



USER GUIDE

ABDOMINAL EXAMINATION TRAINER

60000



For more skills training products visit
limbsandthings.com

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ABDOMINAL EXAMINATION TRAINER

60000

An anatomically accurate adult male torso, used to teach and practise the palpation, auscultation and percussion elements of abdominal or gastrointestinal (GI) examination.

Ideal for OSCE preparation and assessment.

Skills

- Familiarity with the abdominal regions and underlying anatomy
- Practice in abdominal palpation, auscultation and percussion
- Ability to differentiate normal from abnormal pathology
- Identification of ascites, specifically shifting dullness and fluid thrill
- Identification of gaseous distension and bowel obstruction
- Ballotment of kidneys
- Professional-to-patient communication

Features

- Interchangeable organs and pathologies of varying sizes can be quickly and easily inserted into the abdomen
- Trainer or Simulated Patient can vary respiratory movement of liver and spleen by the turn of a wheel
- Integral amplifier and surface mounted MP3 player allow training in auscultation of normal and high-pitched or obstructed bowel sounds, renal and aortic bruits - in variable locations
- Volume of bowel sounds can be adjusted and MP3 player allows for additional sounds to be loaded
- Distension set allows for the following:
 - Realistic checking for ascites using percussion, shifting dullness or fluid thrill technique
 - Simulation of bowel obstruction on percussion and auscultation
- Pulse bulb allows simulation of normal and aneurysmal aortic pulse

Package supplied

60005	Abdominal Examination Base Unit	60012	Abdominal Examination Kidney (x2)
60006	Abdominal Examination Skin	60013	Abdominal Examination Bladder
60007	Abdominal Fluid Bag	60014	Abdominal Examination Pathologies (Set of 6)
60008	Abdominal Examination Organ Locator	60015	Abdominal Examination Aortas (Set of 2)
60009	Abdominal Wall	60016	Abdominal Examination – Distension Set
60010	Abdominal Examination Livers (Set of 3)	60053	International 5V DC Power Supply
60011	Abdominal Examination Spleens (Set of 2)	• Batteries	• Carry case

IMPORTANT SAFETY INSTRUCTIONS



Caution please refer for further information to the user manual



This product is designed for indoor use only



Caution



Only used at altitudes not exceeding 5000m

- Use only the XP Power ACM06 mains adaptor provided with the product, the use of a different adaptor can cause electrical or fire hazards.
- **With the XP Power ACM06 adaptor, the Abdominal Examination Trainer can be used in tropical countries and at altitudes up to 5000m.**

Read the safety instructions carefully before using your Abdominal Examination Trainer

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Only use attachments/accessories specified by the manufacturer.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. Keep the product away from obvious sources of moisture. Make sure the product is disconnected before cleaning.
11. Never use the product outdoors in wet conditions, as this may pose a shock hazard or damage the product.
12. This product is intended for use with standard type AA Alkaline or similar non rechargeable batteries (High quality batteries such as Duracell or Energizer are recommended). Using non recommended lithium batteries or rechargeable batteries may cause hazards.
13. Do not use headphones with the product, it is only designed for use with the speaker supplied.
14. Do not disassemble the product or attempt to repair a faulty unit, please return the product to Limbs & Things for assessment and repair.
15. Clean the product with a damp soft cloth or sponge, using only warm water with mild detergent.
16. Clean all the electrical parts and near electrical parts only with Dry cloth.
17. Do not use flammable solvents near this product.
18. Do not allow young children to use this product.
19. Never force any connector into the ports. Make sure your connectors are the identical shape and size before you connect.
20. Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
21. Do not expose the product to flames or use near naked flame sources.

Do not use the Abdominal Examination Trainer if:

- The Torso is not assembled correctly
- The skins, foams or organs are torn or not properly fitted
- Internal or external cables, tubes or connectors are damaged
- There is fluid leakage in or on to the product
- There are unusual sounds indicating air leakage or mechanical damage
- There are signs of electrical malfunction, such as an unresponsive or an unusual smell and or smoke

Environment

In cold conditions, wait until the simulator has reached room temperature before starting up the product.

Storage and Transportation

The trainer and its accessories are heavy when packed in their carrying cases. Always ensure that the products are properly packed and secured during transportation and storage in order to prevent personal injury or damage to the product.

The black carry cases that the Abdominal Trainer is packed in should be stored flat.



They should not be stored on their side.



The cardboard box that the Ascites Bag is supplied in should be kept and used to store the Ascites bag. Always ensure both the Abdominal Examination Fluid Bag and Abdominal Examination Ascites Bag are detached from the trainer when not in use and stored flat, without any risk of creasing/folded edges.

Disposal Instructions

Do not disassemble, crush, short-circuit or incinerate the batteries as it may cause fire, injury, burns or other hazards.

Do not dispose of this product with unsorted waste. Improper disposal may be harmful to the environment and human health. Please refer to your local waste authority for information on return and collection systems in your area.



This symbol on the product(s) and / or accompanying documents means that used electrical and electronic equipment (WEEE) should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge.

Alternatively, in some countries, you may be able to return your products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

For disposal in countries outside of the European Union

This symbol is only valid in the European Union (EU). If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT
 (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product

Abdominal Examination Trainer

Name and address of the applicant

 Limbs and Things
 Sussex Street, St Phillips, Bristol
 BS2 0RA
 United Kingdom

Name and address of the manufacturer

 Limbs and Things
 Sussex Street, St Phillips, Bristol
 BS2 0RA
 United Kingdom

Name and address of the factory

 Additional information on page 2
 Limbs and Things
 Sussex Street, St Phillips, Bristol
 BS2 0RA
 United Kingdom

Note: When more than one factory, please report on page 2

Ratings and principal characteristics

6Vdc, 300mA

Trademark (if any)

Limbs & Things

Customer's Testing Facility (CTF) Stage used

Model / Type Ref.

600000

Additional information (if necessary may also be reported on page 2)

 Additional information on page 2
 BEAB Ref. A 0765

A sample of the product was tested and found to be in conformity with

IEC 60065:2014

National differences:

 EU Group Differences, EU Special National Conditions, AU, CA, CN, JP, NZ, US
 102851579LHD-001

As shown in the Test Report Ref. No. which forms part of this Certificate

This CB Test Certificate is issued by the National Certification Body

Intertek Testing & Certification Ltd.

