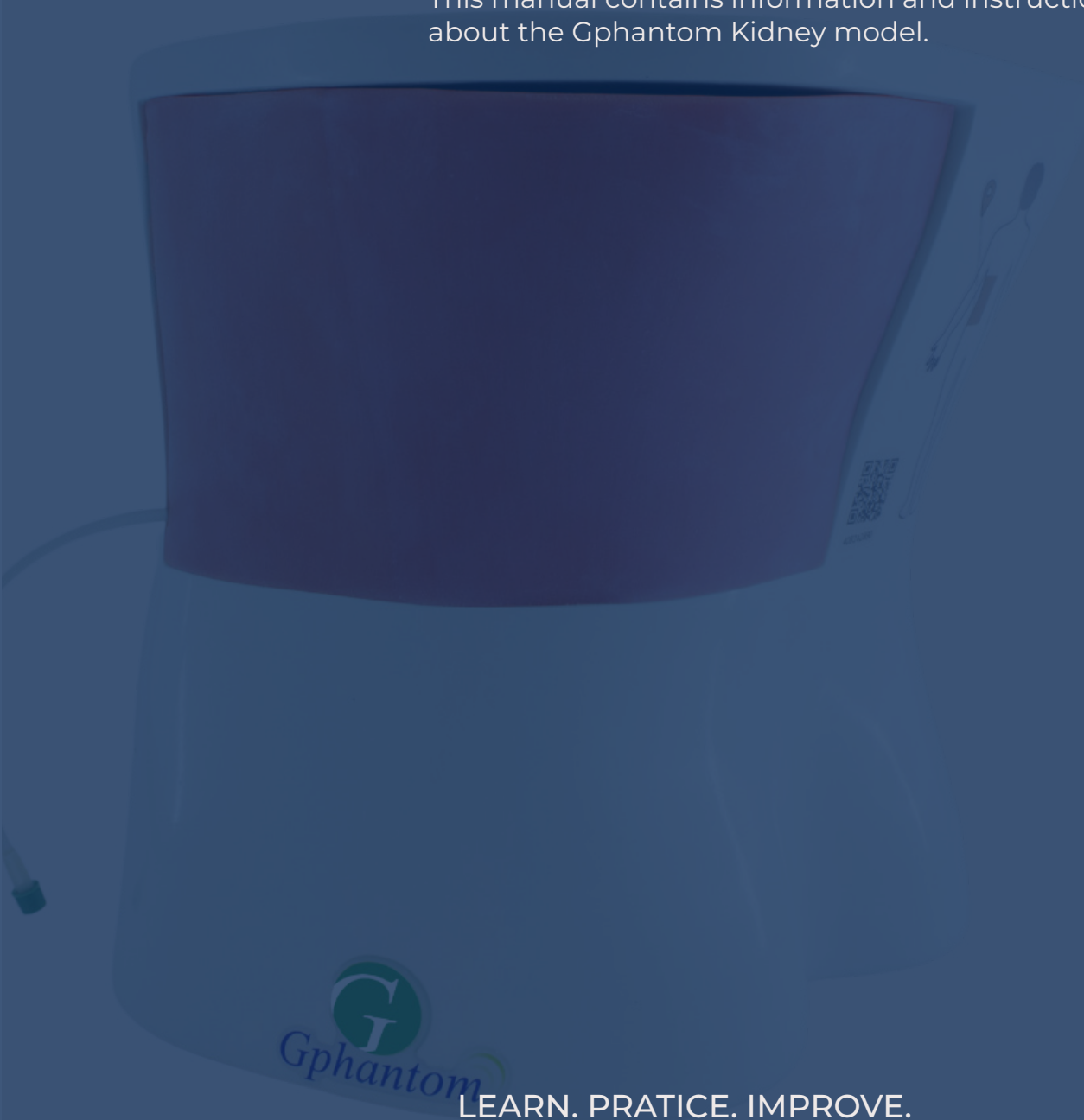




Gphantom Manual Kidney

This manual contains information and instructions about the Gphantom Kidney model.



