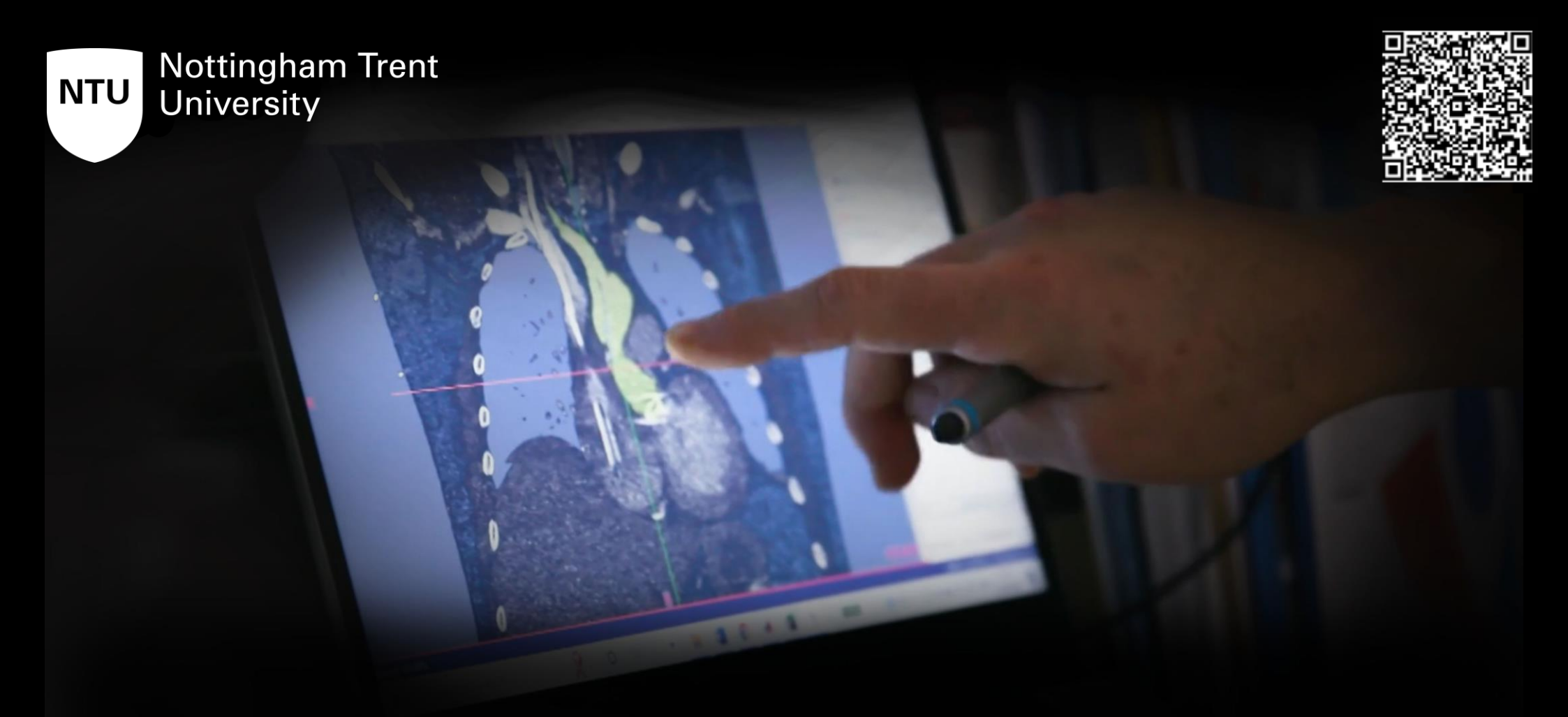
Nottingham Trent University



Anatomical Replication

The next generation of medical modelling

Biomodels Price List 2025

Nottingham Trent University

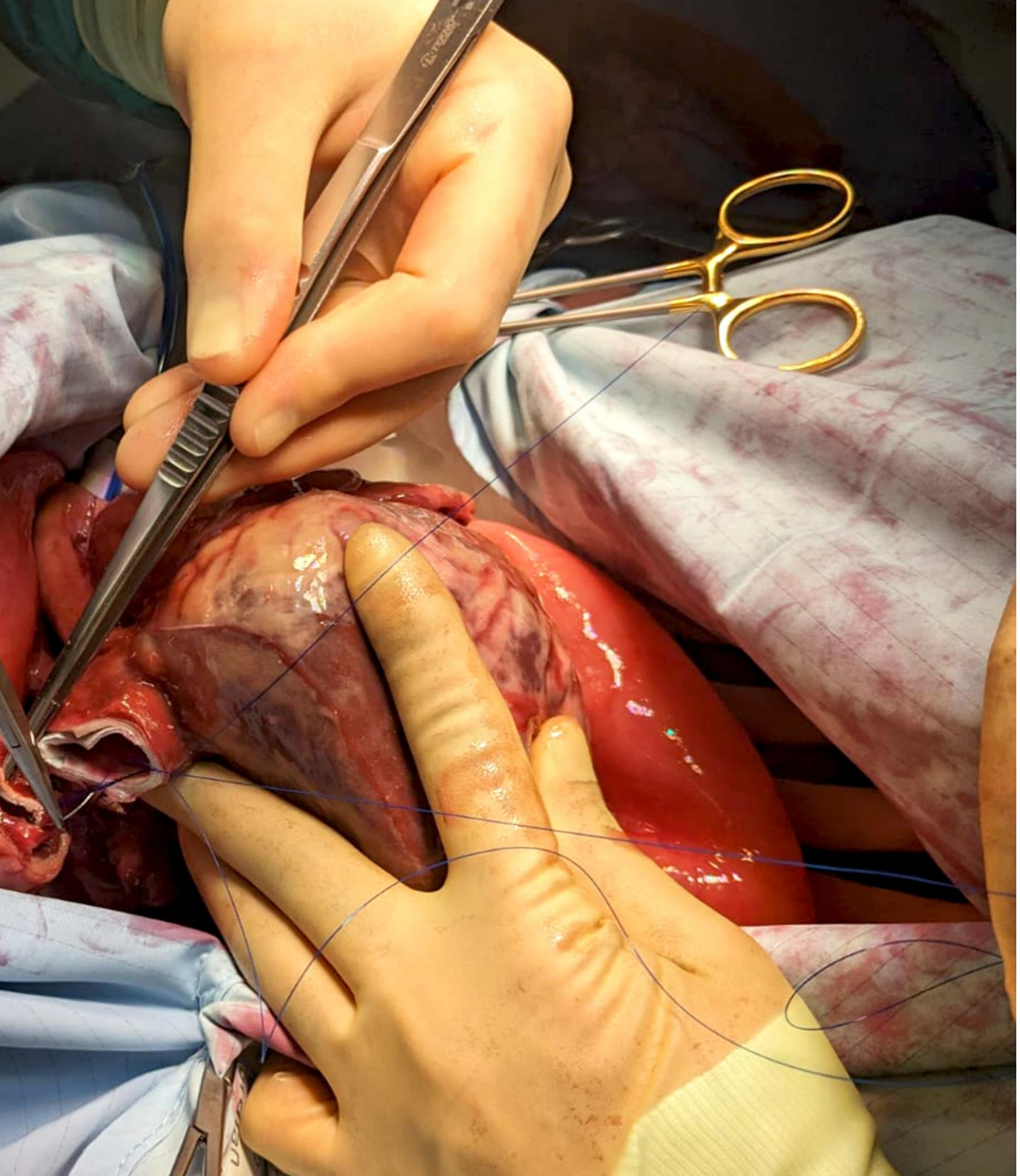


TABLE OF PRODUCTS TO ORDER

All prices are correct to January 2026.
Prices exclude VAT and postage and packaging.

For any orders, patient-specific product development proposals or other enquiries about our work, contact **richard.arm@ntu.ac.uk**.

ABOUT

Beyond Simulation

