
**eTable 1.** Maximum Physician-Assessed Toxic Effects in Follow-up Until 6-Month Assessment (Days 8 to 210 After Radiotherapy Completion)

**eTable 2.** Maximum Patient-Reported Toxic Effects in Follow-up Until 6-Month Assessment (Days 8 to 210 After Radiotherapy Completion)

**eAppendix 1.** Physician Forms

**eAppendix 2.** Patient Questionnaires

**eAppendix 3**

This supplementary material has been provided by the authors to give readers additional information about their work.
**eTable 1. Maximum Physician-Assessed Toxic Effects in Follow-up Until 6-Month Assessment (Days 8 to 210 After Radiotherapy Completion)**

<table>
<thead>
<tr>
<th>Toxic Effect</th>
<th>No. (%)</th>
<th>Conventional Fractionation (n = 1369)</th>
<th>Hypofractionation (n = 412)</th>
<th>P Value</th>
<th>Odds Ratio (95% CI)</th>
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<td>2 (0.5)</td>
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### Pneumonitis

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### Fatigue

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<td>31 (2.3)</td>
<td>8 (2.0)</td>
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### Desquamation

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<td>408 (99.0)</td>
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<td>Present</td>
<td>15 (1.1)</td>
<td>4 (1.0)</td>
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<tr>
<td>Present</td>
<td>119 (8.7)</td>
<td>51 (12.4)</td>
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---

*a* Adjusted for breast volume, separation distance, body mass index, age, race, diabetes mellitus, hypertension, T stage, laterality, chemotherapy use, hormone therapy use, whether nodes were treated, mean breast dose, maximum dose to 1 cm³ of breast volume, and whether a boost was delivered using either a cumulative logit or logistic model depending on the levels of the outcome.

*b* Not enough events to adjust for effects of covariates.
eTable 2. Maximum Patient-Reported Toxic Effects in Follow-up Until 6-Month Assessment (Days 8 to 210 After Radiotherapy Completion)

<table>
<thead>
<tr>
<th>Toxic Effect</th>
<th>Conventional Fractionation (n = 1049)</th>
<th>Hypofractionation (n = 319)</th>
<th>( P ) Value</th>
<th>Odds Ratio (95% CI)</th>
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<tbody>
<tr>
<td>Breast pain (0-10)</td>
<td>Mean (SD)</td>
<td>1.25 (1.85)</td>
<td>1.03 (1.84)</td>
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</tr>
<tr>
<td></td>
<td>Median (range)</td>
<td>1 (0-10)</td>
<td>0 (0-10)</td>
<td></td>
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<tr>
<td>No. (%)</td>
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<td>521 (49.7)</td>
<td>192 (60.2)</td>
<td>( .84 )</td>
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<td>Mild (1-3)</td>
<td>410 (39.1)</td>
<td>101 (31.7)</td>
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<td>Moderate (4-7)</td>
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<td>Severe (8-10)</td>
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<td>Moist desquamation, No. (%)</td>
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<td>310 (97.2)</td>
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<td>9 (2.8)</td>
<td>( .13 )</td>
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<td>Dry desquamation, No. (%)</td>
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<td>8 (2.5)</td>
<td>( .27 )</td>
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<td>10 (3.1)</td>
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<td>( .88 )</td>
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<td>The effects of your skin reaction to radiation on your interactions with others</td>
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<td>5 (1.6)</td>
<td>( .88 )</td>
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<td>22 (2.1)</td>
<td>6 (1.9)</td>
<td>( .88 )</td>
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radiation making it hard to work or do what you enjoy

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Breast Cancer Treatment Outcomes Scale[^5]

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<th>Mean (SD)</th>
<th>Median (range)</th>
<th>p Value</th>
<th>95% CI</th>
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<td>1.40 (0.57)</td>
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<td>0.07[^d] (−0.08 to 0.22)</td>
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<td>1.14 (1-4)</td>
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<td>1.79 (0.55)</td>
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<td>Breast-specific pain</td>
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<td>Mean (SD)</td>
<td>1.89 (0.73)</td>
<td>1.74 (0.67)</td>
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<td>0.02[^d] (−0.16 to 0.20)</td>
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<td>Median (range)</td>
<td>2.33 (1-4)</td>
<td>1.67 (1-4)</td>
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[^a]: Adjusted for breast volume, separation distance, body mass index, age, race, diabetes mellitus, hypertension, T stage, laterality, chemotherapy use, hormone therapy use, whether nodes were treated, mean breast dose, maximum dose to 1 cm$^3$ of breast volume, and whether a boost was delivered using either a cumulative logit or logistic model depending on the levels of the outcome.

[^b]: Not enough events to adjust for effects of covariates.

[^c]: Higher score indicates greater difference in the outcome of the treated breast compared with the untreated breast. The minimum score and minimum difference is 1 whereas the maximum score and maximum difference is 4 for each functional scale.