LEARN. PRATICE. IMPROVE.



Thank you for choosing Gphantom!

We are a company specialized in developing solutions for medical training. Here we will help you handle and optimize the durability of your product. If you are looking for specific models for your training, please contact us.

Your **Gphantom Kidney** is eligible for the Loyalty Program Gphantom.

See conditions.

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Receiving your Gphantom

The Gphantom Kidney is indicated for renal puncture training in nephrostomies and percutaneous nephrolithotripsies guided by ultrasound, and can simulate the patient in the prone or supine position. This is a realistic model that reproduces the renal angles inside the abdomen and the collecting system with liquid inside. This way, the model can be connected to a saline bag or a syringe.



Receiving your Gphantom

The packaging of your Gphantom Kidney contains:

- Model assembled and packed in bubble wrap;
- QR code card for access to manuals;

The model consists of:

- Product base (**Figure 1**);
- Gphantom with spaces for fitting (**Figure 2**);
- 4 pieces (**Figure 3**) for support, which can be fitted to the base;
- Key (**Figure 4**) for fitting the pieces.

Starting your training

- Remove the model from the packaging;

You will receive the model ready to use, in case of changing the Gphantom, follow the instructions to attach it to the base.

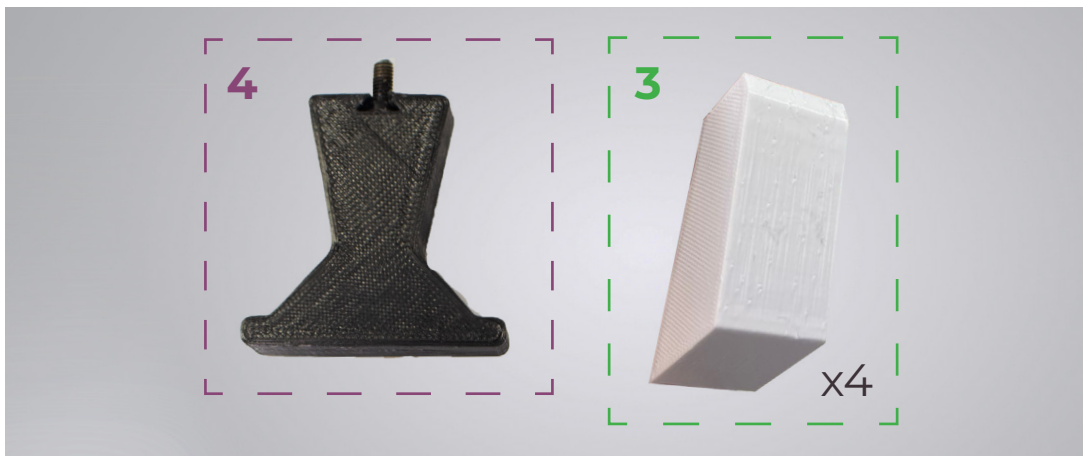
- Position the Gphantom on the base, inserting the 3 pieces to secure it (**Figure 5**);

ATTENTION: The pieces have different sizes, 2 larger and 1 smaller; The larger pieces are fitted on the top of the model, while the smaller piece must be fitted on the bottom.

- The pieces must be secured using the key contained in the box (**Figure 5**), and can be screwed until they are fully fitted;
- The model can be used vertically (**Figure 6**), but if you want to use it in the prone position (**Figure 6**), the 4 support pieces must be fitted to the base of the product (**Figure 6**); at this stage, it is not necessary to use the key;
- Prepare your ultrasound system and equipment;
- Separate needles and other necessary materials;
- Access our ebook (ebook.gphantom.com.br) to make the most of your training.