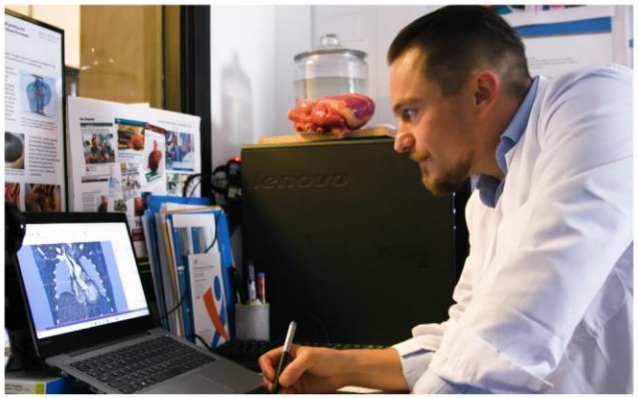
Our award-winning medical modelling team are global leaders in the development and manufacuring of hyper realistic medical models, so real that they can be used to train surgeons in a risk-free environmet.

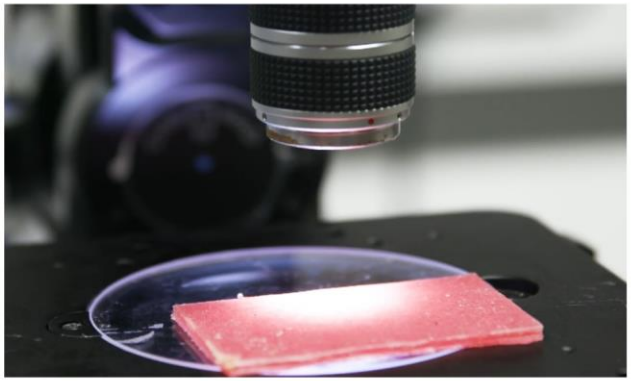
Led by Dr Richard Arm, this research initiative was founded in 2012 and continues to be developed through our unique interdisciplinary blend of expertise provided by Dr Arash Shahidi, Kalana Marasinghe, and Andreea Pislaru.

