ monthly (minimum quarterly)
 - Affiliate PD' s participate via Skype
 - Agenda
 - Recruitment, Curriculum, Resident Progress, Accreditation, etc.
 - Resident issues (Senior resident)

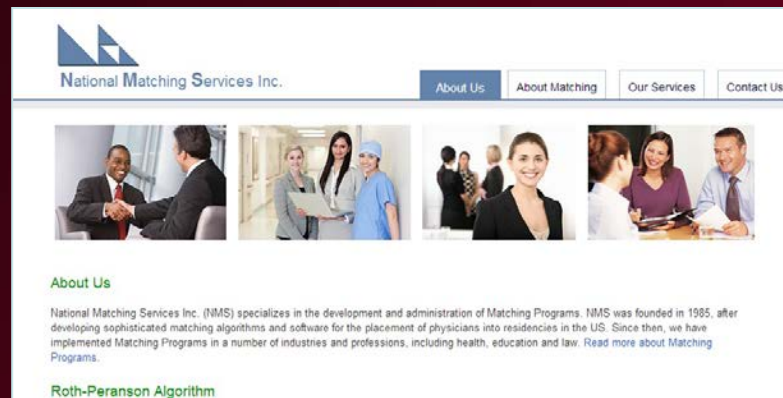
Program Governance

Residency Program Committee:

- Jonas Fontenot, PhD, Program Director, MBPCC Chief of Physics
- Joseph Dugas, PhD, Deputy Program Director
- Daniel Neck, MS, MBPCC Director of Clinical Physics
- Wayne Newhauser, PhD, LSU Chief of Physics
- Mary Ella Sanders, MD, MBPCC Physician
- Frank Apollo, MBPCC Dosimetrist
- Yolanda Augustus, MBPCC Therapist
- Terry Wu, PhD, Program Director, Willis-Knighton
- Claus Yang, PhD, Program Director, U. of Miss Med Center
- John Duhon, MS, Program Director, Oncologics
- Bart Morris, Senior Resident

Recruitment and Placement

- All institutions of the MBPCC Medical Physics Residency participate in the national Med Phys Match (National Matching Services)
- All applicants for any residency spot in our consortium submit a single application to the centralized (MP-RAP) database
 - Each facility in the Consortium select, evaluate, and rank candidates separately.



Recruitment and Placement

- All applicants independently considered at all sites
 - Programs identify applicants they would like to interview
 - Nominally, all LSU students who have indicated interest in training at their facility and, potentially, several external applicants
- After interviews, applicants and programs submit their rankings to the NMS (MedPhys Match)
 - Each affiliate has a separate NMS ID
 - Each affiliate submits an independent MedPhys Match rank list
- MBPCC and the affiliates agree to give all acceptable LSU students priority ranking. LSU students are encouraged to give the Consortium sites priority ranking.
- Applicants are matched with programs by MedPhys Match algorithm
- If LSU students rank consortium members high, most likely scenario is that each site will receive an LSU student

Recruitment and Placement Timeline

(used for 2015 match)

December 31: Application deadline for the CAP

January 1-
February 28: Applicant interviews

March 4-20: Rank order lists submitted to NMS

March 27: Match results released

March 27-
April 26 Program Directors send letters of confirmation to match applicants. List of unmatched applicants provided to programs with unfilled positions.

- *Dates for upcoming 2016 MedPhys Match are slightly different –*

- <https://www.natmatch.com/medphys/aboutdates.html> -

Resident Training

- LSU students (or other CAMPEP graduates) arrive with all didactic requirements satisfied
 - No didactic component of residency training
- All residents simultaneously assigned to clinical work and a monthly special project for which they submit a report
- Most training occurs at each resident's "home" institution
 - Some workshops/topics allow for cross-institutional training
- At MBPCC, residents credentialed after 1st year
 - Credentialed for duties of non-ABR physicist
 - Must demonstrate competency in areas of credentialing
 - Two purposes
 - Resident becomes comfortable with independent work
 - Cost effective as resident assigned ½ clinical FTE

