About Us

YiZai Medical Device Transformation Platform, a subsidiary of Zhejiang Zhongzai Medical Technology Co., Ltd., is dedicated to the transformation and production of medical devices and in vitro diagnostic (IVD) products. Occupying a spacious area of 10,000 square meters, the platform boasts research and development (R&D) as well as production facilities that fully comply with Good Manufacturing Practice (GMP) standards, complemented by a comprehensive quality management system. To date, the platform has undertaken 25 transformation projects and successfully secured 8 registration inspection reports for Class III medical devices.

Leveraging its technological prowess and comprehensive facilities, YiZai Medical Device Transformation Platform is committed to facilitating the transformation and industrialization of innovative medical devices and IVD products, offering clients efficient and high-quality solutions.

Surgese®, a subsidiary brand of Zhejiang Yizai Medical Technology Co., Ltd., focuses on the research and development of bionic organ model technology. Bionic organ models are 3D medical models that simulate the

structural and functional morphology of real human organs. Based on CT and MRI data, these models meticulously replicate the external organ forms that closely mirror human anatomical structures. They are widely utilized in various fields such as medical education, surgical planning, and clinical skills training, aiding doctors in streamlining their learning curves and enhancing surgical proficiency, while also offering researchers a more accessible and convenient platform for their studies.

Contents

Product application

Bionic organ models can be used in medical education, surgical planning, cosmetic tattoos and more, and other fields to help doctors and researchers etter understand and apply relevant knowledge.

01 Skill training

From the basic clinical skills to process guided by ultrasound, our training model realistically simulates the look and feel of the human body, to be prepared for the learners to cope with various medical scene.

02   Surgical correlation

Surgical training is advanced to a new level through the realism of polymer composites. Our surgical simulation protocol provides new insights into traumatic injuries and care, as well as effective responses to challenges ranging from common to complex medical domains.

03 Cosmetic tattoos and more

The value, relevance and authenticity of the product portfolio of material properties and requirements extend the product portfolio of Surgese™ to fully enrich our simulation solutions.

Market Prospect And Advantages

High simulation technique

01 In the medical field, organs of a high-fidelity model can provide more real training environment, help doctors to improve the operation skills and decision-making ability.

Functional requirement

02 Medical institutions need functional organ models for practical applications such as surgical simulation to improve the quality and safety of care.

Trends in personalized medicine

03 With the advancement of medicine, the demand for organ models in medical institutions is gradually developing in a personalized direction to meet the special needs of different patients and customize treatment.

1 Surge of Image-guided

Ultrasonic Liver Model
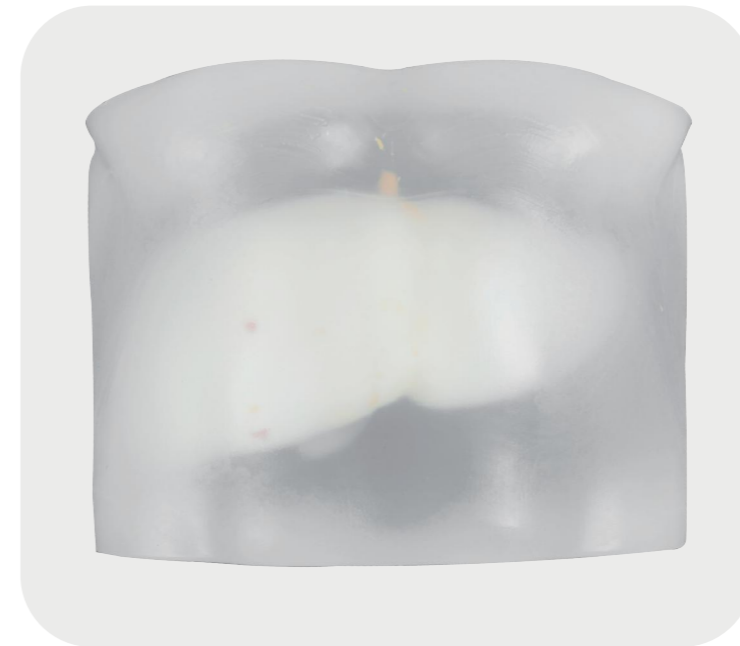
Neck (thyroid) B-ultrasound Puncture Model

Bimodal Puncture Ablation Forma

Ablation Temperature Field Display Module

Breast Lesion Puncture Model

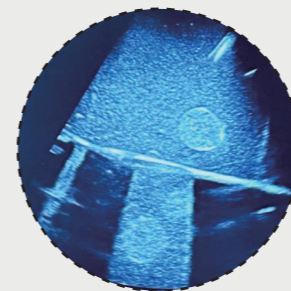B-ultrasound Guided Puncture Model

Liver Ultrasound Model

Product parameters

Name: Liver Ultrasound Model
Item No: SE-IG0001-S1
Material: Polymer composite material
Weight: About 13kg
Color: As shown in the picture

## Product features

1. Be close to the actual size of the human liver.
2. Be applicable to B-ultrasound visualization;
3. Contain structures such as the gallbladder, inferior vena cava, portal vein, left hepatic vein, middle hepatic vein, and right hepatic vein;
4. Different types of lesions, sternal bones, etc. can be implanted as required.

