



Gphantom Eye Manual

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

A clear plastic case containing five dark-colored, eye-shaped models arranged in a grid. The case is open, and the models are visible. The Gphantom logo is faintly visible on the bottom left of the case.

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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 Eye** is eligible for the Loyalty Program Gphantom.

See conditions.

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Receiving your Phantom

Gphantoms for ocular ultrasound are designed to provide a realistic and hands-on learning experience, allowing healthcare professionals to improve their skills in evaluating ophthalmic pathologies. Focusing on the quality of the simulation, these devices accurately reproduce the anatomy and ultrasound characteristics of the eyeball, facilitating the understanding and diagnosis of different conditions. The models are available in 4 variations:

1. Normal Eye

The normal eye simulation module allows students to familiarize themselves with healthy ocular anatomy by visualizing structures such as the lens, vitreous body, and retina. This scenario is essential for initial training, as it provides a solid foundation for identifying pathological variations.

2. Cataract

In the cataract scenario, the simulator reproduces opacities in the lens, common in patients with the condition. The training enables practice in ultrasonographic evaluation in situations where the opacity prevents direct visualization of the internal details of the eye. The user will learn to identify different degrees of opacity and their implications, as well as train in the use of ultrasound for assessing hidden structures, such as the retina and vitreous.

3. Retinal Melanoma

This module simulates the presence of an ocular tumor, allowing the user to identify and assess the ultrasonographic characteristics of a retinal melanoma. The simulation provides visualization of a solid mass and its relationships with other ocular structures. Training includes practicing recognition of the size, shape, and acoustic characteristics of the lesion, facilitating clinical decision-making in the management of ocular tumors.

4. Retinal Detachment

In the retinal detachment scenario, the simulator offers a hands-on experience for diagnosing this critical condition. The student will be able to visualize the separation between the retina and the retinal pigment epithelium, identifying typical features such as the presence of membranes or sub-retinal fluid. This module is essential for the training of ophthalmologists and emergency responders, ensuring prompt diagnosis and management of retinal detachments.



Receiving your Phantom

The packaging of your Gphantom Eye includes:

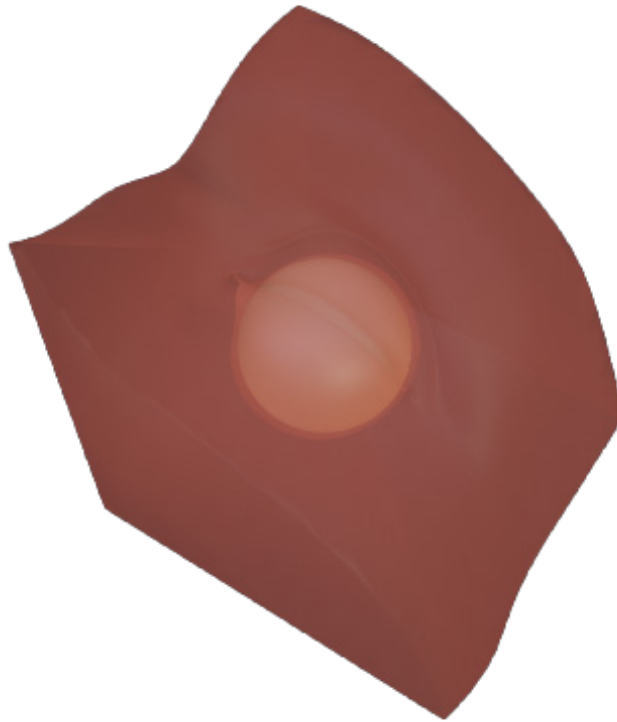
- Model wrapped in bubble wrap;
- Backpack-type bag for transport;
- QR code card for access to manuals.

Starting Your Training

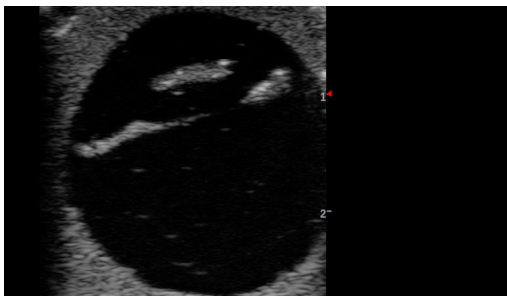
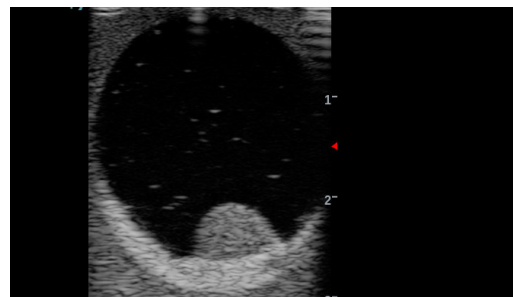
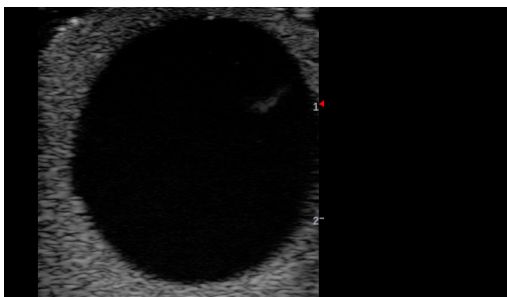
- Remove the product from the packaging while keeping it on the original base;
- Prepare your ultrasound system and equipment;
- Gather the needles and other necessary materials;
- Access our ebook (ebook.gphantom.com.br) for optimal training.



