


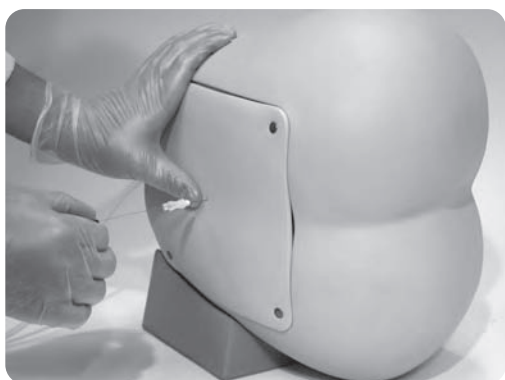
M43B XXXXXXXXXX Lumbar Puncture Simulator II

 Caution | Don't mark on the model and other components with pen or leave printed materials contacted on their surface.
Ink marks on the models will be irremovable.

Instruction Manual

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● Before You Begin

This lumbar puncture simulator has been developed for the training of medical professionals only. Any other use, or any use not in accordance with the enclosed instructions, is strongly discouraged. The manufacturer cannot be held responsible for any accident or damage resulting from such use. Please use this model carefully and refrain from subjecting in to any unnecessary stress or wear. Should you have any questions on this simulator, please feel free to contact our distributor in your area or KYOTOKAGAKU at any time. (Our contact address is on the back cover of this manual)

● Features

- The contents of the instruction manual are subject to change without prior notice.
- No part of this instruction manual may be reproduced or transmitted in any form without permission from the manufacturer. Please contact manufacturer for extra copies of this manual which may contain important updates and revisions.
- Please contact manufacturer with any discrepancies, typos, or mistakes in this manual or product feedback. Your cooperation is greatly appreciated.

Before you start

Today, medical professionals have ready access to advanced imaging technologies such as CT, MRI and ultrasound scans that clearly enhance the quality of medical care. However, despite its use for more than 100 years, the lumbar puncture remains indispensable for the rapid diagnosis of meningitis, encephalitis or fever of unknown origin. The lumbar puncture also remains important for the diagnosis and treatment of numerous conditions seen by emergency care, primary care, neurology, oncology and anesthesia services. Thus, even today, medical competency requires skillful performance of this procedure.

In the past, medical students could practice lumbar punctures on live patients in order to develop the requisite technical skills. However, for good reasons, this is no longer the case. Although medical schools and residency training programs recognize the need for formal procedural skills training, there are limited opportunities for such programs to teach and assess procedural competency.

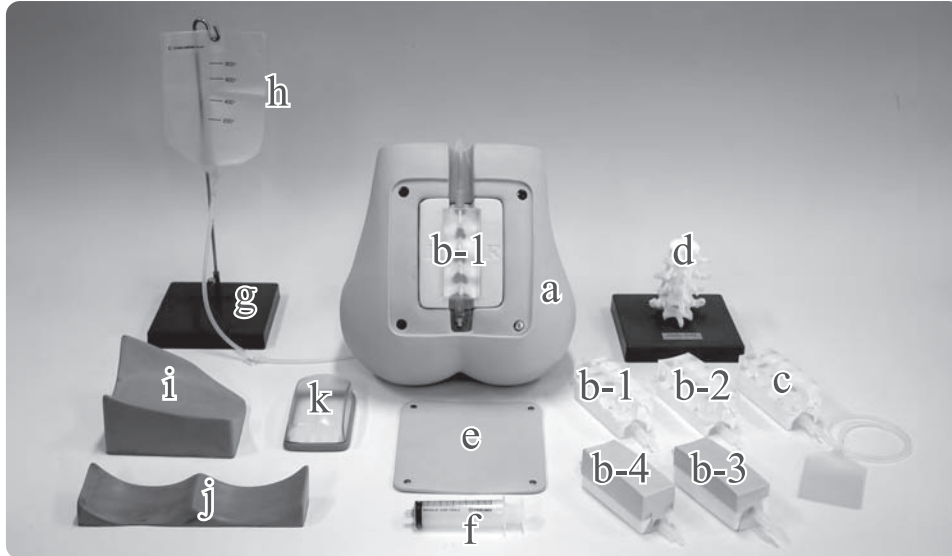
This unfortunate situation has now changed. Keio University Medical School, in partnership with Kyoto Kagaku, has created a realistic lumbar puncture simulator that allows students and medical professionals to practice frequently and achieve high levels of procedural competence without placing any patients at risk of harm.