Clear visualization
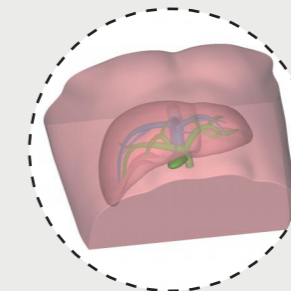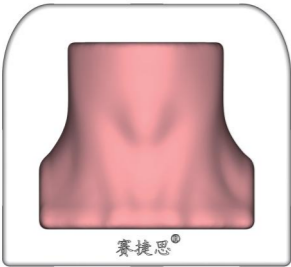
Built-in structure
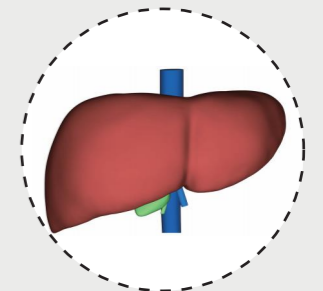
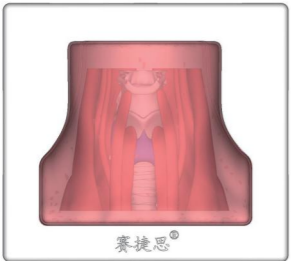Realistic Form

Neck (thyroid) B-ultrasound Puncture Model

✏️ **Product parameters**

Name: Neck (thyroid) B-ultrasound Puncture Model
Material: Polymer composite material
Item No: SE-IG002-S1/SE-IG002-S2
Weight: About 3~4kg
Size: 18cm*20cm*16cm
Colour: As the picture show

📊 Neck (thyroid) B-ultrasound Puncture Model(Simplified Ver.)
Item No.: SE-IG002-S1

01

1. Designed based on the actual dimensions of the human neck;
2. Optimized for B-ultrasound imaging development;
3. Capable of accommodating lesion implants as required;
4. Customizable internal structures with built-in simulated thyroid nodules.

📊 Neck (thyroid) B-ultrasound Puncture Model
Item No.: SE-IG002-S2

02

1. Prepared according to the actual size of the human neck.
2. Suitable for B-ultrasound imaging.
3. Available in standard and custom versions, which can be implanted into the lesion as needed.
4. The internal structure can be customized, with built-in simulated thyroid (nodules), bones, superficial muscle tissues, arteries, etc.

Bimodal Puncture Ablation Phantom
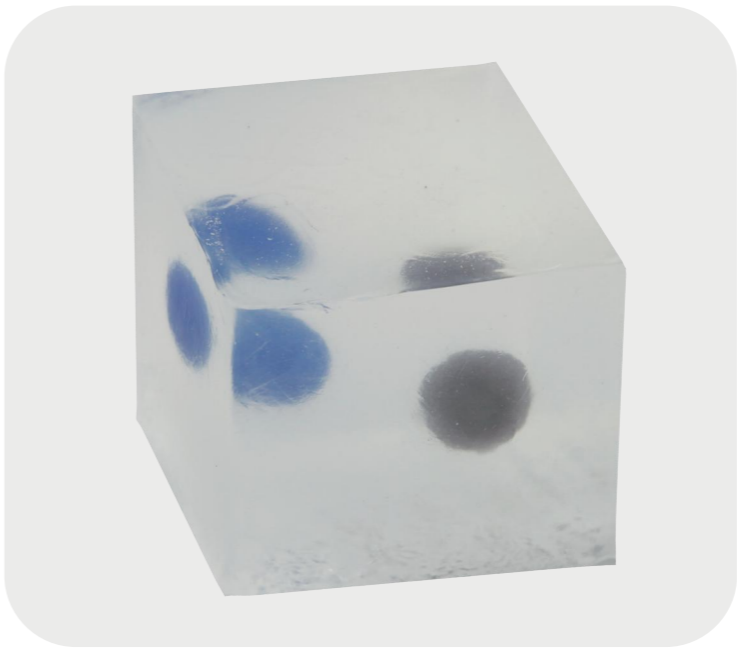
✏️ **Product parameters**

Name: Bimodal Puncture Ablation Phantom
Material: Polymer composite material
Item No: SE-IG003-S1
Weight: About 1 kg
Size: About 10cm*10cm*10cm
Colour: As the picture show

📋 **Product features**

1. We offer regular and customized models. The regular model comes with 2 lesions (about 1.5cm) , while the ustomized models can be implanted as needed;
2. Suitable for B-ultrasound development, visual- dual mode;
3. Can be used for ultrasound-guided puncture or ablation, suitable for radiofrequency ablation, microwave ablation and other operations;
4.It undergoes a visual color change at 60℃ & exhibits echo enhancement under ultrasound.

