

Prostate Endorectal Coil Insertion Orientation

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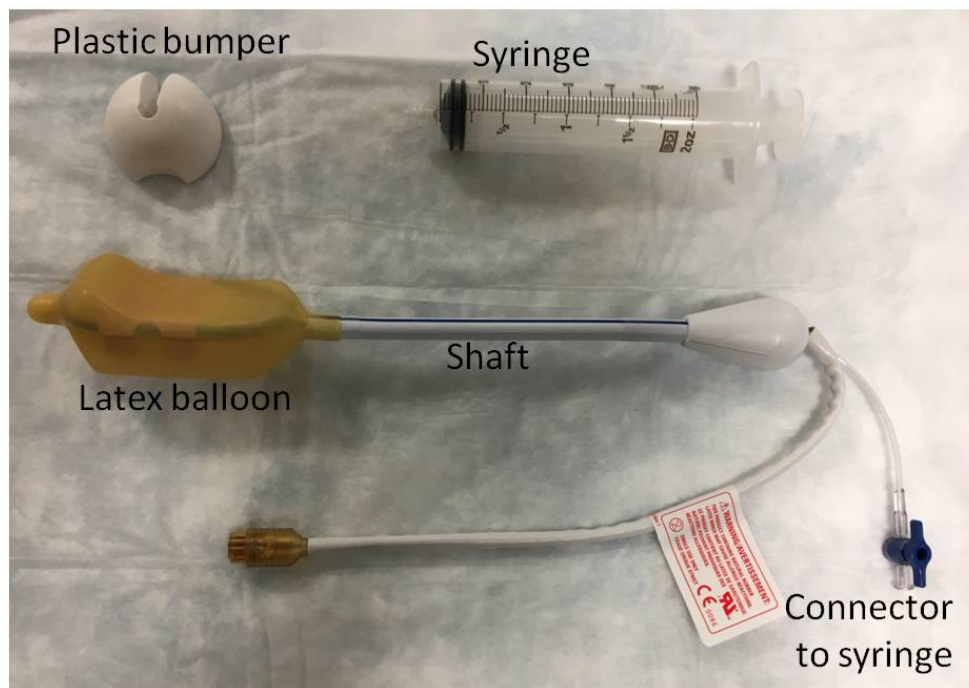
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1. Overview

Prostate MR imaging with an endorectal coil utilizes a receiver contained within the endorectal device to generate high-quality images. Patients have varying degrees of trepidation and anxiety regarding their prostate MRI. Talk with the patient to outline what the exam will entail, what your role is, to inform them and answer their questions. Some patients have similarly compared the endorectal coil experience to that of having had a biopsy (minus the needles); this can serve as an informative comparison for certain patients. Screen the patients for the following: lidocaine allergy (lidocaine jelly lubricant), latex allergy (latex coil retention balloon).

2. Equipment

The technologist should have the following ready: endorectal coil, including plastic bumper, 60cc syringe, and lidocaine lubricating jelly.



3. Instructions

- a. **Introduce** yourself to the patient and briefly explain your role. **Prepare** them for the sensation of the coil. E.g. "The coil is a soft latex balloon, wrapped around a radio antenna of sorts. It's about the width of a finger. You'll feel fullness in the rectum initially; this should subside over time." **Answer** any questions they may have, to the best of your ability.

- b. **Turn** them onto their left side, away from you. From this point forward, try to **describe what you are doing**, before you do it, as they cannot see for themselves. E.g. “you’ll feel my hand on your hip first, then the latex balloon.”
- c. Put gloves on. Ask the patient to tuck their knees up to their chest. **Inform** the patient that you will insert a finger into their anus. Perform the **digital rectal exam with lubricant**; this will demonstrate the course of the anus/rectum to you, and also inform as to whether there are impediments such as hemorrhoids, etc.
- d. Prepare the endorectal coil:
 - a. **Orient** the balloon/coil such that the **blue line faces anteriorly** to the patient.



