

# BIO TIME

Biotech Medical Simulation

Catalogue 2023-2024

Thinking Ahead

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BLOTTMEE

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## BIOTME

BIOTECH MEDICAL SIMULATION S.L. is an innovative technology-based company that operates in the health sector under the BIOTME® brand, committed to research, development and the manufacture of anatomical equipment and physical medical training simulators that provide skills and abilities to health professionals in cutting-edge medical techniques.

Evolution and progress are the driving force of the society in which we live, which is why at BIOTME we are firmly committed to contributing to the continuous improvement of people's healthcare. We achieve this by focusing on I+D+i, developing and offering innovative equipment and solutions to the market, with the capacity to adapt to the needs of the different actors involved in the healthcare value chain.

We put the focus on patient safety, which is, after all, one of the priority objectives of today's society.

# THINKING

## MEDICINE AND ENGINEERING

Biotech Medical Simulation, BIOTME, was born in 2017 when its founders detected needs in the health sector. The medical equipment offered to the market is improving, the means and resources are being renewed and progressing, technology is always advancing, offering techniques to detect and intervene in injuries in an increasingly effective, but at the same time, more complex way. In order for these new techniques and equipment to be implemented in a generalised and safe manner, doctors must be familiar with their use and possibilities in order to apply them in their professional work. But how can they do this if they do not have practice equipment that is adapted to these needs?

This is why BIOTME was created, offering the healthcare sector a wide range of anatomical simulators for medical training, made from a synthetic gel developed in-house that simulates different tissues of the human body, allowing doctors to practice on these tissues repeatedly, instead of on cadavers or animals.

The essence and soul of our brand is fully based on the synergy between engineering and medicine, two disciplines in which the most important thing is change and progress. For this reason, our team is committed to and promotes the continuous improvement of the healthcare sector and the cutting-edge training of its professionals, always seeking to surpass ourselves, anticipating the needs of the sector.

# AHEAD

2017/18

At the Badajoz Science Park we have developed a synthetic gel which, with additives, has an eco-fringence similar to any tissue in the human body. It is the base material for our trainers and medical simulators.

In addition, we developed a thermoplastic composite that could be formed at low temperature for use in the manufacture of splints. We began studying this application to forearm injuries.

2019/20

We focus 80% of our resources on the development of medical simulators, mainly endovascular, focused on learning diagnostic and interventional techniques.

We joined the accelerator La Atalaya, in Badajoz, of the Junta de Extremadura and Telefónica.

It was an important qualitative leap in our company. We were able to improve the characteristics of the base gel of our simulators, make it sustainable and place our company within the circular economy.

We developed and made available to the market a portfolio of increasingly complex anatomical medical training simulators, used to practice various techniques under ultrasound, radiological and tomographic control.

We started to make our first sales in the national market.

2021

We aim to expand our sales Network.

We started to work for our gel to be not only sustainable sustainable, but also biocompatible.

We started the development of a 3D printer that will allow us to develop more complex simulators, with internal cavities.

We introduced pathologies into the simulators, either to assess them or to intervene on them.

We signed an agreement with the INMA Research Group Research Group of the UEx, for the development of materials in medical applications.

2022

We developed our first complementary equipment for simulation.

We started the development of a 3D printer for our gel.

We patented, together with the University of Extremadura and Rase Ibérica, thermo-mouldable orthoses with electrostimulation.

We entered the fourth edition of the Madrid City Council's La Nave accelerator.

We started to develop simulators that include software to record the learning curve of healthcare workers.

2023

We succeeded in the development of the 3D printer for our gel together with the GEMA research group of the UEx.

Protection begins at the the SPTO, two utility models in gynaecology and in ophthalmology.

We started to develop open surgery simulators in vascular medicine.

We started the project of development of a system that can be attached to standard wheelchairs with the function of to help users to stand up autonomously to the users.

## PRODUCTS



At BIOTME we focus our activity on the development and manufacture of anatomical medical training simulators, offering various ranges and models that are available to the market and present in our catalogue, as well as models manufactured on demand to meet the needs of those involved in improving people's health. We meet the requirements of each of our customers, because we know that each one of them is unique, so our simulators are also unique.

We offer endovascular, cancer detection, anaesthesia, clinical skills, etc. simulators. In addition to more complex simulators designed for specific and innovative practices, thanks to our capacity and short production time, we can guarantee the manufacture of a customised, innovative and effective medical simulator in record time.

The material that gives our simulators their unique characteristics is a synthetic gel of our own development that guarantees the greatest functional realism that can be offered, being faithful not only in touch and sensations to the human body, but also in the responses of ultrasound, radiological and tomographic equipment.

In this way, and thanks to the great reliability of our products, the medical professional can acquire the necessary skills and abilities to attend to the patient with a greater guarantee of success, which results not only in a better medical service, but also in the prompt recovery of the patient, as well as in a lower cost of the interventions and the subsequent control.

# BIOT

They incorporate a blood simile developed by BIOTME that has a Hounsfield unit similar to human blood.

With different formats, we adapt the size and shape of the BIOT to the technique to be used. We have standard simulators with various sizes, fully configurable in terms of pathologies, number, diameter and depth of pathways, etc., and simulators with human anatomical shape.

We are manufacturing simulators that, assisted by ultrasound equipment, help to practice central line cannulations, for peripherally inserted venous catheterisation PICC, stent placement, etc.

We have the flexibility to develop and manufacture any pathology or configuration within our range of simulators.

Depending on the type of practice to be performed, hundreds of repetitions can be performed on the same equipment using needles or microcatheters larger than 23G.





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## BIOT

### Anatomical medical training simulators

1. BIOT-S  
Basic anatomical medical training simulators
2. BIOT-M  
Basic medium sized anatomical medical training simulators
3. BIOT-L  
Anatomical medical training simulators with pathologies
4. BIOT-E  
Anatomical medical training simulators for special techniques
5. BIOT-A  
Anatomical Medical Training Simulators of various models
6. ACCESSORIES  
Accessories and complementary products

Our anatomical medical training simulators, BIOT, are a powerful tool for healthcare personnel to carry out ex vivo practice to acquire competencies and skills in diagnostic and interventional techniques, such as ultrasound guidance techniques, taking lines, assessing calcifications or atheromas, fissures or fractures, etc., beyond what are practices with cadavers or animals, being able to perform the same technique repeatedly on the same simulator before facing a patient. One of our differentiating factors is that the traces of the punctures disappear a few days after practice with the simulators (calibre less than 23G).

Manufactured with a synthetic gel of our own development, we have achieved that the eco-fringence of the material, as well as its excellent response to radiographic or CT scans, allow us to offer the market a wide variety of simulators.

Our BIOT, which have vascular systems, do NOT have any type of silicone or latex conduit, allowing us to distinguish between veins and arteries, with a luer-lock connection that allows the circulation of our blood simulator. This means that when the simulator is pressed with the hand or the head of an ultrasound machine, the vein collapses, returning to its initial shape when the pressure is relieved. This does not happen with arteries, as they do not collapse under pressure.

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# BIOT-S

## BASIC

The BIOT-S line of mini simulators for practicing CT, X-ray and ultrasound examinations to support diagnosis under ultrasound and radiological control are made of a material that meets the most demanding requirements for training, providing tactile feedback, depending on the models.

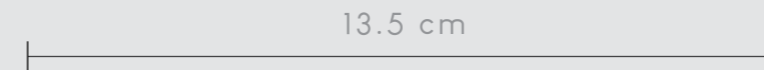
In this range of simulators, we focus on technical skills, such as detection of nodules, foreign bodies, intramuscular injections, etc.

Depending on the use given and recommending not to use needles with calibres larger than 23G, hundreds of punctures can be performed. Under these conditions, the trace of these punctures disappears within a few days.



## MODELS

- Simulators with foreign bodies of different nature.
- Simulators with different types of nodules.
- Simulators with cysts.
- Simulators for intramuscular injections.
- Simulators for simulating injections in shoulders or buttocks.
- Simulator for intraosseous tract sampling.
- Simulator for core needle biopsy (CNB) techniques.
- Nodule and body simulator pack.



## BIOT-Snod

It allows the localisation and assessment of nodules by means of ultrasound and radiological techniques. Contains five nodules of different types and sizes. Compact, does not degrade over time and does not lose volume.

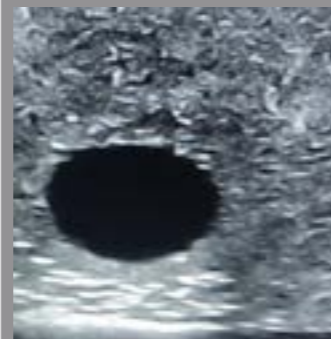


Similar products	Practices
BIOT-Mcex Foreign bodies range M	<ol style="list-style-type: none"> <li>1. Detection of nodules of three different typologies.</li> <li>2. Approach for removal of cyst fluid. Use needles &gt;G21.</li> </ol>

BIOT-Snod  
Nodule



BIOT-Snod  
Cyst

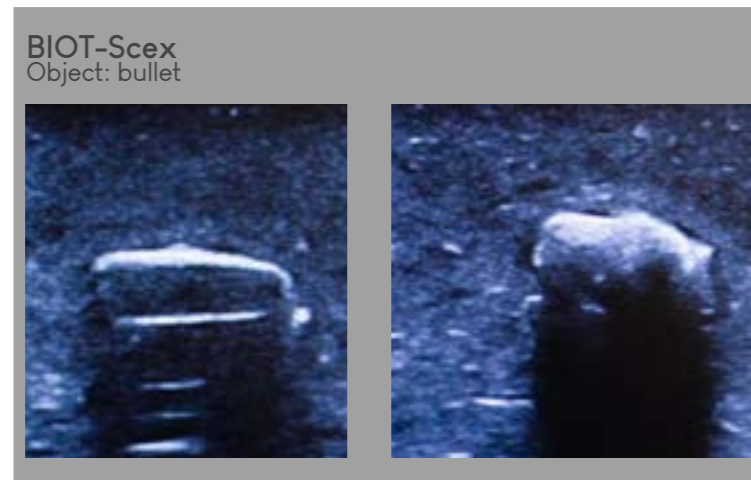


## BIOT-Scex

Allows the location and assessment of foreign bodies. Contains a pin, a bullet and a splinter. Compact, does not degrade over time, does not lose weight or volume. Not suitable for removing objects without damaging the simulator.