By collaborating with industry partners such as surgeons and radiologists, Richard and his team use innovative technologies to produce sustainable and repairable model organs derived from imagery data from patients, using materials that mimic the real thing.

The models are designed to be affordable, reusable and portable, to maximise access to the technology, allowing for increased risk-free training opportunities for complex procedures.

Our goal is to improve patient outcomes, quality of care, and help save more lives by improving access to realistic medical models.



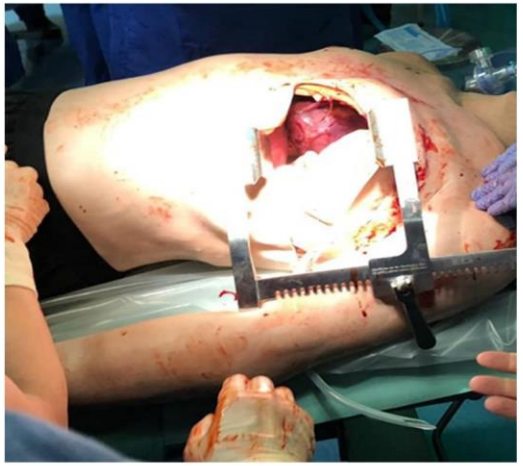


To meet the need for realistic surrogates, our models have been created to communicate the 'living-patients' morphology, bridging the gap between mannequin and cadaver use.

Rigid 3D printed simulations of in-vivo physiology are produced using anonymised CT scans from living patients. The data is processed utilising 3D software and additive manufacturing techniques. Transforming these structures into tactile simulations involves peripheral research into the diversity of living tissue's mechanical properties.

With strong roots in traditional craft and material science, our research illustrates the interdisciplinary links fusing art, medical imaging, biomechanics, manufacturing, 3D software and additive manufacturing. Novel processing techniques developed by the Advanced Textiles Research Group marry mature methodologies with innovative manufacturing techniques and elastomeric technology to create models from synhetic gels and fibres.

Over the years, we continued to grow and produce work for collaborators across the world, most recently developing high fidelity products for global leaders in medical implants and assistive device develoment, front-line battle field surgeons, as well as heart transplant and oncology consultants.

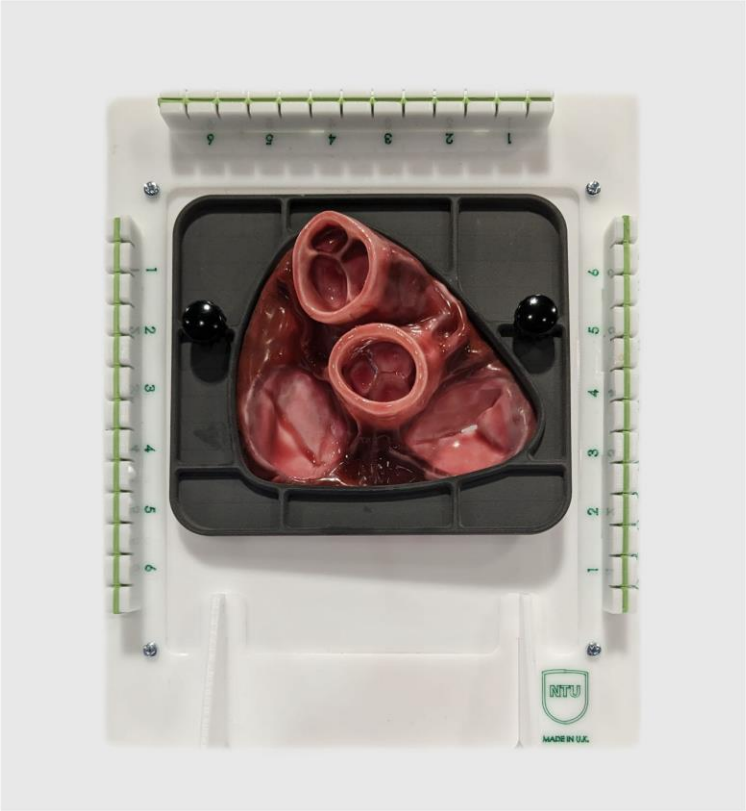


PRODUCTS

Heart Valve biomodel (standard)

Model 001 - Standard heart valve model only - £35

5061090950014



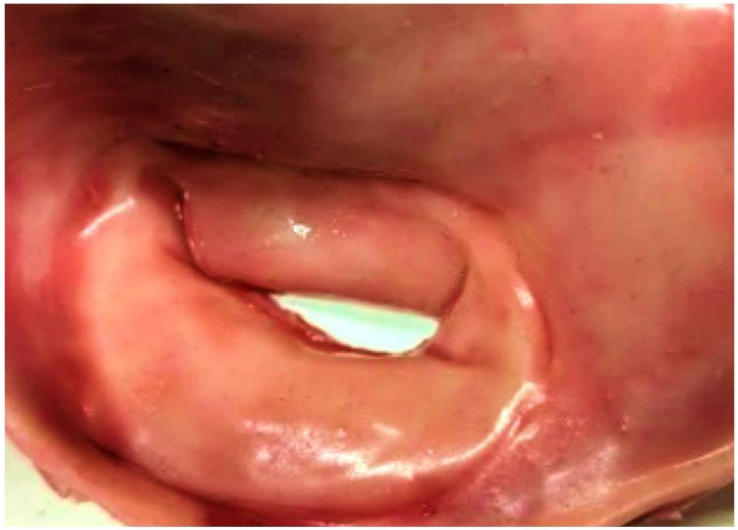
Heart Valve biomodel with stand

Model 002 - Standard heart valve model with desktop stand with removable model clamp (stand design may vary) - £45