Intertek House, Cleeve Road, Leatherhead, Surrey KT22 7SB, United Kingdom



Date: 2017-06-30

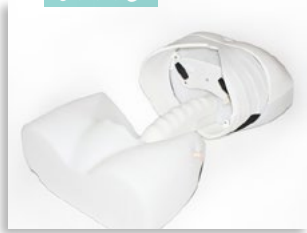
Signature: Andy Clifford



page 1 of 1

COMPONENTS

60005



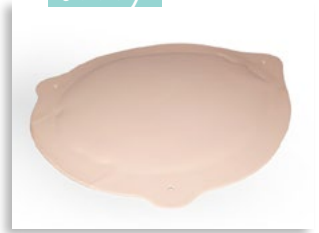
Base Unit

60006



Abdominal Examination Skin

60007



Abdominal Fluid Bag

60008



Abdominal Examination Organ Locator

60009



Abdominal Wall

60010



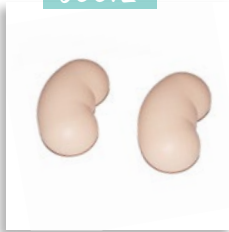
Abdominal Examination Livers (Set of 3)

60011



Abdominal Examination Splens (Set of 2)

60012



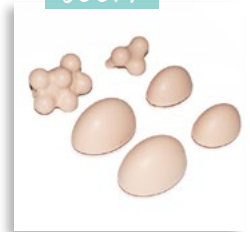
Abdominal Examination Kidneys (x2)

60013



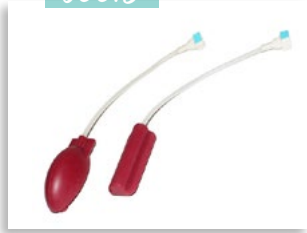
Abdominal Examination Bladder

60014



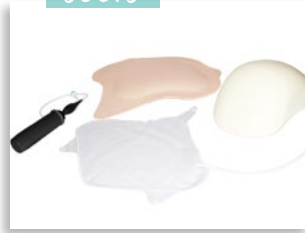
Abdominal Examination Pathologies (Set of 6)

60015



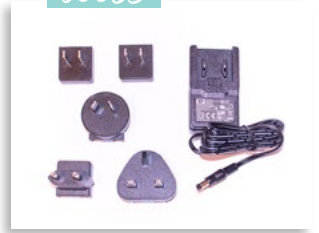
Abdominal Examination Aortas (Set of 2)

60016



Abdominal Examination Distension Set

60053



International 5V DC Power Supply

PACKAGE SUPPLIED

Carry case 1 of 2



Abdominal Examination Trainer

Product No: 60000

Box Contents (1 of 2):

Part No:	Description:
60005	Base Unit
60006	Abdominal Examination Skin
60007	Abdominal Fluid Bag
60008	Abdominal Examination Organ Locator
60016	Abdominal Examination Distension Set Part 1 (Distension Foam Insert)

Carry case 2 of 2



(2 of 2):

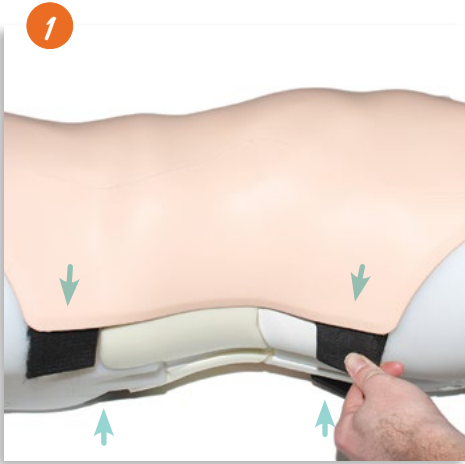
Part No:	Description:
60009	Abdominal Examination Abdominal Wall
60010	Abdominal Examination Livers (set of 3)
60011	Abdominal Examination Spleens (set of 2)
60012	Abdominal Examination Kidneys (set of 2)
60013	Abdominal Examination Bladder
60014	Abdominal Examination Pathologies (set of 6)
60015	Abdominal Examination Aortas (set of 2)
60016	Abdominal Examination Distension Set Part 2 (Ascites Bag, Gaseous Distension Bag and Pump)
60046	Abdominal Examination Small Pump
60051	Abdominal Examination Speaker
60053	International 5V DC Power Supply
	AA Batteries



Store the cases and their contents flat, as shown here at all times. Do not store the cases on their side. To safely lift the base unit out of the case, securely grip the underside of the base unit on both side and carefully lift out of the case. Please DO NOT use the Breathing Mechanism handle.

ADDING/REMOVING ABDOMINAL SKIN

Removing Abdominal Skin

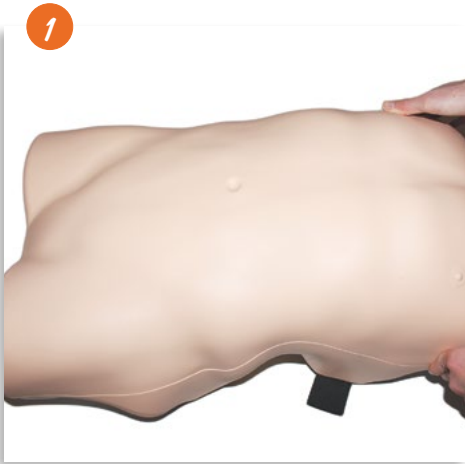


Tilt the model on to its side to reveal the Velcro straps (2 on either side of the model). **Please ensure to pull the velcro straps and NOT the skin**



Gently pull the Velcro strap away from the model to release the Abdominal Skin. Repeat process on both sides of the model

Adding Abdominal Skin

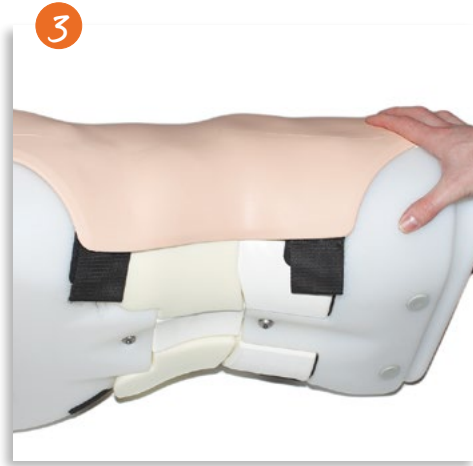


Once the relevant modules have been inserted, place the Abdominal Skin over the model ensuring that the umbilicus is central



Tilt the model on to its side and attach the Velcro straps (on either side of the Abdominal Skin) to the Velcro strips attached to the model

