David S. Parda,MD

Associate Professor of Radiation Oncology

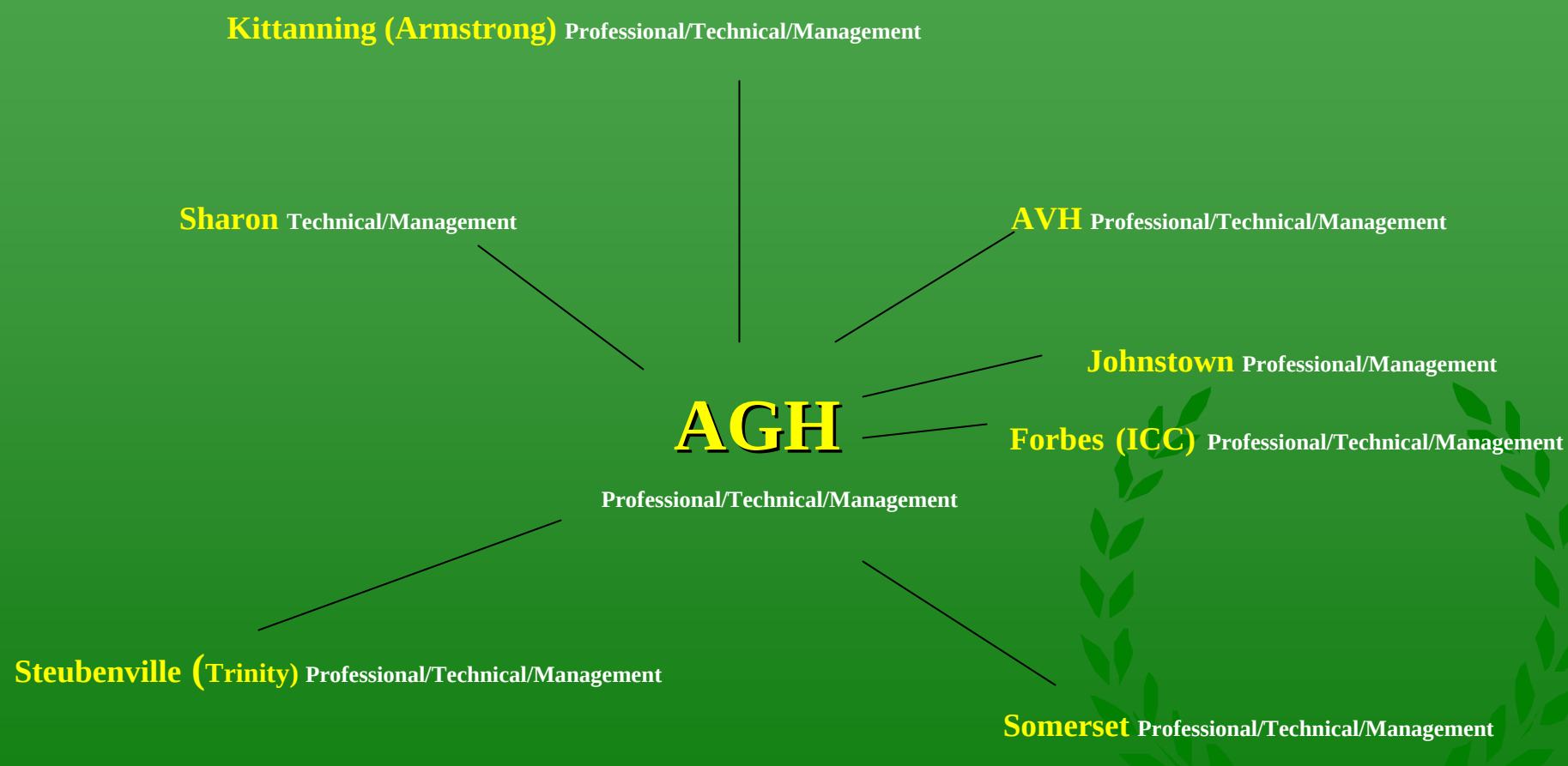
Drexel University College of Medicine

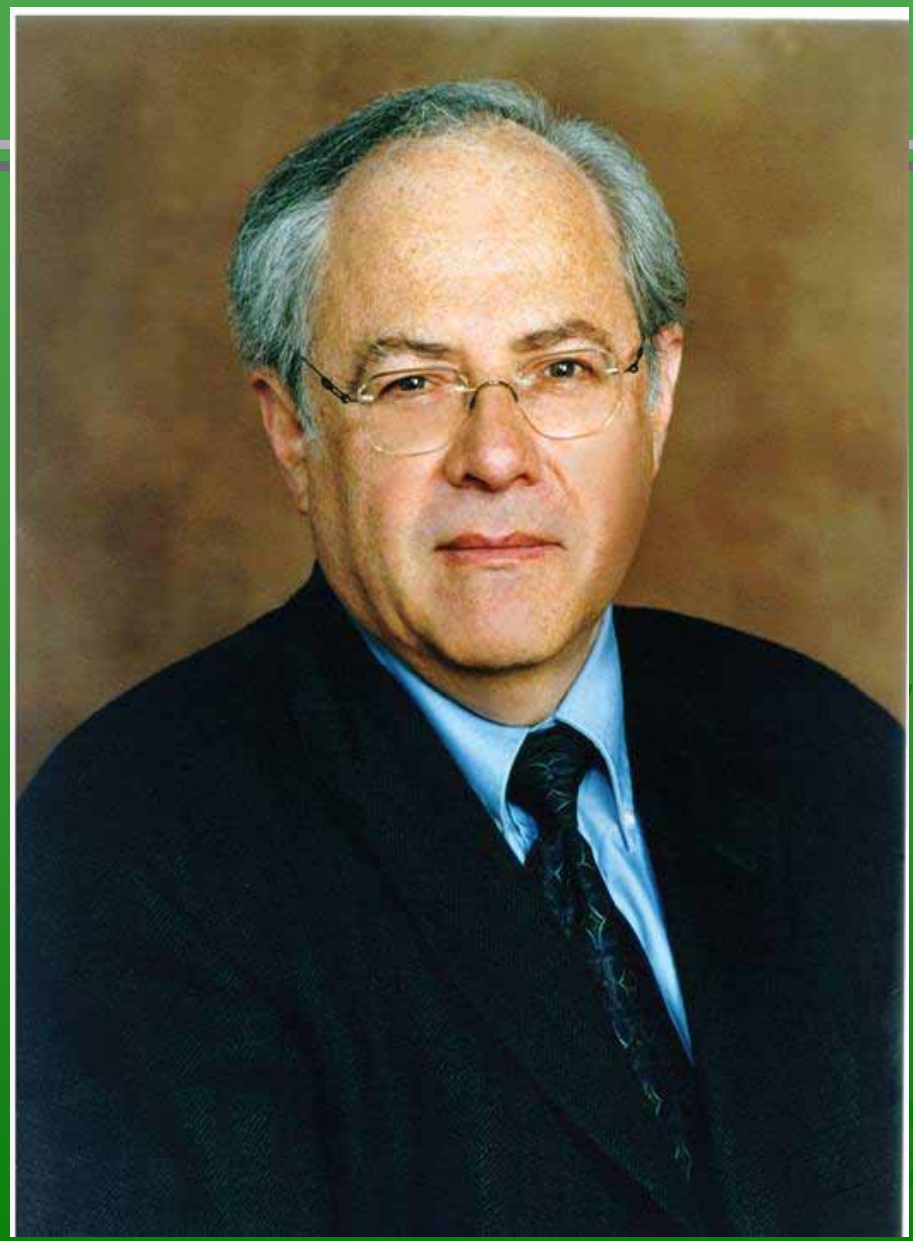
Chairman and Residency Program Director

Allegheny General Hospital Department of Radiation Oncology

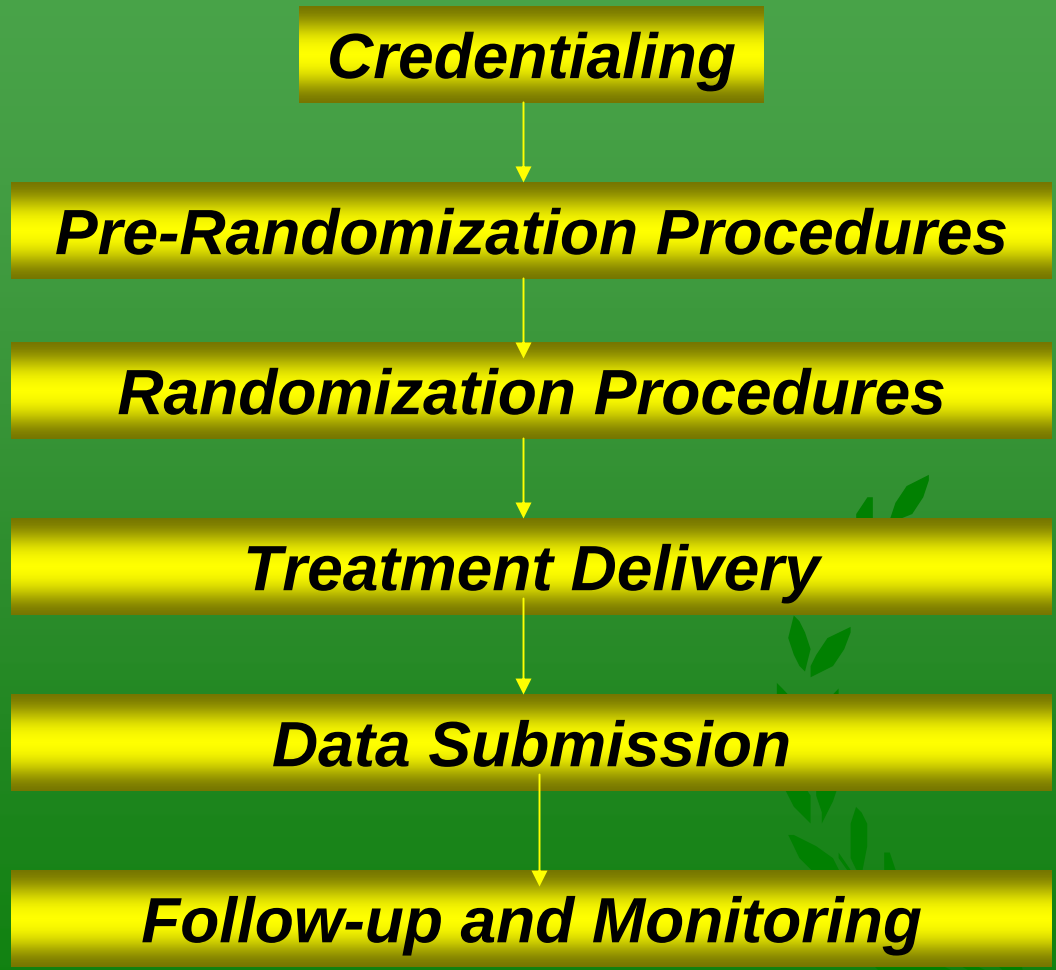
West Penn Allegheny Cancer Institute Radiation Oncology Network

Allegheny General Hospital Department of Radiation Oncology
West Penn Allegheny Cancer Institute Radiation Oncology Network





NSABP B-39 / RTOG 0413 Flow



Pre-Randomization

1. **Pathologic criteria and clinical criteria to determine eligibility**
2. **CT scan after lumpectomy or re-excision of margins**
3. **Declaration of intention to treat with chemotherapy**
4. **Declaration of intended PBI technique**
5. **Submit registration form and consent form for protocol treatment**
6. **Submit baseline quality of life and patient-reported cosmesis assessment**
7. **Submit radiation oncologist-reported cosmesis assessment**

Pre-Randomization

Lumpectomy Alone – DCIS

Lumpectomy + SN bx alone if SN negative – Invasive

Lumpectomy + Ax. Diss. If SN positive (must sample ≥ 6 LN's) - Invasive

Review of pathology with patient and breast surgeon confirms PS0,1,2 breast CA
≤ 3 cm in size
≤ 3 LN's positive

Within 14 days after the last surgery

To Rad Onc for post-operative/pre-randomization breast CT in radiation treatment position for treatment planning

Pre-Randomization

Evaluation of treatment planning CT scan

1. Is target lumpectomy cavity clearly delineated on treatment planning CT?
2. Is target lumpectomy cavity / whole breast reference volume ratio $\leq$ 0.3 ($\leq$ 0.2 – 0.25 for 3D CRT)?

