

⚠ Caution | Do not leave this manual in contact with manikin skin. Ink marks will be indelible, due to pigment infiltration.

M43D

Pediatric Lumbar Puncture Simulator II

Instruction Manual

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● Manufacturer's note

This Pediatric Lumbar Puncture Simulator (M43D) has been designed by medical education experts to enhance formal LP procedural skills training and assessment. It allows students and medical professionals to practice frequently and achieve high levels of procedural competence without placing any patients at risk of harm.

Closely simulates the lumbar anatomy including the anatomical landmarks. Provides life-like sensation of both skin and tissue resistance to the spinal needle. Simulated CSF (water) can be collected and measured.

The simulator is designed for training in catheterization.

Do not use for improper purpose.

Please read the instruction carefully before use.

Do not use the system in a way other than hereinafter prescribed by manufacturer.

● Skills & Trainings Features

- Patient positioning
- Palpation of landmarks
- Sterilization and local anesthesia (procedures only)
- Lumbar puncture and CSF collection
- CSF pressure measurement

DOs and DON'Ts

DOs

The materials for the models are a special composition of soft resin. Handle the simulator with utmost care at all times.

Store the simulator in storage case at room temperature, away from heat, moisture and direct sunlight.

Use the 23G spinal needles for this model.

DON'Ts

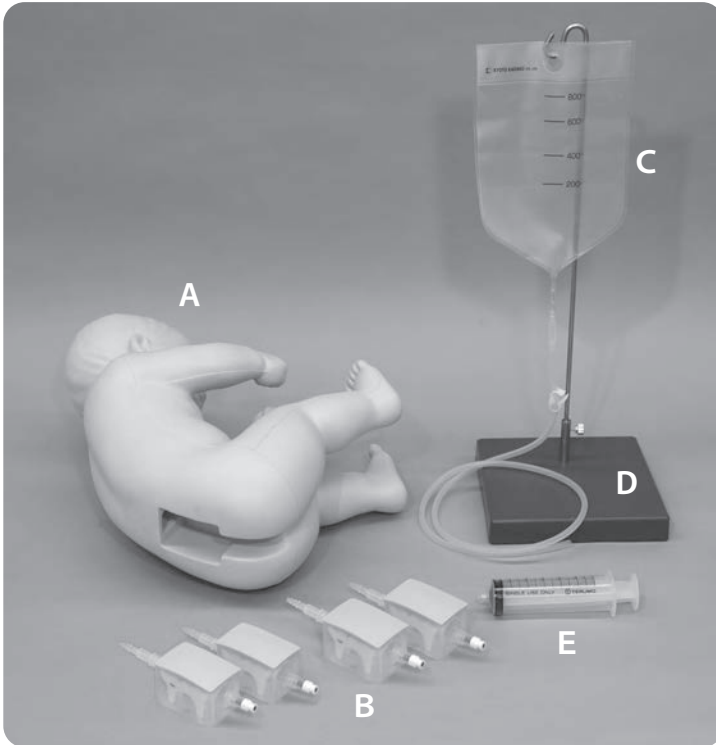
Never wipe the simulator with thinner or organic solvent.

Don't mark on the simulator with pen or leave any printed materials in contact with their surface. Ink marks on the models won't be removable.

* Even if color on its surface might be changed across the ages, this does not affect the quality of its performance.

Set Includes

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



- A Baby manikin (7-10 month) 1 piece
- B Pediatric LP block for M43D
(2 kinds: depth of the spinal tube: 12mm · 17mm)
each 2 pieces
- C Irrigation bag 1 piece
- D Stand 1 piece
- E Syringe(50ml) 1 piece

Consumables and replacement parts

Pediatric LP block for M43D 2 pieces
(depth of the spinal tube:12mm)



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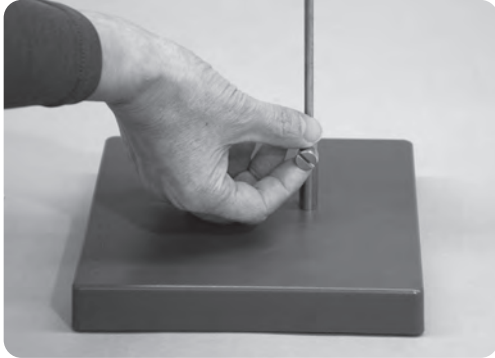
Pediatric LP block for M43D 2 pieces
(depth of the spinal tube:17mm)



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1 Set the stand and the irrigation bag

1. Assemble the stand.



2. Hang the irrigation bag to the stand.

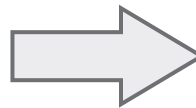
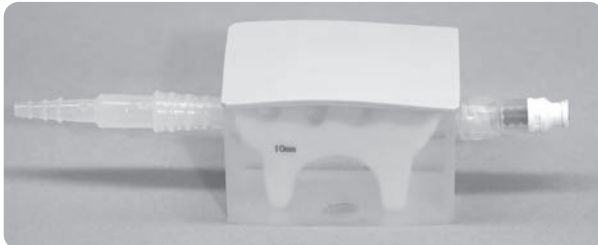


Caution

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We recommend using your own stable stand as the attached stand in the simplified tool.