Clear visualization

Built-in structure
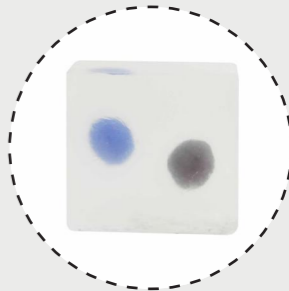
Realistic Form

Thermal Ablat on Temperature Field Display Module

✏️ Product parameters

Name: Thermal Ablation Temperature
Field Display Module
Material: Polymer composite material
Item No: SE-IG004-S1
Weight: About 1 kg
Size: About 10cm*10cm*10cm
Colour: As the picture show

🗒️ Product features

1. Physical and chemical properties of liver are close to those of isolated liver;
2. Can be used for ultrasound-guided puncture or ablation, suitable for radiofrequencyablation, microwave ablation and other operations;
3. 60'℃ visual color change (white)& ultrasound backecho enhancement:White area:>80℃, Yellow area: 65℃-80℃ Interphase color: 60℃-65℃,Non-discolored area:< 60℃ ℃

Clear visualization   Built-in structure   Realistic Form

Breast Mass Puncture Model
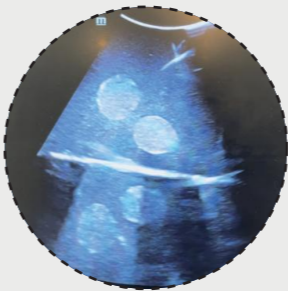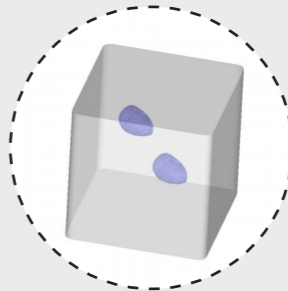
✏️ Product parameters

Name: Breast Mass Puncture Model
Material: Polymer composite material
Item No: SE-IG006-S1
Weight: About 1.5kg
Size: About 14cm*13cm*12cm
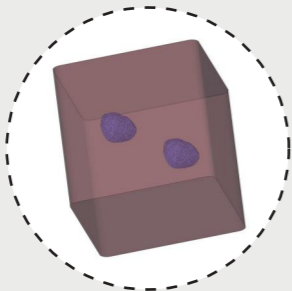Colour: As the picture show

🗒️ Product features

1.We offer both standard and customized models. The standard model comes without lesions by default, while the customized model can be implanted with different numbers of lesions according to your needs.
2.It is suitable for both ultrasound imaging and visual inspection-dual-modality（Visual-ultrasonic dual modes can be customized）.
3.Different shapes and sizes of nodules can be customized, including the nipple, ducts, duct sinuses, and lobules of the breast.
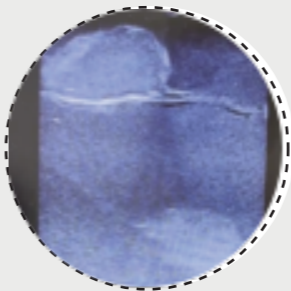
Clear visualization   Built-in structure   Realistic Form
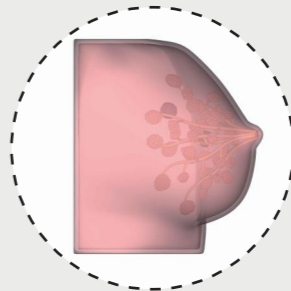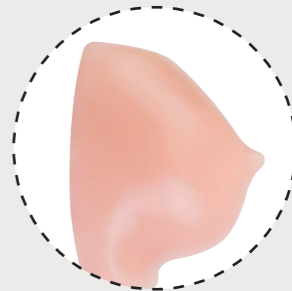
B mode ultrasound images