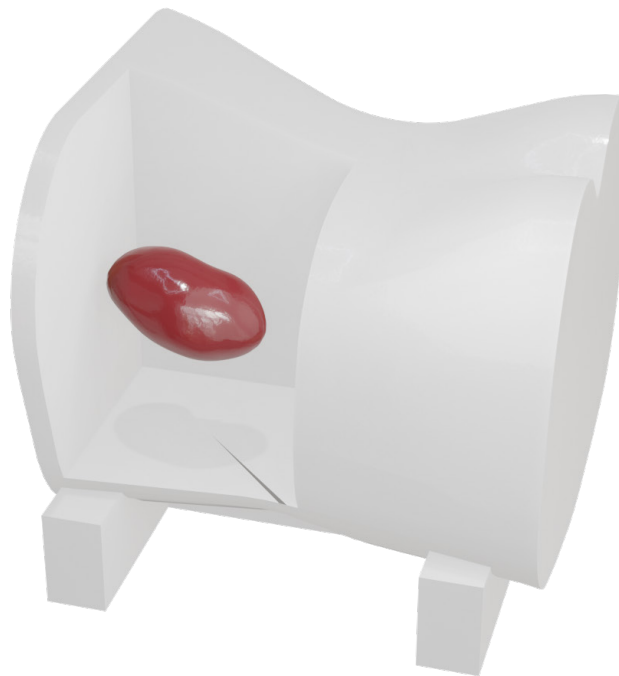
About receiving



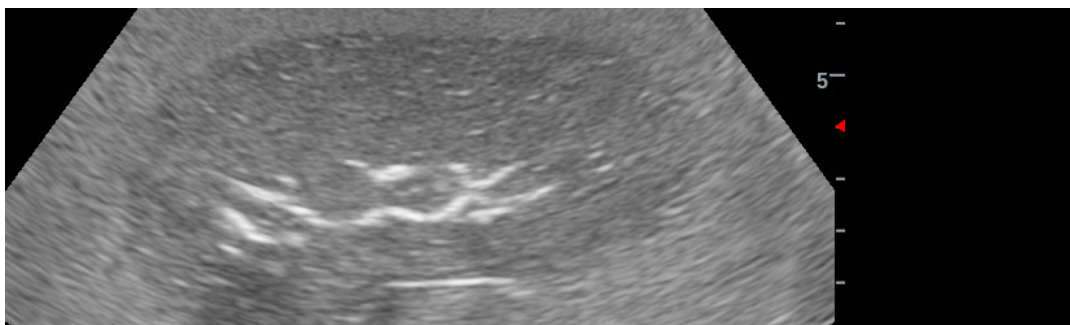
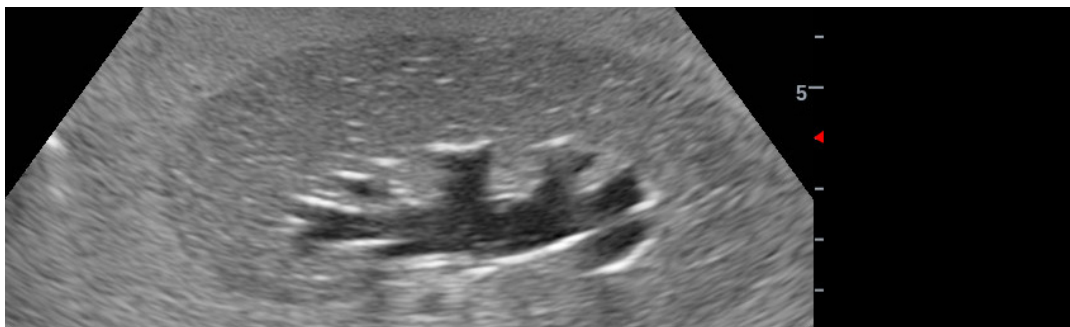
Images of details about the model.



Internal structures



Product code	PBD050509
Weight approx. (without packaging)	4,2 kg
Length	28,5 cm
Height	23 cm
Width	30 cm



B-mode ultrasound images of the model.