Similar products	Practices
BIOT-Snod S-range nodules	1. Localisation and assessment of foreign bodies.



\*See conditions of use and maintenance at the end of this catalogue.

# BIOT-M

BASIC

The line of medium-sized simulators that we offer, BIOT-M, as well as the BIOT-S simulators, are used to practice CT, X-ray and ultrasound examinations to support diagnosis under ultrasound and radiological control. BIOT-M simulators are made of a material that meets the most demanding requirements for training, provides tactile feedback and maintains its shape during use. Its versatility and the possibility of being able to configure its parameters, such as the height and diameter of veins and arteries, make it a novel product in the practice of medical simulation.

The models with veins and arteries can be recharged and connected to auxiliary equipment by means of luer-lock connections that allow the connection of electro-pumps for fluid circulation to visualise with Ecodoppler. Depending on the use given to it and recommending not to use needles with calibres of less than 21G, depending on the model, hundreds of punctures can be performed, of which the trace disappears four or five days after the puncture.



## MODELS

- Simulators to practice the Seldinger technique
- Simulators for central lines, peripheral lines, with or without overlapping branches and the possibility of supplying them at different vessel heights and diameters.
- With capacity for blood-like recirculation.



Bottle of gel for ultrasound guidance

Accessories box

Bottle of simulated blood

Simulator

Support



\*The simulator is delivered with a protective film that must be used for preservation and contains additional information for each simulator.

\*All M models can be ordered with a case. Prices on request.

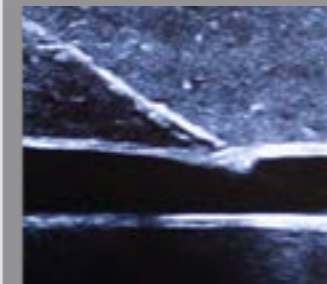
## BIOT-M2vp

Allows ultrasound guidance with two perfused veins without a tube, the material itself shapes the pathway. Loaded with blood simile, it allows liquid to be extracted and injected. Compact, does not degrade over time, does not lose volume. Fitted with double luer-lock outlets with plug. Line diameters from 6 and 8 mm to 20 mm from the surface of the simulator.

Similar products	Practices
BIOT-M2vc Simulator with 2 central lines	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



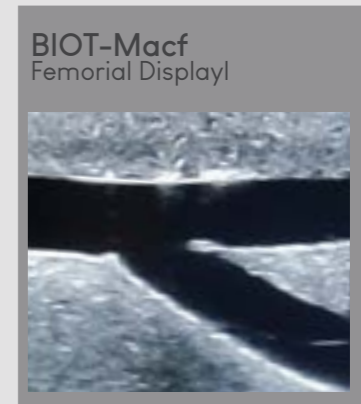
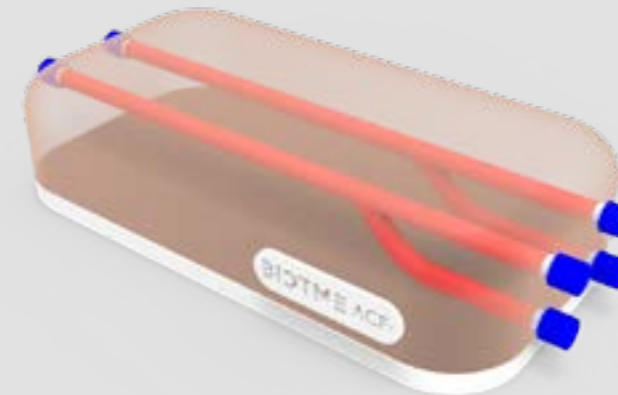
BIOT-M2vp  
Display



## BIOT-Macf

Allows ultrasound guidance with two bifurcated veins without a tube, the material itself shapes the pathway. Loaded with blood simile, it allows liquid to be extracted and injected. Compact, does not degrade over time, does not lose volume. Fitted with double luer-lock outlets with plug. The upper line is 25 mm from the surface, with a diameter of 8 mm.

Similar products	Practices
BIOT-Minc Three branched lines	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>

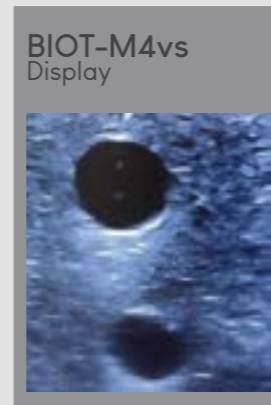
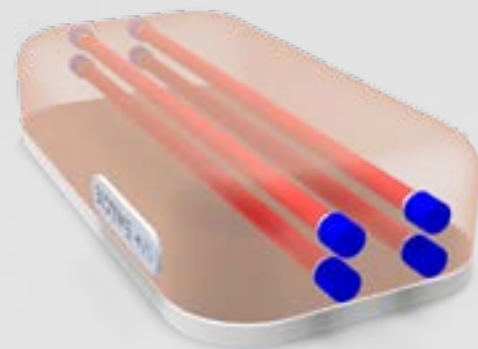




## BIOT-M4vs

Allows ultrasound guidance with four central lines without a tube, the material itself shapes the line. Loaded with blood simile, it allows liquid to be extracted and injected. Compact, does not degrade over time, does not lose volume. Two superficial vias equipped with double luer-lock outlets with anti-reflux plugs, and the two deeper vias without anti-reflux plugs. 8-10 mm diameter lines, positioned at 15 and 35 mm from the top.

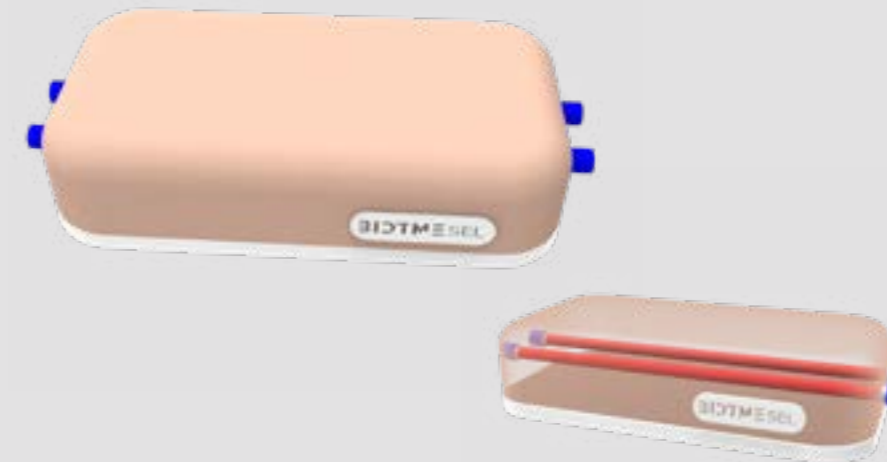
Similar products	Practices
BIOT-M2vp Two peripheral pathways. BIOT-M2vc Two central lines	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



## BIOT-Msel

For the Seldinger technique with two veins without a tube, the gel itself forms the line. Loaded with blood simile, it allows the extraction and injection of liquid. Compact, it does not degrade over time and does not lose volume. Fitted with double luer-lock outlets with plug. IV diameters of 8 and 10 mm. at 25 mm. from the surface of the simulator.

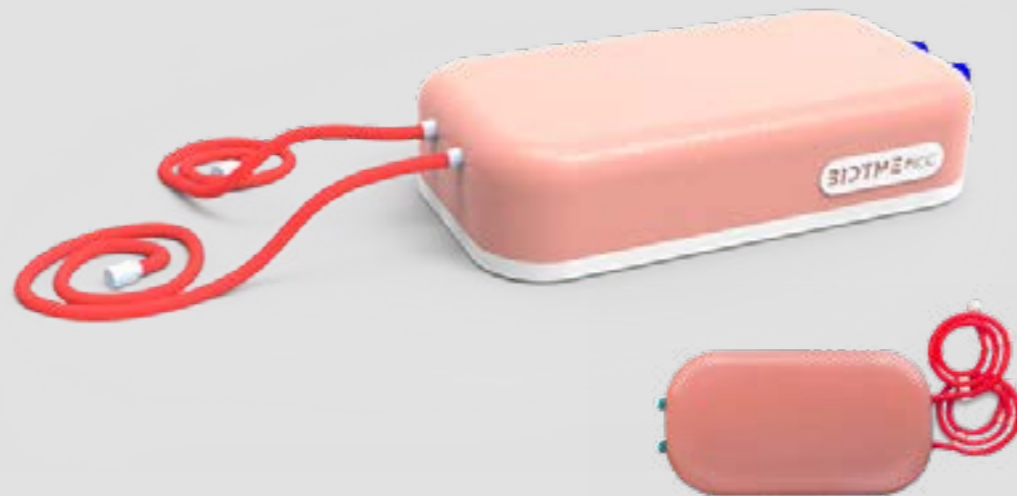
Similar products	Practices
BIOT-Epicc BIOT-Mpicc Simulators for technology Seldinger and Midline	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



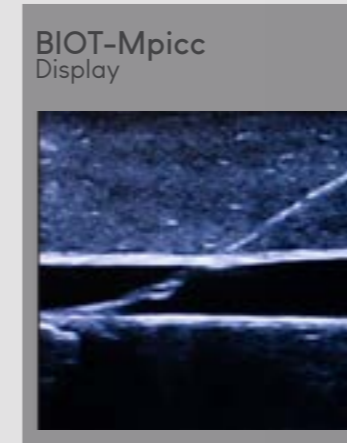
## BIOT-Mpicc

For the execution of the Seldinger and Midline technique with two veins without tubes, the gel itself forms the pathway. Together with an extension to perform the complete technique. Filled with blood simile, it allows the extraction and injection of liquid. Compact, does not degrade over time and does not lose volume. Equipped with double luer-lock outlets with plug. Line diameters of 8 and 10 mm. at 25 mm. from the surface of the simulator.