Product parameters

Name: Training Module
(Ultrasound guided puncture model)
Material: Polymer composite material
Weight: About 0.7kg
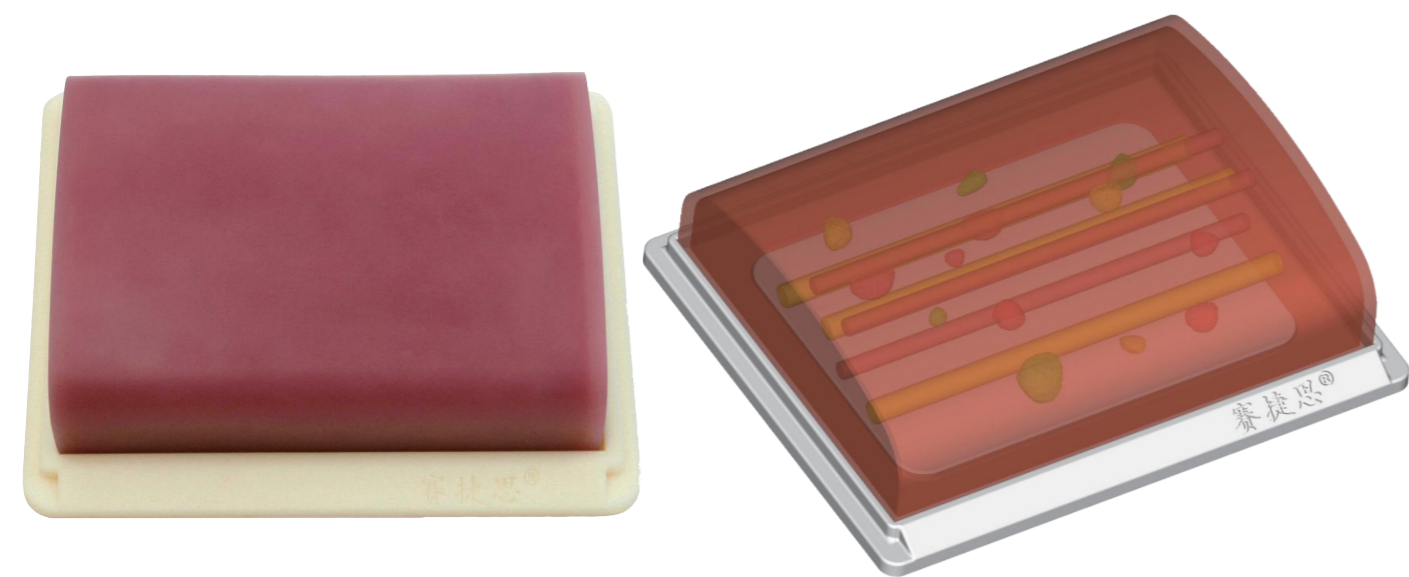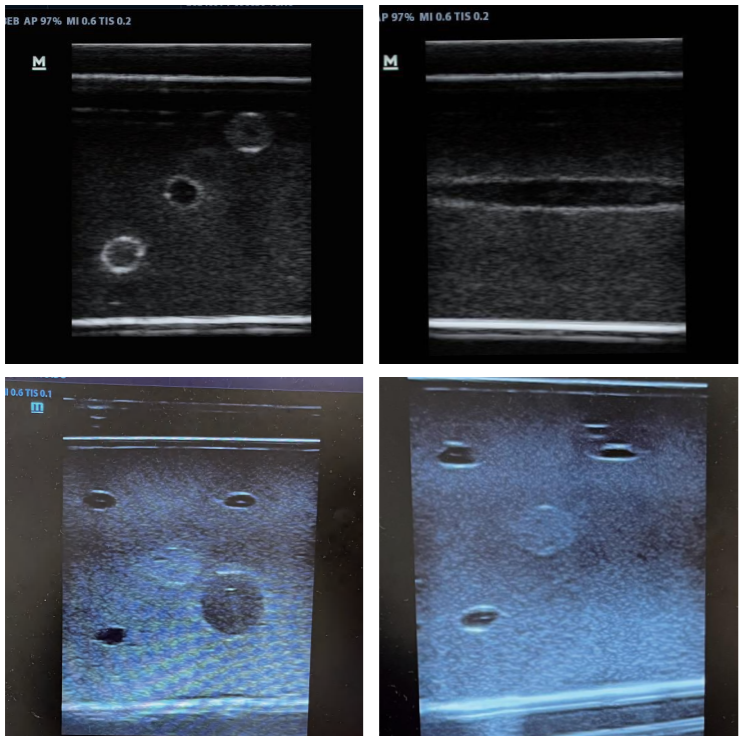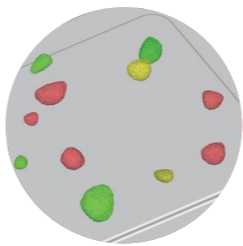Size: About 17cm * 13cm * 4cm
Color: As shown in the picture

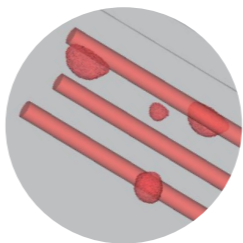Training Module-1 (Ultrasound Guided Puncture Model,Focus-only) Item No.: SE-IG005-S1

1.Offers six focal models in varying sizes, shapes, and depths for conventional training purposes;
2.Satisfies the requirements for puncture practice under ultrasound guidance;
3.Features durability for over 500 puncture procedures.