ADDING/REMOVING ABDOMINAL SKIN



Ensure that the skin is secure



The model is now ready to use

PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

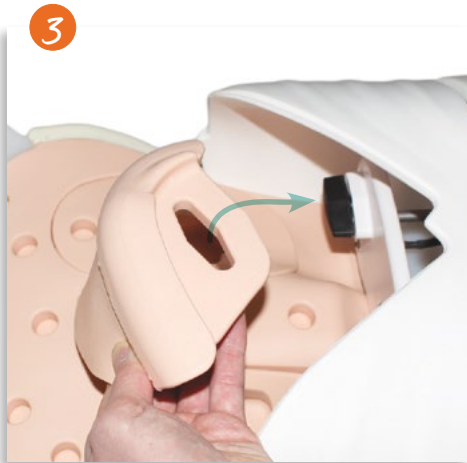
Liver



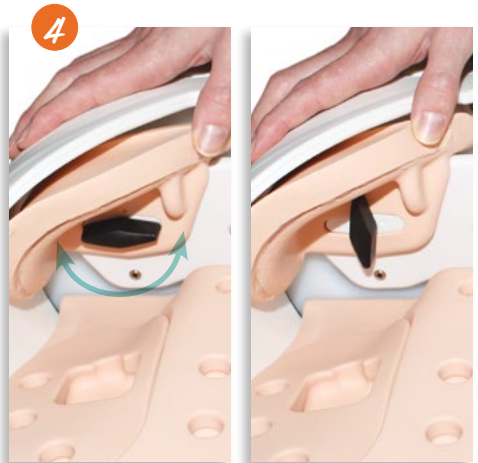
For placing the different organs/pathologies ensure that the Abdominal Examination Organ Locator is displayed as a starting point



Select a Liver from the Set of 3 (Slightly Enlarged, Smooth Enlarged, Irregular Enlarged)



Line up the hole on the top of the Liver module with the black turn knob located on the top right of the model



The Liver is now in the correct position. Turn the black turn knob to secure the Liver in place

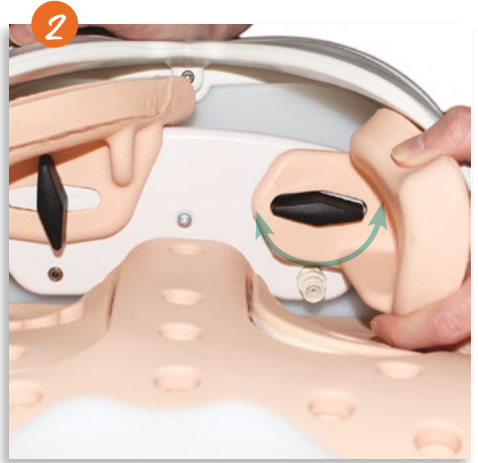
PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

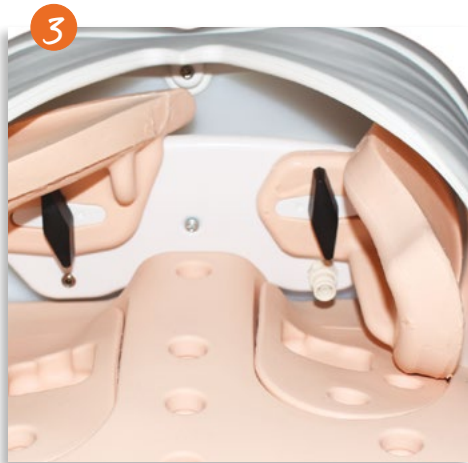
Spleen



1 Select a spleen from the set of 2 (enlarged and slightly enlarged)



2 Line up the hole on the top of the Spleen module with the black turn knob located on the top left of the model

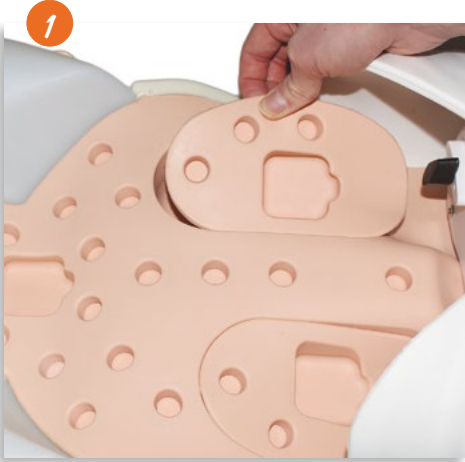


3 Turn the black turn knob to secure the Spleen in place

PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

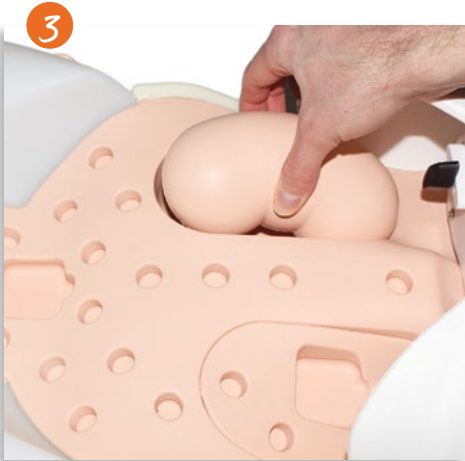
Kidney



Remove the Kidney Locator (1 on each side of the model) from the Abdominal Examination Organ Locator



A port for the kidney can now be seen



Place the kidney into the kidney port



The Kidney is now in place. The process can be repeated on the opposite side of the model

PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

Bladder



Select the Abdominal Examination Bladder and line up the 2 pegs on the back of the Bladder with the 2 holes above the bottom speaker port on the Organ Locator



Fit the bladder in place



Ensure the bladder pegs have fitted securely into the holes on the Abdominal Examination Organ Locator



The bladder is now in place

PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

Aorta

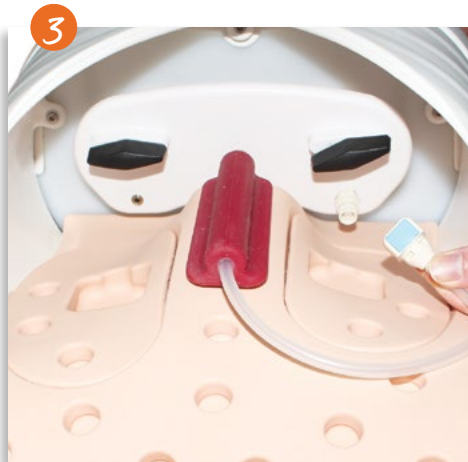
(Same process for both Normal and Aneurysmal)