By all means, please try this innovative lumbar puncture simulator. Through practice on this special equipment, students at all levels of training can increase their procedural comport, competence and efficiency.
We wish you, and your patients, well.

Takahiro Amano, MD
Professor and Head,
Medical Education Center
Gregory A. Plotnikoff, MD, MTS
Associate Professor
Keio University Medical School

Set Includes

Before your first use, ensure that you have all components listed below.



- | | | | |
|----------------------------------------------|---|-----------------------------------------|---|
| a. Lumbar Region Model | 1 | e. Skin Cover | 1 |
| b. CSF Puncture Blocks (4variation 5 pieces) | | f. Syringe | 1 |
| b-1. Normal CSF | 2 | g. Stand | 1 |
| b-2. Obesity CSF..... | 1 | h. Irrigator bag..... | 1 |
| b-3. Senior CSF | 1 | i. Support Base (Lateral Position)..... | 1 |
| b-4. Senior Obesity OSF | 1 | j. Support Base (Sitting Position)..... | 1 |
| c. Epidural Puncture Block | 1 | k. Support Base (Team Teaching)..... | 1 |
| d. Lumbar Spine Model..... | 1 | | |

Consumables and replacement parts

Product Code	Mark	Part Name
11348-090	N	Norml CSF Puncture Block
11348-110	O	Normal Obesity CSF Puncture Block
11348-120	NS	Senior CSF Puncture Block
11348-130	OS	Senior Obesity CSF Puncture Block
11348-140	EP	Epidural Puncture Block
11348-150		Skin Cover

⚠ DOs and DON'Ts

DOs

Handle the manikin and components with care. Talcum powder may be used on the manikin after use to preserve suppleness of the skin and prevent oils from staining the surface. Store the manikin in its storage case when not in use. Storage in a dark, cool area will keep the manikin skin from fading. The manikin skin may be cleaned with a wet cloth and mildly soapy water or diluted detergent.

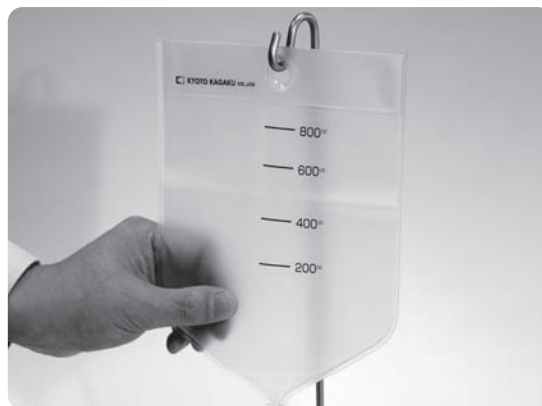
DON'Ts

Please do not let ink from pens, newspapers, these instructions or other sources come in contact with the manikin, as they cannot be cleaned off the manikin skin. Never use ethanol or organic solvent like paint thinner to clean the skin, as this will cause deterioration of the skin.

① Prepare the stand

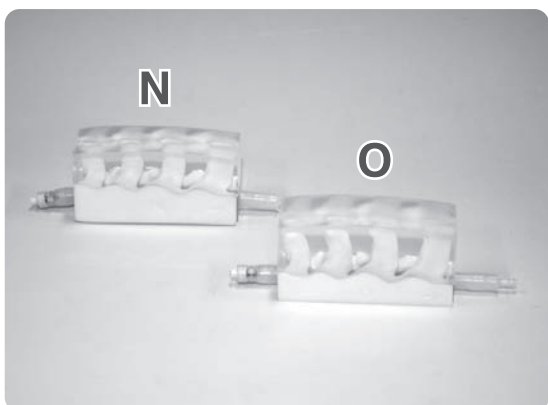


① Assembly the stand.

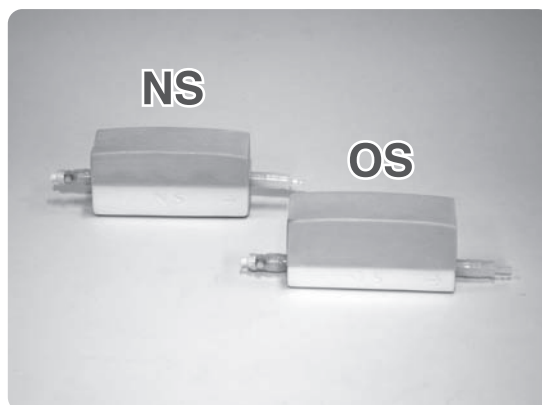


② Hang the irrigator bag to the stand.

