Barrigel®
BY PALETTE LIFE SCIENCES

CT Visualization

Barrigel is visible as a low-contrast structure on CT. The following tips can help optimize CT visibilty.

CT ACQUISITION

To achieve adequate spatial resolution in the region of interest, a **maximum 3 mm slice thickness is recommended**. Since the gel is **tissue-equivalent density**, the default Hounsfield unit mappings are appropriate.

Bowel Prep: To maintain consistency across the pelvic anatomy, patients should be instructed to have a comfortably full bladder and empty rectum for simulation and treatment, as per institutional standard.

VIEWING

The general region of the gel is typically easy to identify. Barrigel has soft tissue-like density, and like many lower contrast structures, it can take some experience to discriminate the exact edges of the implant. It's helpful to know what to expect in the image.

SHAPE AND SIZE

An ideal injection will have the following shape characteristics:

- Approximately symmetric tubular implant centered on the midline, with a flattened oval cross-section **1-2 cm** thick at the middle (minor axis), tapering off smoothly with rounded edges to each side on the axial view.
- Seen on all slices from prostate base to apex (**Figure 1**B), sometimes extending under the seminal vesicles.
- Some visible internal structure to the implant. A couple of distinct boluses may be seen, as in **Figure 1**C.
  Note: There is no need to contour the internal structure, only the overall space created.
- **Implant volume ranging from 5-15 cc.** Patient-specific implant spatial dimensions and approximate volume of gel may also be obtained from the physician performing the implant and/or from the TRUS image.

CONTRAST

The native contrast-to-noise ratio (CNR) for Barrigel is about 1.9 for a typical pelvic CT.

- Window and level optimization can help bring out subtle density and texture differences. **Start with the presets for Liver/Cerebellum. This often enhances the Barrigel border contrast** (see **Figures 1**D and **1**E).
- Expect it to be **slightly darker gray than surrounding tissues in the axial view.**
- It will be **positioned between the anterior rectal wall and the posterior prostate wall.**

Figure 1A

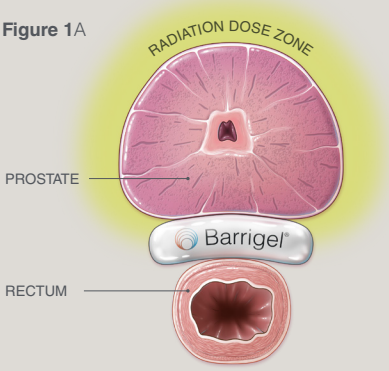
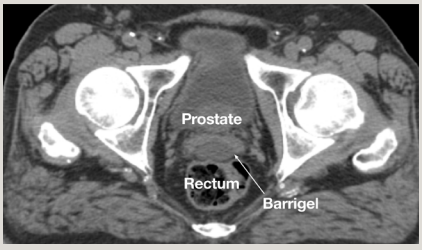
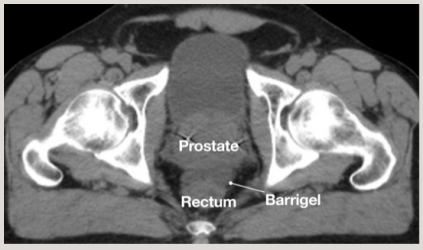


Figure 1B



CT image courtesy of Escalarta López Ramírez, MD, GenesisCare Spain
Radiation Oncologist; Madrid, Spain

Figure 1C

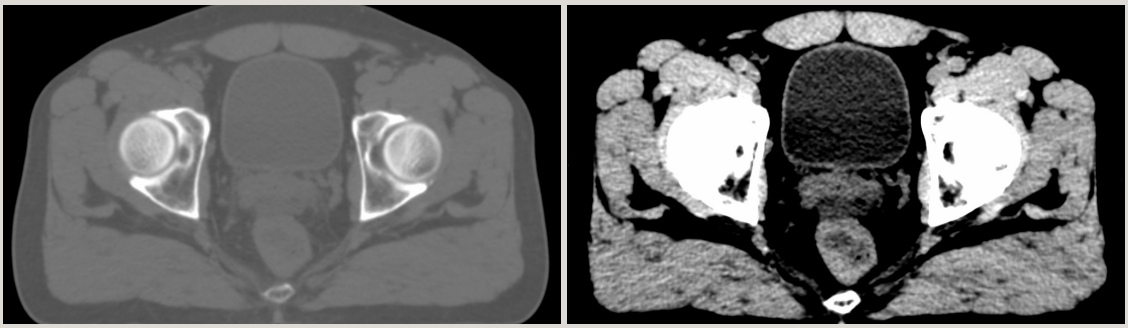


CT image courtesy of Glen Gejerman, MD
New Jersey Urology
Radiation Oncologist; New Jersey, United States

Figure 1 A,B,C

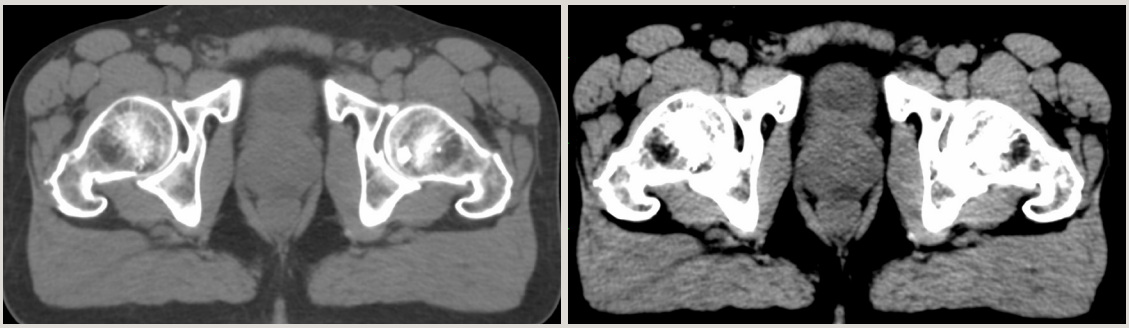
Illustration of the nominal appearance of prostate, Barrigel and rectum (**1**A), along with two example patients with Barrigel implants (**1**B,**1**C). In these axial CT slices Barrigel appears as a slightly less dense (darker gray) rounded layer of gel between the prostate and rectum.

Figure 1D



CT image sourced from the Barrigel Prostate Trial

Figure 1E



CT image sourced from the Barrigel Prostate Trial

Figure 1 D,E
Before (left) and **after (right)** adjusting window & level settings to enhance contrast and texture

Some imprecision in defining the border of the gel is tolerable, as the quality of the plan will be driven by the target coverage and rectal sparing. Most sites insert fiducial markers during the Barrigel implantation procedure for fast and precise image guidance.

For further detail, please refer to the **Barrigel Prostate Radiation Therapy Treatment Planning Guide.** A copy of this guide is available at support@barrigel.com.

For adverse event reports and product complaint reports, contact:

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