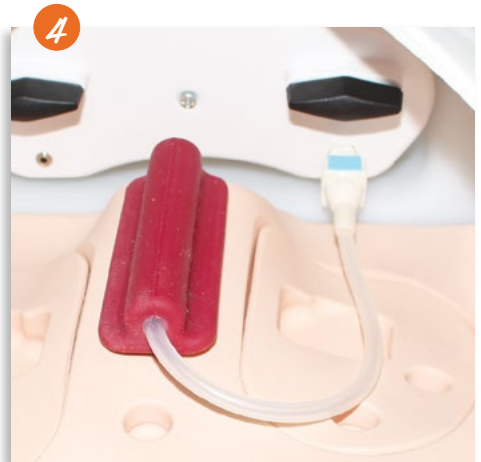
Line up the 2 pegs on the back of the Aorta with the 2 holes at the highest point of the Organ Locator. Ensure that the air tube is pointing in the direction of the pelvis



Fit the Aorta, pressing down firmly to secure in place. Ensure the Aorta pegs have fitted securely into the holes on the Abdominal Examination Organ Locator



Attach the connector on the end of the Aorta tube to the connector on the top left of the model



The Aorta is now in place

PLACEMENT OF ORGANS AND PATHOLOGIES

All of the organs provided are enlarged representations

Aorta

(Same process for both Normal and Aneurysmal)



Once the Aorta is in place, connect the hand pump to the connector at the top of the model



The hand pump is now ready to use



Squeeze the hand pump to inflate the Aorta during training. The trainee should feel the Aorta pulsating while they palpate the model

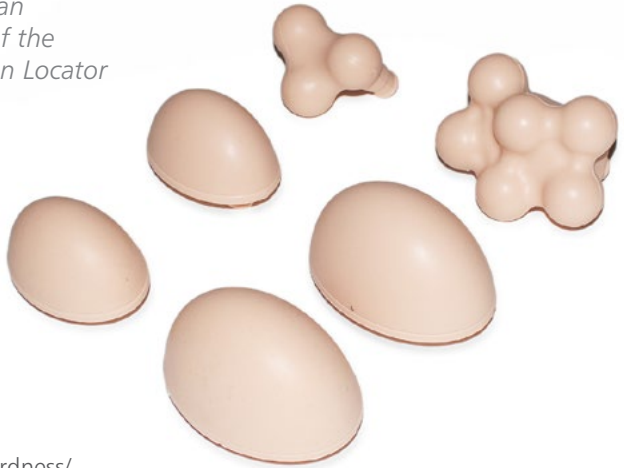


When using the hand pump, ensure that the circular air lock has been tightened so that air is flowing freely from the hand pump into the aorta. Turn clockwise to tighten

PLACEMENT OF ORGANS AND PATHOLOGIES

Pathologies

Various pathologies/masses can be placed in different areas of the Abdominal Examination Organ Locator



While some pathologies may look identical, there are actually hard and soft variations.

To differentiate, compare the hardness/softness of identical looking pathologies before fitting.

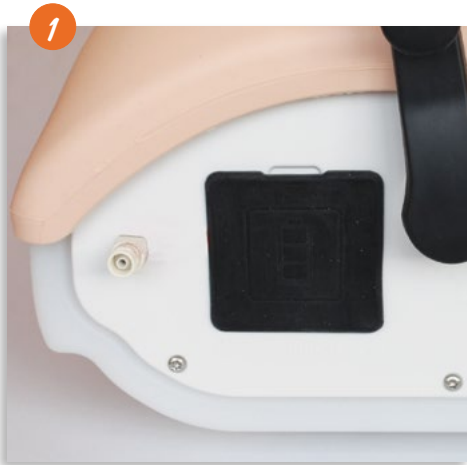


Each pathology/mass has 2 pegs on the bottom which can be lined up with the holes on the Organ Locator



Fit the pathology/mass, pressing down firmly to secure in place. Ensure the pathology pegs have fitted securely into the holes on the Abdominal Examination Organ Locator

INSTALLING & CHANGING BATTERIES



Remove the battery cover plate located at the top of model



Install batteries (the model uses 4 x AA)

Pull ribbon to remove batteries
Replace batteries and fold ribbon back over the batteries



- When the batteries are low, the red light (to the left of the MP3 screen) will light up
- [MEDIA ERROR] - If this message displays, it means 'change the batteries'

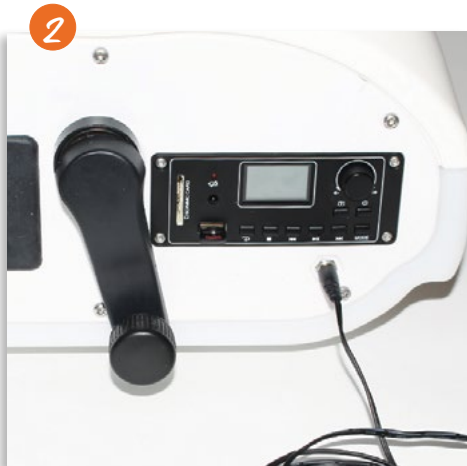
WE STRONGLY RECOMMEND HIGH QUALITY BATTERIES (E.g. Duracell/Energizer)

REMOVE BATTERIES WHEN THE MODEL IS NOT IN USE

USING MAINS POWER



The model is also provided with a mains power lead

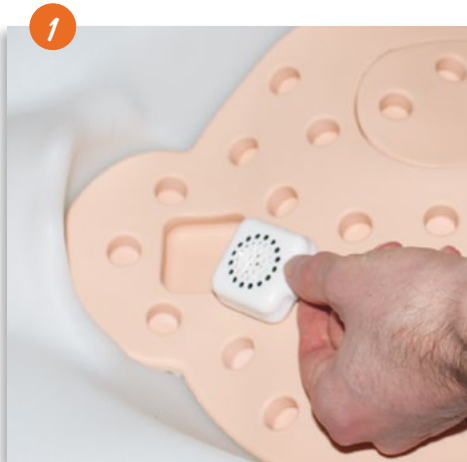


Attach the mains power lead to the power connector located at the top of the model (underneath the MP3 Player). Plug into power source

- Use only the **XP Power ACM06** mains adaptor provided with the product, the use of a different adaptor can cause electrical or fire hazards.
- The unit can be used in tropical countries and up to 5000m altitude with the **XP Power ACM06** mains adaptor.