Note: Can repeat CT scan up to 6 weeks post-surgery to determine whether 1 & 2 are satisfied

: must randomize patient to WBI or PBI within 6 weeks (42 days) of last surgery for breast cancer

Study Entry/Randomization

1. Randomize patient to WBI or PBI

2. Submit pathology studies

3. Submit digital image of patient's breasts

					Years 2 through 5		Year 6+
Required Studies	*Prior to randomization*	*At end of RT*	*At 4 weeks following therapy*	*At 6 months and 12 months following therapy*	*Every 6 months*	*Every 12 months*	
History and physical exam	X	X	X	X	X		X
Breast assessment/exam	X	X	X	X	X		X
Adverse event assessment		X	X	X		X	X
Weight	X			X			
Bra cup size	X			X	X		X
Menopause status	X						
CBC	X						
Platelet count	X						
Alkaline phosphatase	X						
Serum calcium	X						
AST	X						
Pregnancy test (serum beta HCG)	X						
Chest imaging	X						
Abdominal CT	X						
Ipsilateral breast CT	X						
Bone scan	X						
Bilateral mammogram	X			X		X	X

Required Studies	Prior to randomization	Treatment with chemotherapy?						Follow-up[a]		
		No			Yes					
		Last day of RT	4 wks after RT	6 months after RT	Last day of therapy[b]	4 weeks after RT and chemotherapy	6 months after RT and chemotherapy	Yr 1	Yr 2	Yr 3
QOL Questionnaire	X	X	X	X	X	X	X	X	X	X
MD-Reported Cosmesis	X[c]							X[c]		X[c]
Digital images (Breast Photos)	X[d]							X		X

a. From end of RT (if no chemotherapy) or from end of both RT and chemotherapy (if chemotherapy is given).

b. If Group 1 (WBI), last therapy will be RT. If Group 2 (PBI), last therapy will be chemotherapy.

c. A radiation oncologist must complete these reports. Every effort should be made to have these assessments performed by the same physician at all 3 time points.

d. Photographs may also be taken after randomization but before any adjuvant treatment begins.

