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|  | ***HIGH-DOSE PROSTATE BRACHYTHERAPY FACILITY QUESTIONNAIRE*** |  |

1. **Radiation Oncology Facility:** RTOG #: Facility Name:

Address:

Is this Facility also known by other name(s)? If so, please provide:

# PERSONNEL CONTACT INFORMATION

1. Radiation Oncologist Responsible for Implant Patients

Name: Phone:

Address: Fax:

E-mail:

1. Chair/Chief of Radiation Oncology

Name: Phone:

Address: Fax:

E-mail:

1. Physicist Responsible for Implant Patients

Name: Phone:

Address: Fax:

E-mail:

1. Dosimetrist Responsible for Implant Patients

Name: Phone:

Address: Fax:

E-mail:

1. Data Manager Responsible for Implant Patients

Name: Phone:

Address: Fax:

E-mail:

# Equipment:

* 1. Ultrasound unit (vendor and model):
  2. CT/MR scanner (vendor and model):
  3. HDR unit (vendor and model):
  4. Source Supplier:
  5. Frequency of HDR source replacment:

# HDR Treatment planning system:

Vendor and version: How are the CT images entered for planning? CD tape optical disc

digitized from hardcopy electronically from the scanner electronically via network Other (explain):

How are prostate and normal tissue contours entered?

Defined on planning system defined on CT and input as above

Other (explain):

Number of calculation points for dose calculation: (should be ≥ 2000 points for each volume)

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| Dose volume histograms calculated by computer? | Yes | No |
| Dose volume histograms available as graphs? | Yes | No |
| Dose volume histograms available as tables? | Yes | No |

How do you superimpose dose distributions on CT images? By computer By hand

If by hand; describe technique:

# Quality Assurance Procedures: (please attach the following)

* 1. Source strength verification:

Submit a description of the procedures followed to verify the calibration of the source(s).

Include:

* + - Description of dosimetry system.
    - Confirmation that calibration meets national standards. (Attach copies of ADCL certificates)
    - Measurement and calculation techniques, including conversion of the above standard into the source specification units, used by your treatment planning computer.
    - Frequency of calibration
    - Source certificate
  1. Source positioning in the catheter:
     + Describe quality assurance (QA) procedures used to verify that source positions within the catheters are known and reproducible.
  2. Dosimetry procedures:
     + Describe the exact procedure followed to assure that the dose calculations are in accordance with the requirements of the protocol.
     + Describe techniques used to identify catheters on multiple CT slices.

How are the positions of the catheters confirmed between fractions?

* + - If an adjustment is made to the catheter placement do you re-plan the HDR brachytherapy?

Yes No

* 1. Other quality assurance procedures:
     + What is done to verify the accuracy of the treatment planning system?
     + Submit the sample monthly and daily QA checks for HDR.
     + Describe any other QA procedures pertinent to study objectives.

1. **Clinical:**
   * Geometry of dummy sources. (How do you determine where the 1st dwell position will be? Attach diagram(s) if helpful)
   * Description of the procedure (completed by the radiation oncologist – similar to procedure notes) including discussion of the procedure to assure comparable implants every time:

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|  | ***HDR Prostate Brachytherapy Reference Cases*** |  |
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Please calculate and attach isodose distributions for the single source position and geometric implant described below. Do the calculations as you would do them clinically, detailing any assumptions necessary.

**Case 1:** A single source position, normalized to deliver 1 Gy to a point 1 cm away from the center of the source on an axis perpendicular to the source axis. Calculate the dose distribution in both the longitudinal and mid-transverse planes of the source, and submit the source activity and the dwell time. Please submit percent isodose lines from 200% to 20%. (Lines 200, 150, 100, 75, 50 &

20% are preferred.)

# Dosimetry Calculations:

Write below the equation that will be used for hand calculating the instantaneous dose-rate to an arbitrary point from a single source position. (If possible give notations used by your treatment planning computer). The intent is for you to be able to verify the values of various parameters in your treatment planning system.

Define the variables in the equation:

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|  | CREDENTIALING FOR RTOG HDR PROSTATE PROTOCOL PREVIOUS PATIENT |  |

Submit information for the most recent HDR prostate implant completed by the above radiation oncologist and physicist, including: (Note: Please be sure to submit a case treated as close to per protocol as possible.) The purpose of this section is to assess the relationship between 3 sets of data: 1. CT/MR images 2. Contours of target and organs at risk. 3. Isodose distributions.

* + Post-implant CT or MR scans submitted electronically to the TRIAD.
  + A RTOG Prostate brachy protocol compliance from submitted on-line, which describes the volumes, the dose description, and the dose volume histograms of the treated volume, PTV, rectum, bladder, and urethra will be completed.
  + Copies of the dosimetry calculations and treatment records for the HDR brachytherapy treatment.

General Notes:

* + Outline the entire rectum, not just the anterior wall.

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