Fluid Replacement

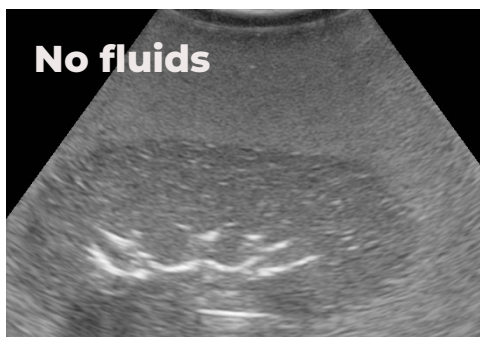
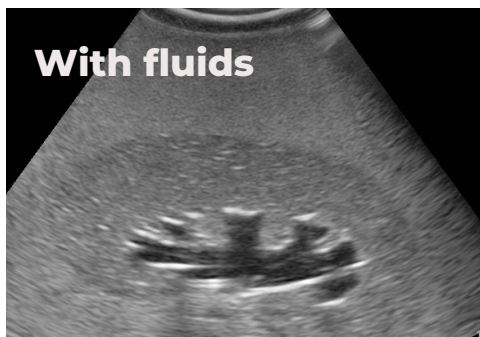
- Eliminate all air from the needle before infusing simulated anesthetics into the model.

NOTE: Accidentally infusing air into the model during training may cause air to remain in the tissue or needle path. Remove trapped air by injecting the same access point with fluid until the air is expelled from the system.

- Inject the fluid, preferably use saline solution, otherwise use water.

NOTE: Maximum 10mL.

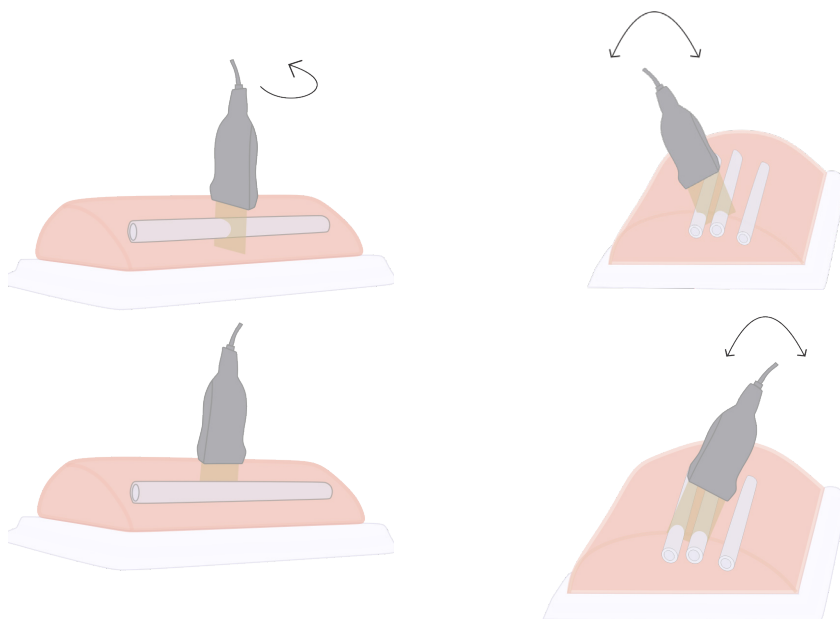
- After the injection procedure is complete, remove the fluid from the model by pulling the syringe plunger to withdraw the infused fluid.