Informed Consent Signed

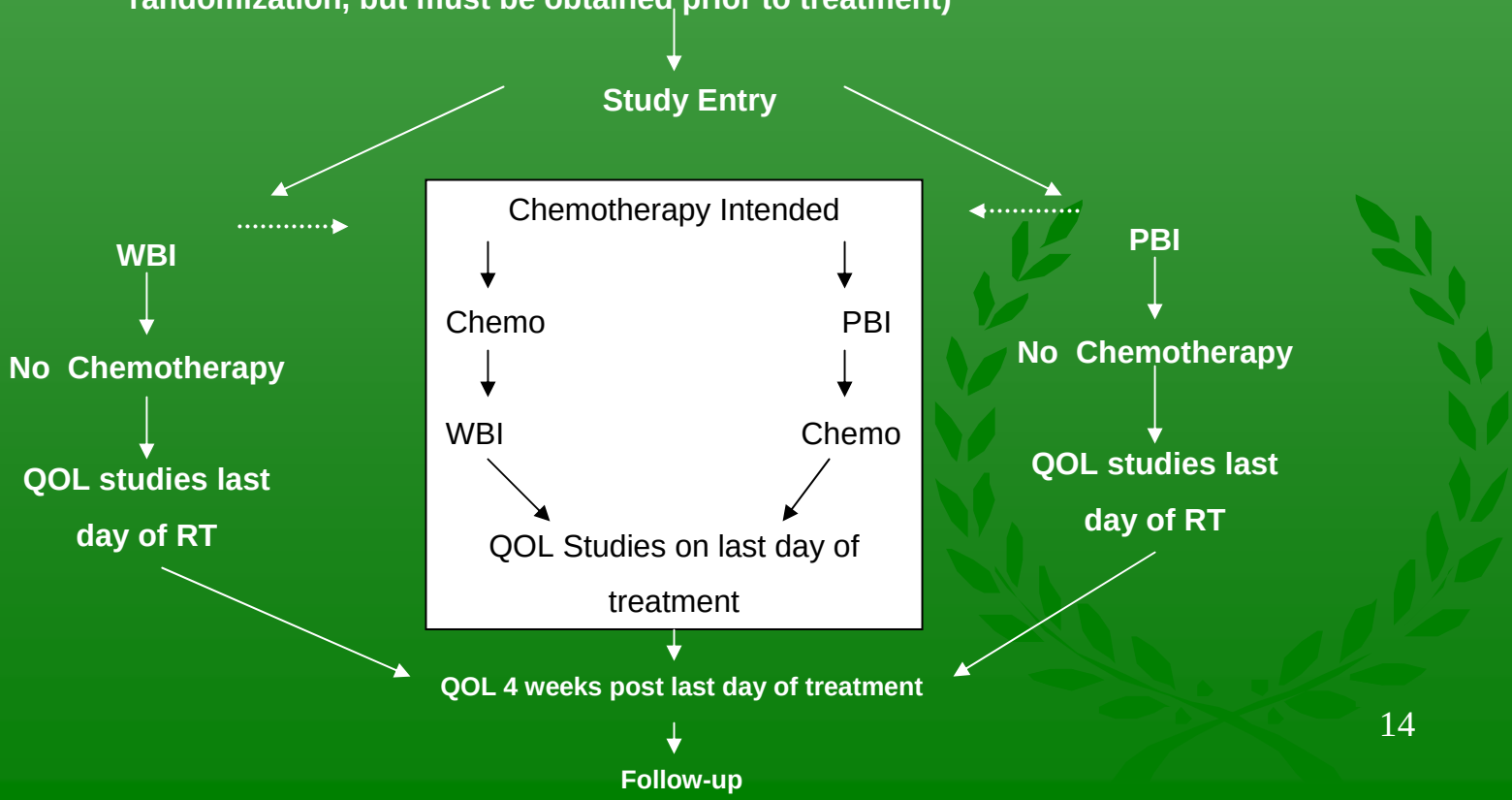
BAHO Baseline Studies

QOL questionnaire (includes patient-reported cosmesis)

Cosmesis:

– Physician (radiation oncologist) reported

– Photographs (digital images of both breasts; can be obtained after randomization, but must be obtained prior to treatment)



Expedited Reporting Requirements

Attribution	Grade 4*		Grade 5*	
	Unexpected	***Expected***	***Unexpected***	***Expected***
Unrelated or Unlikely	**24-Hr ALERT**	**24-Hr ALERT**	**24-Hr ALERT**	**24-Hr ALERT**
Possible, Probable, Definite	**24-Hr ALERT and AdEERS**	**24-Hr ALERT and AdEERS**	**24-Hr ALERT and AdEERS**	**24-Hr ALERT and AdEERS**

24-Hr ALERT: Indicates Form ALERT must be faxed to the NSABP Biostatistical Center within 24 hours of learning of the event. Fax supporting documentation to the NSABP Biostatistical Center.