5061090950021

Heart Valves

Each heart valve model is prepared using materials that mimic native human tissues. This model can be used for valve replacement sizing, aortic valve replacement and aortic root enlargement. The aortic root, and ascending aorta are reinforced to accommodate surgical sutures without tearing.



Heart Valves

In addition to the standard heart valve Model 001, two options are available to customise your valve model (003, 004).

Heart Valve biomodel + pathology

***Model 003** - Heart valve model with aortic valve stenosis -* **£45**

5061090950038

Heart Valve biomodel + pathology

***Model 004** - Heart valve model with aortic valve regurgitation -* **£45**

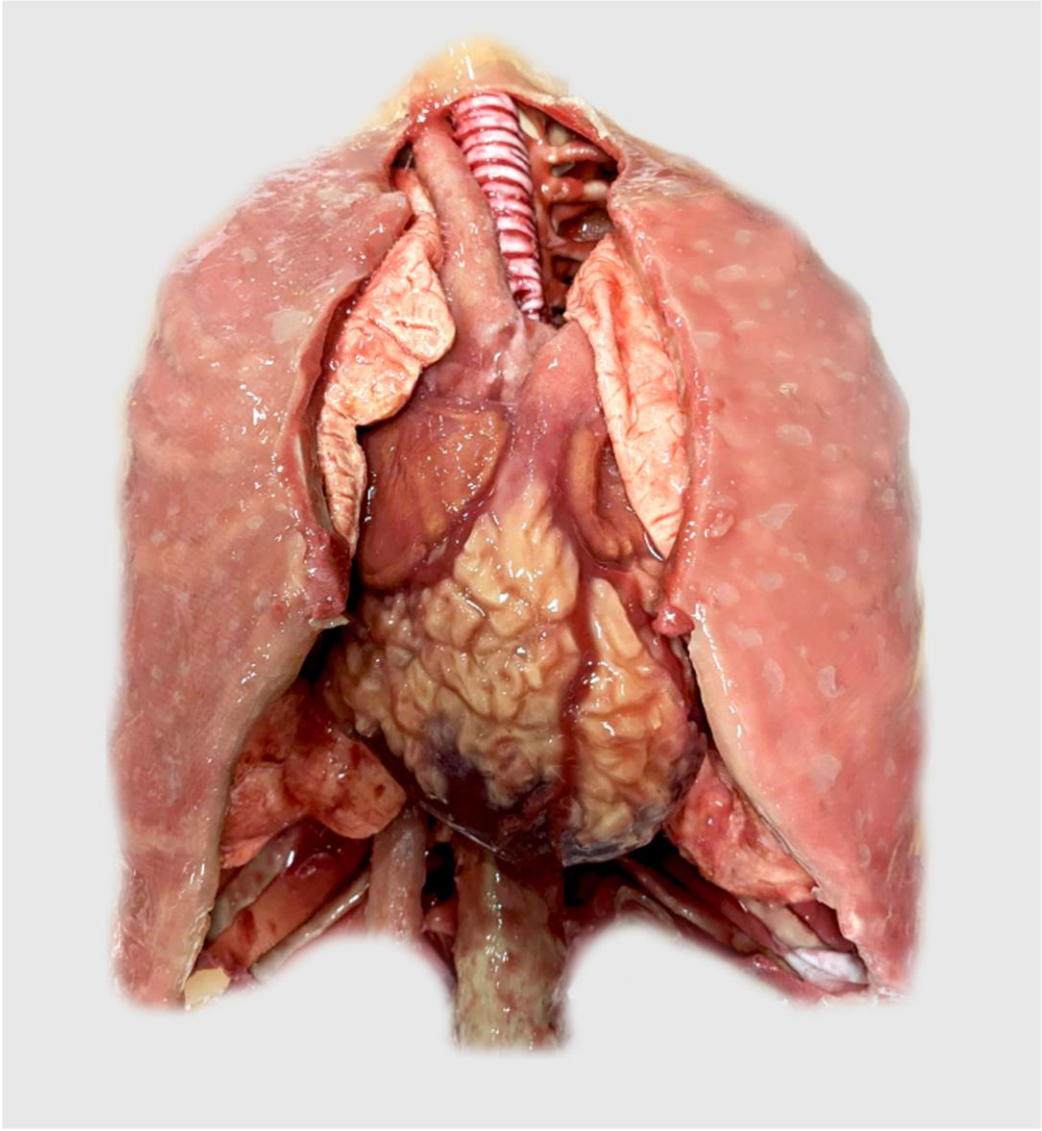
5061090950045

Cardiothoracic biomodels

All anatomical details are derived direct from (anonymous) patient CT data, processed with imaging software and 3D printed to retain all details of the real organs. The heart has multiple hardnesses with soft fatty tissue, muscular, hollow ventricles, stiff coronaries and thin atria. It has internal vascular detailing and the lungs are inflatable via the trachea. The ribcage and spine is also 3D printed with a soft, fatty layer and a fibrous pleura.

