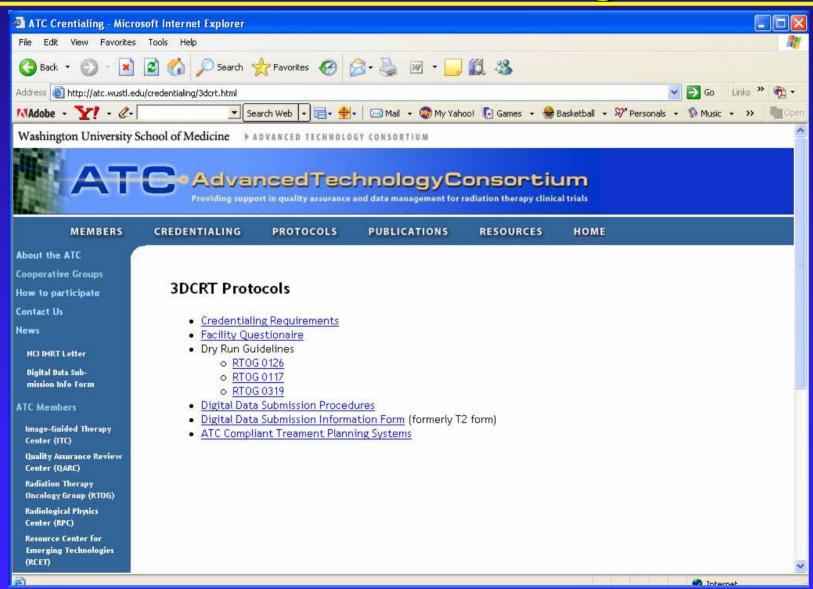
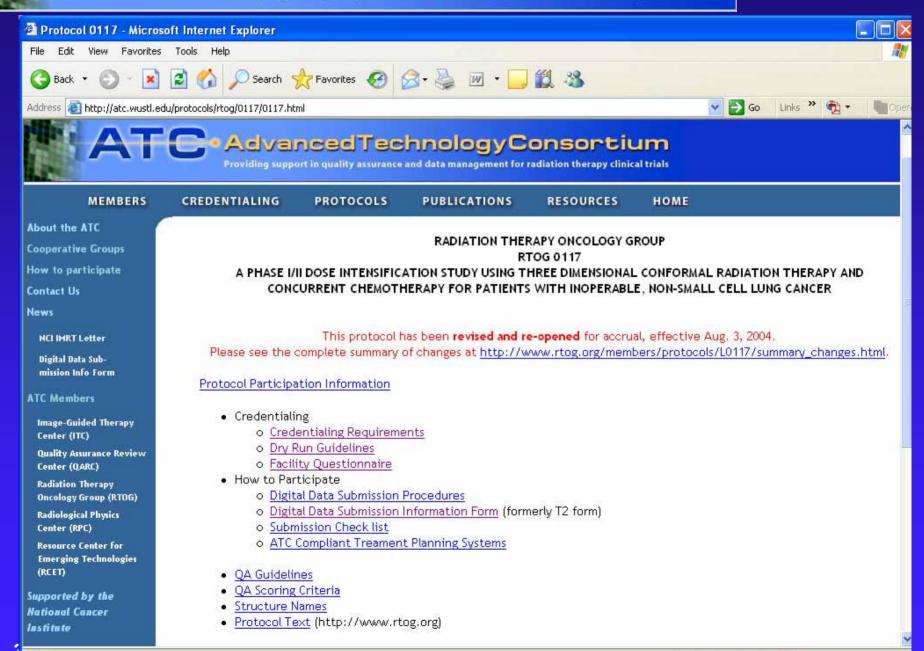
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1. A **Facility Questionnaire** describing institutional personnel, equipment, and treatment techniques must be downloaded from the ATC web site and submitted to the Image-guided Therapy QA Center (ITC).

