

EXABLATE PROSTATE (WS 8.1) DQA CHECKLIST



Ensure all items are present for treatment

Site Accessories	Treatment Kit (Disposable, Per Patient)	
<input type="checkbox"/> DQA Phantom	<input type="checkbox"/> Disposable Shell + White O-Ring (x2) + Locking Pin (x2)	
<input type="checkbox"/> Phantom Holder	<input type="checkbox"/> Leg Sleeves	<input type="checkbox"/> Cradle Drape (Cover)
<input type="checkbox"/> 2 Patient Leg Holders (W/ Pads and Straps)	<input type="checkbox"/> Surgical Tape	<input type="checkbox"/> Probe Drape
<input type="checkbox"/> High-Level Disinfection Cart W/ 4 Containers	<input type="checkbox"/> US Gel (Pouch, Sterile) – 6	<input type="checkbox"/> Probe Cable Drape
<input type="checkbox"/> Cleaning and Disinfection Materials	<input type="checkbox"/> Purified Water Pouch (1L)	<input type="checkbox"/> Motion Unit Drape



TABLE SETUP

- ☐ Verify **Exablate probe** underwent **High-Level Disinfection (HLD) procedure** prior to treatment – if not, **perform HLD procedure** (refer to PUB71004685)
- ☐ Confirm **MR console** was **rebooted** at beginning of the day – if not, **reboot it**
- ☐ Dock the **Exablate Prostate table** to the MR
- ☐ Lock the table **connection lever/quick coupler cables**
- ☐ Place **posterior** part of **imaging coil** on table, adjacent to leg holder track
- ☐ Attach **Exablate table coil** and **MR imaging coil** to MR coil connection unit
- ☐ Connect **water pouch** to table hose – hang bag on hanger
- ☐ Power on **Exablate workstation** and log in (username/password: **fus**)
- ☐ Place probe into **probe preparation station** and rotate to **horizontal** position
- ☐ **Visually inspect** transducer integrity for scratches/cracks/etc.
- ☐ Fill probe with water (up to $\frac{1}{2}$ height) and press **“Start Circulation”**
 - ☐ Verify there are no water leaks
- ☐ Circulate water until **no air bubbles** are left inside balloon
 - ☐ Press **Fill** and **Drain** alternately, during circulation
- ☐ Then, press **“Insert”** and **“Start Circulation”**
- ☐ Place **phantom holder** on center of posterior imaging coil
- ☐ **Remove probe** from preparation station – **contract and lock shell** in place (arrow-side up)
- ☐ **Connect** probe to motion unit’s **yellow clips**
- ☐ **Center (place)** probe balloon within phantom holder groove and **lock positioner knobs**
- ☐ Connect **probe cable pin** to hole in back of **positioner**
- ☐ Press **“Enable”** + **“Connect”** simultaneously – motion unit will automatically mate with probe
- ☐ **After** mating, press **“Enable”** + **“Home”** simultaneously, returning probe to home position
- ☐ Cover **probe balloon** with **US gel** – remove any bubbles visible within gel











PROBE SETUP

- ☐ Place white **O-ring** over probe’s groove
- ☐ Gently attach **disposable shell** over transducer – **align shell’s hole** with the hole on **top of probe**
- ☐ Insert **locking pin** into hole on top of shell – ensure locking pin is **completely** inserted
- ☐ Carefully **unroll** balloon over the **neck of probe** and **rotate** probe back to **vertical** position
- ☐ On **water system** display, press on **“Prepare”**
- ☐ **Place (roll)** **DQA phantom** onto holder and **strap down** – fill balloon (press **“+15cc”**) until phantom **slightly** raises
- ☐ Place **anterior** imaging coil over center of phantom – strap to posterior coil
- ☐ Press **“Enable”** + **“Test”** simultaneously – wait for motion limit test to finish (status light turns **green**)
 - ☐ If status light turns **orange**, remove obstructions and repeat test
- ☐ Set **landmark** (on center of imaging coil) and **advance** cradle to scan position

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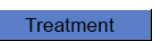









IMAGING SETUP

- ☐ Start new exam on **MR console** using **FUS/Exablate Plan Prostate** protocol (or similar) and run a **Localizer**
- ☐ Start new Prostate treatment on **Exablate workstation**
- ☐ Run **"Positioning Scans"** 
 - ☐ Verify that treatment envelope sufficiently covers phantom
- ☐ Run **"Calibration Scans"** 
 - ☐ Verify **proper balloon-phantom coupling** (no air bubbles/artifacts in beam path)
- ☐ Press **"Approve"**  when finished
- ☐ Under **"Treatment Parameters"**, switch "Protocol Name" to **"DQA"** and press **Apply**
- ☐ Define **scanning range** of **at least 30 mm** (10 slices) over **center of phantom** (by dragging the graphical lines on Sagittal Positioning image)
- ☐ Press  to **automatically scan axial Planning Images**
 - ☐ **Sagittal** and **coronal** planning images will be **automatically** reformatted from axial images
 - ☐ **Baseline Anatomy Scans** will be acquired **automatically** after the planning images scan
- ☐ On **axial planning images**, draw **rectal wall**  on every 3rd slice along **balloon-phantom interface**
- ☐ Draw **representative prostate capsule**  on two slices, skipping one slice in-between
- ☐ Draw **ROT**  within prostate capsule on **central slice** of prostate capsule
 - ☐ It is recommended drawing ROT with same **orientation** as lesion (e.g., right/left, etc.)
- ☐ After drawing, select **compute balloon boundaries** 




TEST SONICATIONS

- ☐ Move to **"Treatment" stage** 
- ☐ Select **add spot**  – click to add a new spot within ROT
- ☐ Press **"Sonicate"** 
 - ☐ Ensure **balloon temperature** is **below 30° C** before sonicating

- ☐ After sonication completed, select **"Red"** temperature setting (on left panel) 
- ☐ Reduce temperature threshold until **red spot** is visible inside the **prostate capsule** drawing
 - ☐ If red spot is not within dotted circle, select **adjust spot location**  and click red spot center
- ☐ Press **"Continue"**  – repeat alignment verification if spot location was adjusted
- ☐ Under Spot Parameters, switch from "Align" to **"Treat"**
- ☐ Press **add spot button**  – select **"Macro spot"** and add a new spot within ROT
- ☐ Press **"sonicate"** 
- ☐ Allow at least **three sub-spots** to sonicate successfully – after, end sonication by pressing **manual stop sonication button** on Exablate console. **Release** button afterwards
 - ☐ Verify ablative temperatures (**> 65° C**) within ROT



TREATMENT PREPARATION

- ☐ Exit treatment and return to main screen 
- ☐ On water system display, press **"Extract"**
- ☐ Using MR controls, return cradle back to home position
- ☐ Unstrap and remove **anterior** imaging coil from phantom
- ☐ **Remove phantom** and carefully clean US gel from all parts of the system
- ☐ **Remove** probe from phantom holder
- ☐ **Disconnect** probe from motion unit
 - ☐ Depress **white buttons** on side of motion unit – **contract and lock** shell in place
 - ☐ Release probe from motion unit's **yellow clips**
- ☐ Place probe into **probe preparation station** and rotate to **horizontal** position
- ☐ On **water system** display, press on **"Prepare"** and bring balloon to desired **insertion volume** and press **"Start Circulation"**, then **rotate** probe back to **vertical** position
- ☐ Cover cradle and its parts with **disposable covers/drapes**
- ☐ Proceed with **patient preparatory procedures** (for treatment), as described in the **Operator Manual**