② Variation of puncture pads

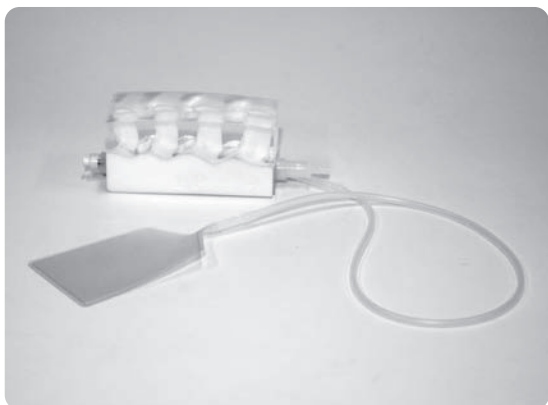


N:Normal CSF O:Obesity CSF

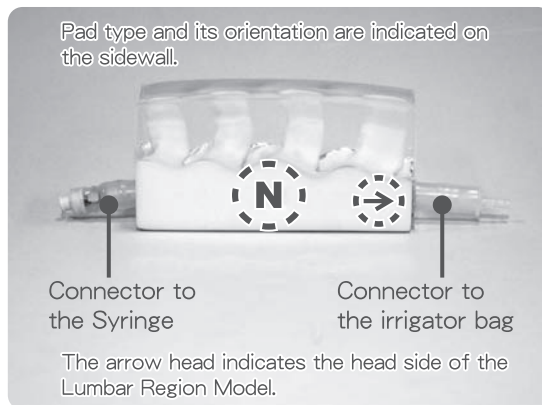


NS:Senior CSF OS:Senior Obesity CSF

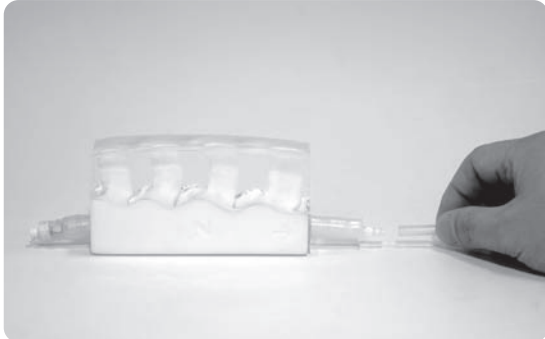
※Obesity type has a lumbar spine in deeper position.
Senior type has different tissue resistance and bone shape.



EP:Epidual

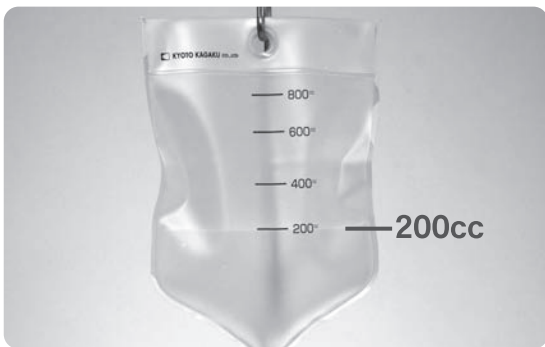
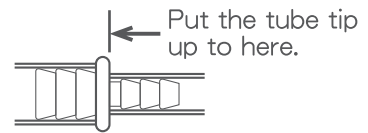


③ Preparation of a CSF block



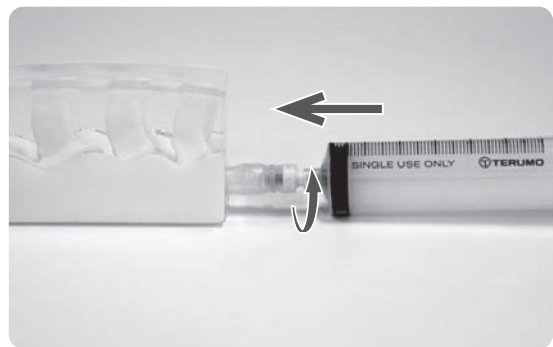
① Connect the puncture block with the irrigator bag.

Connect the tip of the tube from the irrigator bag to the connector at the head-end of the puncture block. Insert the tube deeply so that it won't come off during the session.