Similar products	Practices
BIOT-Epicc BIOT-Msel Simuladores para Técnica Seldinger	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



## BIOT-Mpicc



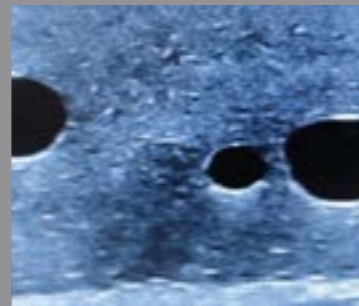
## BIOT-Minc

Allows ultrasound guidance with two tubeless veins communicating with each other, the jelly itself shapes the pathway. Loaded with blood simile, it allows to extract and inject liquid. Compact, does not degrade over time, does not lose volume. Equipped with double luer-lock outlets with plug. IV diameters from 8 and 10 mm. to 20 mm. from the surface of the simulator.

Similar products	Practices
BIOT-Lfis Simulator with fistulae	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



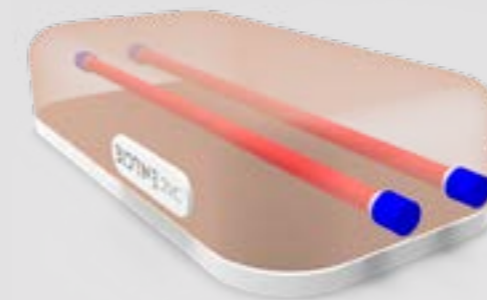
BIOT-Minc  
Interconnection



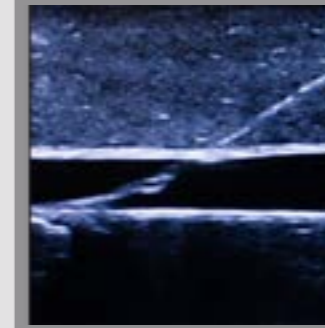
## BIOT-M2vc

Allows ultrasound guidance with two central veins without a tube, the gelatine itself shapes the pathway. Loaded with blood simile, it allows liquid to be extracted and injected. Compact, does not degrade over time, does not lose volume. Fitted with double luer-lock outlets with plug. IV diameters from 8 and 10 mm. to 20 mm. from the surface of the simulator.

Similar products	Practices
BIOT-M2vp Simulator with 2 peripheral ways	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



BIOT-M2vc  
Display



# BIOT-L

BASIC AND  
WITH  
INJURIES

The line of L-size simulators that we offer, with pathologies, like the BIOT-M simulators, are used to practice diagnostic and interventional procedures under ultrasound and radiological control. They have the same characteristics as the BIOT-M simulators, with the addition of different types of pathologies, such as calcifications, atheromas or aneurysms. The pathways can be made with alternative routes to enhance catheter handling skills.

They can be presented with different diameters to show the progress of the technique.



## MODELS

- Simulators to practice the Seldinger technique with the possibility of different catheter trajectories, simulation of veins and arteries at different depths of the puncture site.
- Overlapping veins with pathologies such as atheromas, aneurysms or calcifications.
- Practice for radial catheter placement.
- For femoral, central or peripheral access with different possibilities in each simulator.
- With capacity for recirculation of blood simile.





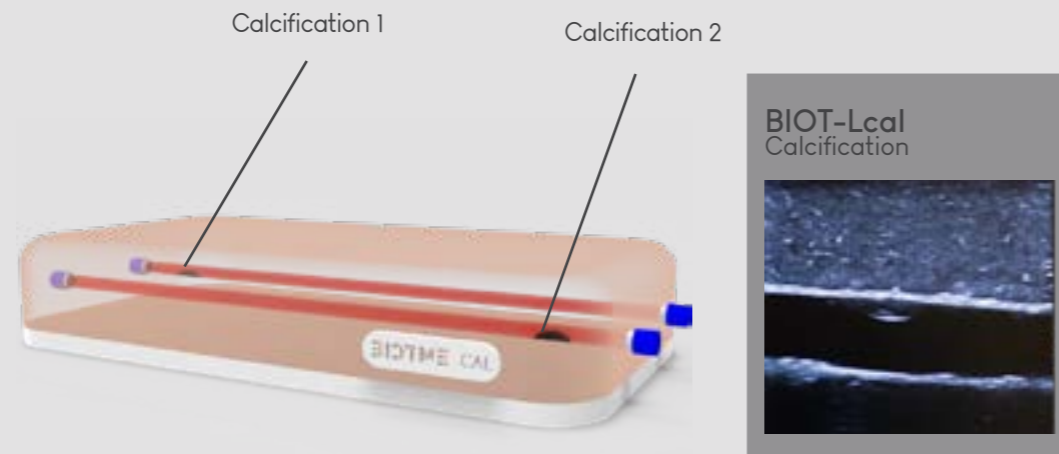
\*The simulator is delivered with a protective film that must be used for preservation and contains additional information for each simulator.

\*All L models can be ordered with a case. Prices on request.

## BIOT-Lcal

For ultrasound guidance with two tubeless veins with simulation of calcifications. The gel itself gives shape to the line. Loaded with blood simulates the extraction and injection of fluid. Compact, does not degrade over time, does not lose volume. Fitted with double luer-lock outlets with plug. Lines diameter of 10 mm.

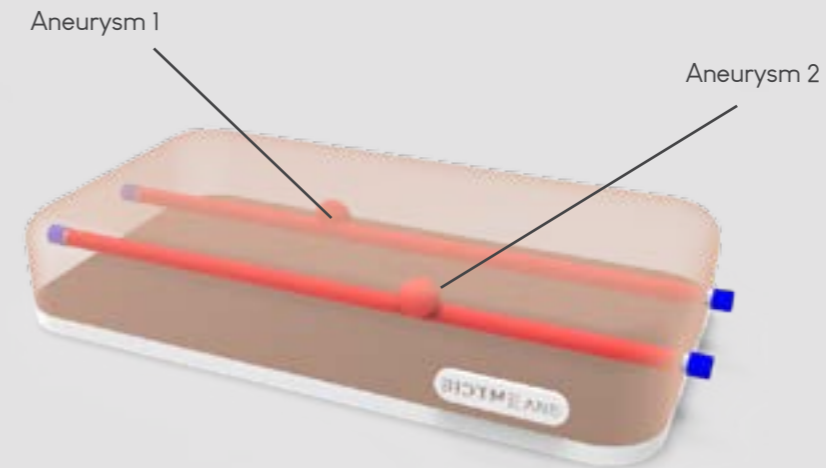
Similar products	Practices
<b>BIOT-Lane</b> Two deep lines with aneurysm <b>BIOT-Lfca</b> Femoral access with calcifications	1. Assessment and measurement of calcifications 2. Intravenous cannulation 3. Blood sampling 4. Echodirected puncture 5. Catheter insertion 6. Handling technique and Midline insertion



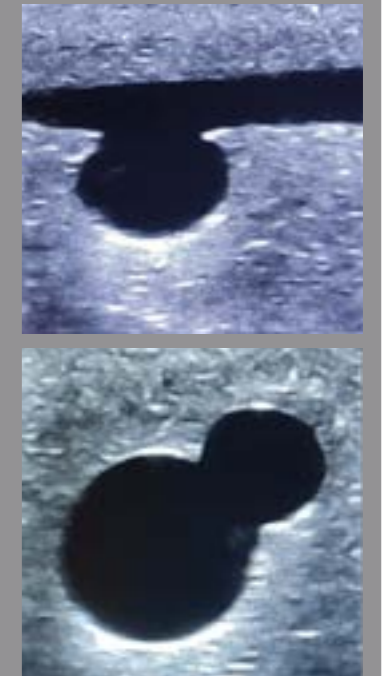
## BIOT-Lane

Para ecoguiado con dos venas sin tubo con simulación de aneurismas. El propio gel da forma a la vía. Cargado con símil sangre permite extraer e inyectar líquido. Compacto, no se degrada con el tiempo, no perdiendo volumen. Dotado con dobles salidas luer-lock con tapón. Diámetros de las vías de 10 mm.

Similar products	Practices
<b>BIOT-Lcal</b> Two deep lines with calcifications <b>BIOT-Lfca</b> Femoral access with calcifications <b>BIOT-Lfa</b> Femoral access with aneurysm	1. Assessment and measurement of aneurysms 2. Intravenous cannulation 3. Blood sampling 4. Echodirected puncture 5. Catheter insertion 6. Handling technique and Midline insertion



BIOT-Lane  
Aneurisma



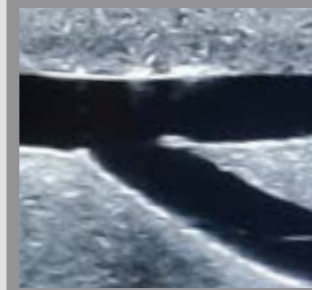
## BIOT-Lacf

For ultrasound guidance indicated for intravenous cannulation, arterial puncture, etc. for femoral access with two vertical branched blood vessels with calcifications for localisation and assessment. Without tube, the gel itself gives shape to the line. Loaded with blood simile allows fluid to be extracted and injected. The upper track is 20 mm from the surface, with a diameter of 8 mm. Compact, it does not degrade over time and does not lose volume. Fitted with double luer-lock outlets with plug.