[^d]: Continuous outcome variable; values presented represent the estimated average difference (after covariate adjustment) between conventional and hypofractionation groups.
eAppendix 1: Physician Forms
# Physician Toxicity Evaluation

## Breast RT First Week of Treatment

Toxicity Scoring (CTCAE v 4.0)

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<tr>
<td>Lymphedema of breast</td>
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</tr>
<tr>
<td>Radiation dermatitis</td>
<td></td>
</tr>
<tr>
<td>Pruritus</td>
<td></td>
</tr>
<tr>
<td>Skin induration</td>
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<tr>
<td>Musculoskeletal and connective tissue disorders</td>
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<td>Chest wall pain</td>
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<td>Cardiac disorders</td>
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<td>Pericarditis</td>
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<td>Pericardial effusion</td>
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<td>Respiratory, thoracic and mediastinal disorders</td>
<td></td>
</tr>
<tr>
<td>Dyspnea</td>
<td></td>
</tr>
<tr>
<td>Pleuritic pain</td>
<td></td>
</tr>
<tr>
<td>Pneumonitis</td>
<td></td>
</tr>
<tr>
<td>General disorders</td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
</tr>
</tbody>
</table>

**ECOG Performance Status**

- Fully active
- Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work
- Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
- Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
- Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair

1. Please rate the patient’s current breast pain on a scale of 0-10: ____________
2. Please characterize the extent of any breast erythema at present.  
   - None  
   - Mild  
   - Moderate  
   - Severe  
   Specify location (check all that apply):  
   - None  
   - Near scar  
   - Inframammary fold  
   - Axillary fold  
   - Elsewhere  

3. Characterize the severity of any breast hyperpigmentation at present.  
   - None  
   - Mild  
   - Moderate  
   - Severe  
   Specify location (check all that apply):  
   - None  
   - Near scar  
   - Inframammary fold  
   - Axillary fold  
   - Elsewhere

4. Characterize the severity of any breast hypopigmentation at present.  
   - None  
   - Mild  
   - Moderate  
   - Severe  
   Specify location (check all that apply):  
   - None  
   - Near scar  
   - Inframammary fold  
   - Axillary fold  
   - Elsewhere

5. Is this patient enrolled on any breast cancer clinical trial, study, or protocol (do not include MROQC)?  
   - Yes  
   - No

6. Does this study (these studies) influence your radiation dose / treatment plan, or expected toxicity for this patient?  
   - Yes  
   - No

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### Physician: Weekly Breast Radiotherapy Toxicity Evaluation

**Complete each week during treatment (Excluding first and last week)**

**Toxicity Scoring (CTCAE 4.0)**

<table>
<thead>
<tr>
<th>Adverse Event</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Breast</strong></td>
<td></td>
</tr>
<tr>
<td>Breast pain</td>
<td>None</td>
</tr>
<tr>
<td>Lymphedema of breast</td>
<td>None</td>
</tr>
<tr>
<td><strong>Skin Disorders</strong></td>
<td></td>
</tr>
<tr>
<td>Radiation dermatitis</td>
<td>None</td>
</tr>
<tr>
<td><strong>Musculoskeletal and connective tissue disorders</strong></td>
<td></td>
</tr>
<tr>
<td>Chest wall pain</td>
<td>None</td>
</tr>
<tr>
<td><strong>General Disorders</strong></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>None</td>
</tr>
</tbody>
</table>

**ECOG Performance Status**


- Fully active
- Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work
- Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
- Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
- Completely disabled. Cannot carry on an selfcare. Totally confined to bed or chair
- Dead

### Instructions:

1. Indicate all areas that have **MOIST** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere______________________________

2. Indicate all areas that have **DRY** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere______________________________

3. Characterize the severity of any breast hyperpigmentation at present:
   - None
   - Mild
   - Moderate
   - Severe
   - Specify location: (check all that apply) **none**
     - Near the scar
     - Inframammary fold
     - Axillary fold
     - Elsewhere(specify: ____________________)

4. Characterize the severity of any breast hypopigmentation at present:
   - None
   - Mild
   - Moderate
   - Severe
   - Specify location: (check all that apply) **none**
     - Near the scar
     - Inframammary fold
     - Axillary fold
     - Elsewhere(specify: ____________________)
**Patient’s Status:**

1. **Weight:** ________________ (pounds)
2. Rate patient’s current breast pain on a scale of 0-10: ________________

3. Indicate all areas that have **MOIST** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

4. Indicate all areas that have **DRY** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

5. Characterize extent of breast **erythema** at present:
   - None  □  Mild  □  Moderate  □  Severe
   Specify location: (check all that apply)
   - none
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

6. Characterize the severity of any breast **hyperpigmentation** at present.
   - None  □  Mild  □  Moderate  □  Severe
   Specify location: (check all that apply)
   - none
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

7. Characterize the severity of any breast **hypo**pigmentation at present.
   - None  □  Mild  □  Moderate  □  Severe
   Specify location: (check all that apply)
   - none
   - Near the scar
   - Inframammary fold

---

**Patient ID  Date of Eval __________**

What is your position:  □ MD/DO  □ Nurse  □ NP/PA
□ Other (specify): __________________________

Are you the patient’s attending physician?  □ Yes  □ No

---

8. Please select all treatments recommended for management of acute reaction to RT within the past month:
   - None
   - Calendula  □  Silvadene
   - Aquaphor  □  Aloe vera gel
   - Alra  □  Corn starch
   - Miaderm  □  Hydrogel
   - Biafene  □  Domeboro Solution
   - Biafderm  □  Topical corticosteroids
   - Other topical agent (specify): ________________
   - Oral anti-inflammatory or analgesic medication (specify): ________________
   - Oral antibiotic
   - Other oral agent (specify): ________________
   - Other intervention (specify): ________________