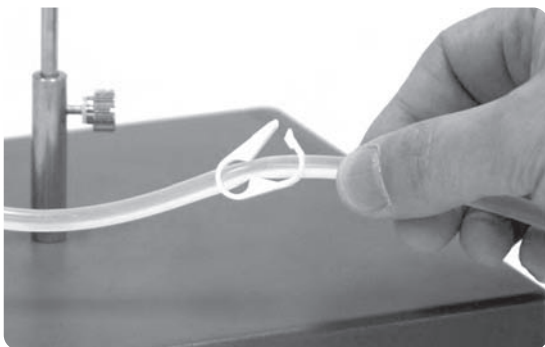
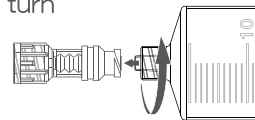
② Fill the irrigator bag.

Fill the irrigator bag with water until the surface reaches to the 200ml line.

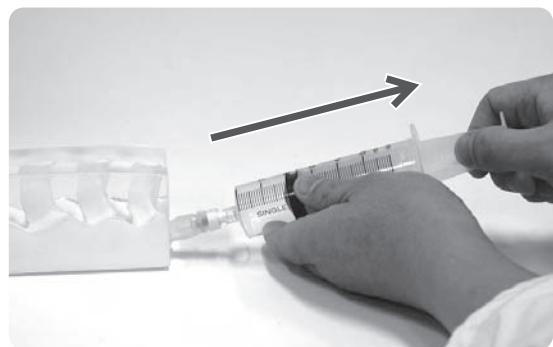
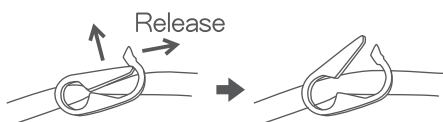


③ Connect the syringe to the block.

Connect the syringe to the plug at the end opposite to that of the tube from the irrigator bag. Insert, turn clockwise and lock the syringe in place.



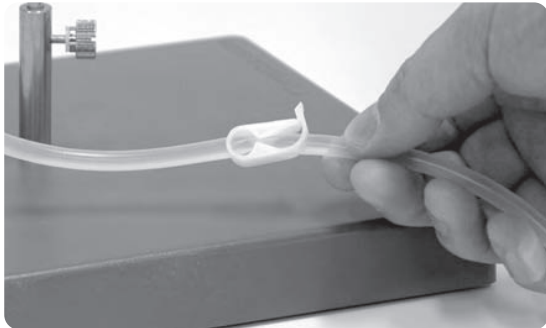
④ Release the clamp.



⑤ Fill the puncture block.

With the clamp opened, aspirate a small amount of water into the syringe. Should any air bubbles remain in the system, tilt the system and aspirate fluid with the syringe until only water remains in the tubing.

③ Preparation of a CSF block



⑥ Close the clamp.

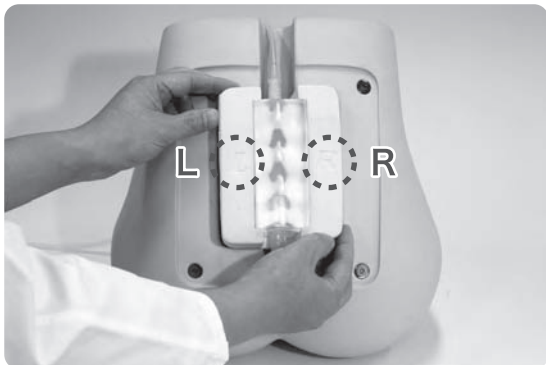


Caution

- Keep the clamp closed while the session is NOT in action.

④ Set the puncture blok in the Model

- Insert the block into the Lumbar Region Model.



Caution

- Do not fold the tube.

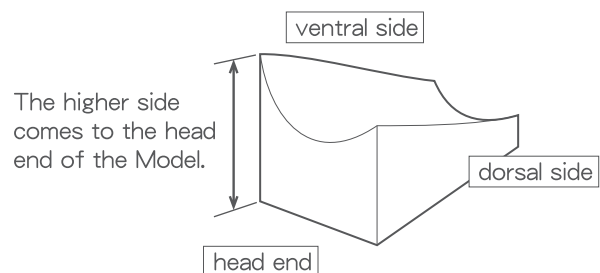
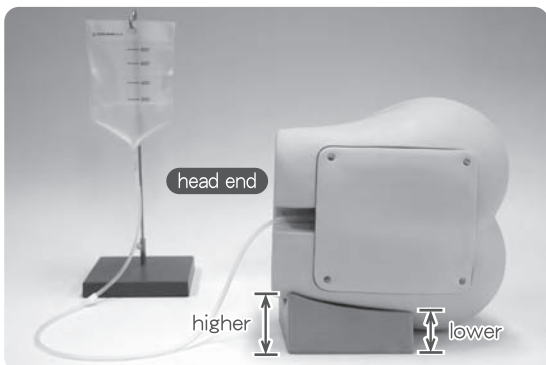
- Noting the marks at the back of the skin cover (L,R,↑), attach it to the Lumbar Region Model.



