Section 1: Contact Information

Principal Investigator:
Surname: _______________________________ First Name: _______________________________
Title: __________________________________ Email: _______________________________________
Tel: ___________________________________ Fax: _______________________________________

Co-Investigators: Please attach additional contact details pages as needed
Name: _______________________________ Email: _______________________________________
Name: _______________________________ Email: _______________________________________
Name: _______________________________ Email: _______________________________________
Name: _______________________________ Email: _______________________________________

Radiation Oncology Facility Name and Address:
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Physicist:
Surname: _______________________________ First Name: _______________________________
Email: __________________________________ Tel: __________________________ Fax: ____________

Radiation Therapist
Surname: _______________________________ First Name: _______________________________
Email: __________________________________ Tel: __________________________ Fax: ____________

Trial Coordinator:
Surname: _______________________________ First Name: _______________________________
Email: __________________________________ Tel: __________________________ Fax: ____________
Section 2: Treatment and Simulation Techniques

The answers to the following questions should correspond to how you intend to simulate/plan/treat patients:

1. Does your centre use, or intend to use IMRT techniques for RAVES patients? □ Yes □ No

2. Specify treatment planning CT slice thickness: ___________ mm

3. Do you use IV contrast: □ Yes □ No  If yes, briefly describe protocol: ______________

………………

4. If you use contrast in the bladder, do you adjust the heterogeneity correction for the bladder to account for lack of contrast during treatment (e.g. a “bulk correction” applied)? □ Yes □ No

5. Do you routinely use MRI to assist with treatment planning? □ Yes □ No

If yes, do you fuse these images with CT when planning? □ Yes □ No

6. Do you use a bladder filling protocol? □ Yes □ No  If yes, briefly describe protocol:____

……………………

7. Do you use a rectal filling protocol? □ Yes □ No  If yes, briefly describe protocol:____

……………………

8. Do you use: □ Blocks □ MLC?

If MLC, give leaf width: ____________________________ mm

Block/MLC Margin: ____________________________ cm
Section 2: Treatment and Simulation Techniques, continued

9. What beam arrangements do you typically use?

<table>
<thead>
<tr>
<th>Gantry Angle (deg)</th>
<th>Field size (cm)</th>
<th>Radiation energy</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. What patient position do you use?  
   - Prone  
   - Supine

11. What immobilisation device do you use:
   - Alpha cradle
   - Hip fix
   - Ankle support
   - Knee support
   - Foot blocks
   - Pelvic cradle
   - Other: ____________________________

Section 3: Treatment Planning System Details

12. What type of treatment planning system do you use?
   - Eclipse
   - Plato
   - Theraplan
   - Xio
   - Oncentra
   - Pinnacle
   - Other: ____________________________

13. Is heterogeneity accounted for in 3D Plan?  
   - Yes
   - No

14. Describe the method used for independent monitor unit calculation (i.e. independent of primary or normal planning system)  
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
Section 4: Quality Assurance for 3DCRT techniques

If your site is planning to use IMRT, please also complete Section 6.

Accuracy Study:

Have you completed the RADAR set-up accuracy study?

☐ No ☐ Yes If yes, when: ☐ ☐/☐/☐/☐

Port film/image policy: To verify patient positioning

1. Which mode does your site use? ☐ EPI ☐ Film ☐ kV orthogonal imaging
   ☐ MVCBCT ☐ kVCBCT ☐ Ultrasound (e.g. BAT) ☐ Other: specify_________

2. What is your frequency of imaging?________________________________________

3. What protocol do you use to correct patient positioning error? ☐ on-line* ☐ off-line
   * An on-line correction protocol is defined as a protocol where the patient position is corrected prior to treatment based on imaging acquired immediately prior to treatment, i.e. image, shift, treat.

4. What is your threshold level for making a correction to the patient position? _________________ mm

5. What image matching software do you use? ☐ At treatment console using linac proprietary software
   ☐ Varis ☐ Aria ☐ Impac ☐ Mosaiq ☐ Other:________________________

6. What is your reference image source? ☐ DRR ☐ Other:________________________

Section 5: Submission Notes

Form completed by:________________________ Date: ☐☐/☐☐/☐☐
Section 6: IMRT

To be completed by sites treating RAVES patients with inverse planned IMRT. If RAVES patients will not be treated with IMRT, do not complete this section.