01

Training Module-2 (Ultrasound Guided Puncture Model,Blood Vessel Only) Item No.: SE-IG005-S2

1.The conventional model includes two vascular models with diameters of 6mm and 8mm, respectively, and a length of approximately 14cm.
2.Features built-in vascular structures, with the option to customize the number of vessels.
3.Meets the requirements for ultrasound-guided vascular puncture practice.
4.Capable of withstanding over 500 puncture operations.

02

Training Module-3 (Ultrasound Guided Puncture Model,With Focus and Blood Vessel) Item No.: SE-IG005-S3

1.The conventional model comprises 3 vascular models with diameters of 4mm, 6mm, and 8mm, length of 14cm, and three simulated lesion models.
2.The size and quantity of simulated blood vessels can be customized according to specific needs.
3.Suitable for the development and practice of B-ultrasound skills.
4.Meets the requirements for ultrasound-guided vascular and lesion puncture practice.
5.Capable of enduring over 500 puncture experiments.

03

Training Module-4 (Ultrasound Guided Puncture Model,With Blood Vessels and Nerves) Item No.: SE-IG005-S4

1. Enhance the operator's hand-eye coordination and fundamental skills through ultrasound-guided training;
2. Built-in simulation of 3 blood vessels, diameter of 4mm, 6mm and 8mm;
3. Built-in artificial nerve 1, diameter about 6mm;
4. Capable of supporting over 500 puncture procedures.

04

Training Module (Ultrasound Guided Puncture Model)

Training Module-5 (Ultrasound Guided Puncture Model,With Focus, Blood Vessels and Nerves)
Item No.: SE-IG006-S5

05

1. Exercise the operator's hand-eye coordination ability and basic skill training under the guidance of ultrasound;
2. Built-in simulation of 3 blood vessels, diameter of 4mm, 6mm and 8mm;
3. 4 built-in tumor models with a diameter of 0.8-1.5cm;
4. Built-in artificial nerve 1, diameter about 6mm;
5. It can be pierced more than 500 times.

Training Module-6 (Ultrasound Guided Puncture Model,Can Simulate External Circulation, With Pump)
Item No.: SE-IG005-S6

06

1. Exercise the operator's hand-eye coordination ability and basic skill training under the guidance of ultrasound;
2. Built-in simulation of blood vessels, tumors, etc., external circulatory system to simulate blood flow circulation;
3. Built-in 2 blood vessel models with diameters of 6mm and 8mm;
3. This product includes circulation pump.

Training Module-7 (Ultrasound Guided Puncture Model,Simple Ver.)
Item No.: SE-IG005-S7

07
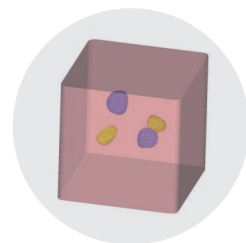
1. Conventional and customized models are available. The conventional model defaults to 4 common lesions (about 1cm-1.5cm in diameter), and the customized model can be implanted in different locations and numbers of lesions according to needs;
2. Suitable for B-ultrasound development.
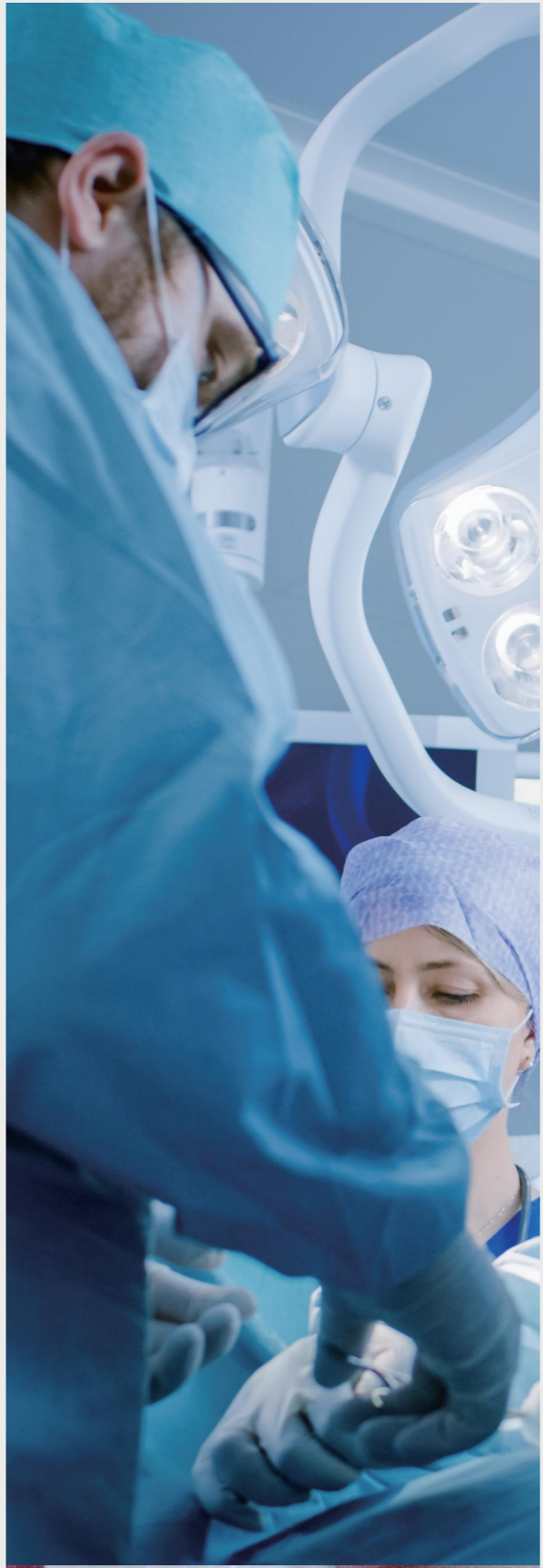
2 Traditional Surgery