- b. With the syringe disconnected, fill the provided syringe with **50 cc of air**, and attach it to the blue/clear connector at the base of the coil.
 - c. **Lubricate the forward tip/half** of the balloon, evenly, and grasp it at the mid-point; this will somewhat lessen its redundant caliber/diameter.
- e. Inform the patient that you will next proceed with the balloon. Place the tip of the balloon to the anus; wait for a few seconds for the reflexive sphincter contraction to relax. Then, with **slow, even pressure**, advance the balloon into the rectum along the course that was previously shown to you during the DRE. **Tip:** It may be helpful to tell the patient to ‘breathe in, then breathe out *slowly*,’ then advancing the balloon as the patient **exhales**, during which intra-abdominal pressure is lessened.
- f. Advance the balloon **until the yellow latex is no longer visible**, and then advance by 1 cm more.



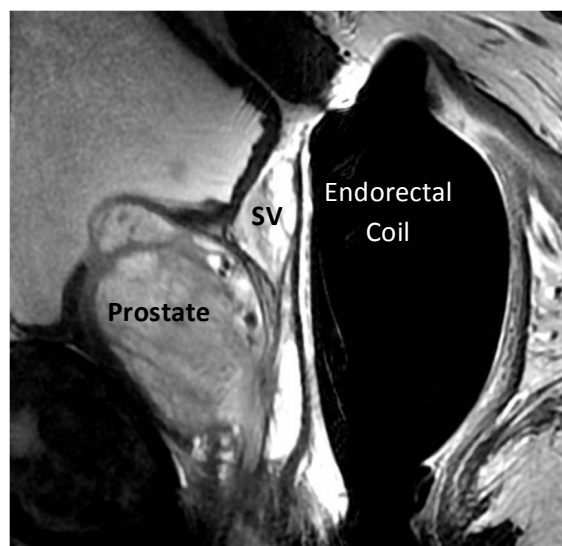
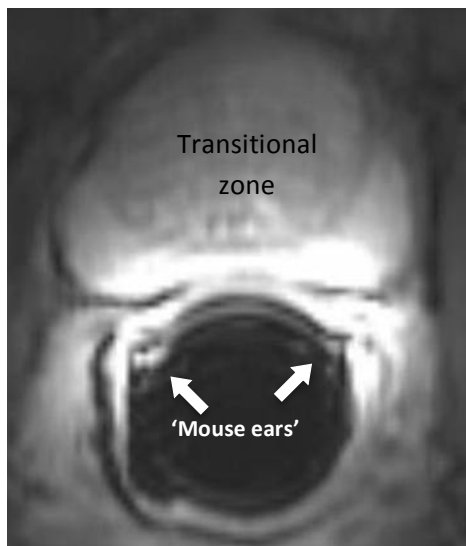
- g. Inform the patient that you will slowly **inflate the balloon** to hold it in place.
 - a. Typically, not more than 50 cc of air is needed to hold the balloon in place.
 - b. The coil will naturally migrate slightly into the rectum by another 1 cm or so as the balloon inflates; this is normal and helpful for guiding the coil into position.
 - c. Turn the **connector to the 'off' position** and disconnect the syringe.

- h. While the patient's knees are still tucked up, **attach the plastic bumper** to the shaft, just below the gluteal skin folds; the rounded part of the bumper should face superior/the patient.



- i. Turn the patient **onto their back**. Check to see that the **blue line** on the shaft of the coil is facing up; this will ensure the receiver hardware is collecting signal from the prostate.

- j. Inform the patient the coil has been positioned and that the imaging portion of the exam will commence, after its position is confirmed for adequacy.
- k. Check the localizer image. The coil should be centered posterior to the prostate on sagittal images. On axial images, two 'mouse ears' should be oriented anteriorly. On sagittal images, the tip should be about level with the seminal vesicles (SV).



- l. **Readjusting:** If the coil needs to be readjusted, this is typically most comfortably achieved by removing the plastic bumper, deflating the balloon, making the adjustment, re-inflating the balloon, and then reattaching the plastic bumper.