2 Connect the puncture block to the irrigation bag

1. Note the direction of pediatric lumbar block.

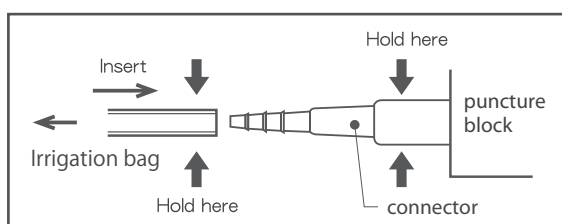
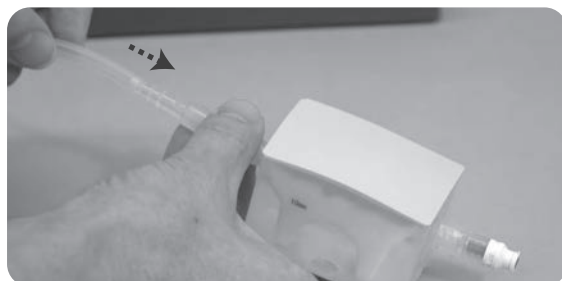
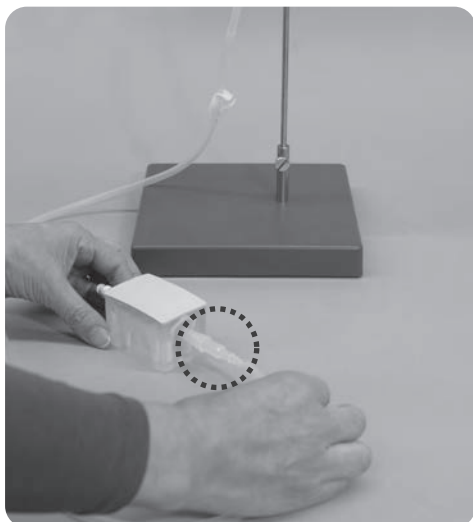


This side comes at the head-end of the baby manikin.

Connector to the irrigation bag

Connector to the syringe

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

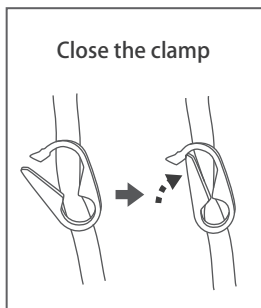


3 Fill the irrigation bag with water

1. Close the clamp.



Close the clamp

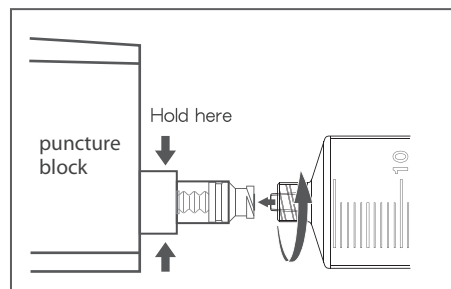
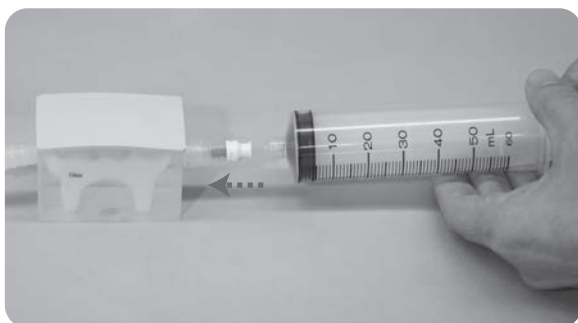


2. Fill the irrigation bag with water.



4 Fill the puncture block with water

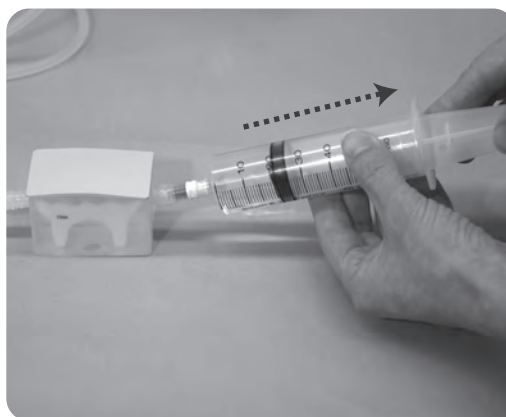
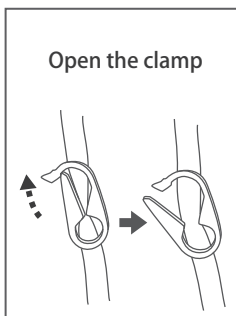
1. Connect the syringe to the plug of the puncture block. Insert, turn clockwise and lock the syringe in place.