Resident Training

YEAR	MONTH	CLINICAL ROTATION	PROJECT	PROJECT MENTOR
XXXX	July	Orientation (CT & Accelerators)	Orientation	Fontenot/Dugas
	August	Dosimetry	Radiation Safety and Regulations	Stam
	September	LDR = Seed implants + Tomo + BR Closeouts	Dosimetric Systems	Dugas
	October	HOU / GON	Daily / IMRT QA Device Commissioning	Perrin
	November	HDR = HDR + BR Clinic + BR IMRT	IGRT commissioning	Fontenot
	December	SRS = Novalis + BR Initials	MU Check commissioning	Perrin/Dugas
XXXX	January	Dosimetry	Gantry-Static IMRT: Commissioning & QA	Perrin
	February	HDR = HDR + BR Clinic + BR IMRT	Total Skin Electron Commissioning	Dugas
	March	LDR = Seed implants + Tomo + BR Closeouts	LDR Program & TPS Commissioning	Chu
	April	HAM / COV	HDR Program & TPS Commissioning	Guidry
	May	SRS = Novalis + BR Initials	4DCT and Gating: Commissioning & QA	Chu
	June	HOU / GON	TPS Commissioning	Neck
	July	LDR = Seed implants + Tomo + BR Closeouts	CT / PET acceptance and commissioning	Dugas
	August	HAM / COV	Linac Acceptance & Commissioning	Perrin
	September	HOU / GON	TomoTherapy Program Commissioning	Chu

Resident Projects

#	Project
1	Orientation
2	CT/PET-Simulators: Acceptance and Commissioning
3	IGRT: Acceptance and Commissioning
4	Dosimetric Systems: Acceptance, Commissioning and QA
5	HDR program and TPS commissioning
6	LDR program and TPS commissioning
7	SRS program and TPS commissioning
8	Daily QA / IMRT QA: Acceptance, Commissioning of Daily QA and IMRT QA
9	4DCT and gating: Acceptance, Commissioning and QA
10	Total Skin Electron commissioning
11	LINAC: Acceptance and Commissioning
12	Gantry Dynamic IMRT: Acceptance and Commissioning for VMAT

#	Project
13	Gantry Static-IMRT: Acceptance, Commissioning and QA
14	Intraoperative Therapy commissioning
15	TPS: Commissioning of photons and electrons in Pinnacle
16	MU Check: Commissioning of MU Check for photons and electrons
17	Linac room design and shielding / Radiation area survey
18	Survey meters
19	HDR, CT & PET shielding and surveys
20	TomoTherapy Commissioning
21	Total Body Irradiation Commissioning
22	Radiopharmaceuticals
23	Personnel monitoring program / Sealed Source leak testing and inventory
24	State and federal radiation safety regulations

Done at Partner site

Done at MBPCC for all sites

Resident Evaluations (Oral Exams)

- All residents are evaluated by regular oral exams
 - Exams cover clinical rotations & all projects
 - Consortium sites participate via Skype
- Currently every four months
 - 2-2.5 hour exams cover clinical rotations and all projects
- Minimum of three faculty administer:
 - 1 from Resident's home site, 2 from other Consortium sites
- All residents held to same performance standards regardless of location
 - Performance evaluated through standardized forms
 - Results & anonymous comments provided to and reviewed with residents by their program director or deputy director

Resident Oral Exam Evaluation Form

Assessment Scale

- 5 – Excellent:** Knowledge of examination material is exceptional in all areas on a consistent basis; examination performance is considered superior.
- 4 – Above Expectations:** Examination results exceed expectations; performance is of consistent high quality.
- 3 – Meets Expectations:** Competent level of performance that consistently meets high standards.
- 2 – Needs Improvement:** Performance, results, and/or consistency is below standards in certain areas. Improvement is needed.
- 1 – Unsatisfactory:** Performance, results, and/or consistency is below standard in most/all areas. Immediate improvement is required that results in “Meets Expectation” rating within 60 days.

Topic:

IMBT QA/TUDS

Mentor:

Dvgoz

Score:

5

Comments:

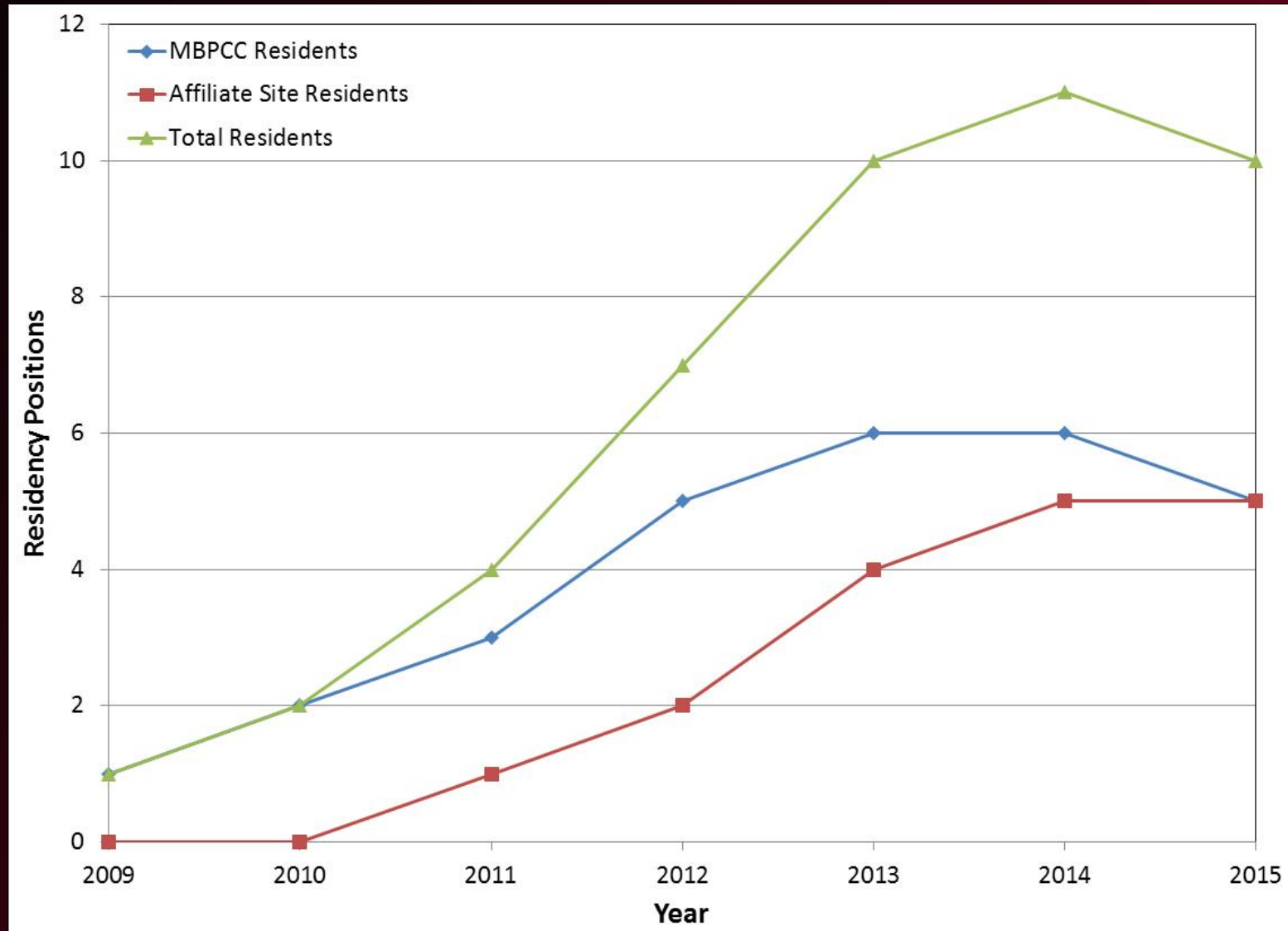
in-vivo. Should know blow curve p fading. Should know γ equation & paper by Daslow. Should know ED₀₁ preferred for IMBT QA. Should know relative speeds of T₄, X_V, ED₀₂ & typical doses to get D=1.

Resident Evaluation (day-to-day)

- Each affiliate responsible for day-to-day training/evaluation
 - Measures taken to assure consistency between affiliates
- Resident progress tracking
 - Typhon Software Web-based Student Tracking (<http://www.typhongroup.com>)
 - Competency checklists, project reports, clinical observations, physician shadowing, etc.
 - Program director(s) & Deputy director have rights to view all residents
- Routine evaluations
 - Mentors evaluate residents on each topic covered
 - Residents evaluate mentors
- Other software may be available

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Program Growth and Milestones (Resident Enrollment)



Program Growth and Milestones

(Graduates & Current Residents)

- CAMPEP Accreditation 2012

- 15 graduates

– Monica Moldovan, PhD	MBP	2011
– Shima Ito, MS	MBP	2012
– Gordon Mancuso, MS	Oncologics	2013
– Jarron Syh, MS	WK	2013
– Bijoy Adhikary, MS	MBP	2013
– Thomas Brown, PhD	MBP	2014
– Jeff Kemp, MS	MBP	2014
– Neil Duggar, MS	UMMC	2014
– Michael White, MS	WK	2014
– Alex Nguyen, MS	UMMC	2014
– Ryan Posey, MS	Oncologics	2014
– Justin Silkwood, MS	MBP	2015
– Jason Stanford, MS	UMMC	2015
– Michele Zhang, Ph.D.	WK	2015
– Diane Alvarez, MS	MBP	2015

- 10 active residents (5 at MBP, 3 at WK, 2 at UMMC)