Similar products	Practices
BIOT-Lane Two deep pathways with aneurysm	<ol style="list-style-type: none"> <li>1. Assessment and measurement of calcifications</li> <li>2. Intravenous cannulation</li> <li>3. Blood sampling</li> <li>4. Echodirected puncture</li> <li>5. Catheter insertion</li> <li>6. Handling technique and Midline insertion</li> </ol>
BIOT-Lcal Two deep pathways with calcifications	
BIOT-Lfa Femoral access with aneurysm	



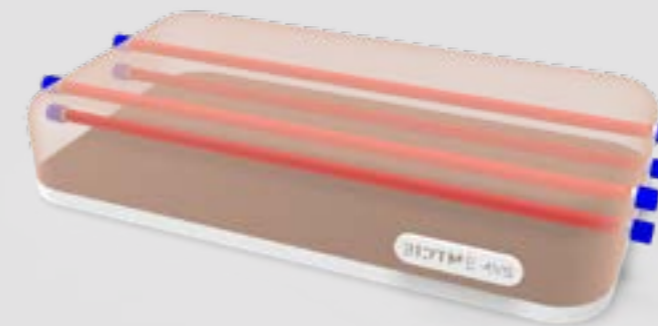
BIOT-Lacf  
Femoral Display



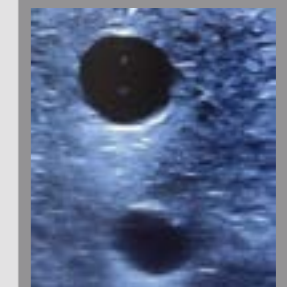
## BIOT-L4vs

Allows ultrasound guidance with four central lines without a tube, the material itself shapes the line. Loaded with blood simile, it allows liquid to be extracted and injected. Compact, does not degrade over time, does not lose volume. Two superficial vias equipped with double luer-lock outlets with anti-reflux plugs, and the two deeper vias without anti-reflux plugs. 8-10 mm diameter lines, positioned at 15 and 35 mm from the top.

Similar products	Practices
BIOT-M2vp Two peripheral lines BIOT-M2vc Two central lines	<ol style="list-style-type: none"> <li>1. Intravenous cannulation.</li> <li>2. Blood sampling.</li> <li>3. Ultrasound-guided puncture.</li> <li>4. Catheter placement.</li> </ol>



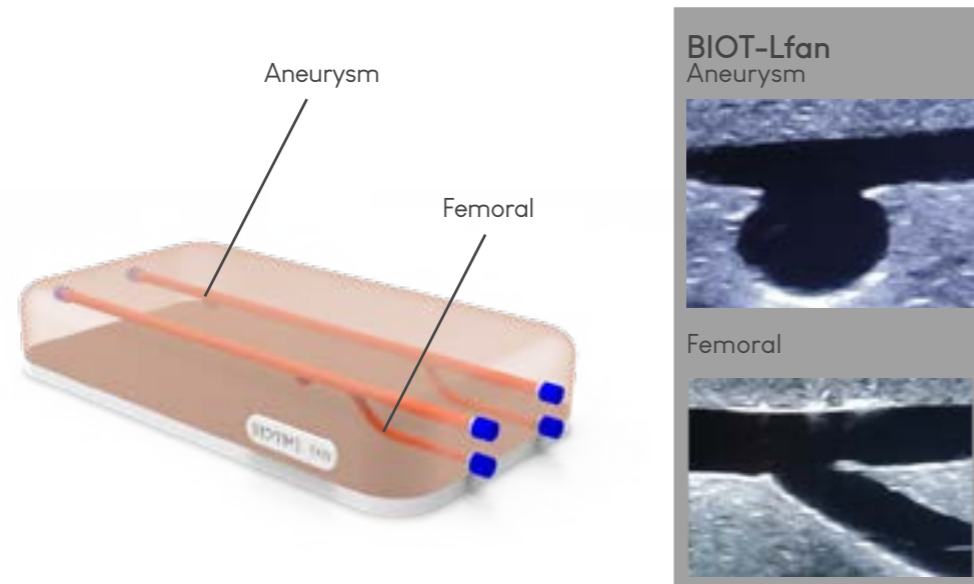
BIOT-L4vs  
Display



## BIOT-Lfan

For femoral access with two vertical branching vessels with aneurysms for localisation and assessment. No tubing, the gel itself shapes the line. Loaded with blood simile allows fluid to be extracted and injected. The upper track is 20 mm from the surface, with a diameter of 8 mm. Compact, it does not degrade over time and does not lose volume. Fitted with double luer-lock outlets with plug.

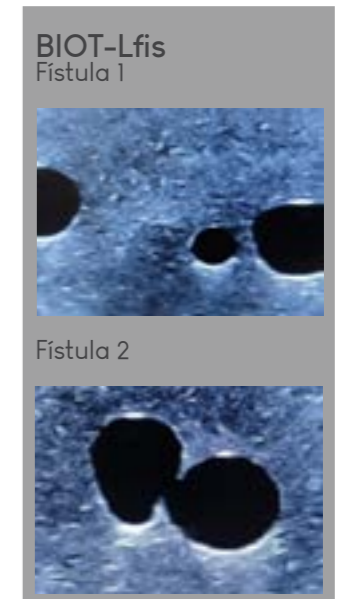
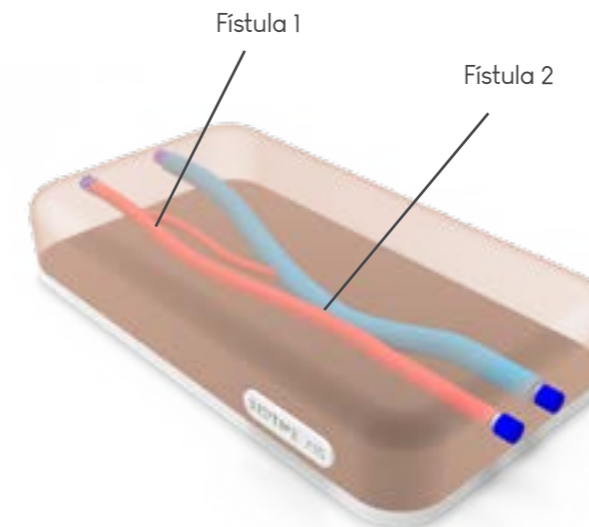
Similar products	Practices
<b>BIOT-Lcal</b> Two deep lines with calcifications <b>BIOT-Lfca</b> Femoral access with calcifications <b>BIOT-Lane</b> Two deep lines with aneurysm	1. Assessment and measurement of aneurysms 2. Intravenous cannulation 3. Blood sampling 4. Echodirected puncture 5. Catheter insertion 6. Handling technique and Midline insertion



## BIOT-Lfis

Allows ultrasound guidance of arteriovenous fistulas allowing fluid circulation to check their function. Loaded with blood simile allows fluid to be extracted and injected. Compact, does not degrade over time and does not lose volume. Fitted with double luer-lock ports with plug. Line diameters from 8 and 10 mm. to 20 mm. from the surface of the simulator.

Similar products	Practices
<b>BIOT-Mfis</b> Connected lines range M	1. Intravenous cannulation 2. Blood sampling 3. Echodirected puncture 4. Catheter insertion 5. Fistula recognition and localisation



\*See conditions of use and maintenance at the end of this catalogue.





BIOT  
Epicc

6 cm



13 cm



54 cm



## BIOT-Epicc

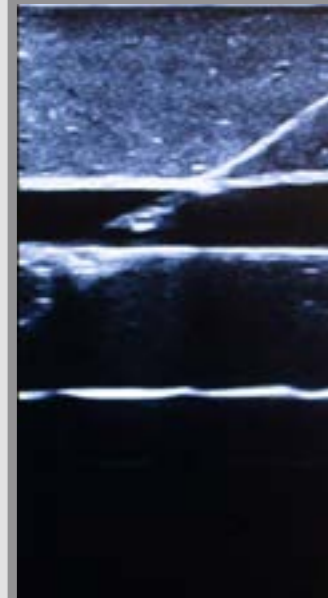
Anatomical medical training simulator for ultrasound guidance, consisting of two modules. The catheter insertion module is echorefringent to perform punctures, it has three vessels without tubes, which connect with the three veins with tubes of the visualisation module. The gel itself gives shape to the pathway, for the performance of vascular access practices using PICC. Located 15 mm from the outer surface with 8 mm IV diameters. Compact, does not degrade over time and does not lose volume. Fitted with luer-lock outlets with plugs that allow fluids to be evacuated or refilled, as well as other accessories to be connected. Washable with soap and water.

Excellent for developing and acquiring skills in diagnostic procedures under ultrasound or radiological control. The catheter insertion module can be completely replaced for excessive punctures.