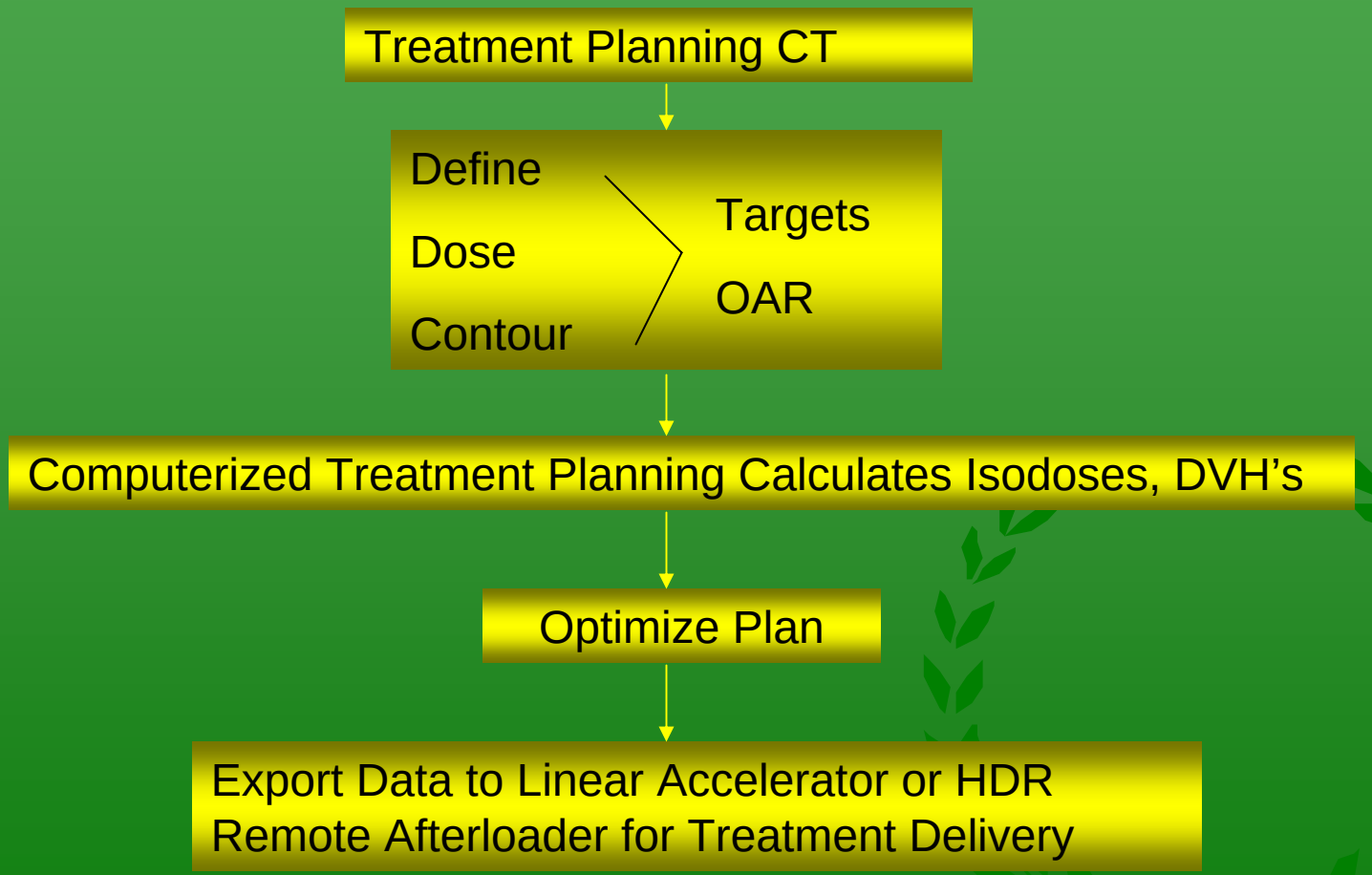
AdEERS: Indicates an electronic report must be electronically submitted to the NSABP Lead Group within 7 working days of learning of the event. Fax supporting documentation to the NSABP Biostatistical Center.

* All grade 4 adverse events and all grade 5 adverse events that occur more than 30 days after the last treatment with either whole breast irradiation (WBI) or partial breast irradiation (PBI) and are *attributed (possibly, probably, or definitely) to the radiation therapy* and are not due to cancer recurrence must be reported according to the instructions above.

Typical Radiation Oncology Work Flow

Data Transfer From CT Simulation to Radiation Treatment Planning Computer to Linear Accelerator or HDR Remote Afterloader for Treatment Delivery.

Typical Radiation Oncology Work Flow



Radiation Oncology Facility Credentialing (See Section 5.0)

1. Facility questionnaire
2. Knowledge questionnaire
3. Dry run case for each PBI technique offered by radiation oncology facility

Pre-Randomization

1. Pathologic criteria and clinical criteria to determine eligibility (Sections 6.0 and 8.0)
2. CT scan after lumpectomy or re-excision of margins (Section 7.0)
3. Declaration of intention to treat with chemotherapy
4. Declaration of intended PBI technique

Study Entry/Randomization

1. Submission of Form A (See Section 20.0) and consent form (see Appendix H)
2. Pathology studies (See Section 9.0)
3. Quality of life and cosmesis studies (See Section 10.0)

Treatment Delivery

If chemotherapy indicated:

Chemotherapy followed by WBI (see Section 15.0)

If chemotherapy not indicated:

WBI alone

Whole Breast Irradiation (See Section 11.0)

Partial Breast Irradiation

- Multi-Catheter (See Section 12.0)
- Mammosite® (See Section 13.0)
- 3D CRT (See Section 14.0)

Chemotherapy if indicated follows PBI (See Section 15.0)

1. Data submission (See Sections 17.0 and 20.0)
2. Pathology studies if breast cancer recurrence (See Section 9.0)
3. Quality of life and cosmesis studies (See Section 10.0)

Continued follow-up and monitoring (See Sections 17.0 and 20.0)