Section 6 is used to facilitate credentialing and registration of your radiotherapy centre for use of Intensity Modulated Radiation Therapy (IMRT) inverse planned techniques. Please fill out all that applies to your institution. The questionnaire also requires some quality assurance information which will help to interpret trial data. Please provide measured information NOT the manufacturer’s specification. All information will be handled confidentially and only used in the context of the RAVES 08.03 trial. If you have any questions or concerns please do not hesitate to contact Annette Haworth: Annette.haworth@petermac.org.

External IMRT Audit or Intercomparison Program Experience

Are you participating in any IMRT audit or intercomparison program? Tick all that apply

☐ RPC IMRT program  ☐ TROG 08.01: PROFIT. Please state date: __________

☐ Other: ______________________________

Please attach results to this form.

A. IMRT Equipment

1. IMRT planning system: ________________________________

2. Smallest field size used for commissioning: ________________________________

3. Photon dose calculation algorithm: ________________________________

4. Dose calculation matrix typically used: _____ mm x _____ mm x _____ mm

5. Inhomogeneity correction used: ☐ none  ☐ bulk density  ☐ pixel

6. Data export capability: ☐ RTOG format  ☐ DICOM RT  ☐ structures
   ☐ dose objects  ☐ DRR  ☐ fluence maps  ☐ MLC leaf positions
   ☐ other (specify): ________________________________
B. Treatment unit(s) used for IMRT: *Please copy this page if more than two units are in use*

1. **Linear accelerator 1:**  
   Vendor: ____________________  
   Model: ____________________  
   Install date): ____________________  
   Treatment couch (model): ____________________  
   Couch top:  
   - carbon fibre  
   - other: ____________________  
   Multi-leaf collimator vendor: ____________________  
   Model: ____________________  
   Leaf width at isocentre for the central leaves: ____________________  
   Measured reproducibility of leaf position: ____________________ +/- __________ mm (2SD)  
   Measured leakage under closed leaf: ________%  
   - interleaf: ________% of CAX dose  
   **Electronic portal imaging:**  
   Vendor: ____________________  
   Model: ____________________  
   Ability to export EPI:  
   - DICOM  
   - Bitmap  
   - other (specify): ____________________  
   Which mode does your site intend to use?  
   - EPI  
   - Film  
   - kV orthogonal imaging  
   - MVCBCT  
   - kVCBCT  
   - Ultrasound (eg BAT)  
   - Other: specify__________________

2. **Linear accelerator 2:**  
   Vendor: ____________________  
   Model: ____________________  
   Install date): ____________________  
   Treatment couch (model): ____________________  
   Couch top:  
   - carbon fibre  
   - other: ____________________  
   Multi-leaf collimator vendor: ____________________  
   Model: ____________________  
   Leaf width at isocentre for the central leaves: ____________________  
   Measured reproducibility of leaf position: ____________________ +/- __________ mm (2SD)  
   Measured leakage under closed leaf: ________%  
   - interleaf: ________% of CAX dose  
   **Electronic portal imaging:**  
   Vendor: ____________________  
   Model: ____________________  
   Ability to export EPI:  
   - DICOM  
   - Bitmap  
   - other (specify): ____________________  
   Which mode does your site intend to use?  
   - EPI  
   - Film  
   - kV orthogonal imaging  
   - MVCBCT  
   - kVCBCT  
   - Ultrasound (eg BAT)  
   - Other: specify__________________

3. Will more than two treatment units be used for IMRT?  
   - Yes  
   - No  
   If yes, indicate number of additional units: __________ and photocopy this page as needed.
C. IMRT process

1. What form of IMRT do you use?
   - [ ] Physical compensators
   - [ ] SMLC (step and shoot)
   - [ ] DMLC (sliding window)
   - [ ] other ________________________

2. Is your treatment planning system capable of transferring a patient’s beams to a QA phantom for verification purposes?   
   Yes [ ] No [ ]
   __________________________________________________________________________
   __________________________________________________________________________

D. IMRT Quality Assurance

1. How do you verify that the treatment unit delivers the planned dose for individual patients (relevant to the RAVES trial)? Tick all measurements that apply
   - [ ] Each individual field at the treatment gantry angle
   - [ ] Each individual field at a fixed gantry angle (e.g. 0 deg)
   - [ ] All fields as a composite dose evaluation at the treatment gantry angles
   - [ ] All fields as a composite dose evaluation at a fixed gantry angle (e.g. 0 deg)
   - [ ] Measurements not made (MU check only)
   - [ ] Other, please specify: _____________________________