Internal structures



Product code	PBD050522
Length	22 cm
Height	14 cm
Width	6,5 cm

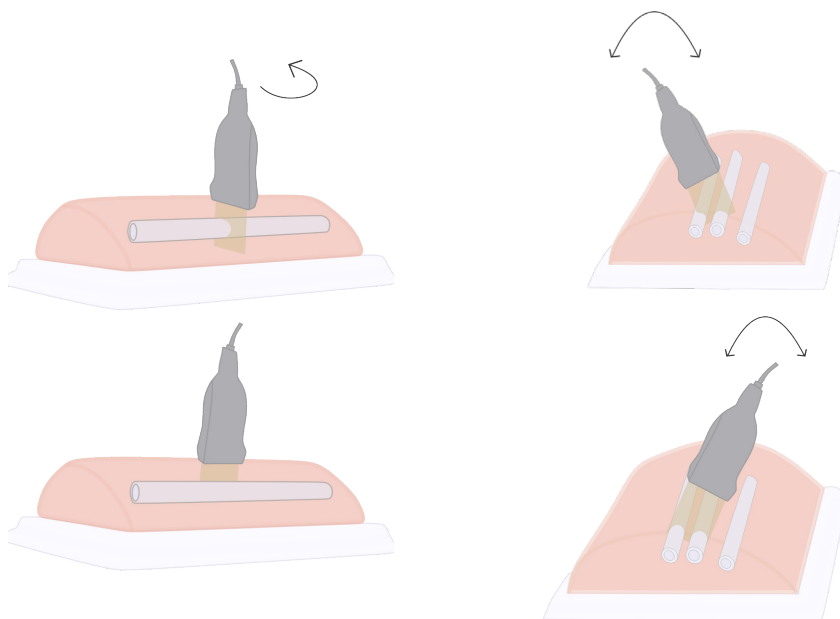


B-mode ultrasound images of the model.



Ultrasound scanning

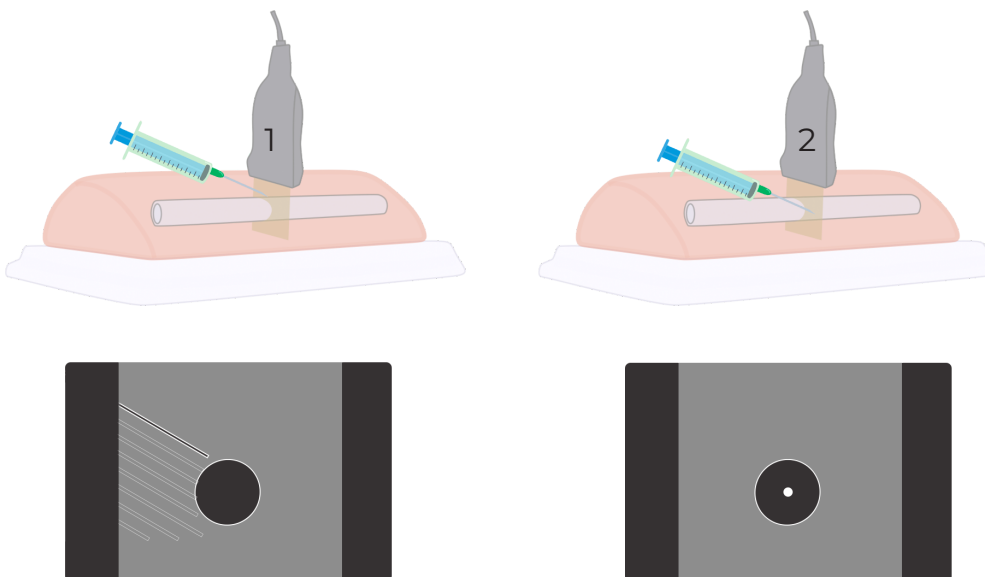
- Position the model correctly to use ultrasound on it;
- Apply a small layer of contact gel to the product or the transducer, in an amount sufficient to slide the transducer easily across the model. Add more gel if necessary;
- Adjust the ultrasound control system according to your protocol;
- Position 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

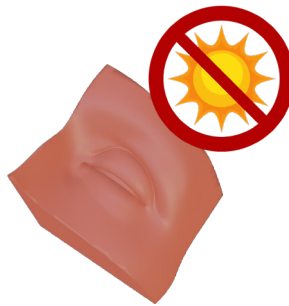
- For best needle mark recovery results, we recommend using needles up to 23G. However, it is possible to use Gphantom for Core-Biopsy training, taking advantage of the length of the training block models. Even though the use of larger gauge needles reduces the useful life of the Gphantoms, our needle 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.



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



@gphantomtm



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.