Program Accreditation Process

CAMPEP Accreditation Timeline

- JUL 2011: Application submitted to CAMPEP
- Initial self-study written for MBPCC only
 - Subsequent discussions with CAMPEP encourage including all affiliate sites
- OCT 2011: CAMPEP resubmission under new program director.
- NOV 2011: Initial CAMPEP review received. Request additional materials from affiliate sites
- FEB 2012: Response submitted to CAMPEP review
- JUN 2012: CAMPEP site visit.
- AUG 2012: Full accreditation (5-year) granted

Program Accreditation Process

CAMPEP Site Visit

- Site Visit (SV) Team:
 - 2 Physicists
 - 1 Physician
- Site Visit Duration 2.5 Days:
 - Day 1: All site visitors at MBPCC.
 - Meet with all faculty, physicians, administration, etc.
 - Skype conference with affiliate program directors
 - Face to face meeting with all six residents
 - Day 2: SV team splits up and visits 3 affiliate sites
 - Morning: Travel and ~3 hour visit at each site
 - Afternoon: SV team returns and writes draft report
 - Day 3: SV team reviews report with PD

Program Accreditation Process

CAMPEP Recommendations

- Resident Projects should be cohesive among the sites:
 - Project descriptions should be compared to ensure consistency across the Consortium.
 - Consideration should be given to developing a standard format for project reports.
 - Evaluation of written project reports should include an assessment by a Consortium staff member at a site other than that of the submitting resident.

Program Accreditation

CAMPEP Recommendations

- On-going efforts will be required to enhance and maintain the cohesion of the program:
 - A senior resident should be appointed to the Program Committee to provide input on resident issues.
 - Face to face resident meetings should be facilitated and supported ideally at a frequency of 2 per year.
 - Support for professional development of residents should be harmonized as much as possible.

Conclusions

- A hub-and-spoke model residency program has been successfully established with MBPCC and three affiliate sites in Louisiana and Mississippi.
- The hub-and-spoke model presents some challenges to ensure program consistency and uniformity of resident training.
- The hub and spoke model has offered more opportunities for resident training, with more residents, faculty and procedures than would be possible at a single site.

Thank you!



LANDAUER

POWERFUL PARTNERSHIPS

MEDICAL PHYSICS

ADVANCING IMAGING AND THERAPY

Imaging Physics Residency Considerations for Hub and Spoke



Robert J. Pizzutiello, MS, FACR, FAAPM, FACMP
Residency Program Director, Upstate Medical Physics, PC
Senior Vice President, Imaging Physics
LANDAUER Medical Physics

September 8, 2015

Outline

- Benefits of Hub and Spoke
- Brief History of UMP Residency (a private practice group)
- What does CAMPEP have to say?
 - CAMPEP Policies and Procedures
 - CAMPEP Standards
- Challenges for Hub and Spoke
 - Finding the right partner
 - Compliance and Accountability
- Financial Analysis and Negotiations
 - A more cost effective solution
- Summary

What is a “Hub and Spoke” Residency?



dust4.me



What is a “Hub and Spoke” Residency?

- The Hub (Mothership)
 - May be an existing program
 - Could be a new program
 - Academic or private practice
 - Expertise in Imaging Physics
 - Home Base of Program Director
- A Spoke (Remote or satellite)site
 - Academic or private practice
 - Expanded experience or geography for residents (Imaging)
 - Extended experience, e.g., Nuclear Medicine Physics or Special Procedures
 - May be more than one.....



Benefits of Hub and Spoke

- For the Spoke (Remote or satellite) site
 - No need to reinvent the wheel
 - Benefits of residency without administrative overhead
 - Collaboration with more experienced faculty and larger institution (more varied environment)
- For the Hub (Mothership)
 - Leverage investment in systems and people
 - Build/strengthen relationships with other sites
- For the resident
 - More varied opportunities, more available slots
- For the profession
 - More residency positions

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UMP Residency History

- 1989 RJP solo FTE
- 1990 2.5 FTE
- 2000 6 FTE
- Growth creates need for more MP's
 - recruitment is tough and costly (time and \$)
- New paradigm emerges in 2005-06
 - Joel Gray suggested Dustin Gress, MS student
 - Steve Rudin suggested Mark Wu, Ph.D student
- Convert OJT to Residency Program (more structure)
- UMP residency accredited 2010
- To date, 6 residents graduated + 3 currently enrolled

Residency in Private Practice Group

- Office plus field work at different client sites
 - Office based ~ 2 days/week
 - Meetings, Journal Clubs, prep and review reports
 - Field work ~ 3 days per week
 - Drive time plus work at client sites
 - Two offices: Victor and Buffalo, NY
- Residents apprentice with senior MP's
 - Preparation
 - Field work
 - Reports
 - Review
- Unlike a true Hub and Spoke
 - Residents and staff all UMP employees
 - Common meetings, office space, emails, server, P&P, etc.