9. How was the boost volume defined?
   - No boost given
   - Volume defined by Ultrasound
   - Volume defined clinically on set
   - Volume defined on CT
   - Other, please specify: ________________

10. If CT was used to define boost volume; the tumor bed was contoured based on: (check all that apply)
    - N/A
    - Surgical Clips
    - Surgical Changes
    - Surgical clips and surgical changes
    - Scar
    - Other please specify: ____________

11. **What was the date of the first fraction?** __________

12. **What was the date of the last fraction?** __________

13. Did any break in treatment occur due to toxicity?
    - Yes  □  No

14. Was the toxicity-related treatment break >5 days?
    - Yes  □  No

15. Is the patient to be seen for follow up before 3 months?
    - Yes  □  No
Axillary fold
- Elsewhere (specify: ____________)

If Yes, when? ___________________

16 Is this follow-up visit due to toxicity? □ Yes □ No □ n/a

16. Toxicity Scoring (CTCAE v 4.0)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Adverse Event</th>
<th>Breast</th>
<th>Skin Disorders</th>
<th>Musculoskeletal and connective tissue disorders</th>
<th>Cardiac disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Breast pain</td>
<td>none</td>
<td>Radiation dermatitis</td>
<td>Pericarditis</td>
<td>Mild pain</td>
</tr>
<tr>
<td>1</td>
<td>Breast pain</td>
<td>Mild pain</td>
<td>Faint erythema or dry desquamation</td>
<td>Asymptomatic, ECG or Symptomatic pericarditis (e.g., Pericarditis with physiologic symptom)</td>
<td>Moderate pain; limiting instrumental ADL</td>
</tr>
<tr>
<td>2</td>
<td>Breast pain</td>
<td>Moderate pain; limiting instrumental ADL</td>
<td>Moderate to brisk erythema; patchy moist desquamation, mostly confined to skin folds and creases; moderate edema</td>
<td>Moderate induration, able to slide skin, unable to pinch skin; limiting instrumental ADL to ADL</td>
<td>Severe induration, unable to slide or pinch skin; limiting joint movement or orifice (e.g., mouth, anus); limiting self-care ADL</td>
</tr>
<tr>
<td>3</td>
<td>Breast pain</td>
<td>Severe pain; limiting self care ADL</td>
<td>Moist desquamation in areas other than skin folds and creases; bleeding induced by minor trauma or abrasion</td>
<td>Life-threatening consequences; skin necrosis or ulceration of full thickness dermis; spontaneous bleeding from involved site; skin graft indicated</td>
<td>Generalized; associated with signs or symptoms of impaired breathing or feeding</td>
</tr>
<tr>
<td>4</td>
<td>Breast pain</td>
<td>Severe symptoms; limiting self-care ADL</td>
<td>Marked discoloration; leathery skin texture; papillary formation; limiting instrumental ADL</td>
<td>Death</td>
<td>Death</td>
</tr>
<tr>
<td>5</td>
<td>Breast pain</td>
<td>None</td>
<td>Life-threatening consequences; skin necrosis or ulceration of full thickness dermis; spontaneous bleeding from involved site; skin graft indicated</td>
<td>Death</td>
<td>Death</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Pericardial effusion</th>
<th>none</th>
<th>physical findings (e.g., rub) consistent with pericarditis</th>
<th>chest pain</th>
<th>consequences (e.g., pericardial constriction)</th>
<th>consequences; urgent intervention indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory, thoracic and mediastinal disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyspnea</td>
<td>none</td>
<td>Shortness of breath with moderate exertion</td>
<td>Shortness of breath with minimal exertion; limiting instrumental ADL</td>
<td>Shortness of breath at rest; limiting self care ADL</td>
<td>Life-threatening consequences; urgent intervention indicated</td>
</tr>
<tr>
<td>Pleuritic pain</td>
<td>none</td>
<td>Mild pain</td>
<td>Moderate pain; limiting instrumental ADL</td>
<td>Severe pain; limiting self care ADL</td>
<td>Death</td>
</tr>
<tr>
<td>Pneumonitis</td>
<td>none</td>
<td>Asymptomatic; clinical or diagnostic observations only; intervention not indicated</td>
<td>Symptomatic; medical intervention indicated; limiting instrumental ADL</td>
<td>Severe symptoms; limiting self care ADL; oxygen indicated</td>
<td>Life-threatening respiratory compromise; urgent intervention indicated (e.g., tracheotomy or intubation)</td>
</tr>
<tr>
<td>General disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>none</td>
<td>Fatigue relieved by rest</td>
<td>Fatigue not relieved by rest; limiting instrumental ADL</td>
<td>Fatigue not relieved by rest, limiting self care ADL</td>
<td></td>
</tr>
</tbody>
</table>

**ECOG Performance Status**


| Fully active | Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work | Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours | Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours | Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair |
| Death |