SPEAKER AND MP3 PLAYER

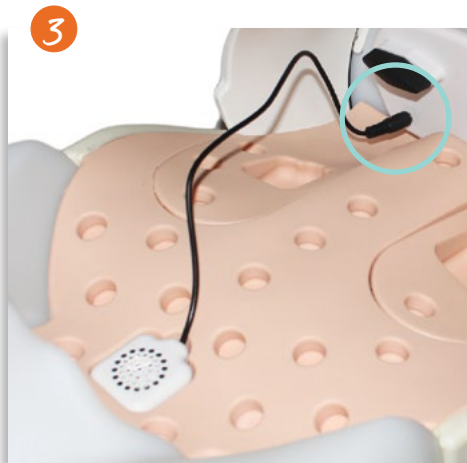
Speaker



There are 3 speaker ports located on the Abdominal Examination Organ Locator




Place the speaker into the chosen speaker port



Connect the black wire from the speaker into the port located on the top right of the model



Add chosen organs/pathologies (explained pages 7-13) and replace the skin on the model

 Please note this port is specifically designed for the speaker provided. DO NOT plug headphones into this port.

SPEAKER AND MP3 PLAYER

MP3 Player

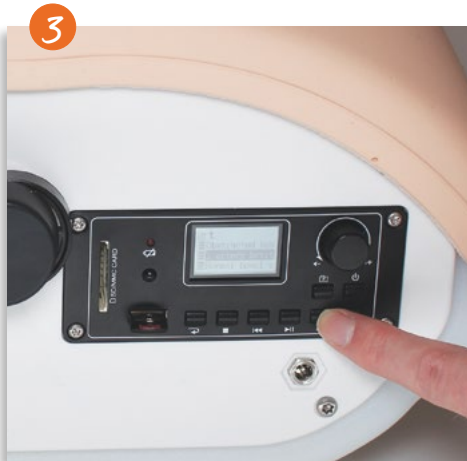
The MP3 Player is located at the thorax end of the model



Press the Power button (hold for a couple of seconds) and the display will light up. It will show all available Abdominal Sounds



Press the Mode button and ensure it is set to Normal



Press the arrows to scroll through the different available sounds



Select the chosen sound and press the play button

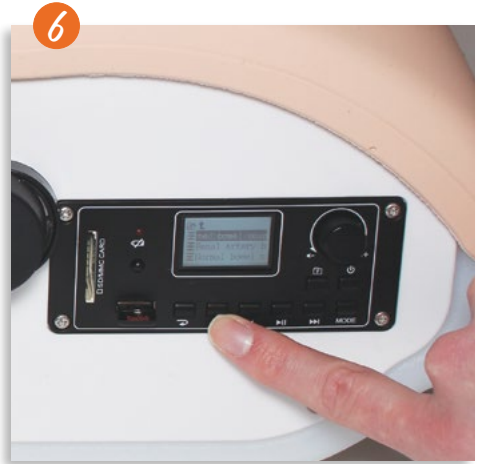
SPEAKER AND MP3 PLAYER

MP3 Player

The MP3 Player is located at the thorax end of the model



Rotate the volume control to turn volume up and down



To stop the abdominal sounds playing, press the stop button



More sounds can be added by the user by loading them on to the provided USB, or by loading on to a soundcard (not provided)

TO ADD OR DELETE FILES FROM THE MP3 PLAYER

- Remove the memory stick and insert it into your computer
- Open the folder on the memory stick. Files can be copied into and deleted out of this folder
- If you add a sound file make sure it is in MP3 format and reads .mp3 at the end

Ensure that the MP3 player is switched off after each use. To do this, press the Power button (hold for a couple of seconds).

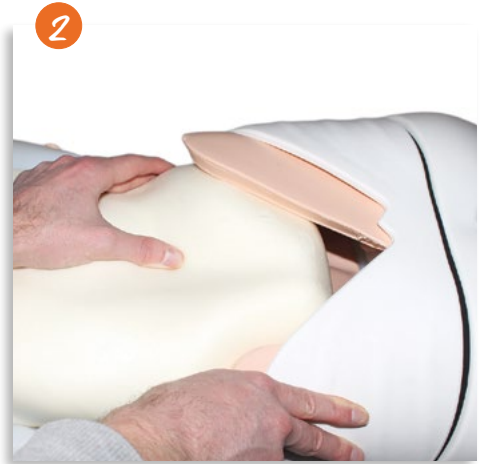


If the MP3 player stops working during use, this may be due to a slight power surge. To remedy this, remove one of the batteries or unplug the USB to turn the MP3 player off, then replace and restart. If there is still no sound, please contact a member of our Customer Services Team.

INSERTING THE ABDOMINAL WALL



Once the model has been set up with the relevant organs and or pathologies/masses, the Abdominal Wall needs to be inserted



Slide the Abdominal Wall underneath the lung and spleen (if fitted) and align into position



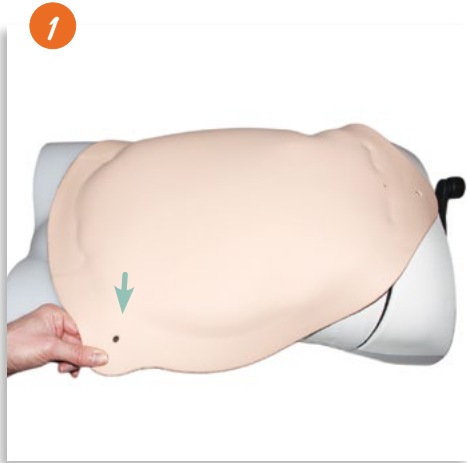
The Abdominal Wall is now in place



Please note the Abdominal Wall Foam will naturally darken if exposed to UV light.

ATTACHING THE ABDOMINAL FLUID BAG

Once the Abdominal Wall is in place,
the Abdominal Fluid Bag can be fitted over the top



Place the Abdominal Fluid Bag over the model with the two peg holes located at the bottom and the single peg hole located at the top



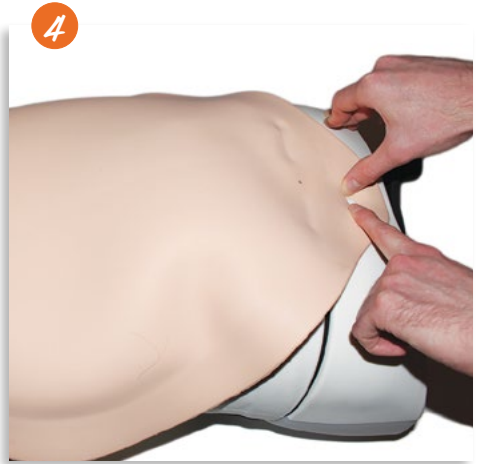
Secure the Abdominal Fluid Bag by attaching the peg holes (on either side of the Abdominal Fluid Bag) to the pegs on the model (located on either side of the model)

! **IMPORTANT:** Take care to keep the Abdominal Fluid Bag away from sharp or heavy objects that could cause a puncture. Detach it from the base unit when not in use, and store flat in the carry case without any risk of creasing/folded edges. In the unlikely event of a leak, clean up any excess fluid using paper towels or a cloth. The fluid is a slip hazard if it comes into contact with a hard floor, so please close off the area and clean and dry the floor thoroughly before allowing anyone access.