Image-guided Therapy Center

Attn: Roxana Haynes

4511 Forest Park Ave., Suite 200

St. Louis, MO 63108

E-mail: itc@wustl.edu

Phone: 314-747-5415

FAX: 314-747-5423

A Done



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2. A **Dry Run** (Benchmark) Test: Contact the ITC (itc@castor.wustl.edu) and request an FTP account for digital data submission. A complete patient data set as specified by the treatment protocol must be submitted to the ITC to demonstrate compliance with 3D technical requirements (see Dry Run Guidelines at http://atc.wustl.edu/protocols/).

- RTOG Lung L0117 Dry Run Guidelines
 - Digital Data
 - Hard Copy Data
 - Multiple Beam Sets
 - Homogeneity Correction
 - DVH Data and Testing



RTOG 3D QA CENTER

Following are the requirements/guidelines for successful completion of a patient data submission Dry Run test for RTOG 3D-CRT Lung Protocol L0117:

PRESCRIPTION

One of the most important aspects of the Dry Run test is to fully understand the prescription and properly use this prescription in your Dry Run treatment plans and subsequent patient treatment plans. The prescription dose for this the first dose level of this study study is the isocenter dose of 215 cGy/fx with a minimum of 93% of the isocenter dose to the PTV (note that this fractional dose increases with increasing dose level). The patient treatment group is

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PRESCRIPTION (Continued)

The patient treatment group is determined by the dose and chemotherapy arm open at the time of patient registration. The percentage of total lung volume receiving in excess of 20 Gy is determined by the participating institution based on the particular treatment plan (computed without heterogeneity corrections). In no case may 20 Gy or more be delivered to more than 30% of the total lung volume (both lungs less the overlapping PTV) for arms 1 and 2. The Dry Run test should be completed for the lowest dose level open at the time the testing is begun. It is important to note that the dose/volume restrictions increase with increasing dose arm.

Click here for the current arm open to registrations and/or dry run tests.

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DIGITAL DATA

Using the format documented in *Specification for Tape/Network Format for Exchange of Treatment Planning Data, Version 3.20*, or later, the data in the following list must be submitted to the RTOG 3D QA Center using either ftp or magnetic tape.

- 1) Protocol compliant CT scan series (RTOG L0117 6.3);
- 2) Protocol compliant contours for all critical normal structures and GTV/CTV and PTV (QA Guidelines RTOG L0117 IV.A.3.a-b);
- 3) Beam geometry (one set only) and doses (absolute) delivering a protocol compliant dose with doses calculated without heterogeneity corrections (QA Guidelines for RTOG L0117 IV.A.3.c-d);

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DIGITAL DATA (continued)

- 4) DRR or digital film prescription images for each beam in item 3 above, if submitting institution intends to submit such to comply with protocol requirements pertaining to imaging (QA Guidelines for RTOG L0117 IV.A.3.f);
- 5) DVH's (see Dose-Volume Histogram Evaluation below) for the total dose for item 3 (summed fraction groups from item 3) for PTV and all critical normal structures (QA Guidelines RTOG L0117 IV.A.3.e);
- 6) Beam geometry and doses (absolute), identical to #3 above, but with doses computed with heterogeneity corrections (must reflect constant monitor units from item 3 (above) which may cause a variation of the ICRU Reference Point Dose for all the beams compared to item 3 (QA Guidelines for RTOG L0117 IV.A.3.c-d)



HARD COPY DATA

- 7) Hard copy isodose distributions for the uncorrected plan (item 3) according to requirements as documented in the QA Guidelines for RTOG L0117 Section IV.A.;
- 8) Hard copy isodose distributions for the corrected plan (item 6) according to requirements as documented in the QA Guidelines for RTOG L0117 Section IV.A.; and9)Completed Dry Run T2 form, and:
- 9) Completed Dry Run T2 form



MULTIPLE GROUPS OF BEAMS

RTOG L0117 requires that all fields be treated each (and every) day. The dry run treatment plans (as those for actual patients enrolled in this study) should reflect one set of beams for the entire course of therapy as intended by the protocol.