**Physician: Breast Cancer Clinical Outcomes Assessment**

Use this form for follow-up visits 0-6 months after treatment is completed

**Patient’s Status:**

1. Weight: ___________________ (pounds)
2. Rate patient’s current breast pain on a scale of 0-10: ________________

8. Please select all treatments recommended for management of acute reaction to RT within the past month:
   - [ ] None
   - [ ] Calendula
   - [ ] Aquaphor
   - [ ] Alra
   - [ ] Miaderm
   - [ ] Biafene
   - [ ] Silvadene
   - [ ] Aloe vera gel
   - [ ] Corn starch
   - [ ] Hydrogel
   - [ ] Domeboro Solution
   - [ ] Topical corticosteroids
   - [ ] Other topical agent (specify): ________________
   - [ ] Oral anti-inflammatory or analgesic medication (specify): ________________
   - [ ] Oral antibiotic

**MROQC Breast Outcomes Last week: 12/17/2013**

**Form B9:**

Patient ID __________________ Date of Eval ____________
What is your position: θ MD/DO θ Nurse θ NP/PA
θ Other (specify): __________________
Are you the patient’s attending physician? θ Yes θ No

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3. Indicate all areas that have **MOIST** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

4. Indicate all areas that have **DRY** desquamation:
   - None
   - Near the scar
   - Inframammary fold
   - Axillary fold
   - Elsewhere (specify: ________________)

5. Characterize extent of breast **erythema** at present:
   - □ None
   - □ Mild
   - □ Moderate
   - □ Severe
   Specify location: (check all that apply)
   - □ none
   - □ Near the scar
   - □ Inframammary fold
   - □ Axillary fold
   - □ Elsewhere (specify: ________________)

6. Characterize the severity of any breast **hyperpigmentation** at present.
   - □ None
   - □ Mild
   - □ Moderate
   - □ Severe
   Specify location: (check all that apply)
   - □ none
   - □ Near the scar
   - □ Inframammary fold
   - □ Axillary fold
   - □ Elsewhere (specify): ________________

7. Characterize the severity of any breast **hypopigmentation** at present.
   - □ None
   - □ Mild
   - □ Moderate
   - □ Severe
   Specify location: (check all that apply)
   - □ none
   - □ Near the scar
   - □ Inframammary fold
   - □ Axillary fold
   - □ Elsewhere (specify): ________________

Please see second page for Toxicity Scoring
9. Toxicity Scoring (CTCAE v 4.0)

<table>
<thead>
<tr>
<th>Adverse Event</th>
<th>Grade</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breast</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast pain</td>
<td></td>
<td>none</td>
<td>Mild pain</td>
<td>Moderate pain; limiting instrumental ADL</td>
<td>Severe pain; limiting self care ADL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lymphedema of breast</td>
<td></td>
<td>none</td>
<td>Trace thickening or faint discoloration</td>
<td>Marked discoloration; leathery skin texture; papillary formation; limiting instrumental ADL</td>
<td>Severe symptoms; limiting self-care ADL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Skin Disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation dermatitis</td>
<td></td>
<td>none</td>
<td>Faint erythema or dry desquamation</td>
<td>Moderate to brisk erythema; patchy moist desquamation, mostly confined to skin folds and creases; moderate edema</td>
<td>Moist desquamation in areas other than skin folds and creases; bleeding induced by minor trauma or abrasion</td>
<td>Life-threatening consequences; skin necrosis or ulceration of full thickness dermis; spontaneous bleeding from involved site; skin graft indicated</td>
<td>Death</td>
</tr>
<tr>
<td>Pruritus</td>
<td></td>
<td>none</td>
<td>Mild or localized; topical intervention indicated</td>
<td>Intense or widespread; intermittent; skin changes from scratching (e.g., edema, population, excoriations, lichenification, oozing/crusts); oral intervention indicated; limiting instrumental ADL</td>
<td>Intense or widespread; constant; limiting self care ADL or sleep; oral corticosteroid or immunosuppressive therapy indicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin induration</td>
<td></td>
<td>none</td>
<td>Mild induration, able to move skin parallel to plane (sliding) and perpendicular to skin (pinching up.)</td>
<td>Moderate induration, able to slide skin, unable to pinch skin; limiting instrumental to ADL</td>
<td>Severe induration, unable to slide or pinch skin; limiting joint movement or orifice (e.g., mouth, anus); limiting self-care ADL</td>
<td>Generalized; associated with signs or symptoms or impaired breathing or feeding</td>
<td>Death</td>
</tr>
<tr>
<td><strong>Musculoskeletal and connective tissue disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest wall pain</td>
<td></td>
<td>none</td>
<td>Mild pain</td>
<td>Moderate pain; limiting instrumental ADL</td>
<td>Severe pain; limiting self care ADL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cardiac disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pericarditis</td>
<td>none</td>
<td>Asymptomatic, ECG or physical findings (e.g., rub) consistent with pericarditis</td>
<td>Symptomatic pericarditis (e.g., chest pain)</td>
<td>Pericarditis with physiologic consequences (e.g., pericardial constriction)</td>
<td>Life-threatening consequences; urgent intervention indicated</td>
<td>Death</td>
<td></td>
</tr>
<tr>
<td>Pericardial effusion</td>
<td>none</td>
<td>Asymptomatic effusion size small to moderate</td>
<td>Effusion with physiologic consequences</td>
<td>Life-threatening consequences; urgent intervention indicated</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Respiratory, thoracic and mediastinal disorders</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyspnea</td>
<td>none</td>
<td>Shortness of breath with moderate exertion</td>
<td>Shortness of breath with minimal exertion; limiting instrumental ADL</td>
<td>Shortness of breath at rest; limiting self care ADL</td>
<td>Life-threatening consequences; urgent intervention indicated</td>
<td>Death</td>
<td></td>
</tr>
<tr>
<td>Pleuritic pain</td>
<td>none</td>
<td>Mild pain</td>
<td>Moderate pain; limiting instrumental ADL</td>
<td>Severe pain; limiting self care ADL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumonitis</td>
<td>none</td>
<td>Asymptomatic; clinical or diagnostic observations only; intervention not indicated</td>
<td>Symptomatic; medical intervention indicated; limiting instrumental ADL</td>
<td>Severe symptoms; limiting self care ADL; oxygen indicated</td>
<td>Life-threatening respiratory compromise; urgent intervention indicated (e.g., tracheotomy or intubation)</td>
<td>Death</td>
<td></td>
</tr>
<tr>
<td><strong>General disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>none</td>
<td>Fatigue relieved by rest</td>
<td>Fatigue not relieved by rest; limiting instrumental ADL</td>
<td>Fatigue not relieved by rest, limiting self care ADL</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>ECOG Performance Status</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Description</th>
<th>Restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully active</td>
<td>Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work</td>
<td>Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours</td>
</tr>
<tr>
<td></td>
<td>Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours</td>
<td>Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair</td>
</tr>
<tr>
<td></td>
<td>Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours</td>
<td>Totally confined to bed or chair</td>
</tr>
<tr>
<td></td>
<td>Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours</td>
<td>Dead</td>
</tr>
</tbody>
</table>