Similar products	Practices
BIOT-Rpicc Spare for BIOT-Epicc	<ol style="list-style-type: none"> <li>1. Central venous catheterisation with peripheral insertion</li> <li>2. Management of the PICC and Midline Technique</li> </ol>



BIOT-Epicc Display





Simulator  
(replaceable part)

Simulator body

Support

Bottle of simulated  
blood

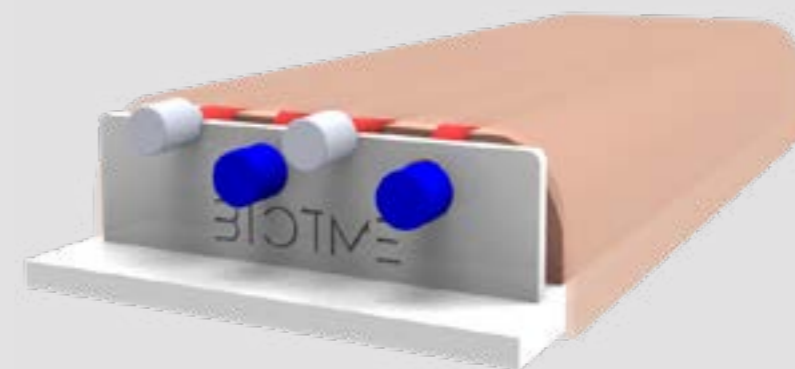
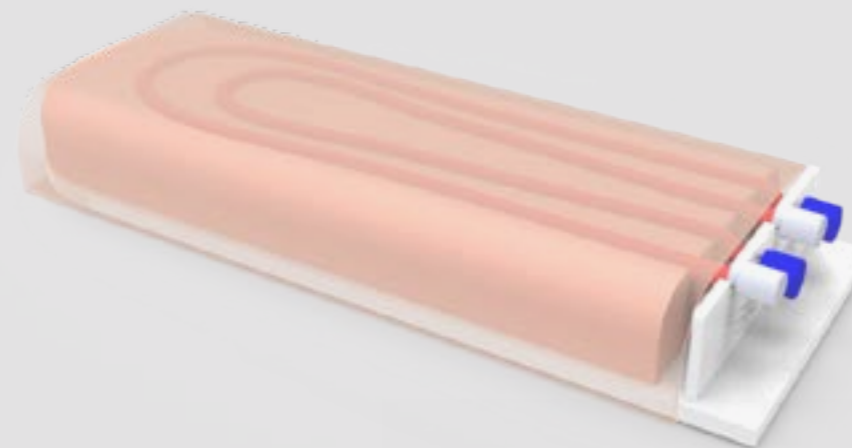
Bottle of gel for ultrasound  
guidance

\*The simulator is delivered with a protective film that must be used for preservation and contains additional information for each simulator.

## BIOT-Epal

Simulator for taking lines and microcatheters by palpation. Gives feedback on correct use by reflux.

Similar products	Practices
	<ol style="list-style-type: none"> <li>1. Intravenous cannulation by palpation.</li> <li>2. Insertion of microcatheters.</li> </ol>

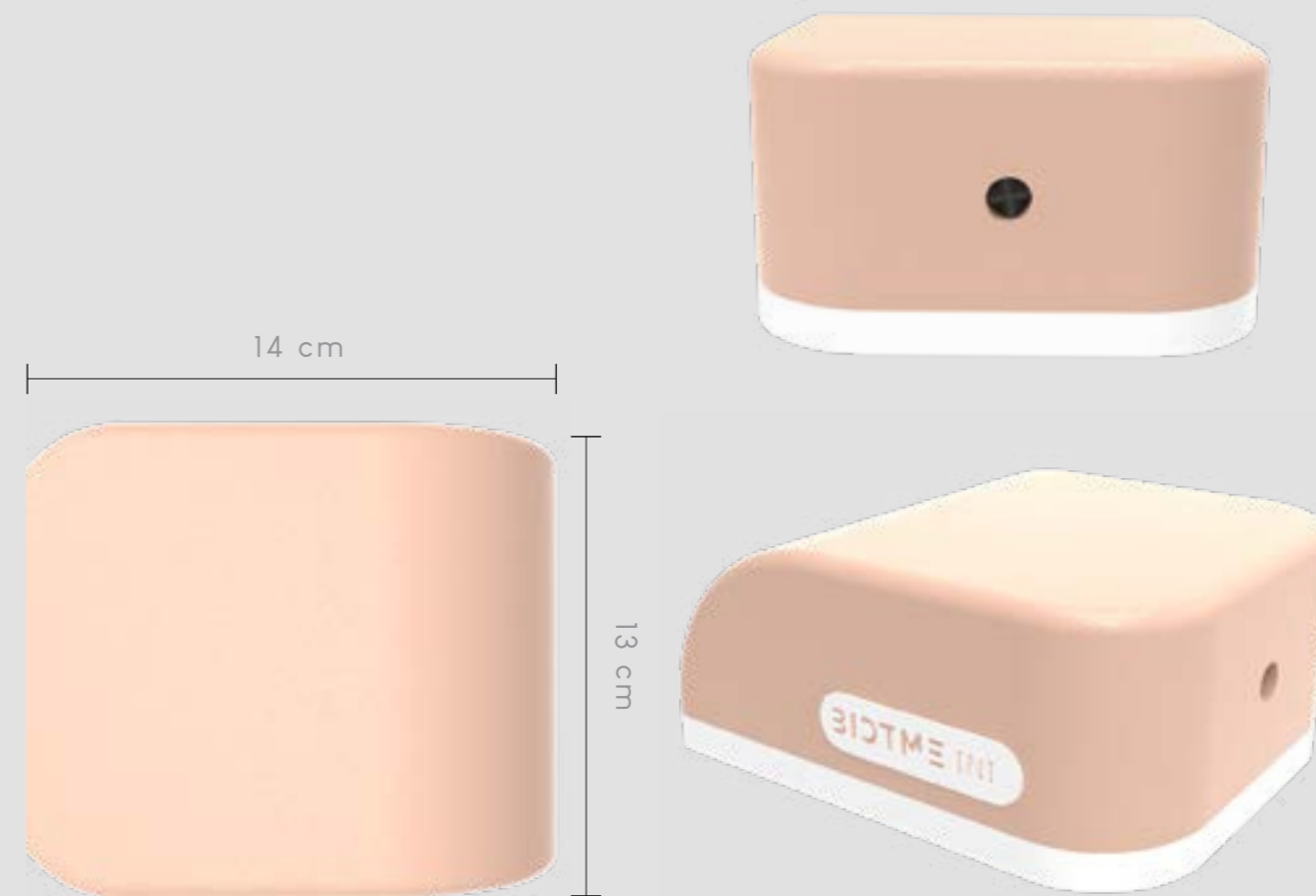


## BIOT-Eini

Anatomical simulator for basic medical training for the practice of intramuscular injections. The simulator has a large storage capacity of 200 cm<sup>3</sup> of injected liquid. Once the simulator is saturated with liquid, its contents can be emptied by means of a valve incorporated in the simulator, which allows a large number of practices. It allows needles of up to 40 mm. in length, G21 maximum recommended. Its interior is made of absorbent material. Compact, it does not degrade over time and does not lose volume. Washable with soap and water.

Excellent for developing and acquiring basic skills in clinical training.

Similar products	Practices
BIOT-Aimg Intramuscular buttock injections	<ol style="list-style-type: none"> <li>1. Perform injections in the appropriate regions.</li> <li>2. Managing the correct angle of insertion.</li> </ol>

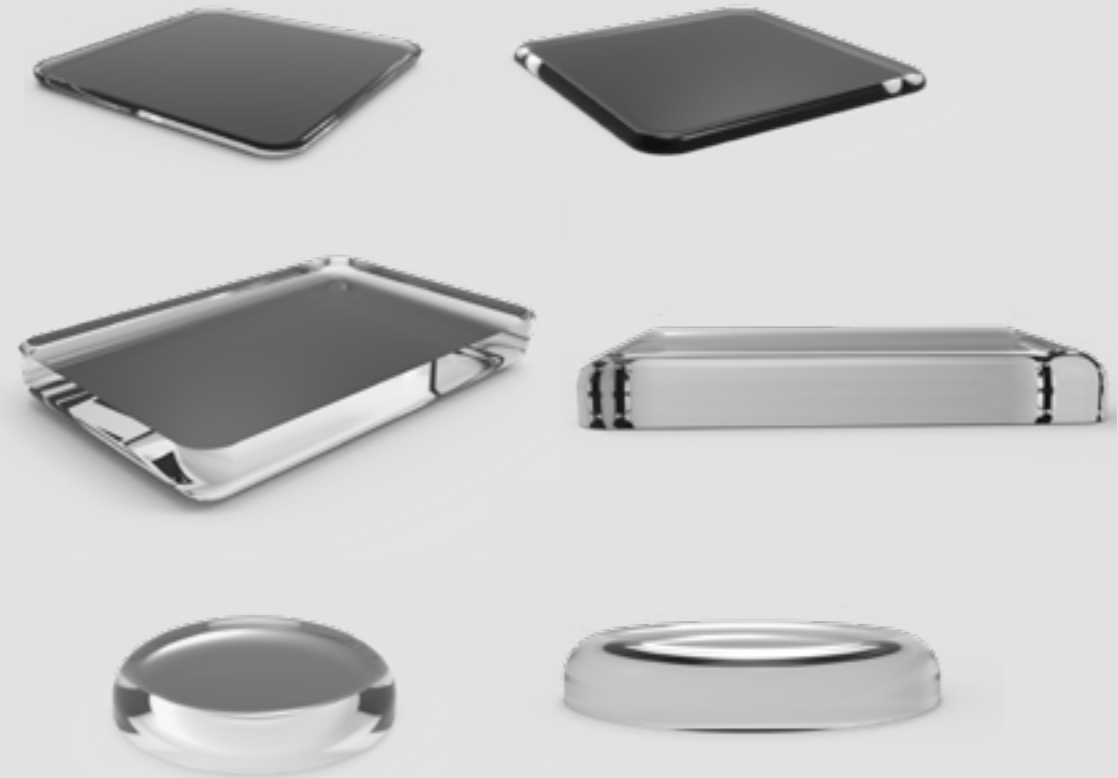


## BIOT-Ealm

Synthetic gel pads for ultrasound field separator, reusable for practice in areas of the body that are difficult to access and close to the field, replaces gels. It adapts to the area to be studied and recovers its shape once removed. Can be disinfected and cleaned with alcohol, bleach diluted in water or soap and water.

Three units, rectangular 2 cm. thick, circular 1.5 cm. thick and square 1 cm. thick.

Similar products	Practices
	- To facilitate viewing on the ultrasound machine



# BIOT-A

ANATOMICS

Special simulators that recreate, according to their function, the part of the body to which they refer in an accurate manner. These include the anatomical breast simulator with knots and the intramuscular injection simulator.