Residency in Private Practice Group

- UMP offers no courses
- Residents work under NY License
 - Limited permit
 - Direct supervision for scope of practice work
 - General supervision for data collection, after demonstrating competency and faculty signoff
 - All reports signed by licensed MP
- MQSA
 - 20 surveys under supervision, N. Carolina approval and FDA letter until completion of ABR Part III.

Residency in Private Practice Group

- After demonstrating competency in modality, resident begins to perform independent field work (data collection)
 - Maintain skills
 - Stay sharp for ABR
 - Contribute to the practice
 - First example: survey of traditional “portables”, no IR
 - Reports reviewed by faculty (Direct or personal supervision)
- When resident leaves, they should be competent, with recent experience in all modalities
 - Prep for real world jobs

Residency in Private Practice Group

- Hands-on field work is performed at more than 150 facilities in 5 states
- Eventually, residents do independent field work, after demonstrated competency (RPS, portables, C-arms, CR, Mammo, etc.)
- **Progression from Personal to Direct Supervision by UMP faculty with independent data collection**

Outline

- Benefits of Hub and Spoke
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CAMPEP Policies and Procedures, Rev July 2015

Section G: Residency Program Accreditation

G.01: Standards for Accreditation

G.02: Application Process

G.03: Program Evaluation Process

G.04: Program Site Visit

G.05: Affiliate Sites

C A M P E P

Commission on Accreditation of Medical Physics Education Programs, Inc.

Section G: Residency Program Accreditation

G.01: Standards for Accreditation

Policy No. G.01, Rev 3

Created: 01 Aug 2006

Approved: July 2014

Policy: *Residency Training Programs seeking accreditation shall be evaluated against published standards.*

- .11 Imaging physics residencies may add an additional (third) year offering education in nuclear medicine physics and nuclear medicine physics residencies may add an additional year offering education in imaging physics. Such three-year residency programs will be considered for accreditation.

The accreditation fee for such a combined program is \$6000, unless a program adds a nuclear medicine option to an existing diagnostic imaging residency, or vice versa, in which case the fee for the additional accreditation is \$5000.

CAMPEP

Commission on Accreditation of Medical Physics Education Programs, Inc.

Section G: Residency Program Accreditation

G.05: Affiliate Sites

Policy No. G.05, Rev 1

Created: 01 Aug 2012

Approved: April 2014

Policy: Medical Physics Residency Education Programs encompassing affiliate sites (a.k.a hub and spoke programs) shall ensure that uniform standards and procedures are maintained across all participating facilities.

Procedure:

- .01 The primary site (hub) of a Program encompassing affiliate sites (spokes) is the organization employing the Program Director.
- .02 An affiliate site is a participating site but under separate governance and budget than the primary site.
- .03 All correspondence between CAMPEP and the Program shall be through the Program Director at the primary site.
- .04 The Program Director is ultimately responsible for ensuring compliance of the Program, as implemented at all participating sites, with CAMPEP requirements.

- .05 Affiliate sites must appoint **Associate Program Directors** who are accountable to the Program Director for, among other things, ensuring compliance with the Residency Education Program as submitted in the Self Study and accredited by CAMPEP.
- .06 All records related to the operation of the Program at all sites must be accessible by the Program Director either electronically or in hard copy.
- .07 Applications for accreditation from Programs encompassing affiliate sites must include the following:
 - i. An official letter from the Program Director's institution confirming the participation of the named affiliates.
 - ii. A clear, preferably graphical, description of the organizational structure of the program, primary and affiliate sites, with explicit lines of accountability.
 - iii. Official letters from all affiliate sites requesting CAMPEP accreditation of the Program
 - iv. Letters of agreement between the affiliate sites and the primary site describing liability, responsibility, accountability and any financial arrangements.

.08 Applications for accreditation from Programs encompassing affiliate sites must include a letter from each Associate Program Director confirming that:

- i. The expectations for successful completion of the Program are entirely consistent with those submitted in the Program's Self Study.
- ii. Remedial activities for residents not meeting expectations are entirely consistent with those submitted in the Program's Self Study.
- iii. All documentation, particularly including evaluations of and by the residents, across all sites is consistent with that submitted in the Program's Self Study.
- iv. The Program Director is acknowledged as having ultimate responsibility for the accreditation status of the Program.