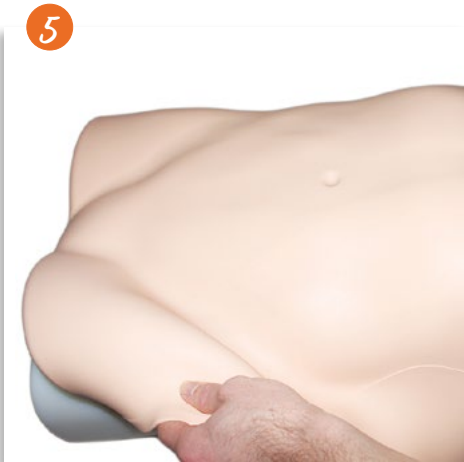
ATTACHING THE ABDOMINAL FLUID BAG



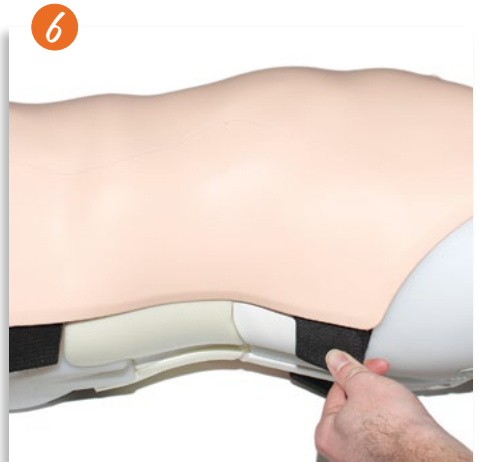
The Abdominal Fluid Bag now needs to be secured to the top of the model. Locate the peg hole at the top of the Abdominal Fluid Bag and align with the peg at the top of the model



Attach the peg hole at the top of the Abdominal Fluid Bag to the peg at the top of the model. Ensure that the bag is pulled down to engage and fix securely



Attach the Abdominal Skin to the model



Secure the skin by attaching the Velcro straps on the Abdominal Skin to the Velcro located on either side of the model

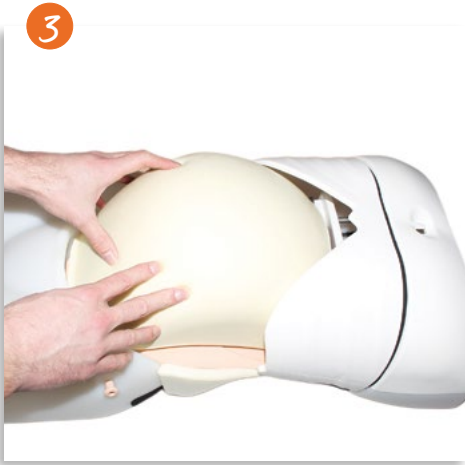
ASCITES SET UP



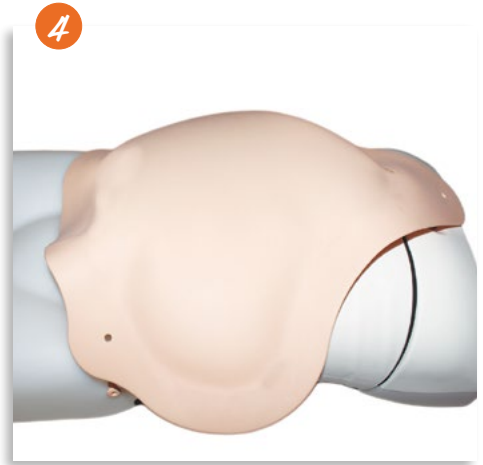
For ascites set up ensure that the Abdominal Examination Organ Locator is displayed as a starting point



Select the Distension Foam Insert

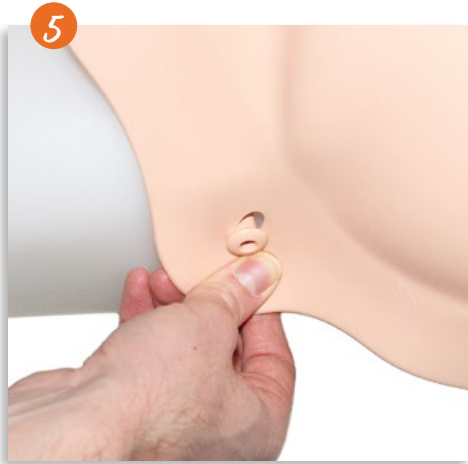


Place the Distension Foam Insert on top of the Abdominal Examination Organ Locator

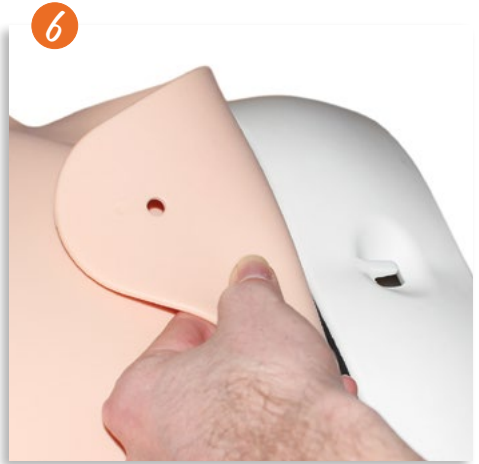


Put the Ascites Bag on top of the Distension Foam Insert

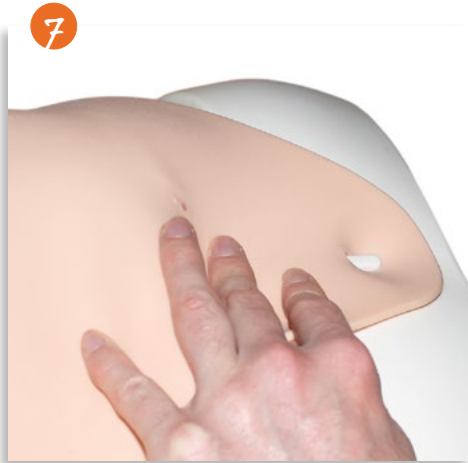
ASCITES SET UP



Secure the Ascites Bag by attaching the peg holes (on either side of the Ascites Bag) to the pegs on the model (located on either side of the model)