## BIOT SPECIAL ANATOMICAL





## BIOT-Amam

Realistic anatomical medical training simulator for localisation and assessment of embedded nodules in the trainer, using ultrasound and radiological techniques. Contains 5 nodules of different nature and sizes. Compact, does not degrade over time, does not lose volume. The use of needles >G21 is recommended.

Excellent for developing and acquiring skills in diagnostic procedures under ultrasound or radiological control. Washable with soap and water. Not applicable for biopsies.

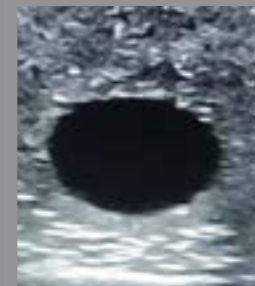
Similar products	Practices
	<ol style="list-style-type: none"> <li>1. Detection of nodules of three different typologies.</li> <li>2. Approach for removal of cyst fluid.</li> </ol>



BIOT-Amam Nodule



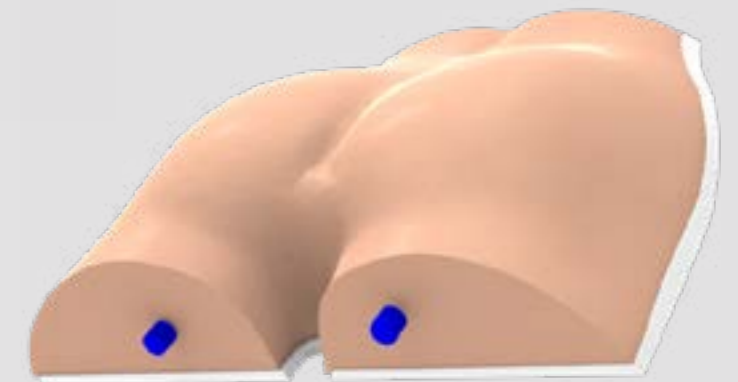
BIOT-Amam Cyst



## BIOT-Aimg

Anatomical medical training simulator for the practice of intramuscular injections. The trainer has a large storage capacity of 400 cm<sup>3</sup> of injected liquid, once the simulator is saturated with liquid, its content can be emptied by means of a valve incorporated to it, which allows a large number of practices. It allows needles up to 40 mm. in length, G21 maximum recommended. Manufactured with a BIOTME development gel (GLB) that simulates human tissues. Its interior is made of absorbent material. Compact, does not degrade over time and does not lose volume.

Similar products	Practices
BIOT-Eini Intramuscular injections	<ol style="list-style-type: none"> <li>1. Perform injections in the appropriate regions.</li> <li>2. Managing the correct angle of insertion.</li> <li>3. Valved evacuation of the injected fluid after multiple practice injections.</li> </ol>



\*See conditions of use and maintenance at the end of this catalogue.

## BIOT-Atecu

For the purpose of learning the technique of amniocentesis and chorionic villus sampling. The simulator comes with a synthetic tissue sample made with our synthetic gel.

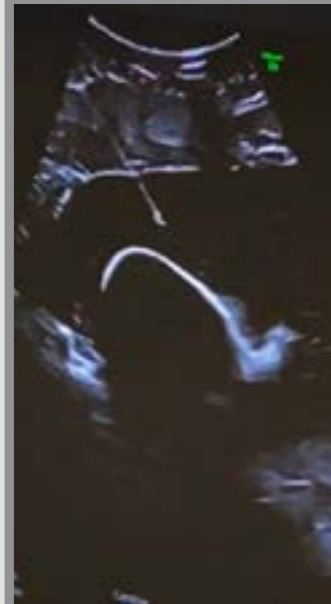
This kit contains the following elements:

1. Female pelvis with pneumatic pump and sample container and membrane simulating skin.
2. Muscle layer and echogenic uterine layer.
3. Amniotic sac, to be filled with water.
4. Two fetuses, one at 12 weeks and one at 15 weeks.
5. Hand pump
6. Rubric and control curve and learning evolution, this tool will allow us to control our level of competence in the acquisition of the technique.

Similar products	Practices
BIOT-Amam Breasts with pathologies	<ol style="list-style-type: none"> <li>1. Practice of amniocentesis with fetuses at different stages of growth.</li> <li>2. Obtaining chorionic villi</li> </ol>



BIOT-Atecu  
Amniocentesis technique



# Expanding possibilities...

## Variety of skin tones

We offer medical training simulators to suit a variety of needs and practice environments. Our simulators are available in three skin tones: light, dark and translucent. This variety ensures that healthcare professionals can train in conditions that reflect the diversity of patients.

Regardless of the skin tone selected, our simulators maintain consistent ultrasound and haptic properties. This guarantees a uniform and realistic training experience.

## Specifications

### 1. Visual Realism:

- Light skin: visible anatomical details with smooth texture and natural tones.
- Dark skin: faithful representation of the anatomy with pigmentation.
- Translucent: allows visualisation of internal pathologies during practice.

### 2. Ultrasound properties:

- Realistic ultrasound images in all skin tones.
- Developed to simulate various conditions and pathologies.

### 3. Realistic Haptic Sensation:

Texture and touch resistance that mimic reality.  
Haptic feedback for improved dexterity and accuracy.

## Benefits for medical training

- Inclusive diversity.
- Realistic practice: accurate simulation of medical procedures to improve technical skills.
- Effective training: provides a consistent and effective training platform.

At BIOTME, we are proud to offer medical training simulators that not only lead the way in realism, but also embrace diversity for more comprehensive medical training.



\*See conditions of use and maintenance at the end of this catalogue.

# BIOT-R

## SPARE PARTS

The BIOT-E models consist of two independent, interconnected modules. One of them is used for the puncture and the other for the complete technique. The latter module does not suffer during practice, so its durability is only limited by proper storage. However, the module on which the puncture is performed does deteriorate during practice, so it does need to be replaced. In this way, the cost per practice is reduced. This section details the replaceable modules of the simulators that allow it.

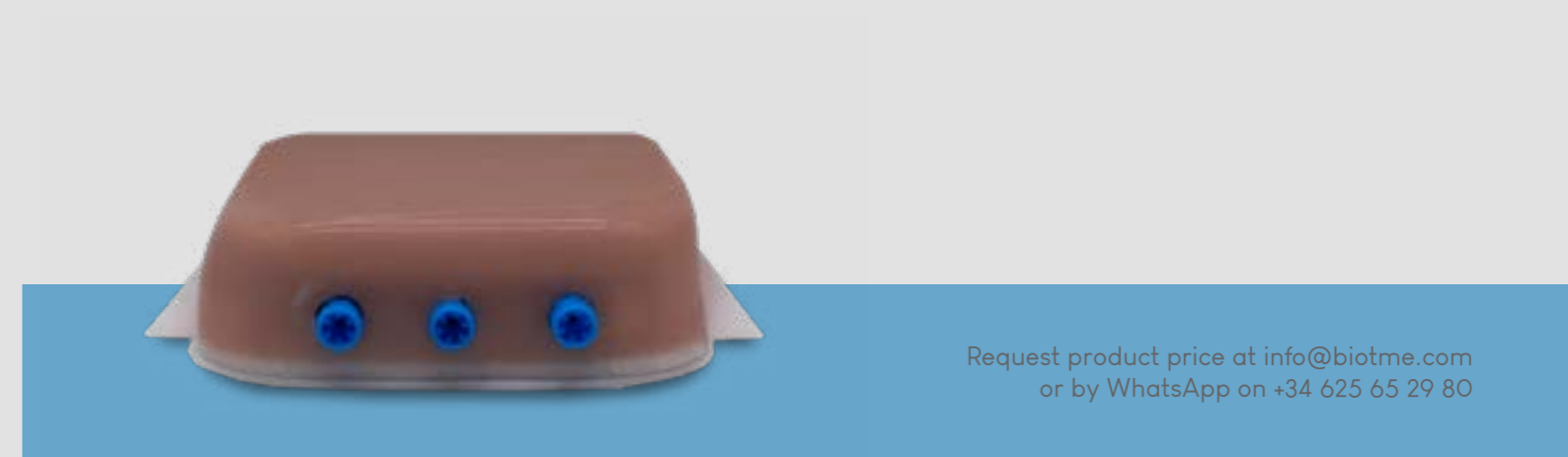
## BIOT SPARE PARTS



## BIOT-Rpicc

Replacement module for anatomical medical training simulator for PICC and Midline. The catheter insertion module, ecorefringent for punctures, has three tubeless vessels, which connect to the three tubed veins of the visualisation module. They are located 15 mm from the outer surface with 8 mm diameter lines. Fitted with luer-lock outlets with plugs for evacuating or refilling fluids, as well as for connecting other accessories.

Similar products	Practices
BIOT-Epic PICC and Midline techniques	Practices outlined in BIOT-Epicc



\*See conditions of use and maintenance at the end of this catalogue.

# BIOT - R

## BIOT-Rpla

Placenta replacement module for BIOT-Atecu simulator.

Similar products	Practices
	Practices reported at BIOT-Atecu

## BIOT-Rmus

Muscle layer replenishment module for BIOT-Atecu simulator.

Similar products	Practices
	Practices reported at BIOT-Atecu

## BIOT-Rmem

Pack of 3 units of skin simulation membrane for BIOT-Atecu simulator.

Similar products	Practices
	Practices reported at BIOT-Atecu

## BIOT-Ramn

Pack of 6 units of amniotic bag.

Similar products	Practices
	Practices reported at BIOT-Atecu

\*See conditions of use and maintenance at the end of this catalogue.

7 cm 1 cm



BIOT-Rpla

4,5 cm



19 cm



16 cm

BIOT-Rmus



BIOT-Rmem



BIOT-Ramn

## SAEM-RM

BIOT-M range simulator without case and accessories

Similar products	Practices
	Practices outlined in the range of BIOT-M simulators

## SAEM-RL

BIOT-L range simulator without case and accessories

Similar products	Practices
	Practices outlined in the range of BIOT-L simulators



BIOT-RM

BIOT-RL

\*See conditions of use and maintenance at the end of this catalogue.