.09 The Self Study must explicitly address communication within the Program including the frequency, format, i.e. videoconference, etc, and membership of Program meetings.

Additional Expectations for Affiliate Programs

- .13 If new sites are to be added to an existing accredited program, the material associated with the new site will have to be reviewed by CAMPEP before residents graduating from the new site will be considered to be from an accredited program. This may include a site visit to the new site. The site to be added will need to have all of the associated structure and documentation described above.
- .14 Additional fees will be assessed by CAMPEP for conducting affiliate site reviews. The amount of these fees will be based on the amount of time, distance, and complexity associated with the review.
- .15 All efforts should be taken to make the residents at all affiliated sites feel as though they are part of one coordinated program. This may be difficult to accomplish but in-person and internet based means of having the residents interact on their presentations and reports may offer a way to accomplish this goal.



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CAMPEP Standards, Rev July 2015

1. Program Goal and Objectives
2. **Program Structure and Governance**
3. Program Director
4. Program Staff
5. Institutional Support
6. Educational Environment
7. Scholarly Activities
8. Residency Curriculum

CAMPEP Standards, Rev July 2015

2. Program Structure and Governance

2.5. Resident education shall be supervised and monitored by an appropriate **steering committee**, which meets at least twice per year.

Committee membership shall include but not be limited to the program director and relevant staff involved in residency education. A physician member is recommended. The process for appointment of the members of the steering committee shall be documented. A pathway for expression of resident concerns to the committee shall be available. Minutes of meetings shall be maintained.

CAMPEP Standards, Rev July 2015

2. Program Structure and Governance

2.9. A program may consist of a single institution or multiple affiliated institutions (hub-and-spoke). Programs consisting of affiliated institutions must meet the requirements for affiliated programs described in the CAMPEP Policies and Procedures.

Program Director (PD) Hub and Spoke Programs

- 3.1. **A single Program Director (PD)** shall be responsible and accountable for ensuring that the residency program satisfies CAMPEP standards, and shall ensure that quality education occurs at all training sites and for all residents.
- 3.2. The PD must be certified by the American Board of Radiology, the Canadian College of Physicists in Medicine, or other appropriate certifying agency in the field of the residency program.
- 3.3. The PD shall have at least five years of full-time experience beyond clinical certification.
- 3.4. The PD shall be responsible for coordinating the faculty, recruiting residents into the program, advising the residents, and evaluating and promoting the program.

Program Director (PD)

Hub and Spoke Programs

- 3.5. The PD shall determine that each student offered entry into the residency program satisfies the CAMPEP prerequisites for residency education in medical physics or is offered rigorous remedial education to meet the prerequisites.
- 3.6. The PD shall ensure that all student statistics, annual reports, and other information required by CAMPEP are reported accurately and in a timely fashion.
- 3.7. The process for the appointment of the PD shall be documented.
- 3.8. The PD shall meet periodically with each resident to assess the resident's progress, and minutes of the meeting shall be maintained, with a copy provided to the resident.
- 3.9. The PD shall document any prior education from another institution (other than an accredited graduate or certificate program) that is used to satisfy educational prerequisites or requirements of the residency program.

CAMPEP Standards, Rev July 2015

4. Program Staff

4.4 At least two certified physicists shall be engaged in the residency educational program, and the ratio of full-time staff to residents in the program shall be at least 1:1.

5. Institutional Support

- 5.1. The institution sponsoring the residency program shall provide administrative support, including clinical and educational resources, budget, resident office or cubicle space, access to computing resources, conference room(s), audiovisual facilities, and office support (e.g. copiers, internet access, email account, telephone).
- 5.2. The institution must express its commitment to long-term financial and administrative support of the residency program.
- 5.3. Financial support of residents, including benefits, shall be described clearly to prospective applicants prior to their entry into the residency program.
- 5.4. Entering residents shall be provided both a verbal and written orientation to their role in the program to ensure their efficient and safe integration into the program.
- 5.5. The program shall instruct its residents on the potential hazards that they might encounter and the appropriate measures for them to take to minimize risks to themselves and equipment.

CAMPEP Standards, Rev July 2015

Section E: General Accreditation Policies

E.01: Objectives

E.02: Scope of Activity

E.03: Application Process

E.04: Review Process

E.05: Site Visit

E.06: Accreditation Status

E.07: Reaccreditation

E.08: Communication with Applicants

E.10: Conflicts between Commission and Laws

E.11: International Accreditation

E.12: Process for Appeals

E.13: Process for Appeal Hearing

C A M P E P

Commission on Accreditation of Medical Physics Education Programs, Inc.