Vascular Suture Model

Small Bowel Tube Model

Bile Duct Model

Pancreatic Model

Stomach(With Part Of Esophagus)

Kidney Model

Uterine Model

Bladder Model (With Prostate And Vas Deferens)

Simple Abdominal Simulator (without Display)

Common 0pening Model

Facial Injection Model

Vascular Suturing Model

Product parameters

Product Name: Vascular Suturing Model
Modulus: 0.02-3 MPa
Item No: SE-TS001-S1
Material: Polymer Composite Material
Weight: About1-5 g
Size: About10 cm in length

Product features

1.The standard model is approximately 10cm in length, featuring two models each
with diameters of 1mm, 2mm, and 3mm;
2.Customized models are available for customization in terms of color, size, structure,
and more;
3.It can be combined with other models to facilitate training in electrocoagulation
hemostasis exercises for bleeding points during surgical procedures;
4.It is suitable for practicing LIGASURE and ultrasonic knife closure, electrocoagulation
closure, as well as suture hemostasis.

Small Intestine Model

Product parameters

Name: Small Intestine Model
Modulus: 0.02-1MPa
Item No: SE-TS002-S1
Material: polymer composite material
Weight: About 20~100g
Size: About 15cm

Product features

1. Single or double color model can be selected;
2. Support color, size, structure customization;
3. It can be used for operation exercises involving small intestine reconstruction;
4. Can be combined with other model training.

Bile Duct Model

Product parameters

Name: Bile Duct Model
Modulus: 0.02-1MPa
Item No: SE-TS003-S1
Material: Polymer composite material
Weight: 90~110g
Size: About 8cm*5.5cm*3.5 cm

Product features

1. Provide conventional and customized models, customized models support color,
size, elastic modulus and other aspects of customization;
2. It can be used for combined operation training such as bilio-intestinal anastomosis
and bile duct reconstruction.
3. It can be used to simulate liver resection under laparoscopy or robot assistance.

Small Intestine Model

Product parameters

Name: Pancreas Model
Modulus: 0.02-1MPa
Item No: SE-TS004-S1
Material: Polymer composite material
Weight: 85~95g
Size: About 10cm*5cm*3.5 cm,
(main and auxiliary joint hollow pancreatic duct)

Product features

1. Similar in size to human pancreas, the main pancreatic duct and accessory pancreatic
duct are designed for phase communication;
2. Provide conventional and customized models, customized models support color, size,
elastic modulus and other aspects of customization;
3. It can be used to combine with intestinal tube model and is suitable for pancreatojejunal
anastomosis. For example, middle pancreas resection and RAMPS surgery.

Stomach model with partial esophagus

Product parameters

Name:Stomach Model With Partial Esophagus
Modulus: 0.02-8MPa
Item No:SE-TS005-S1
Material: Polymer composite material
Weight: 80~120g
Size: About 20cm*26cm*wall thickness 0.3cm

Product features

1. Close to the size of the real human stomach, including part of the esophagus and duodenum;
2. Custom models support color, size, structure and other aspects of customization;
3. It can be used for surgical operation training involving gastric surgery, such as gastrointestinal anastomosis, gastrectomy, etc.

Kidney Model

Product parameters

Name: Kidney Model
Modulus: 0.02-3MPa
Item No: SE-TS006-S1
Material: Polymer composite material
Weight: 145~180g
Size: About 10.5cm*5cm*4.5 cm, implant hard lesions

Product features

1. It is close to the size of human kidney, including some simulated renal artery, renal vein and ureter structure;
2. Customized models support customization of color, size, structure, simulation of tumors and other aspects;
3. Can be used for slit operation under the cavity mirror or robot; Biomimetic materials can supply electricity and cut electricity; It can be used to complete the course design with other organs of urinary system.