eAppendix 2: Patient Questionnaires
Patient ID: ____________________
Date (mm/dd/yyyy): __________
Facilitator Used: ___Yes ___No

Patient: Pre-Treatment Breast Cancer Questionnaire

First, we would like to know if you are having any breast pain, redness, darkening, or skin peeling.

*Modified Brief Pain Inventory – Severity Subscale – Breast Pain*

1. Please rate your breast pain:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>No pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>No pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>No pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>No pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. For your breast pain, are you currently using any treatments or medications?
   - θ Yes
   - θ No
   - θ N/A

3. Are you having any redness in the breast that will receive radiation treatment?
   - θ Yes
   - θ No ▶ Go to question #4

   If Yes:

   a) How severe is the worst part of the redness?
      - θ Very faint

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θ Moderately pink
θ Bright red
4. Have you noticed any darkening of your skin on the breast that will receive radiation treatment?
   θ Yes                   θ No ————→ **Go to question #5**

   If Yes:
   a) How would you describe the darkest area?
      θ Very faint           θ Moderately dark         θ Very dark

5. Are you having any skin peeling in the breast that will receive radiation treatment?
   θ Yes                   θ No ————→ **Go to question #6**

   If Yes:
   a) Where is the peeling? **Check all that apply**
      θ Near the scar       θ In the fold under my breast
      θ In the fold of my armpit θ Elsewhere in my breast

   b) How big is the largest area of peeling?
      θ Up to the size of a quarter coin        θ Larger than the size of a quarter coin

   c) Is the peeling wet/weeping, or dry?
      θ Wet/weeping            θ Dry                 θ Both

6. Are you using any treatments or medications for the breast to be treated with radiation (lotions, creams, medicine etc.)?
   θ Yes                   θ No ————→ **Go to question #7**

   If Yes, what treatments are you using? **Check all that apply**
   □ Calendula            □ Aloe vera gel           □ Other (agents) treatments used on the skin (specify): ____________
   □ Aquaphor             □ Corn starch            □ Oral pain medication (specify): ____________
   □ Alra                 □ Hydrogel               □ Oral antibiotic
   □ Miaderm              □ Domeboro Solution      □ Other oral agent (specify): ____________________
   □ Biafene              □ Corticosteroids used on the skin( such as cortisone cream )
   □ Silvadene
Next, we would like to know just a little more about you.

7. What is the highest level of education you have completed?
   - Grade School or less
   - Some High School
   - High School Graduate
   - Some College or Technical School
   - College Graduate (Bachelor’s Degree)
   - Graduate Degree or G.E.D.

8. Which of the following best describes your race?
   - American Indian/Alaska Native
   - Native Hawaiian or other Pacific Islander
   - White
   - Other (please specify)________________
   - Asian
   - Black or African American
   - Arab American

9. Are you of Hispanic origin?
   - Yes
   - No

10. What was your bra size before surgery (please answer both number and letter, ie 36C)?
    - 30 or smaller
    - 32
    - 34
    - 36
    - 38
    - 40
    - 42
    - 44
    - 46 or larger
    - Larger than DD

11. Which of the following are you currently taking/receiving?
    - Tamoxifen
    - Any other hormonal/endocrine/anti-hormonal therapy
    - Chemotherapy
    - Herceptin/Trastuzumab
    - None/nothing
First, we would like to know if you are having any breast pain, redness, darkening, or skin peeling.

**Modified Brief Pain Inventory – Severity Subscale – Breast Pain**

1. Please rate your breast pain:
   a. Please rate your breast pain by circling the one number that best describes your breast pain at its worst in the last 24 hours.
      
      0 1 2 3 4 5 6 7 8 9 10
      - No pain
      - Pain as bad as you can imagine
   b. Please rate your breast pain by circling the one number that best describes your breast pain at its least in the last 24 hours.
      