The Ascites Bag now needs to be secured to the top of the model. Locate the peg hole at the top of the Ascites Bag and align with the peg at the top of the model

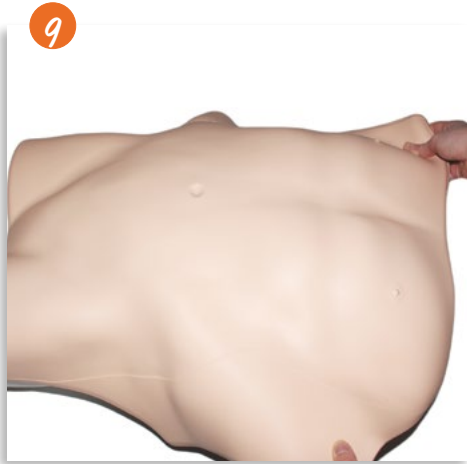


Attach the peg hole at the top of the Ascites Bag to the peg at the top of the model, and pull down to secure



The Ascites Bag is now in place

ASCITES SET UP



Attach the Abdominal Skin to the model



Secure the skin by attaching the Velcro straps on the Abdominal Skin to the Velcro located on either side of the model



The model is now ready to be used

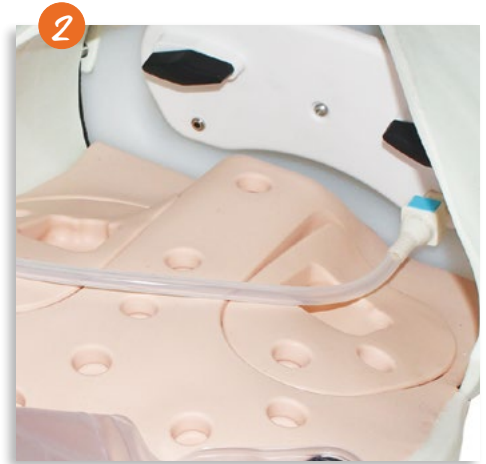


IMPORTANT: Take care to keep the Ascites Bag away from sharp or heavy objects that could cause a puncture. Detach it from the base unit when not in use, and store flat in the cardboard box provided without any risk of creasing/folded edges. In the unlikely event of a leak, clean up any excess fluid using paper towels or a cloth. The fluid is a slip hazard if it comes into contact with a hard floor, so please close off the area and clean and dry the floor thoroughly before allowing anyone access.

GASEOUS DISTENSION



For gaseous distention set up ensure that the Abdominal Examination Organ Locator is displayed as a starting point



Attach the blue connector of the Gaseous Distention Bag to the connector located on the top left of the model



Select the Distension Foam Insert



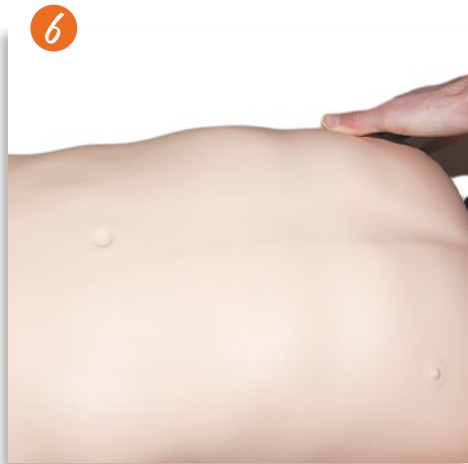
Place the Distension Foam Insert on top of the Abdominal Examination Organ Locator

GASEOUS DISTENSION

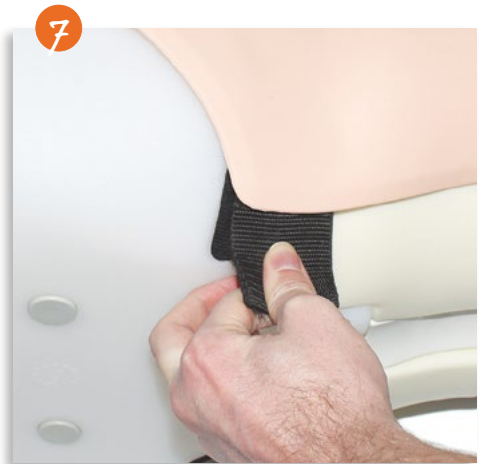


Ensure that the air inlet tube is on the underside of the Gaseous Distension Bag and under the Distension Foam. This will prevent kinks in the air inlet tube.

Place the Gaseous Distension Bag over the Distension Foam Insert. Secure the Gaseous Distension Bag by attaching the peg holes (on either side of the Gaseous Distension Bag) to the pegs on the model (located on either side of the model). Locate the peg hole at the top of the Gaseous Distension Bag and align with the peg at the top of the model

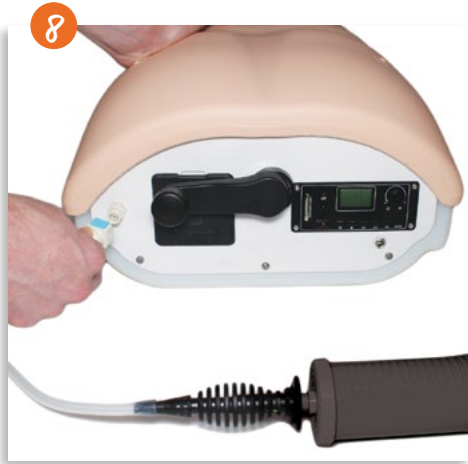


Attach the Abdominal Skin



Secure the skin by attaching the Velcro straps on the Abdominal Skin to the Velcro located on either side of the model

GASEOUS DISTENSION



Attach the blue connector from the pump to the connector at the top (outer) of the model



Once connected inflate the Gaseous Distension Bag with the pump. **6-8 pumps** (in and out as 1 pump) using the pump provided is recommended



Disconnect the pump from the model after inflating or the Gaseous Distension Bag will deflate itself

! Please **DO NOT** inflate/deflate the Gaseous Distension Bag without the skin on as this will put tension on the holes on the tabs of the bag.