2. 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 tube.
After the block has filled with water, detach the syringe from the connector by turning the syringe counter-clockwise.

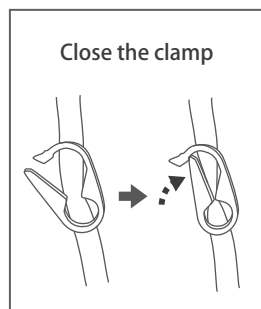


Open the clamp



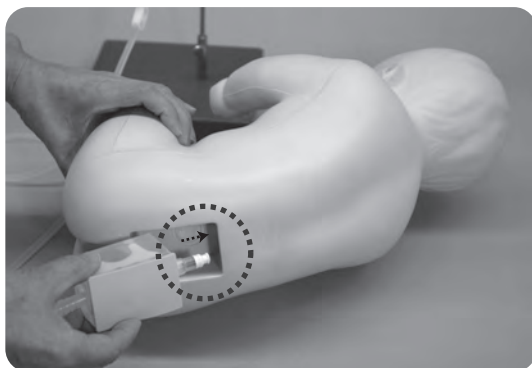
5 Set the puncture block into the baby manikin

1. Close the tube clamp.

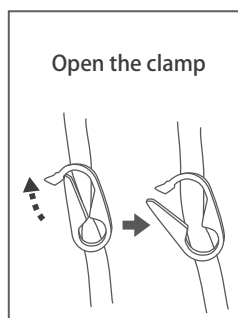


* Keep the clamp closed while the session is not in action.

2. Set the block into the Baby manikin.



3. Open the clamp and start the training session.



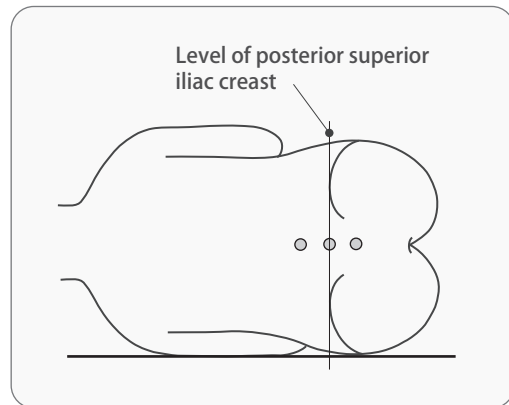
1 Patient positioning

To keep the patient body safely at the appropriate position is critical in making successful lumbar puncture. Full-body soft and bendable baby manikin facilitates training with reality.



2 Palpation of landmarks

Iliac crests and spinous process are palpable to find out puncture area.



3 Sterilization and local anesthesia (procedure only)

Sterilization and local anesthesia procedures can be simulated with this model.

4 Lumbar puncture and CSF collection

True-to-life needle resistance, as well as the change of the resistance can be felt through the needle. Successful puncture can be confirmed with the flowing out of the simulated CSF (water). When the needle tip reaches in the subarachnoidspace, water (simulated CSF) can be collected.



5 CSF pressure measurement

CSF pressure can be measured with a manometer.

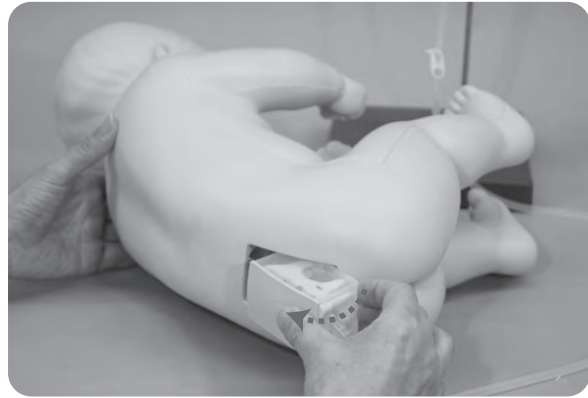


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CSF pressure can be adjusted by changing the height of the Irrigation bag.

