

# MamaNatalie

## Birthing Simulator

User Guide





MamaNatalie is a birthing simulator that makes it easy to create very compelling simulations of normal to more complex birthing scenarios. MamaNatalie is strapped onto the Operator, who performs the role of the mother at the same time as manually controlling the features.

MamaNatalie gives birth to NeoNatalie, a highly realistic newborn simulator that facilitates effective learning of essential newborn care, including basic resuscitation measures. NeoNatalie has realistic size and appearance, and also natural weight, feel and touch when filled with lukewarm water. The baby's status can be simulated as desired for effective role playing in all relevant scenarios, from care after normal birth to treatment of emergency situations.

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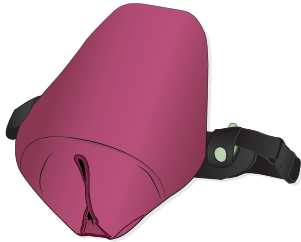
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# Items Included

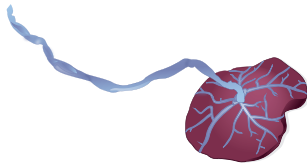
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MamaNatalie  
Birthing Simulator  
(inc. Uterus, Air Bag Reservoir)



Fetal Stethoscope



Placenta  
w/ Umbilical Cord



Fluid Collection Tray



Fluid Drain



Cervix Ribbon



Floor Protector



Backpack



NeoNatalie  
Newborn Simulator



Syringe (20 ml)



Urine Catheter



2 x Gloves  
(1 normal and 1 long)



Blood Concentrate



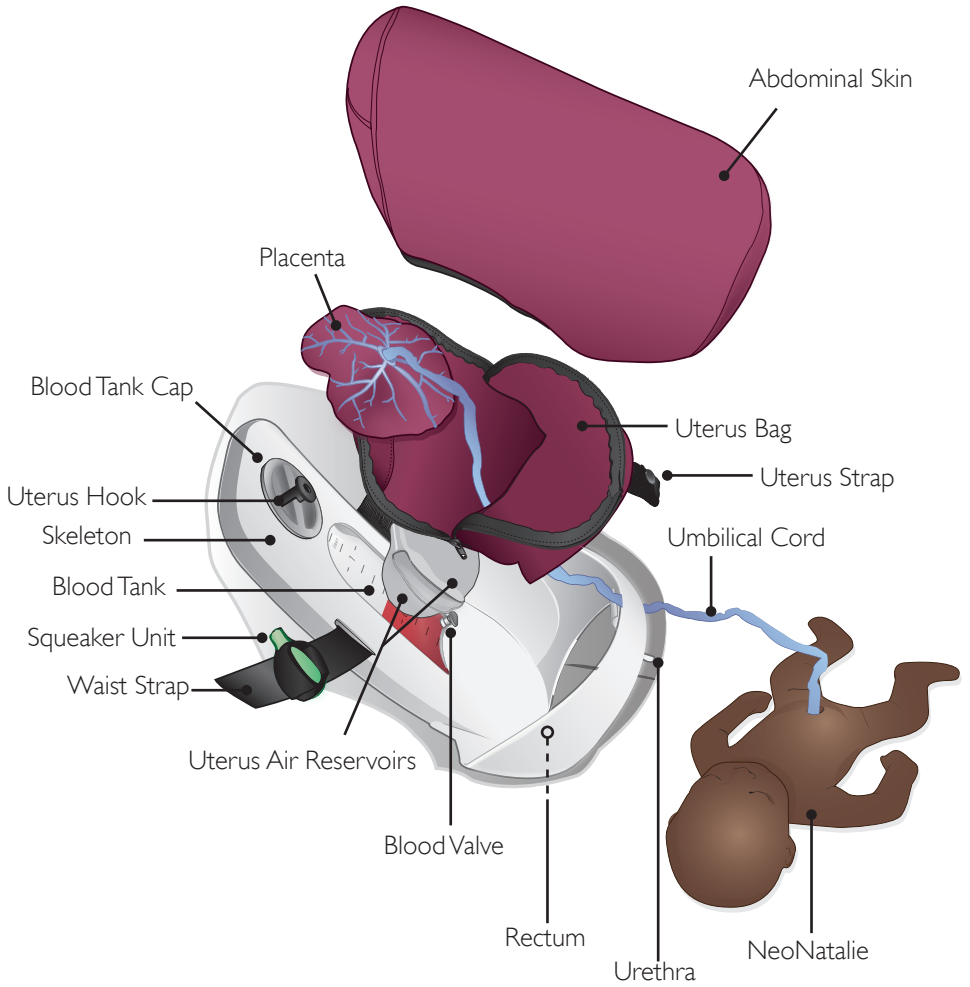
NeoNatalie Skull  
w/fontanelles



User Guide

# Overview

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## Labour Features

- Baby position in birth canal
- Cervix landmark
- Urine Bladder Catheterization
- Delivery of baby
- Delivery of placenta (complete and incomplete)