Cardiothoracic biomodel organs only

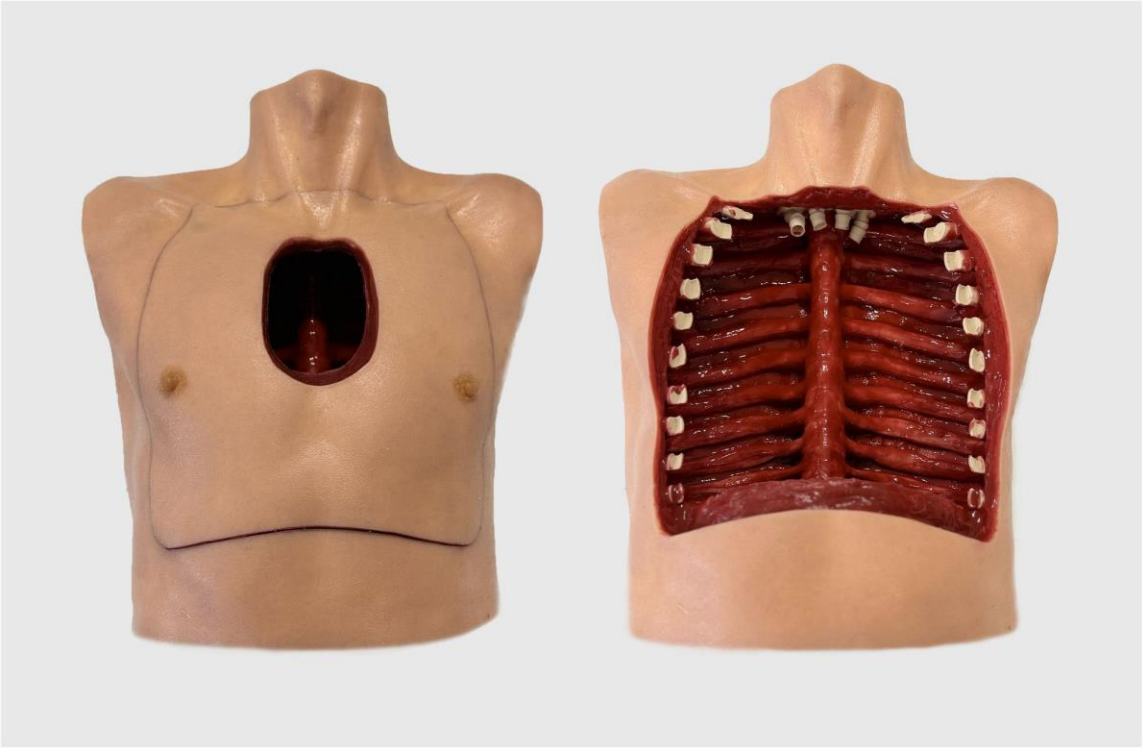
The cardiothoracic organs included in this model package include - a diseased, enlarged heart, lungs and connective tissues, the greater blood vessels, ribcage (with the pleural membrane and trachea. The model comes with a choice of aorta pathologies shown in Model 007.



5061090950052 ***Model 005a - Cardiothoracic biomodel, organs, ribcage and spine -*** **£2,750**

5061090950007 ***Model 005b - Cardiothoracic biomodel, organs only -*** **£2,500**