      0 1 2 3 4 5 6 7 8 9 10
      - No pain
      - Pain as bad as you can imagine
   c. Please rate your breast pain by circling the one number that best describes your breast pain on the average in the last 24 hours.
      
      0 1 2 3 4 5 6 7 8 9 10
      - No pain
      - Pain as bad as you can imagine
   d. Please rate your breast pain by circling the number that best describes the breast pain you have right now.
      
      0 1 2 3 4 5 6 7 8 9 10
      - No pain
      - Pain as bad as you can imagine

2. For your breast pain, are you currently using any treatments or medications?
   - Yes
   - No
   - N/A

3. Are you having any redness in the breast that is receiving radiation treatment?
   - Yes
   - No
   **Go to question #4**

   If Yes:
   b) How severe is the worst part of the redness?
      - Very faint
      - Moderately pink
      - Bright red

4. Have you noticed any darkening of your skin on the breast that is receiving radiation treatment?
   - Yes
   - No
   **Go to question #5**

   If Yes:
   b) How would you describe the darkest area?
      - Very faint
      - Moderately dark
      - Very dark

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5. Are you having any skin peeling in the breast that is receiving radiation treatment?

θ Yes  θ No  ➤ Go to question #6

If Yes:

a) Where is the peeling?  Check all that apply

θ Near the scar  θ In the fold under my breast
θ In the fold of my armpit  θ Elsewhere in my breast

b) How big is the largest area of peeling?

θ Up to the size of a quarter coin  θ Larger than the size of a quarter coin

C) Is the peeling wet/weeping, or dry?

θ Wet/weeping  θ Dry  θ Both

6. Are you using any treatments or medications for the breast being treated with radiation (lotions, creams, medicines)?

θ Yes  θ No  ➤ Go to question #7

If Yes, what treatments are you using?  Check all that apply

□ Calendula  □ Aloe vera gel
□ Aquaphor  □ Corn starch
□ Alra  □ Hydrogel
□ Miaderm  □ Domeboro Solution
□ Biafene  □ Corticosteroids used on the skin (such as cortisone cream)
□ Silvadene
□ Other (agents) treatments used on the skin (specify): ____________
□ Oral pain medication (specify): ____________
□ Oral antibiotic
□ Other oral agent (specify): ____________

7. During the past week, how often have you been bothered by...

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itching of the skin of your treated breast</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Burning or stinging of the skin of your treated breast</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Skin color changes in the treated breast</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Your treated breast hurting</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
</tbody>
</table>
### MROQC Breast Patient On-Treatment Survey 06.20.13

**Patient ID:** ________________

**Date (mm/dd/yyyy):** ____________

**Facilitator Used:** ___Yes ___No

---

**Patient Breast Cancer Questionnaire**

**End of Treatment**

---

**First, we would like to know if you are having any breast pain, redness, darkening, or skin peeling.**

*Modified Brief Pain Inventory – Severity Subscale – Breast Pain*

1. **Please rate your breast pain:**

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pain as bad as you can imagine</td>
</tr>
<tr>
<td>Please rate your breast pain by circling the one number that best describes your breast pain at its <strong>worst</strong> in the last 24 hours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>b.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pain as bad as you can imagine</td>
</tr>
<tr>
<td>Please rate your breast pain by circling the one number that best describes your breast pain at its <strong>least</strong> in the last 24 hours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pain as bad as you can imagine</td>
</tr>
<tr>
<td>Please rate your breast pain by circling the one number that best describes your breast pain on the <strong>average</strong> in the last 24 hours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>d.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pain as bad as you can imagine</td>
</tr>
<tr>
<td>Please rate your breast pain by circling the one number that tells how much breast pain you have <strong>right now</strong>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Pain Research Group**

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2. For your breast pain, are you currently using any treatments or medications?
   - Yes
   - No
   - N/A

3. Are you having any redness in the breast that is receive radiation treatment?
   - Yes
   - No
   → Go to question #4
   If Yes:
   c) How severe is the worst part of the redness?
      - Very faint
      - Moderately pink
      - Bright red

4. Have you noticed any darkening of your skin on the breast that is receiving radiation treatment?
   - Yes
   - No
   → Go to question #5
   If Yes:
   c) How would you describe the darkest area?
      - Very faint
      - Moderately dark
      - Very dark
5. Are you having any skin peeling in the breast that is receiving radiation treatment?

θ Yes  θ No  ➞ Go to question #6

If Yes:

a) Where is the peeling? Check all that apply

θ Near the scar  θ In the fold under my breast
θ In the fold of my armpit  θ Elsewhere in my breast

b) How big is the largest area of peeling?

θ Up to the size of a quarter coin  θ Larger than the size of a quarter coin

c) Is the peeling wet/weeping, or dry?

θ Wet/weeping  θ Dry  θ Both

6. Are you using any treatments or medications for the breast treated with radiation (lotions, creams, medicines)?

θ Yes  θ No  ➞ Go to question #7

If Yes, what treatments are you using? Check all that apply

□ Calendula  □ Aloe vera gel  □ Other (agents) treatments used on the skin (specify): ______________________
□ Aquaphor  □ Corn starch  □ Oral pain medication (specify): ______________________
□ Alra  □ Hydrogel  □ Oral antibiotic
□ Miaderm  □ Domeboro Solution  □ Other (agents) treatments used on the skin (specify): ______________________
□ Biafene  □ Corticosteroids used on the skin (such as cortisone cream)
□ Silvadene  □ Other oral agent (specify): ______________________

7. During the past week, how often have you been bothered by...

Never  Rarely  Sometimes  Often  All the time

Itching of the skin of your treated breast

Burnings or stinging of the skin of your treated breast

Skin color changes in the treated breast

Your treated breast hurting

Swelling of your treated breast

The effects of your skin reaction to radiation on your interactions with others (for example: interactions with family, friends, close relationships, etc.)