Uterus Model(With Ovary)

Product parameters

Name: Uterus Model(With Ovary)
Modulus: 0.02-2MPa
Item No: SE-TS007-S
Material: Polymer composite material
Weight: 125~145g
Size: About 17cm*11cm*4.5cm

Product features

1. Close to the size of the human uterus, containing simple structures such as fallopian tubes and ovaries;
2. Customized models support customization of color, size, structure, simulation of tumors and other aspects;
3. It can be used in combination with other models to practice uterine tamponade, hysteroscopy and hysteromyomectomy under ultrasound.

Transrectal Prostate Ultrasound Model

Product parameters

Name: Transrectal Prostate Ultrasound Model
Item No: SE-TS011-S1
Material: Polymer composite material
Weight: 350~400g
Size: About 19cm*15cm*16cm(with base)

Product features

1. Including rectum, prostate, bladder body, seminal vesicle, vas deferens and other structures;
2. High energy focused ultrasound can be used to simulate the diagnosis and treatment of prostate diseases;
3. Can customize prostate disease or hyperplasia personalized scene.

Facial Injection Model-1 (Without Blood Vessels)

Product parameters

Name: Facial Injection Model-1 (Without Blood Vessels)
Modulus: 0.02-8MPa
Item No: SE-TS009-S1
Material: polymer composite material
Weight: 1950~2550g
Size: About 20cm*15.5cm*13.5cm

Product features

1. Conform to the real human body size;
2. Suitable for medical minimally invasive cosmetic surgery training,
facial njection skills practice and other occasions.

Facial Injection Model-2(With Blood Vessels)

Product parameters

Name: Facial Injection Model-2
(With Blood Vessels)
Modulus: 0.02-8MPa
Item No: SE-TS009-S2
Material: polymer composite material
Weight: 1950~2550g
Size: About 20cm*15.5cm*13.5cm

Product features

1. Conform to the real human body size;
2. Suitable for medical minimally invasive cosmetic surgery training, facial injection skills
practice and other occasions.

Facial Injection Model-1 (Without Blood Vessels)
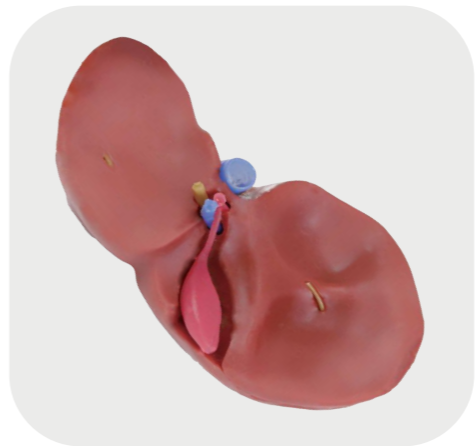

Product parameters

Name: Simple Abdominal Simulator (Without
Computer And Screen)
Item No: SE-TS008-S1
Material: Polymer composite material
Weight: Depending on custom requirements
Size: Depending on custom requirements

Product features

1. Close to the size of the human abdomen;
2. The silicone skin operation area can be replaced with multiple holes;
3. Open design, easy to handle.

Liver Model

Product parameters

Name: Liver Model
Material: Polymer composite material
Item No: SE-TS010-S1
Material: Polymer composite material
Size: About 11.5cm*6.5cm*3.5cm