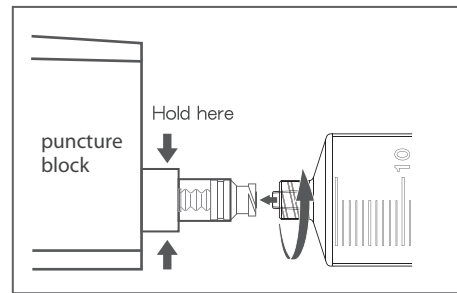
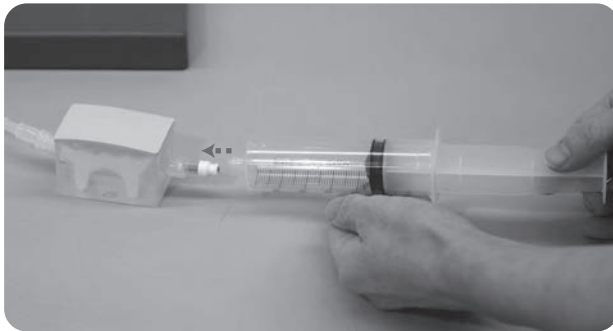
After Training

1 After Training

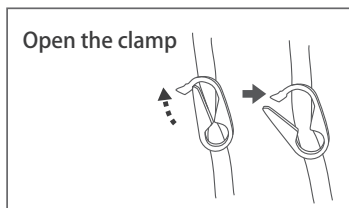
1. Remove the puncture block from the baby manikin.



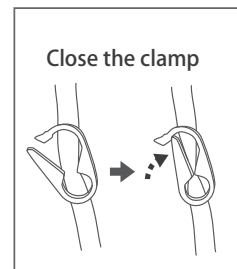
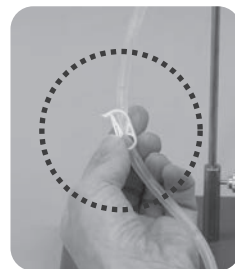
2. Pull back the syringe's piston to at least the 50 ml mark.
Lock the syringe to the connector of the block by turning clockwise.



3. Open the clamp.

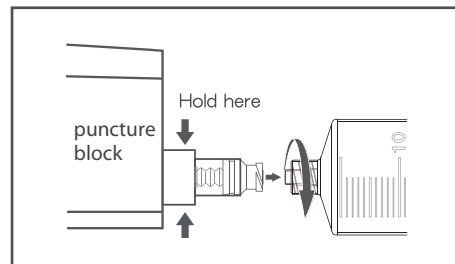
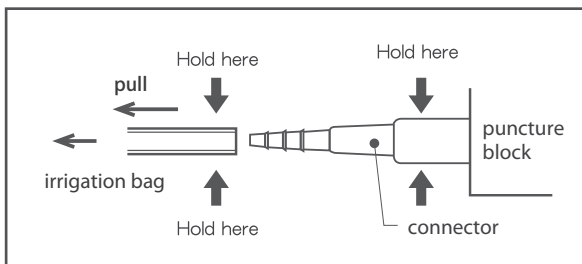
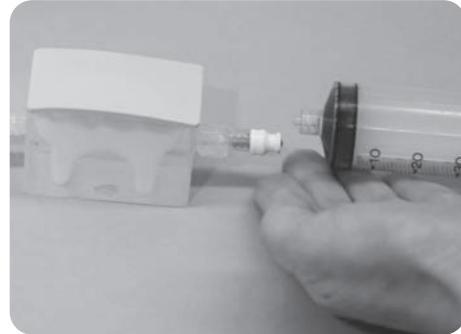
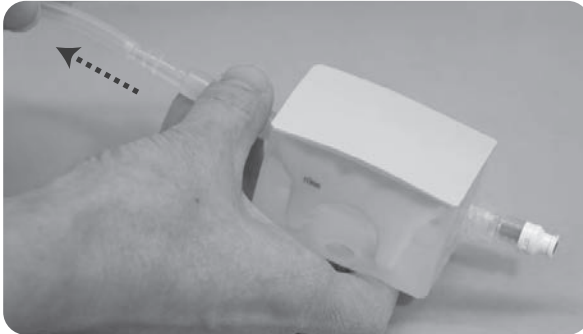


4. Slowly depress the piston and push air into the water-filled block. After all the water has been ejected from the puncture block, close the clamp.



1 After Training

5. Remove the tube of the irrigation bag and the connector of puncture block.
Remove the syringe by turning it counter-clockwise.



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Caution If you continue the session, return to P6 and set a new block.
When you finish the session for the day, empty the irrigation bag and dry all used components naturally and store them in room temperature, avoiding direct sunlight or exposure to elements.

6. Drain the water in irrigation bag.





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.

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

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