# BIOT-C

## ACCESSORIES

In addition to the simulators and spare parts for the modules of some of them, we offer complements to make the training sessions with our simulators more didactic and operative, in any of our ultrasound ranges.

## BIOT ACCESSORIES



## BIOT-Cssan

Blood-like for filling of BIOT M, L, E type trays, capacity 125 ml or 250ml. Glass container. Non-settling product.

Similar products	Practices
	Complementary to all practices

## BIOT-Cgel200

Bottle of soluble, hypoallergenic, non-greasy ultrasound gel in 200 ml container with mushroom dispenser.

Similar products	Practices
	Complementary to all practices



## DEVELOPMENT LINES

1. BIOT  
Medical training simulators
2. MEDICAL EQUIPMENT  
Non invasive medical equipment
3. THERMOFORMABLE SPLINTS  
Removable reinforced thermo-mouldable splints
4. GEL 3D PRINTER  
Gel 3d printer for complex organs
5. DESIGN AND CONSTRUCTION  
Of a microfluidic device for the production of  
of flexible microcapsules

BIOTME is a company whose driving force is change and innovation. For this reason, our team works on the development of new ideas and products that help to make the work of healthcare professionals easier, as well as to improve the quality of the system and patient safety.

Our vocation is to provide the market with new products that directly or indirectly improve people's health, facilitate the work of healthcare professionals and preserve patient safety.

We have five lines of development.

The first, focused on our simulators to meet the needs of different medical specialties. We are currently developing different simulators for the digestive system, anaesthesia, cosmetic surgery, etc.

On the other hand, we have a second line of development focused on non-invasive equipment and devices for diagnosis in real patients.

We are working on the development of variants of customised and thermoplastic reinforced removable orthoses, which can be placed at low temperature, of which we participate in the utility model (ES 1276924 U). With the research group GEMA of the UEx, we are developing a 3D printer for our gel in order to reproduce complex organs for didactic purposes, such as the heart, kidneys, complex vascularisation, aortic callae, etc.

Finally, we are collaborating with the microfluidic research group in the Design and Construction of a Microfluidic Device for the Production of Flexible Microcapsules to see the behaviour of red blood cells in the blood flow.

## INFORMATION AND SAFETY NOTES

HUMIDITY	
Transport	<80% HR
Storage	<80% HR
Work	<80% HR
TEMPERATURE	
Transport	(>0 C < 60 C) (>32 F < 140 F)
Storage	(>0 C < 35 C) (>32 F < 95 F)
Work	(>0 C < 30 C) (>32 F < 86 F)

Do not subject to conditions beyond those specified. For professional use only and only valid as a defined trainer. Keep out of sight and reach of children.

At the end of its useful life, take it to a mineral waste management company.



Boiling point	300 - 450 C
Melting point	Not specified
Relative density	0.89
Solubility in water	Not soluble
Appearance and smell	Solid and odourless
Flash point	>180 C >356 F

Skin	Contact with it is not expected to irritate it, in normal use.
Eyes	In direct contact with them they can become irritated, but to a small extent.
Inhalation	This material has a fairly low vapour pressure and is not expected to be an inhalation hazard.

Ingestion or aspiration of a large dose or repeated small doses of the oil may lead to lipid pneumonia or lipid granuloma of the lung. Aspiration of oil vapours will only occur if the equipment is subjected to parameters above the specified use parameters.

Skin contact	If skin contact with molten material occurs, treat as a common burn. This material does not irritate the skin.
Inhalation	The product is not expected to irritate the nose, throat or respiratory tract.
Ingestion	The product has a low order of acute toxicity.

Specific hazards	Extinguishing method
Toxic gases can form when burned without sufficient oxygen.	Water mist, foam, dry chemical dry chemical or CO <sub>2</sub> .

Material will not burn unless preheated. Do not enter fire without full bunker gear (helmet with face shield, bunker coats, rubber gloves and boots), including self-contained breathing apparatus. Cool fire-exposed containers with water.

All products in this catalogue, including their containers and packaging, once purchased, remain the property of the purchaser and the purchaser is solely responsible for their disposal. The purchaser must take appropriate measures to dispose of the waste in a safe and environmentally and human-friendly manner and in accordance with the applicable legal provisions.

## HOLDER AND TERMS OF CONTRACT

### GENERAL CONDITIONS OF CONTRACT

These General Terms and Conditions – hereinafter referred to as GTC – regulate the conditions of purchase of the different products offered on the website: [www.biotme.com](http://www.biotme.com), owned by BIOTECH MEDICAL SIMULATION S.L., CIF. N BO6694533 (BIOTME). Avda. de la Estación 10 P11 A 06300 ZAFRA (Badajoz) SPAIN and those offered in the catalogue located on the aforementioned website.

These terms and conditions of sale shall govern the relationship between BIOTME and the CUSTOMER, and supersede any other terms appearing in this or any other document unless otherwise specifically stated in writing by BIOTME's management.

Therefore, these terms and conditions of sale cancel and exclude any other stipulation incorporated by the CUSTOMER, either in the order itself, or during any type of negotiation or ongoing commercial transaction.

CUSTOMERS making purchases from BIOTME. fully accept these GTC and shall be bound by them, as if they were written at the time of contracting/purchase. It will be an essential requirement to read and accept the GTC, prior to the purchase of any product. These GTC will be expressly mentioned in the quotations and offers that are made.

BIOTME reserves the right to modify the GTC at any time and without prior notice. The GTC will always be accessible from the website, so that the user can consult or print them at any time.

The prices and conditions of sale shall be maintained for the duration of the offer or quotation submitted to the CUSTOMER, and may vary after this period in response to market fluctuations. The validity of the quotation or offer shall be specified in every quotation or offer.

Once the order has been formalised, the purchase shall be understood to be fully completed, with all the legal guarantees that protect the purchasing consumer and, from that moment, the prices and conditions shall be contractual in nature and may not be modified without the express agreement of both contracting parties. Spanish will be the language used to formalise the contract, or in another language mutually agreed between the parties. The electronic document in which the contract is formalised will be filed and the user will have access to it in his/her CLIENT area, if any.

BIOTME reserves the right to deny and/or suspend access to the services provided at [www.biotme.com](http://www.biotme.com) for reasons of breach of contractual good faith, breach of the applicable legislation, of these General Conditions of Purchase and/or in cases of fraud detected by this company and/or any of its suppliers.

The CUSTOMER will have 72 hours to check the integrity of all the components of the order and to check that everything that should be included in the products included is included. Once these 72 hours have elapsed, the shipment will be considered accepted and no claims will be accepted for damage or faults with the shipment.

An order will be considered delivered when the delivery receipt is signed by the CUSTOMER. In the event of receiving a product damaged by transport, it is advisable to contact us within 24 hours to be able to claim the incident to the transport company. In the same way it is advisable to leave a record to the transport company. After this time the product will be covered by the BIOTME guarantee conditions detailed in this document.

If the CUSTOMER does not make such notification, it will be assumed that the products are, in all aspects, in accordance with the contract and free of any defect that would be evident in a reasonable examination, and consequently, it will be considered that the CUSTOMER has accepted the products.

Except where contradicted by the foregoing, under no circumstances shall BIOTME be liable to compensate the CUSTOMER for damages or for non-delivery or late delivery of the products for any reason whatsoever, or for any consequential or other loss arising from non-delivery or late delivery.

Deliveries shall be made to the delivery address indicated in the order, by the means of transport and carrier chosen by BIOTME. The CUSTOMER also has the option of picking up his order at BIOTME's address, being exempt from any liability for damages or delays in the event that the buyer chooses the carrier.

Logistics costs for the Iberian Peninsula and the Balearic Islands will be free for orders over 150 euros. For other destinations these costs will be specified and if they are assumed by BIOTME or by the CUSTOMER. For international orders the INCOTERM to be applied will be negotiated.

In case of refusal to take over the products purchased under the agreed terms, the buyer shall return the delivered goods to BIOTME without undue delay and, in any case, within 3 calendar days at the latest. Furthermore, he shall do so in the original packaging, including the manuals corresponding and original accessories if any. In such case, the buyer will be responsible for the direct costs of returning the goods.

The buyer will be responsible for the decrease in value of the goods resulting from handling or use of them other than that necessary to visually verify their good condition.

Upon accepting the quote, the CUSTOMER must return it signed by electronic means to the email address that appears therein. It is assumed that the CUSTOMER knows and accepts the general conditions of sale that appear in our catalog in force on the date of placing the order.

All of the above without prejudice to what is established for these purposes in the Consolidated Text of the General Law for the Defense of Consumers and Users (TRLGDCU) in relation to the sale of consumer goods to consumers, which establishes several options to be able to exercise the right of withdrawal. Among them, it includes the possibility of doing so by filling out a form electronically. In order to shorten times and so that you can make the return in a comfortable way and without delays. In accordance with this legislation, the contract concluded may be rescinded, without the need to justify such decision and without penalty of any kind, within a period of 14 calendar days from receipt of the merchandise by the CUSTOMER. To do this, the corresponding withdrawal conditions must be met. This is stated without prejudice to what is expressed below, given that BIOTME's activity is not directed at end consumers, but rather at professionals, businessmen, administrations and non-profit entities.

The addresses and emails for notification purposes between the parties will be those that appear in the budgets, offers or invoices issued by BIOTME.

## RETURNS CONDITIONS

Without prejudice to what has been said previously in this document:

- Such returns will be processed as commercial returns, since there is no law that regulates return rights between companies, and such procedures are regulated according to the conditions of BIOTME.
- Returns of products in blister or heat-sealed packaging, and other products that have a broken factory security seal, will not be accepted.
- These conditions do not nullify the right to guarantee or exchange defective products. BIOTME reserves the right to deny the return if any anomaly is detected in the returned product.