Product features

1. Designed according to the actual proportion of human body, including gallbladder and
main vein structure;
2. Support personalized customization of color, size and structure;
3. Can meet the ultrasonic knife, electric knife and other electrical equipment cutting, electric
coagulation;
4. It can be used to simulate liver ablation, ultrasound, lesion resection and other operations.
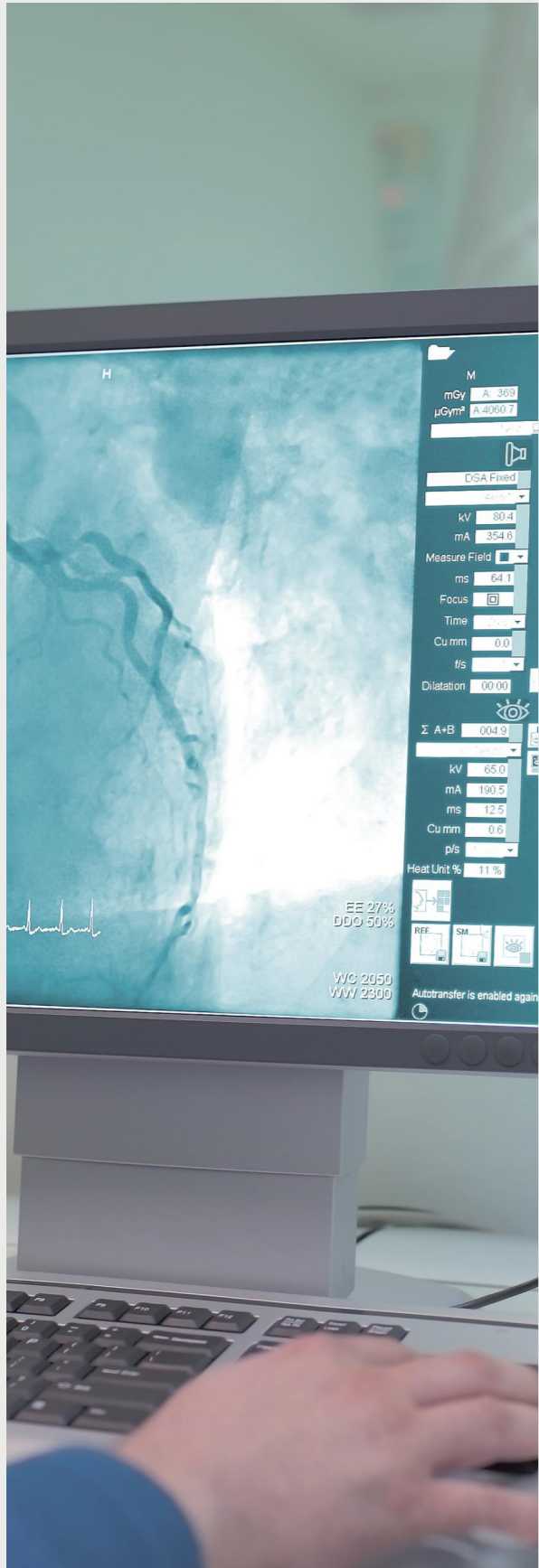
03 Endoscopic Surgery

Upper Digestive Tract

Lower Digestive Tract
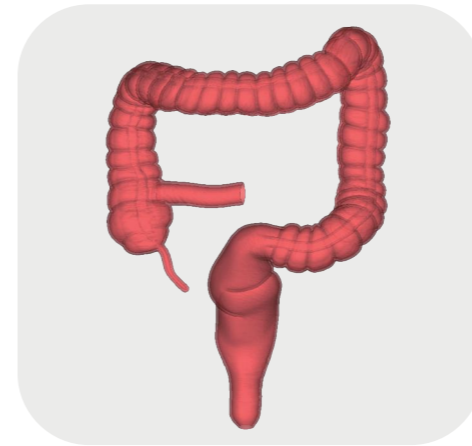
Upper Digestive Tract

Product parameters

Name: Upper Digestive Tract
Item No: SE-ES001-S1
Material: polymer composite material
Color: as shown
Size: 41cm*28.5cm*15cm (with box)

Product features

1. The model is close to the real structure of adult human body;
2. The color and folds of the digestive tract under the simulated mirror;
3. Support the inspection and use of real equipment such as gastroscope and duodenoscope;
4. The model has some structures such as the common bile duct, pancreatic duct and gallbladder.

Lower Digestive Tract

Product parameters

Name: Lower Digestive Tract
Item No: SE-ES002-S1
Material: polymer composite material
Color: as shown

Product features

1. The model is close to the real structure of adult human body;
2. The color and folds of the digestive tract under the simulated mirror;
3. Support the inspection training and use of real equipment such as colonoscopy;
4. The model has structures such as terminal appendix, ascending colon, transverse colon, descending colon, sigmoid colon and rectum.

Customization Cases

Uterine Myomectomy Training Model
Item No.: SE-DZ001-S1
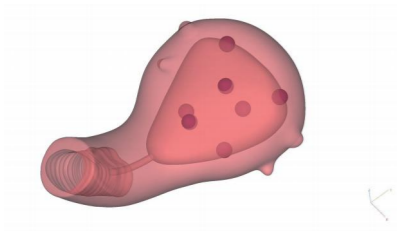
1. The uterine cavity contains 6-7 tumors of different colors, which is easy to observe and locate;
2. Can be used for hysteroscopy examination and hysteromyoma excision;
3. Size can be customized.

01

Nasal Stent Placement Test Model
Item No. : SE-DZ001-S2

It contains frontal sinus, sphenoid sinus, middle turbinate and other structures, which are used to simulate the stent placement after sinus surgery and observe the changes of the stent over time.

02

Nasal Stent Placement Test Model
Item No. : SE-DZ001-S2

1. Close to the head size of an adult human body;
2. The model consists of acupoint teaching model and practical operation model;
3. The teaching model includes the Yin and Yang fish map of the top and back of the head, acupuncture point pointing, etc.;
4. Practice operation Model skull includes sagittal suture, herringbone suture, etc., which can feel a slight tingling sensation by touch.

03