The effects of your skin reaction to radiation on your daily activities

Your skin reaction to radiation making it hard to work or do what you enjoy
**Next, we would like to find out about your treatment experiences and impact.**

Please answer each question below by checking the box that best represents your opinion.

### 8. In general, during the past four weeks, how often did you:

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Always</th>
<th>Most of the time</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel that your radiation therapy limited your daily activities?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Feel bothered by the side effects of your radiation treatment?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Feel upset about the side effects of your radiation therapy?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Feel that your radiation therapy was worth doing even with the side effects?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Think about stopping your radiation therapy?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 9. In general, during the last four weeks, how often did you:

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Always</th>
<th>Most of the time</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel significant fatigue?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Feel pain in your breast or chest wall?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Worry about your skin reaction to the radiation?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Feel distressed about the appearance of your chest?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 10. Overall, my radiation therapy treatments have been:

<table>
<thead>
<tr>
<th>Convenience Level</th>
<th>Very inconvenient</th>
<th>Inconvenient</th>
<th>Neither convenient or inconvenient</th>
<th>Convenient</th>
<th>Very convenient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 11. Overall, how bothered have you been by the amount of time it took to have your radiation therapy treatments?

<table>
<thead>
<tr>
<th>Level</th>
<th>Very bothered</th>
<th>Quite bothered</th>
<th>Moderately bothered</th>
<th>A little bothered</th>
<th>Not bothered at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 12. Overall, are the side effects of radiation therapy as you expected?

<table>
<thead>
<tr>
<th>Side Effects What You Expected</th>
<th>Much better than I expected</th>
<th>Somewhat better than I expected</th>
<th>Exactly as I expected</th>
<th>Somewhat worse than I expected</th>
<th>Much worse than I expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 13. Overall, how satisfied are you with your radiation therapy treatment?

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**14. Taking everything into consideration, if given the choice again, would you decide to have radiation therapy?**

Yes, definitely  
Probably yes  
I don’t know  
Probably not  
Definitely not

MROQC Breast Patient End of Treatment Survey.06.20.13

Form B3, Page 3 of 4
15. Sometimes, a type of technology known as “intensity modulated radiotherapy” or “IMRT” is used to treat cancer patients. Was the kind of radiation you received intensity modulated radiotherapy (IMRT)?

- Yes, I received intensity-modulated radiotherapy (IMRT)
- No, I did not receive intensity-modulated radiotherapy (IMRT)
- I do not know whether the kind of radiation I received was intensity-modulated radiotherapy (IMRT)

16. Please indicate how much you disagree or agree with the following statements by checking the appropriate box.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree Somewhat</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am receiving the best treatment for my situation.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
<tr>
<td>The hospital at which I am receiving treatment has the best available technology.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
<tr>
<td>I am receiving treatment via the best technology.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
<tr>
<td>I am receiving treatment from the best doctors.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
<tr>
<td>I am receiving treatment from the best radiation therapy technicians.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
<tr>
<td>My treatment seems “high-tech” and modern.</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
<td>Θ</td>
</tr>
</tbody>
</table>
Patient: Breast Cancer Follow-Up Questionnaire

Use this form for follow-up visits 0-6 months after treatment is completed

First, we would like to know if you are having any breast pain, redness, darkening or skin peeling.

*Modified Brief Pain Inventory – Severity Subscale – Breast Pain*

1. Please rate your breast pain:

   a. Please rate your breast pain by circling the one number that best describes your breast pain at its **worst** in the last 24 hours.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>Pain as bad as you can imagine</td>
</tr>
</tbody>
</table>

   b. Please rate your breast pain by circling the one number that best describes your breast pain at its **least** in the last 24 hours.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>Pain as bad as you can imagine</td>
</tr>
</tbody>
</table>

   c. Please rate your breast pain by circling the one number that best describes your breast pain **on the average** in the last 24 hours.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>Pain as bad as you can imagine</td>
</tr>
</tbody>
</table>

   d. Please rate your breast pain by circling the one number that tells how much breast pain you have **right now**.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>Pain as bad as you can imagine</td>
</tr>
</tbody>
</table>

2. For your breast pain, are you currently using any treatments or medications?

   ☐ Yes ☐ No ☐ N/A

3. Are you having any redness in the breast that received radiation treatment?

   ☐ Yes ☐ No → Go to question #4

   If Yes:

   d) How severe is the worst part of the redness?

   ☐ Very faint
   ☐ Moderately pink
   ☐ Bright red

4. Have you noticed any darkening of your skin on the breast that received radiation treatment?

   ☐ Yes ☐ No → Go to question #5

   If Yes:

   a) How would you describe the darkest area?

   ☐ Very faint
   ☐ Moderately dark

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5. Are you having any skin peeling in the breast that received radiation treatment?