Caution

- The orientation marks come inner side of the skin cover.

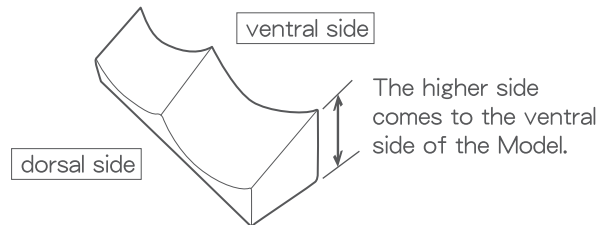
⑤ Put the Lumbar Region Model on a supporter base



⑤ Put the Lumbar Region Model on a supporter base



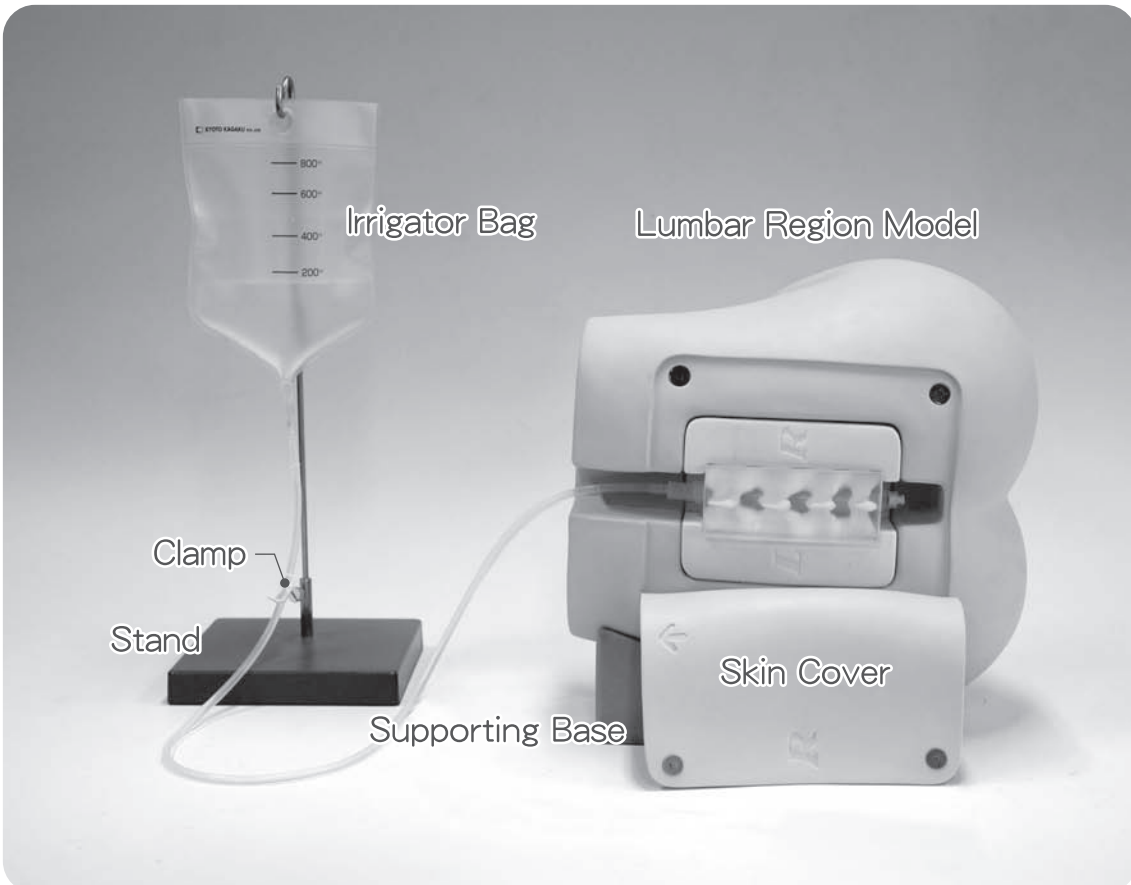
The sitting position supporter base is designed to come to the front end of the Lumbar Region Model.