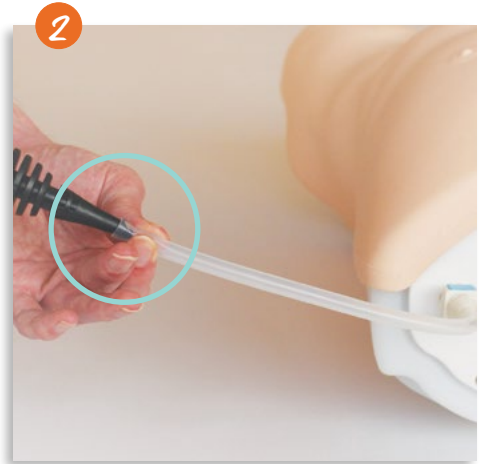
Please note the Distension Foam insert will naturally darken if exposed to UV light.

GASEOUS DISTENSION

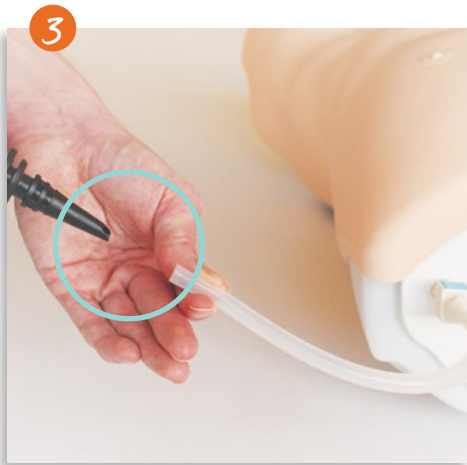
EMPTYING THE GASEOUS DISTENSION BAG



Attach the blue connector from the pump to the connector at the top (outer) of the model



Disconnect the top part of the pump from the tube that attaches to the model



Remove top part of the pump from the tube. The Gaseous Distension Bag will begin to deflate



To remove all air from the Gaseous Distension Bag, press down on the abdominal skin until all air has been released

USING THE BREATHING MECHANISM



1 Breathing or respiratory movement of the liver and spleen can be simulated on the model using the lever located at the top of the model



2 Rotate the lever in either direction



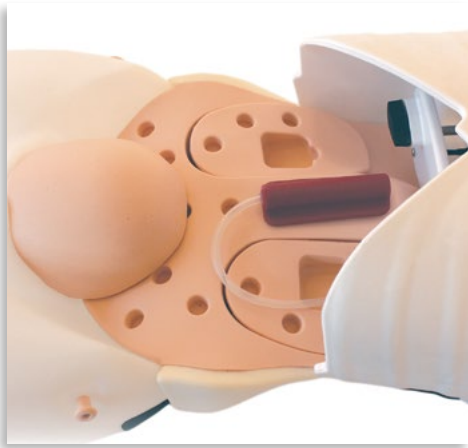
3 When the lever is pointed upwards, the model simulates the patient breathing out (exhaling)



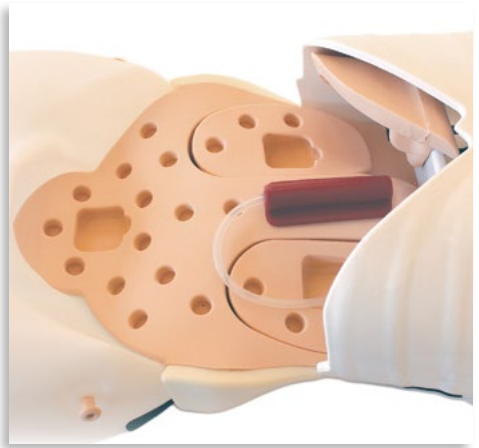
4 When the lever is rotated to a downward position, the model simulates the patient breathing in (inhaling). The lever can be rotated 360 degrees to simulate continuous breathing

EXAMPLES OF SET UP FOR SCENARIOS

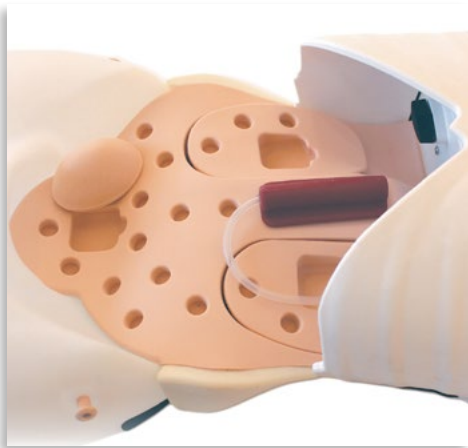
A number of patient scenarios can be set up on the Abdominal Examination Trainer. A few examples can be seen below:



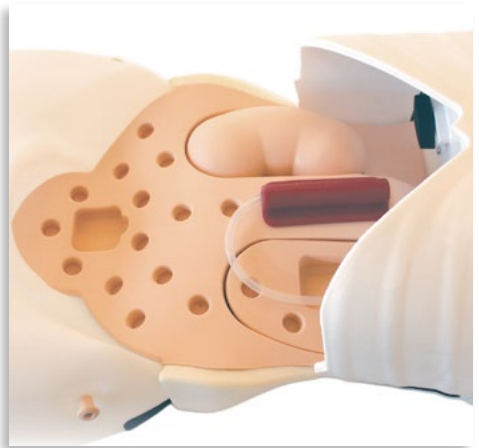
ACUTE URINARY RETENTION
(NORMAL AORTA)



SLIGHTLY
ENLARGED LIVER



OVARIAN CYST



ENLARGED KIDNEY

EXAMPLES OF SET UP FOR SCENARIOS

A number of patient scenarios can be set up on the Abdominal Examination Trainer. A few examples can be seen below:



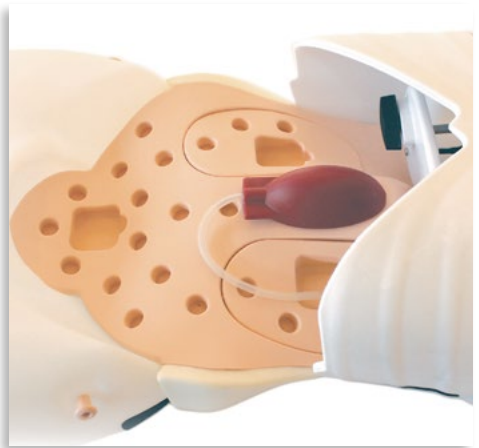
CARCINOMA ON MASS
IN LEFT ILIAC FOSSA



CARCINOMA WITH LIVER
METASTASIS



LYMPHOMA



AORTIC ANEURYSM

A good starting point...

Take a look at our
Abdominal Examination Trainer video



Visit the website or YouTube channel

limbsandthings.com

youtube.com/limbsandthings