Section E: General Accreditation Policies

E.05: Site Visit

Policy No. E.05, Rev 1

Created: 01 Aug 2006

Approved: March 2012

Policy: *Program site visits shall be conducted in accordance with a specified procedure.*

- .01 When a site visit is scheduled, the expectations shall be communicated to the program director by the lead reviewer to enable appropriate arrangements to be made.
- .02 The site visit shall be of 1-2 days duration and will be scheduled in collaboration with the program director at a time to maximize the ability of the program reviewers to interview all program participants.
- .03 The program director shall be asked to arrange a room suitable for the review team to conduct interviews.

C A M P E P

Commission on Accreditation of Medical Physics Education Programs, Inc.

Section E: General Accreditation Policies

E.05: Site Visit

Policy No. E.05, Rev 1

Created: 01 Aug 2006

Approved: March 2012

Policy: Program site visits shall be conducted in accordance with a specified procedure.

04 The schedule shall include:

- a. Interviews with all faculty, individually if time permits, starting with the program director.
- b. A brief tour of the facilities.
- c. A review of all documentation pertaining to the operation of the program.
- d. A session with the students/residents.
- e. Interviews with all relevant program administrators and institution management, preferably towards the end of the visit to allow appropriate feedback.
- f. Time-permitting, a discussion period for the review team to prepare an outline of the report.
- g. An exit interview with the program director for the review team to verbally communicate the essential findings of the review.

Graduate Education Programs

Residency Education Programs

Accredited Programs

General Information/
Information for Program
Directors

Online Self Study
Submission

Standards for
Accreditation of
Residency Educational
Programs

Residency Application
Template

Residency Program
Sample Disclosure
Statement

CAMPEP Accredited Residency Programs in Medical Physics

Entries Last Updated August 11, 2015

* Indicates Institutions that also offer a nuclear medicine physics option

** Indicates Institutions offering a Professional Doctorate in Medical Physics (DMP), Therapy and Diagnostic Physics Tracks

***Indicates residency programs that may be greater than 24 months in duration. Such programs may include a research component. Please consult the websites of the individual programs for details.

‡ Indicates institutions that are accredited but have been found to be non-compliant with one or more CAMPEP standards. Public disclosure statements can be found at: <http://www.campep.org/PublicDisclosure.asp>

Institution

Initial Accreditation

Mary Bird Perkins Cancer Center (Initial Accreditation 2012)

Radiation Oncology Physics Residency Training Program

4950 Essen Lane

Baton Rouge, LA 70809

Program Director: Jonas D. Fontenot, Ph.D.

Tel: 225-215-1337 / Fax: 225-215-1376

jfontenot@marybird.com

<http://www.marybird.org/medical-physics-residency-program>

http://www.phys.lsu.edu/newwebsite/graduate/medphys_briefhistory.html

Affiliated Programs:

Willis-Knighton Cancer Center
Medical Physics Residency Program

2600 Kings Highway

Shreveport, LA 71103

Program Director: Hsinshun Terry Wu, Ph.D.

Tel: 318-212-4639 / Fax: 318-212-8305

twu@wkhs.com

University of Mississippi Medical Center

Radiation Oncology Physics Residency Training Program

350 West Woodrow Wilson Drive, Suite 1600

Jackson, MS 39213

Program Director: Chunli Yang (aka Claus), Ph.D., DABR

Tel: 601-815-7562 / Fax: 601-815-6876

cyang@umc.edu

Oncologics, Inc.

Medical Physics Residency Program

917 General Mouton Avenue

Lafayette, LA 70501

Program Director: John Duhon, MS

Tel: 337-237-2057 / Fax: 337-264-1029

jduhon@oncologics.net

Content Removed Due to Copyright

Outline

- Benefits of Hub and Spoke
- Brief History of UMP Residency (a private practice group)
- What does CAMPEP have to say?
 - CAMPEP Policies and Procedures
 - CAMPEP Standards
- Challenges for Hub and Spoke
 - Finding the right partner
 - Compliance and Accountability
- Financial Analysis and Negotiations
 - A more cost effective solution
- Summary

Challenges for Hub and Spoke Programs

- Program Director is responsible for “compliance” with Self Study at all locations
- *Finding the right Remote Partner is key!*
- Remote Site must be interested in training as well as clinical practice
 - Time and financial commitment
 - Balance personal supervision – independence
 - Office vs. Home/Automobile based
- Personal and institutional commitment
- Reputation is at stake

Challenges for Hub and Spoke Programs

Suggestions to consider:

- Processes for remote tracking, reporting and accountability
- Web-based or home grown cloud-based
- Review self-study, identify key elements
 - Typhon or other tools
- P&P Manual, specifies Associate Program Director (Remote site), or Mentor responsibilities
- Contract between Hub and Spoke sites

Program Director Assures Compliance Through Accountability

Suggestions to consider:

- Quarterly review of documentation
- Associate Program Director join Quarterly Residency Committee meetings (Skype or T-con)
- Quarterly Resident Reviews
 - PD initially observe or Skype
 - Then review results
- Annual oral exam team – core + remote
- May delegate data collection to Ed Coordinator; PD retains responsibility

Journal Article Summary

Month	Article #	Modality	Article Title	Typhon?	Faculty Reviewed?
April	1 - Res	Radiography/Fluoroscopy	The Physics of Computed Radiography (Keri)	☒	☒
	2 - Rad		Urgent and Emergent Imaging (Dr. O'Connor)	☒	☒
	3 - AAPM CE	Mammography	Final MQSA Rules	☒	☒
	4		Mortality in British and US Radiologists (British Journal of Radiology)	☒	☒
May	1 - Res	Computed Tomography	CT Dose (Rhett)	☒	☒
	2 - Rad		Obese Patient (Dr. Kurland)	☒	☒
	3 - AAPM CE	Mammography	Advances in Breast Imaging	☒	☒
	4	Mammography	Improved detection in mammo using CAD	☒	☒
June	1 - Res	Mammography	Mammography Generators (Keri)	☒	☒
	2 - Rad		Invasive Lobular Carcinoma (Dr. Lorenzetti)	☒	☒
	3 - AAPM CE		ABR Exam Update	☒	☒
	4	Mammography	Quality Assurance in Mammography Artifacts	☒	☒

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Financial and Negotiation Issues

- Mutual benefit and interest
- Protection of all parties, including residents!
- Here are a few highlights
- Details in the Webinar Part III....

Financial Overview

- Fixed Program Costs, shared
 - Includes clinical teaching, Residency Coordinator
- Equipment Costs, per resident
 - Each resident needs their own
- Travel costs
 - Driver's license
 - Each resident needs their own car and costs, because they begin to drive and do field work independently

Contract elements

- Identify roles and responsibilities
 - P&P Manual (participate in Journal Clubs)
 - Employee relationship (salary, taxes, benefits)
 - Professional and general liability
 - Communication, reports, on-site visits by PD
- Financial responsibilities
- Institutional (corporate) commitment, term
- Back-up Site Mentor
- Worst case scenarios
 - Disputes, resolution, termination
 - Protect the Resident, Accredited Residency

Review

- Benefits of Hub and Spoke
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Conclusions

- A Hub and Spoke residency program can be effective, mutually beneficial and financially sustainable, provided that the program has sufficient
 - Planning to meet CAMPEP requirements
 - Organizational (financial) commitment
 - Operational Systems (Policies and Procedures, Committee...)
 - Faculty and staff committed to training Residents
 - Work to provide experience and financial strength
- Critical to Success
 - The right Hub-Spoke partner
 - A well conceived process: Compliance and Accountability
 - Financial and Negotiations, to be addressed in Webinar Part III



THE AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE
Advancing the Science, Education and Professional Practice of Medical Physics

Hub and Spoke Webinar #1: General Structure, Basics & Responsibilities from a Main Site Perspective

Question/Answer Session

- To send questions to the speaker, please enter them into the question box in the Go-To-Meeting toolbar.



Hub and Spoke Webinar Series

Webinar Title	Speakers	Date/Time
Webinar #1 - General Structure, Basics & Responsibilities from a Main Site Perspective	<i>Joseph Dugas, PhD Mary Bird Perkins Cancer Center</i> <i>Robert Pizzutiello Jr., MS Landauer Medical Physics</i>	Tuesday, Sept 8, 2015 12 – 1 pm, eastern
Webinar #2 - Motivation, Economics, and Structure from the Satellite Perspective	<i>Firas Mourtada, PhD, Christiana Care Hospital</i> <i>Michele Verst, MS Cancer Care Group</i>	Monday, Sept 21, 2015 11am – 12 pm, eastern
Webinar #3 - Economics and Negotiations	<i>Firas Mourtada, PhD, Christiana Care Hospital</i> <i>Robert J. Pizzutiello Jr., MS, Landauer Medical Physics</i>	Thursday, Oct 8, 2015 12 – 1 pm, eastern
Webinar #4 - CAMPEP Perspective	<i>Chester Reft, PhD, University of Chicago</i> <i>John Antolak, PhD, Mayo Clinic</i>	Thursday, Oct 15, 2015 1 – 2 pm, eastern