Caution

- The simulator is designed to show an appropriate CSF pressure when it is used in lateral position and 200cc water in the irrigator bag. Adjust the pressure to fit your training purpose when you use the system in sitting position.

⑥ Ready



7 Preparation of the epidural block



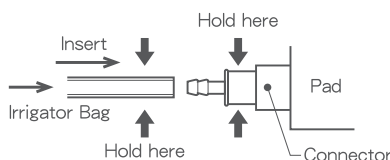
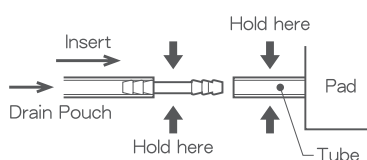
① Empty the drain pouch completely.



② Connect the tube tip from the drain pouch, to the side connector tube



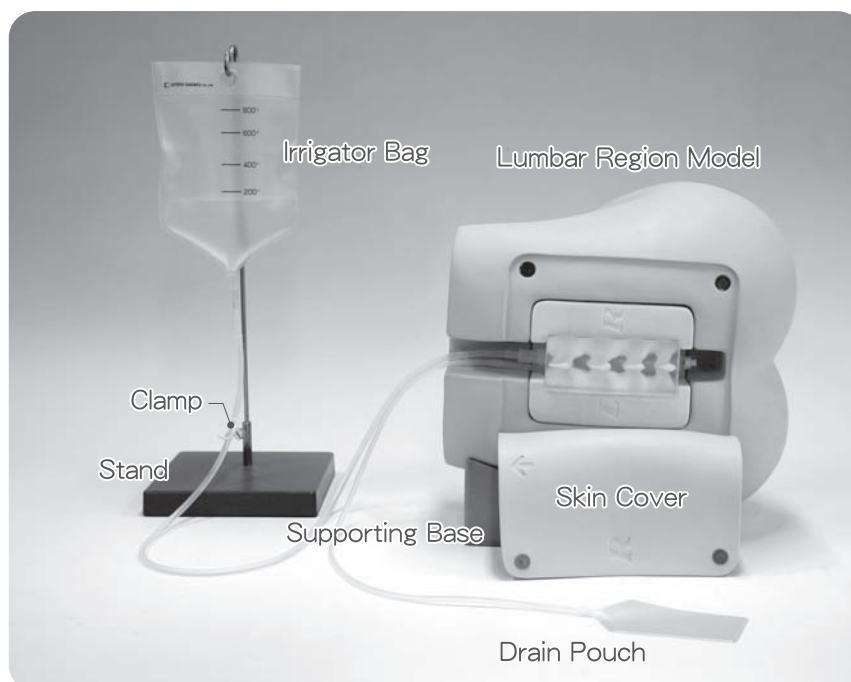
③ Following the steps of CSF lock preparation, fill the block with water, set it to the Lumbar Region Model and cover with the skin cover.



Caution

- Hold the tube at the end of the pad as shown a bave and connect it with the tube from the irrigator bag.

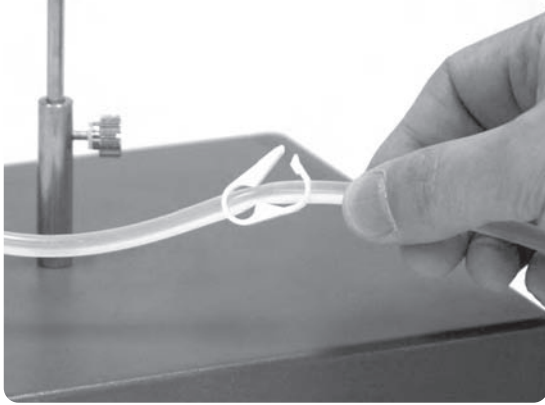
8 Ready



For further details refer to the enclosed training guide.

9 While your training session

● Release the clamp.