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• HOMOGENEITY UNCORRECTED AND CORRECTED BEAM GEOMETRY AND DOSE

Individual beam geometry and doses must be submitted for both heterogeneity uncorrected and corrected dose calculations. The ICRU 50 Reference Point Dose will probably be different between the uncorrected and corrected plans. Therefore, not only do separate dose distributions (for corrected and uncorrected calculations) need to be submitted, but the associated beam geometry must also be sent which corresponds to the respective dose distribution. The beam geometry data for the corrected dose calculation plan should be identical to the uncorrected plan (i.e. same beam description, aperture and description, beam number, etc.) except for the ICRU 50 Reference Point Dose



• HOMOGENEITY UNCORRECTED AND CORRECTED BEAM GEOMETRY AND DOSE (Continued) which will be affected by the heterogeneity correction. The heterogeneity corrected plan should have all of the beams weighted to reflect the same MU used for the uncorrected plan. Generally, this will result in the heterogeneity corrected plan's beams having greater weight than the uncorrected plan's beams.



DOSE-VOLUME HISTOGRAM EVALUATION

Since each participating institution will be determining patient eligibility with regard to volume of lung exceeding the protocol specified dose limits based upon their own DVH calculations, it is imperative that there be reasonable agreement between their DVH computations and those of the 3D QA Center. Therefore, any discrepancy (between submitting institution and RTOG 3D QA Center) in excess of +5% in total volume or +5% (relative to the absolute structure volume) of the volume calculated to be at or above the appropriate TD 5/5 dose will need to be resolved prior to successfully completing the Dry Run Test.

• **NOTE:** There is no requirement that the patient whose data is used for the Dry Run test be treated according to L0117. This test set can be from a data set for a patient who was previously seen and/or treated (in some other fashion). The only requirement is that the CT scan, tumor/target volumes and critical normal structure contours be made compliant with L0117 and that protocol compliant treatment plans be generated and the appropriate data submitted to the RTOG 3D QA Center. The immobilization device requirement is waived for this test data set. All patient identifying data for the Dry Run test data must be removed before submission.

No films are required other than DRRs as identified in item 4 above as the patient's treatment is not required to be per protocol.



Document maintained by Walter R. Bosch
 Send email to: bosch@radonc.wustl.edu

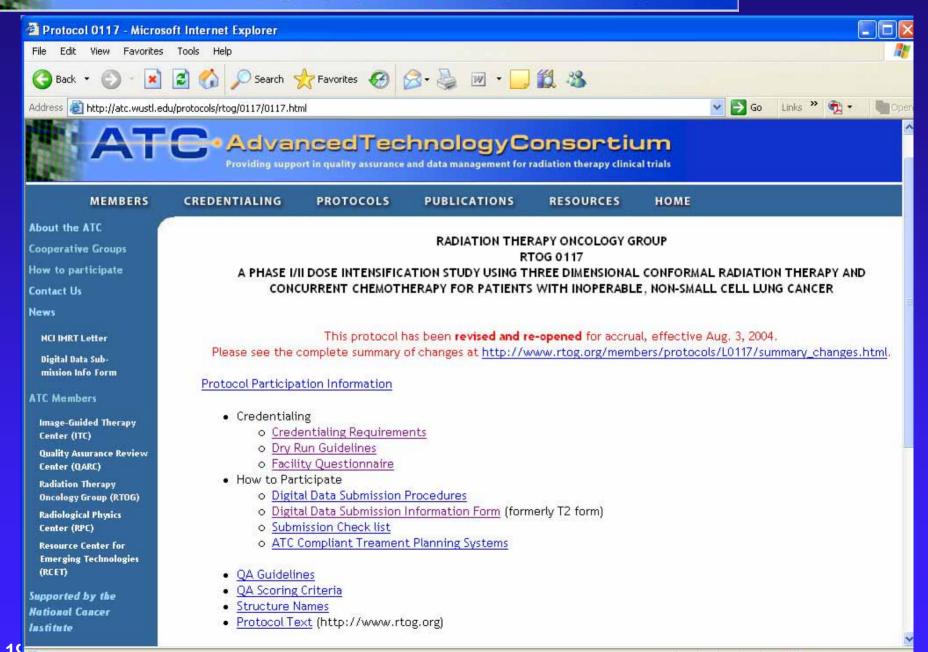
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