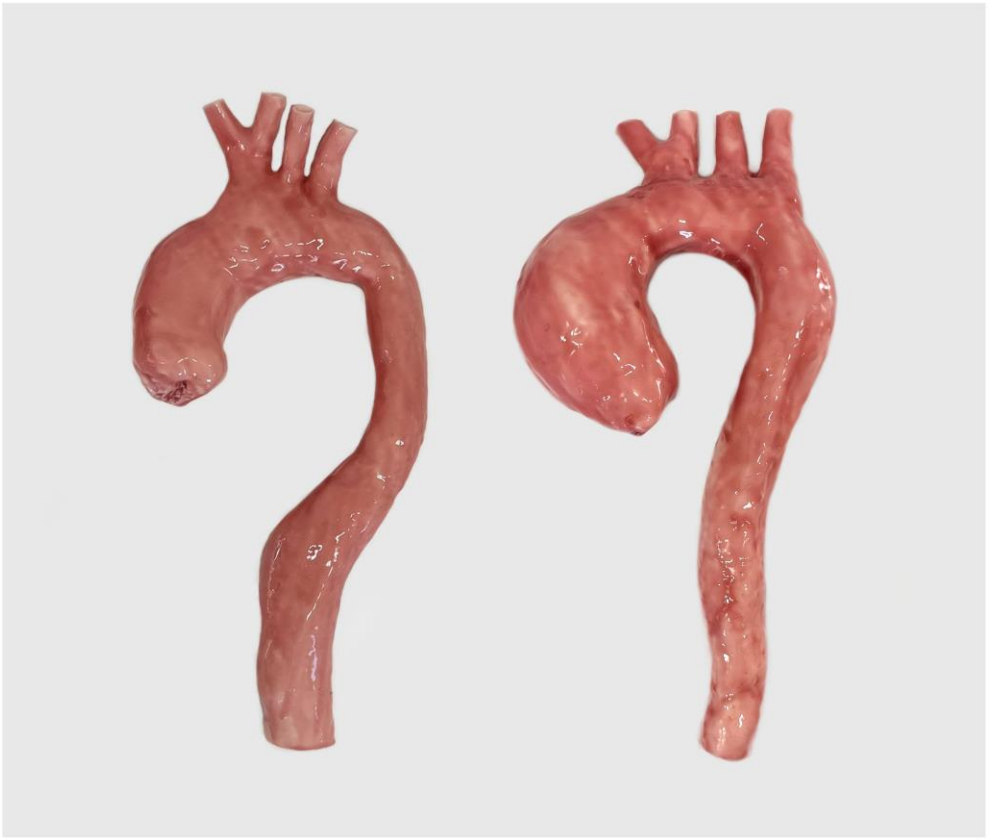
5061090950069



Model 006 - Cardiothoracic biomodel, organs, ribcage and spine (comes with a choice of removable aorta pathologies and a choice of heart valve pathologies. Additional aortas are priced separately, please see page 7) - **£6,000**

Cardiothoracic biomodel torso

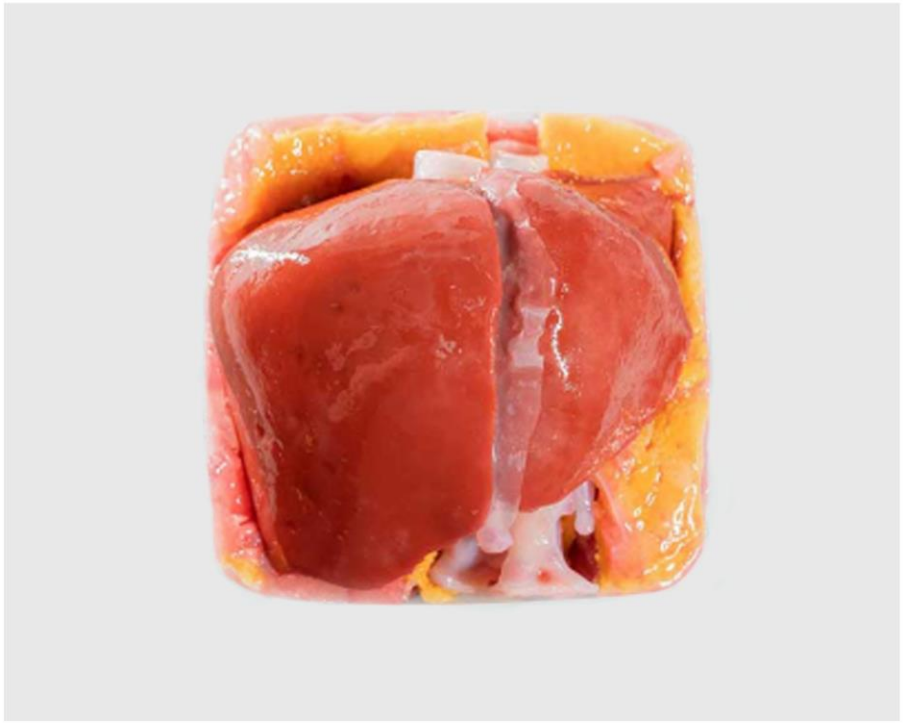
The cardiothoracic torso model is a complete multiuse surgical trainer. It is supplied with a multi-layered repairable skin, and all the organs described in Model 005. Additionally, this package model also contains subclavian, carotid and femoral arteries for trans-catheter device implant training. The model can be supplied closed skin or as an open sternotomy prosection. All types of skin are available.



Replaceble aortas

A range of aorta pathologies are available for use in the cardiothoracic biomodel. All sold separately. Currently available pathologies are: healthy aorta, dissected aorta, coarctation aorta, or dissected aorta with aneurysm. All aortas are supplied with multi-layered composition with all three layers of the vessel. They are all reinforced to prevent, stretching or tearing when using surgical sutures.

5061090950076 ***Model 007 - Healthy aorta -*** **£200**
5061090950083 ***Model 008 - Coarctation aorta -*** **£250**
5061090950090 ***Model 009 - Dissected aorta -*** **£300**
5061090950106 ***Model 010 - Dissected aorta with aneurysm -*** **£350**



Model 011 - Paediatric liver model with internal detailing - **£1,000**

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Liver biomodel (paediatric)

This liver biomodel comes with internal vasculature (arteries and veins) and is available with gall bladder and embedded tumour ideal for surgical resection training.