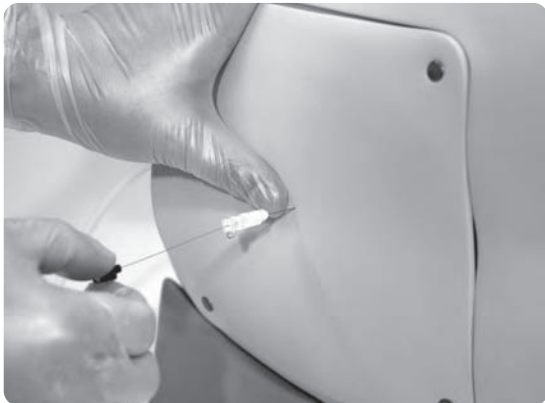


● Find the landmarks.



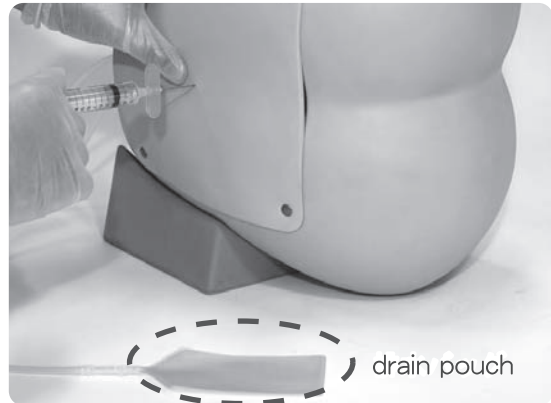
Landmarks can be palpated.

● CSF collection.



When the needle tip reaches in the subarachnoid space, water (simulated CSF) can be collected.

● Epidural puncture.



Make sure that the needle is not in the subarachnoid space (no water flows out), and then inject water (simulated saline) or air into the epidural space. Successful performance can be confirmed by observing the injected air/water flows into the drain pouch.

● Two people training.



The support base for team teaching simulates the instability of a living patient.



- Empty the drain pouch after each trial.
- When the puncture pad gets worn, water/air may be able to be injected even if the needle tip has not reached the epidural space. When this occurs, change the puncture site or replace the pad by a new one.

After Training ①

⑩ Take out the block from the Model



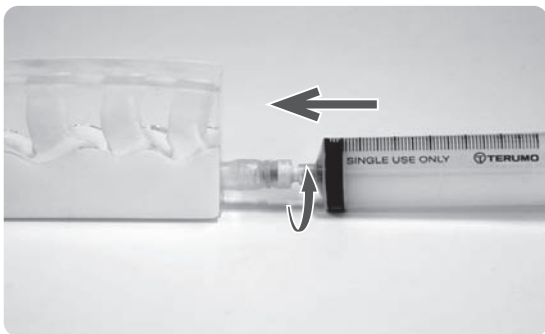
Remove the model skin cover and remove the puncture block from the Lumbar region model, holding it with its hard part.



Caution

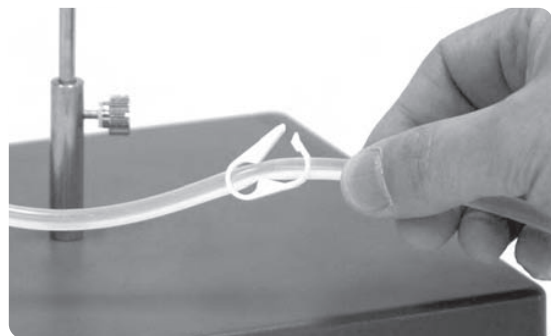
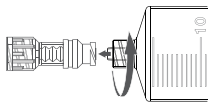
• Do not pull the tube.

⑪ Drain the water

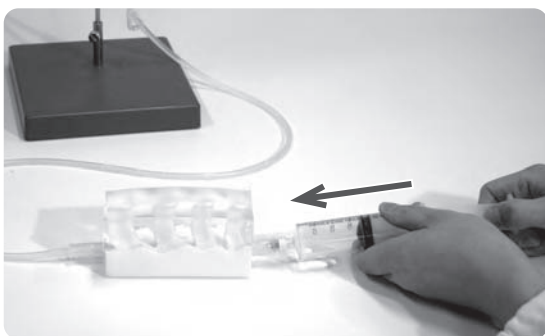


① Connect the syringe to the puncture block.

Pull back the syringe's piston to at least the 50ml mark. Lock the syringe onto the connector on the block by turning clockwise.