θ Yes  θ No  ➤ Go to question #6

If Yes:
   a) Where is the peeling (check all that apply)?
      θ Near the scar
      θ In the fold under my breast
      θ In the fold of my armpit
      θ Elsewhere in my breast
   
   b) How big is the largest area of peeling?
      θ Up to the size of a quarter coin  θ Larger than the size of a quarter coin
   
   c) Is the peeling wet/weeping, or dry?
      θ Wet/weeping  θ Dry  θ Both

6. Are you using any treatments or medications for the breast treated with radiation (lotions, creams, medicines)?

θ Yes  θ No  ➤ Go to question #7

If Yes, what treatments are you using? (check all that apply):

□ Calendula  □ Aloe vera gel  □ Other (agents) treatments used on the skin (specify):________________________
□ Aquaphor  □ Corn starch  □ Oral pain medication (specify):________________________
□ Alra  □ Hydrogel  □ Oral antibiotic
□ Miaderm  □ Domeboro Solution  □ Other oral agent (specify):
□ Biafene  □ Corticosteroids used on the skin( such as cortisone cream )
□ Silvadene

7. During the past week, how often have you been bothered by...

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itching of the skin of your treated breast</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Burning or stinging of the skin of your treated breast</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Skin color changes in the treated breast</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Your treated breast hurting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Swelling of your treated breast</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The effects of your skin reaction to radiation on your interactions with others (for example: interactions with family,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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friends, close relationships, etc.)

The effects of your skin reaction to radiation on your daily activities

Your skin reaction to radiation making it hard to work or do what you enjoy

<table>
<thead>
<tr>
<th>Differences between treated and untreated breast:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Please rate the following items on this four point scale, according to your evaluation at this point in time:</td>
</tr>
<tr>
<td><strong>Difference between treated and untreated breast and breast area</strong></td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>a. Breast size</td>
</tr>
<tr>
<td>b. Breast texture (hardening)</td>
</tr>
<tr>
<td>c. Arm heaviness</td>
</tr>
<tr>
<td>d. Nipple appearance</td>
</tr>
<tr>
<td>e. Shoulder movement</td>
</tr>
<tr>
<td>f. Arm movement</td>
</tr>
<tr>
<td>g. Breast pain</td>
</tr>
<tr>
<td>h. Ability to lift objects</td>
</tr>
<tr>
<td>i. Fit of shirt sleeve</td>
</tr>
<tr>
<td>j. Breast tenderness</td>
</tr>
<tr>
<td>k. Shoulder stiffness</td>
</tr>
<tr>
<td>l. Breast shape</td>
</tr>
<tr>
<td>m. Breast elevation (how high the breast is)</td>
</tr>
<tr>
<td>n. Scar tissue</td>
</tr>
<tr>
<td>o. Shoulder pain</td>
</tr>
<tr>
<td>p. Arm pain</td>
</tr>
<tr>
<td>q. Arm swelling</td>
</tr>
<tr>
<td>r. Breast swelling</td>
</tr>
<tr>
<td>s. Arm stiffness</td>
</tr>
<tr>
<td>t. Fit of bra</td>
</tr>
</tbody>
</table>
9. Overall, how satisfied are you with your radiation therapy treatment?

<table>
<thead>
<tr>
<th></th>
<th>θ</th>
<th>θ</th>
<th>θ</th>
<th>θ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Satisfied</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
</tbody>
</table>

10. Taking everything into consideration, if given the choice again, would you decide to have radiation therapy?

<table>
<thead>
<tr>
<th></th>
<th>θ</th>
<th>θ</th>
<th>θ</th>
<th>θ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, definitely</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Probably yes</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>I don’t know</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Probably not</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
<tr>
<td>Definitely not</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
<td>θ</td>
</tr>
</tbody>
</table>

11. Has hormonal/endocrine/anti-hormonal therapy been prescribed for you?

<table>
<thead>
<tr>
<th>θ</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>θ</td>
<td>No</td>
</tr>
<tr>
<td>θ</td>
<td>I chose to not to take hormonal/endocrine/anti-hormonal therapy</td>
</tr>
</tbody>
</table>

a. If Yes, what has been prescribed for you?:

<table>
<thead>
<tr>
<th>θ</th>
<th>Tamoxifen</th>
</tr>
</thead>
<tbody>
<tr>
<td>θ</td>
<td>Aromatase Inhibitors</td>
</tr>
<tr>
<td>θ</td>
<td>Other, Specify: ______________________</td>
</tr>
</tbody>
</table>

b. If yes, please provide the date you started taking it: ______________________

c. If yes, are you still taking the hormonal/endocrine/anti-hormonal therapy?

<table>
<thead>
<tr>
<th>θ</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>θ</td>
<td>No—Date stopped ______________________</td>
</tr>
</tbody>
</table>

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Comparison of follow-up assessment timing by fractionation schedule:

The histograms below show the follow-up points between 8 and 210 days after EOT by fractionation schedule first for the physician assessment and second for the patient self-assessment (expected to be similar because the patient agreeing to complete the survey generally completed the questionnaire on the same follow-up visit date as the physician assessment). The histograms below reassuringly indicate no systematic difference in the timing of reporting between groups.

**Physician Assessments:**
Patient self-assessments:

*SF=standard fractionation; HF=hypofractionation