## GUARANTEE

The warranty does not cover defects caused by incorrect use of the product and/or manipulation other than that necessary to establish its nature, characteristics or operation. In those cases the CUSTOMER must be responsible for its repair. The following are therefore excluded from the guarantee:

- Defects and deterioration caused by external events, accidents, mainly electrical accidents, wear and tear and use not in accordance with BIOTME instructions.
- Products modified or repaired by the CUSTOMER or any other person not authorized by BIOTME, as well as products that are the subject of a specific support contract.

In general, the warranty period is 2 years from the moment of purchase. To do this, it is essential to have the purchase receipt or similar, which will serve the user to demonstrate that the product was purchased from BIOTME and the date of acquisition. The product must be returned properly packaged to the BIOTME address.

BIOTME's activities are professional in nature and are aimed at businessmen, professionals, Administrations and entities, for-profit or non-profit, never at end consumers. Therefore, the catalogue, website or any other promotional material prepared by BIOTME is understood to be directed exclusively to this group who, when placing the order, wishes to obtain the supplies for business and/or professional reasons, and never as a consumer.

## TRANSFER OF OWNERSHIP AND RISK

The risk of loss or damage to the products will be transferred to the CUSTOMER at the time of delivery, either to him or to the carrier chosen by him. On the contrary, ownership of the products will not be transferred to the CUSTOMER until all sums owed to BIOTME by the CUSTOMER have been paid.

Except when payment is made in full before delivery of the product, the entire price will not be considered paid until the check or any other payment instrument provided by the CUSTOMER has been presented or paid according to its terms.

Non-payment of the amounts owed for price and expenses by the buyer will lead to the termination of the contract at the request of the seller. Failure to deliver the goods by the seller will result in the termination of the contract at the request of the buyer.



## PAYMENT OF PURCHASED PRODUCTS AND DELIVERY TIMES

The form of payment for the CLIENT's products to BIOTME will be by default by advance payment, the committed delivery period will begin at the time of confirmation of payment by the CLIENT. In special cases, other forms of payment may be agreed, always within the framework of Spanish legislation.

The default delivery time will be 5 calendar days from confirmation of payment, or from reliable confirmation of the order in case of deferred payment. This period is understood from the time the order is placed until it leaves the BIOTME facilities. The time it takes for the logistics company to deliver the order is not taken into account in any case. Nor, where appropriate, the time that customs procedures take.

If BIOTME is unable or prevented from performing any contract due to any cause beyond reasonable causes or due to its inability to provide products required for the performance of the contract except at a higher price, may, at its sole discretion, delay the performance of the contract or cancel it in whole or in part. BIOTME will not be held responsible for any such delay, cancellation or inability to deliver any order. In particular, and although it will use all reasonable efforts to deliver orders on the established date, in no case will it be held responsible for delays, cancellations or inability to do so.

## DATA PROTECTION

Both the responsible personnel of BIOTME and the CLIENT are obliged to comply with all current legal obligations regarding data protection that are applicable, and specifically as provided for in article 28.3 of Data Protection Regulation 2016/679 (in hereinafter, the "GDPR"), which establishes that it must:

Process personal data only following documented instructions from the controller, including with respect to transfers of personal data to a third country or an international organization, unless obliged to do so under European Union or Spanish law applicable to the processor. In such case, the processor will inform the person responsible of that legal requirement prior to processing, unless such Law prohibits it for important reasons of public interest;

Ensure that persons authorized to process personal data have been bound by confidentiality or are subject to a statutory confidentiality obligation.

Take all necessary technical and organizational measures, in accordance with article 32 GDPR;

Respect the conditions indicated in sections 2 and 4 of art. 28 RGPD to use another data processor;

Assist the controller, taking into account the nature of the processing, through appropriate technical and organizational measures, whenever possible, so that it can comply with its obligation to respond to requests that aim to exercise the rights of data subjects. interested parties established in Chapter III GDPR;

Help the controller to ensure compliance with the obligations established in articles 32 to 36 of the GDPR, taking into account the nature of the processing and the information available to the controller;

At the option of the controller, it will delete or return all personal data once the provision of processing services is completed, and will delete existing copies unless the retention of personal data is required under Union or Member State law; and

It will make available to the controller all the information necessary to demonstrate compliance with the obligations established in this clause, as well as to allow and contribute to the performance of audits, including inspections, by the controller or another auditor authorized by said controller.

The processor will immediately inform the controller if, in his opinion, an instruction violates the RGPD or other data protection provisions of the European Union or Spain.

## ENVIRONMENTAL WASTE MANAGEMENT

All products that the CUSTOMER purchases from BIOTME, including their containers and packaging, once purchased are the property of the buyer and the buyer is solely responsible for their disposal. The buyer must take the appropriate measures to eliminate waste in a safe manner, respectful of people and the environment and in accordance with the applicable legal provisions. In the case of the gel that is part of the simulators, the CLIENT may send this product, assuming the logistics costs, to the BIOTME facilities, who will be in charge, in accordance with current Spanish legislation, of waste management.

## INTELLECTUAL PROPERTY RIGHTS

The CLIENT will at all times respect international legislation on intellectual and industrial property, exploitation, etc. in its relationship with BIOTME products, being obliged to communicate the content of this section to third parties.

## APPLICABLE LEGISLATION

The commercial relationship between BIOTME and the CUSTOMER will be subject to and interpreted in accordance with the laws of Spain and will be subject to the exclusive jurisdiction of the Courts of Spain.

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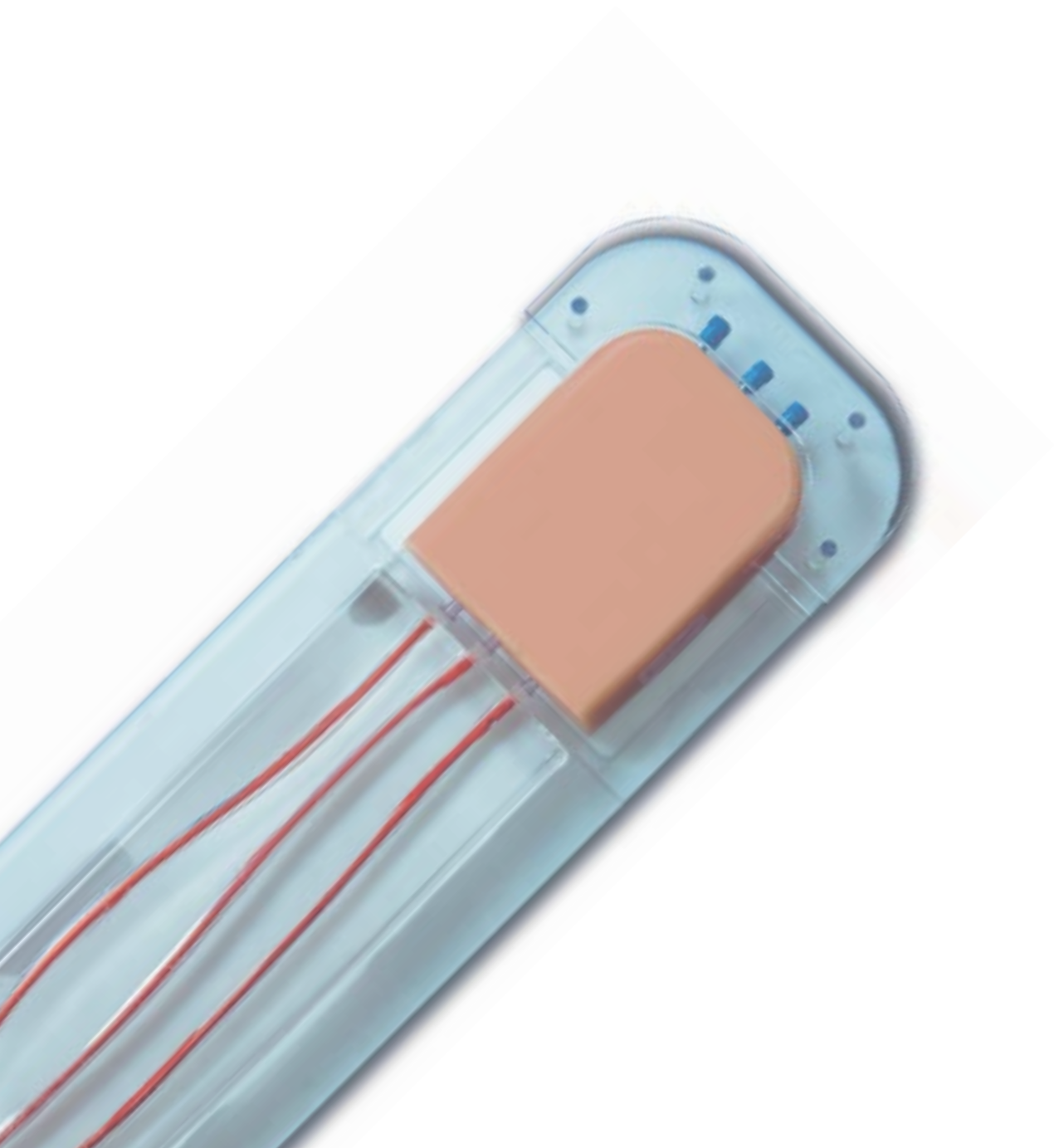
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The data contained in this catalog is regularly updated according to the needs and demands of the market, in addition to the fruit of the research and development work of BIOTME, therefore reserving the right to modify any of the characteristics of its products. It is up to the person responsible of product selection, choose those suitable for each application, and adjusted to the regulations applicable in each country. BIOTME declines all responsibility due to improper use of the product or unforeseen circumstances in its use.



## CONTACT

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06300, Zafra (Badajoz) Spain

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@biotme



BIOTIME

Biotech Medical Simulation