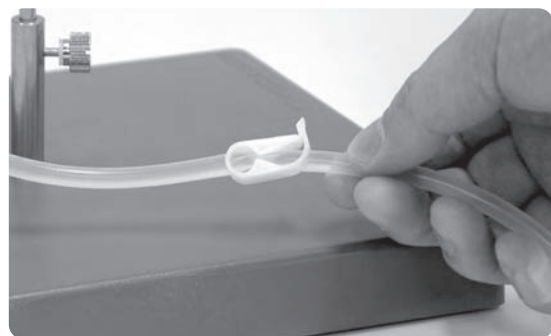


② Release the clamp.



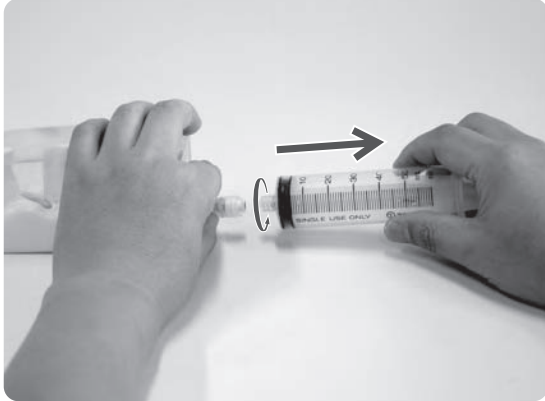
③ Inject air into the tubing.

Slowly depress the piston and push air into the water-filled block until all the air has been injected.



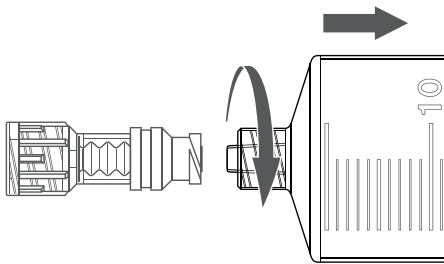
④ Close the clamp.

12 Take out the syringe and the drain pouch



① Remove the syringe.

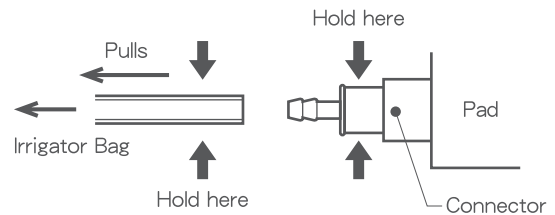
Turn the syringe counter-clockwise to remove it from the block. Disconnect the reservoir tube from the block.



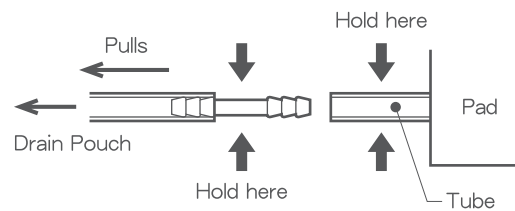
② Take out the drain pouch.

Disconnect the drain pouch from the epidural block and empty the pouch.

● Take out the irrigator Bag



● Take out the drain pouch



- Hold the tube at the end of the pad as shown above and connect it with the tube from the irrigator bag.

- If you continue the session, return to P6 and set a new block.

When you finish the session for the day, empty the irrigator bag and dry all used components naturally and store them in room temperature, avoiding direct sunlight or exposure to elements.

Quick check-up before calling the customer service Use the table if you have problems using the simulator. Look in this section for a description of the problem to find a possible solution.
(TEL +81-75-605-2510)

FAQs

Q, Water does not come out even if the needle tip is surely in the subarachnoid space.

A, Is the clamp released ? Isn't the tube folded ?

A, Is the water surface in the irrigator bag at 200ml or above ?

A, 21G is the recommended needle size for CSF collection training with the simulator.

If you still experience the difficultis, try with a larger needle.

A, Isn't your needle clogged ? Use a needle as new as possible.

A, The fluid comes slowly, drop by drop. Wait and see for 2-3 seconds.

Q, The soft tissue part of the puncture block is coming off when I grab the block.

A, The soft tissue and bone part of the puncture blocks are not adhered. The soft part may look like coming off when you grab it strongly, this is not faulty.

However, to keep the blocks longer, we recommend holding the hard part when you handle them.

Q, (Epidural puncture pad) Water/air can be able to be injected even if the needle tip has not reached the epidural space.

A, the puncture block is worn. When this occurs, change the puncture site or replace the pad by a new one.



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- For inquiries and service, please contact your distributor or KYOTO KAGAKU CO., LTD.

KYOTO KAGAKU co.,LTD

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