2. How do you verify absolute dose points? Tick all that apply
   - [ ] Ion chamber (chamber size ,)
   - [ ] Diode
   - [ ] TLD
   - [ ] XV film
   - [ ] EDR2 film
   - [ ] Radiochromic film
   - [ ] Other: ___________________________
D. IMRT Quality Assurance, continued

3. How do you verify relative dose? **Tick all that apply**

Fluence distribution:

- [ ] EPI
- [ ] Radiographic film
- [ ] XV film
- [ ] Gel dosimetry
- [ ] Radiochromic film
- [ ] Other: ___________________________
  - in ______________________ (#) axial planes
  - in ______________________ (#) sagittal planes
  - in ______________________ (#) coronal planes

4. What QA phantom(s) do you use? **Tick all that apply**

- [ ] Anthropomorphic phantom: Vendor (if applicable): ___________________________
- [ ] Geometric phantom: Material (if applicable): ___________________________
  - Vendor (if applicable): ___________________________
  - Shape: [ ] square [ ] cylinder [ ] other: ______________
  - Size of phantom _____ cm X _____ cm X ___ cm

5. What QA procedures do you use? **Tick all that apply**

- [ ] The patient’s beams are transferred to the QA phantom by the planning system.
- [ ] The patient’s beams are not transferred to the QA phantom in software, but an anthropomorphic phantom is used to simulate approximate patient geometry for dose measurements.

6. What agreement between planned and measured doses for individual patients is considered acceptable for post-prostatectomy patients at your institution (using the technique you intend to use for RAVES patients)?

- For absolute dose in target volume (high dose) region ___________________________
- For absolute dose in critical normal tissue region (if applicable)____________________
- For absolute dose in low dose region (if applicable)______________________________
- For relative dose in high dose gradient region _________________________________
D. IMRT Quality Assurance, continued

6. Agreement between planned and measured doses, continued:
   - For relative doses in low dose gradient region:
     - In high dose region (target)
     - In low dose region (if applicable)

7. Other QA measures

   Are your monitor unit calculations checked by an independent program?
   - Yes □ No □
   - If yes, which vendor:

   Are your IMRT treatments monitored by a record and verification system?
   - Yes □ No □
   - If yes, which system:

E. IMRT port film/image policy: To verify patient positioning for RAVES patients

1. What PTV margins do you use for post-prostatectomy IMRT patients? ___________ mm

2. Which mode does your site use?
   - EPI □ Film □ kV orthogonal imaging
   - MVCBCT □ kVCBCT □ Ultrasound (e.g. BAT) □ Other: __________

3. What is your frequency of imaging?

4. What protocol do you use to correct patient positioning error?
   - on-line* □ off-line □
   * An on-line correction protocol is defined as a protocol where the patient position is corrected prior to treatment based on imaging acquired immediately prior to treatment ie image, shift, treat.

5. What is your threshold level for making a correction to the patient position? ___________ mm

6. What image matching software do you use?
   - At treatment console using linac proprietary software
     - Varis □ Aria □ Impac □ Mosaiq □ Other: __________

7. What is your reference image source?
   - DRR □ Other: __________

Please attach you patient position correction protocol to this questionnaire
F. Experience in use of IMRT techniques

1. If you treat prostate and post-prostatectomy patients with IMRT:

   a. The total number of prostate patients treated with IMRT at your local centre is:
      - □ <10
      - □ 10-50
      - □ 50-100
      - □ 100-200
      - □ >200

   b. The total number of post-prostatectomy prostate patients treated with IMRT at your local centre is:
      - □ <10
      - □ 10-50
      - □ 50-100
      - □ 100-200
      - □ >200

   c. Number of prostate patients treated with IMRT at your local centre in past 12 months is:
      - □ <10
      - □ 10-50
      - □ 50-100
      - □ 100-200
      - □ >200

   d. Number of post-prostatectomy prostate patients treated with IMRT at your local centre in past 12 months is:
      - □ <10
      - □ 10-50
      - □ 50-100
      - □ 100-200
      - □ >200

G. Additional comments which could be helpful in the context of the present trial:

________________________________________________________________________

________________________________________________________________________

H. Attachments

Please attach the following documents:

- □ Quality Assurance: Any forms used to document your QA procedures
- □ Quality Assurance: Your IMRT dosimetry QA protocol
- □ Quality Assurance: Results of your external independent dosimetry audit
- □ Image Policy: Your patient position correction protocol

Section 7: IMRT Submission Notes

Form completed by: ____________________________ Date: □□/□□/□□