Ultrasound scanning

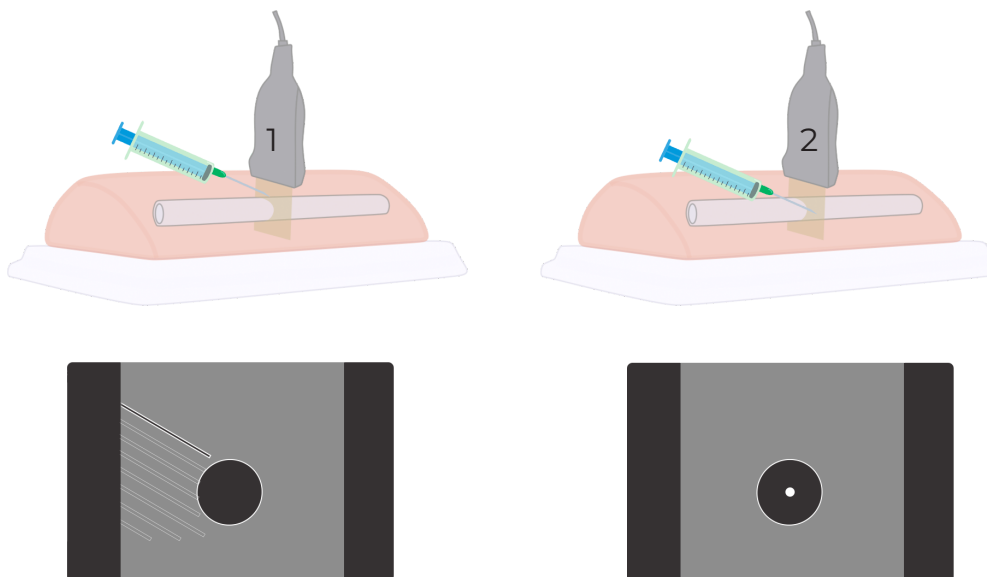
- Position the model correctly to use ultrasound on it;
- Apply a small layer of contact gel to the product or the transducer, in an amount sufficient to slide the transducer easily across the model. Add more gel if necessary;
- Adjust the ultrasound control system according to your protocol;
- Position the image according to your need;
- The structures are imaged in different planes, depending on the positioning and angle of the transducer in relation to the tissue. Optimizing a B-Mode image depends on several factors, such as equipment adjustments and transducer positioning. Therefore, it is important to understand the relationship between the ultrasound image plane and the morphology of the imaged tissue. For more information, return to our online ebook presented at the beginning of this manual;
- The correct positioning of the transducer, which allows obtaining precise images with optimized brightness, occurs with the probe in a perpendicular position to the tissue. When the transducer is tilted, forming an angle less than 90° with the tissue surface, the image brightness reduces and the representation of the structure is distorted.





Needling

- For best needle mark recovery results, we recommend using needles up to 23G. However, it is possible to use Gphantom for Core-Biopsy training, taking advantage of the length of the training block models. Even though the use of larger gauge needles reduces the useful life of the Gphantoms, our needle mark recovery technology continues to work on the models, ensuring good durability.
1. IN PLANE
 - In the in-plane approach, the entire length of the needle is visualized, in a longitudinal view. It is possible to obtain a continuous visualization of the trajectory of the needle and its tip.
 2. OUT OF PLAN
 - In the out-of-plane approach, the needle is inserted orthogonally to the imaging plane, obtaining a transverse image of the position of its tip, which is visualized as a bright point.





Handling and Maintenance

- Only perform the procedures supported by each product as described in this guide;
- Only use needles to access fluids;
- Do not use or store other sharp objects, such as scissors, scalpels or box cutters, next to your Gphantom;
- Do not insert any objects or tools into the model except medical equipment, accessories, or supplies intended for use with this model;
- Do not use chemical solvents on models;
- Always store your product in its packaging and in a cool place, away from the sun;



- Exposing your Gphantom to temperatures above 30°C for long periods may cause changes in the product's properties. After training, clean the product with a paper towel, removing excess ultrasound gel, and then wash it under running water, without removing it from the base;
- Do not store Gphantom with excess gel, as this may cause the proliferation of microorganisms that could damage the product;
- Do not use detergents or sponges, as these will damage the product!



Cleaning

- Clean the training model only with water and a light soap solution, if necessary, wash under running water. Do not submerge the model or use large amounts of liquid to wash it;
- Do not remove the product from the original base;
- The product contains between 10mL of liquid, do not add more than that, and do not insert it with a syringe, so as not to add pressure to the structure.



Storage and Transport

- Always store the product in a cool place, away from the sun;
- Transport the product in its packaging;
- Make sure there is nothing inside the packaging that could damage your product.



CONTACT



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Gphantom



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Gphantom

Consult the feasibility of custom development
of a Gphantom product for your needs.

Gphantoms have a 3-month warranty against manufacturing defects from the issuance of the invoice.