Trachea Model

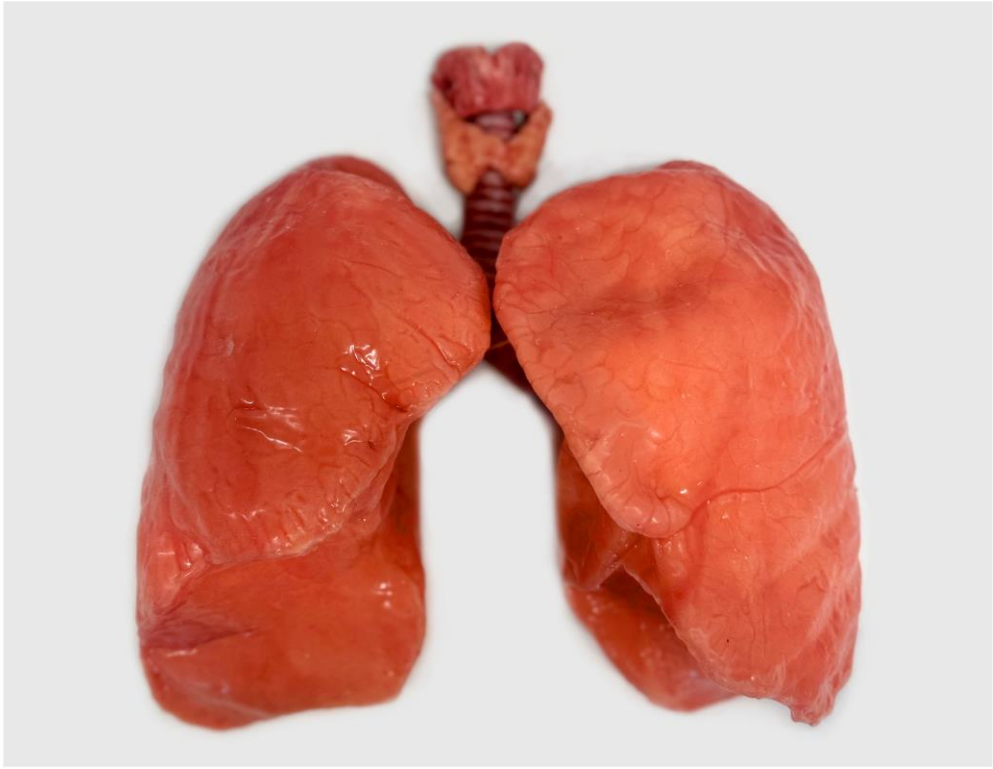
This trachea model comes with exquisite internal and external detailing, 3D printed direct from patient data. The model includes mucosa membrane, vocal chords, thyroid cartilage and gland, cricoid bone and tracheal rings all with their own hardness, reflective of real patient tissues.

Model 012 - Trachea with internal and external detailing - **£400**

5061090950120

Lungs and Trachea Model

This package comes with a pair of lungs and a trachea attached to the correspondent connections, making it a functional model that can be inflated and deflated manually.



Model 013 - Lungs Model with attached trachea - **£800**

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5061090950144

5061090950168

5061090950151

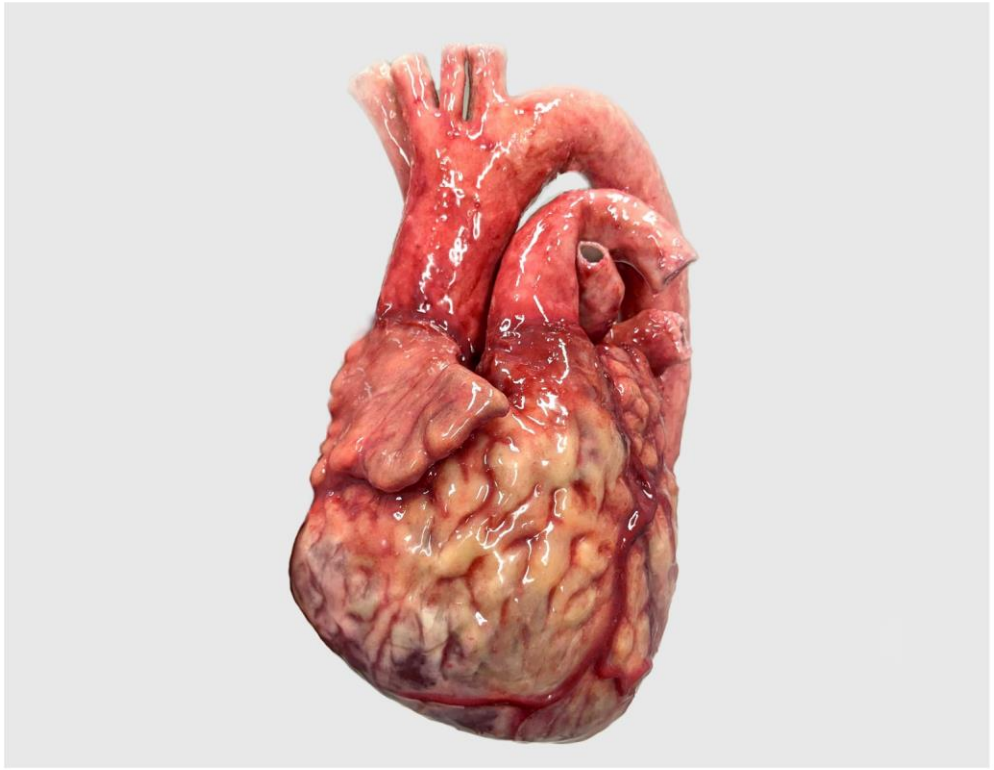
Model 014 - Clear model demonstrates internal hard tissue details, actual colour of biomodels are shown in the other two images - **£50 per jaw**

Dental Models

These dental models are available as 1) the upper jaw and soft pallet, 2) the lower jaw, soft pallet and tongue and 3) both elements combined. The hard tissue of the bone shelf is available in three different variations of gum disease and decay. The tongue is mobile and all soft tissues are reflective of native tissue hardnesses.

Heart Model

This model comes with complete, healthy internal and external detailing, 3D printed direct from patient data. The model includes internal vascular system, heart valve, and the ventricles. A diseased version of this model is available in a bigger size replicating an enlarged heart condition.



Model 015 - Heart with internal and external detailing - **£600**

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Skin Model

These skin models have been mechanically tested to respond to deformation just like human skin. Multi-layered composition includes both epidermis and dermis and is supplied as precut specimens from a single 500mm x 500mm sheet. The model is intended for suture training, and can be cut to any size. It will not tear like conventional models, even with surgical sutures.

Model 016 - Skin Models - **£700 per half-metre sheet**

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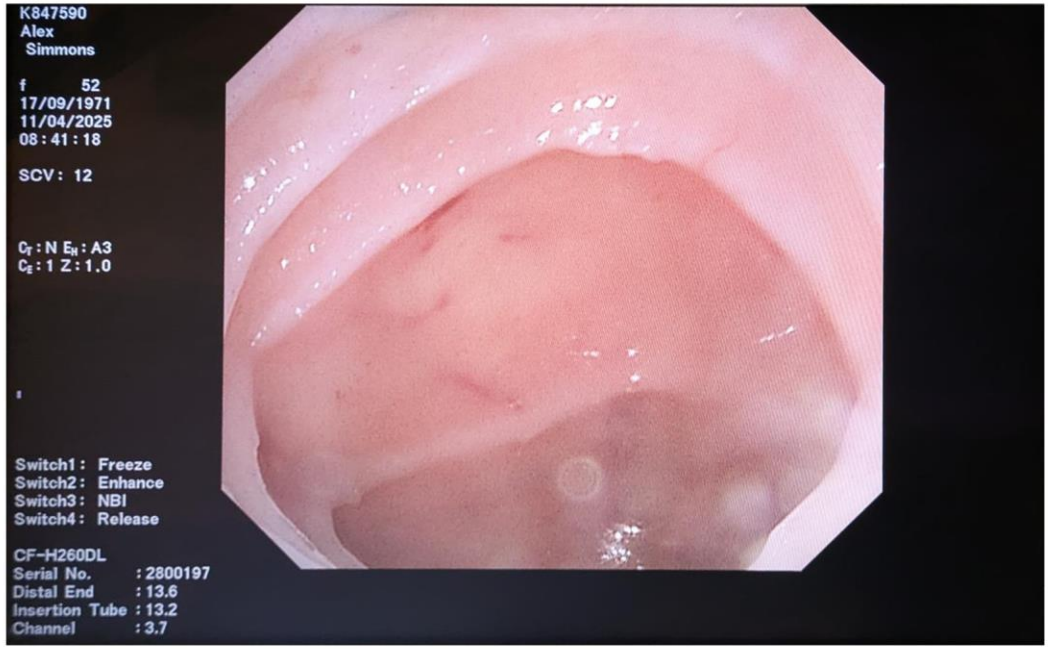

***Model 017 - Colonoscopy Model (camera not included) -*£400**

5061090950199

Colonoscopy model

The colonoscopy model is a compact model with internal detailing of the lower colon for exploratory colonoscopy training. It includes the sphincter, rectum, rectosigmoid junction, sigmoid colon and descending colon. Total internal length of the model is 300mm. It comes in a removable, compact flight case for easy transportation and storage and is ready to be used with no assembly or maintenance required.

General information

For any orders, patient-specific product development proposals or other enquiries about our work, contact **richard.arm@ntu.ac.uk** or **andreea.pislaru02@ntu.ac.uk** (please quote product numbers and descriptions wherever possible). We aim to assist you within five working days during office hours (9:00am - 5:00pm GMT).

As we continue to improve our models, we advise you to scan the QR code below for an up-to-date version of our products. Please visit **ntu.ac.uk/research/research-reimagined/rehearse** for more information about our impact.

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