## Bleeding After Birth Features

- Realistic Bleeding
- Bimanual Compression



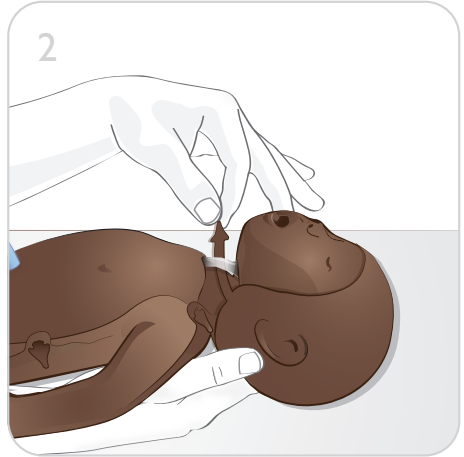
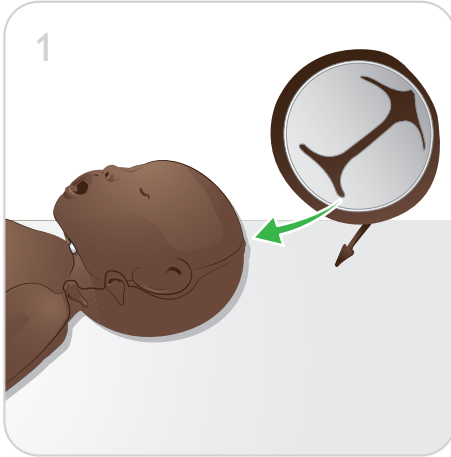
## Newborn Airway and Breathing Features

- Bag/Mask Ventilation
- Spontaneous Breathing
- Simulated Heartbeat
- Palpable Umbilical Pulse
- Crying

# Preparing for Simulation - NeoNatalie

For instructions on how to fill NeoNatalie, refer to NeoNatalie User Guide.

## Fitting the Hard Skull with Fontanelles

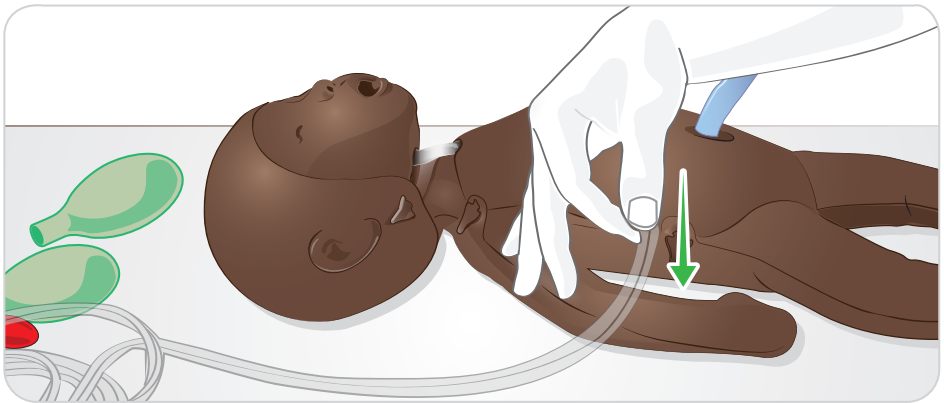


### Note

*Do not tighten the strap over the airways as this will block free air flow and prevent successful ventilations.*

## Detach the Simulation Tubes

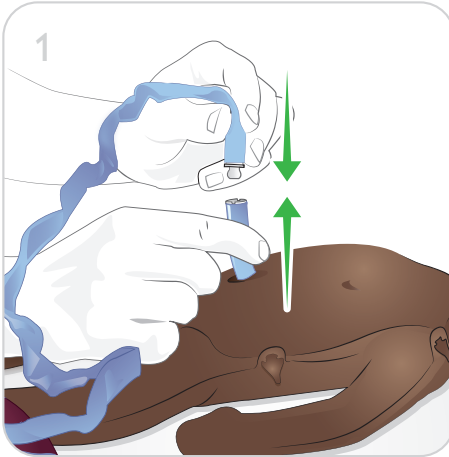
The Simulation Tubes are attached to the right side of NeoNatalie's chest. Pull gently on the Tubes to release them.



### Tip

*After delivering NeoNatalie, reattach the Simulation Tubes to simulate spontaneous breathing, palpable umbilical pulse and heart beat.*

Attach and Detach the Umbilical Cord



# Preparing for Simulation - MamaNatalie

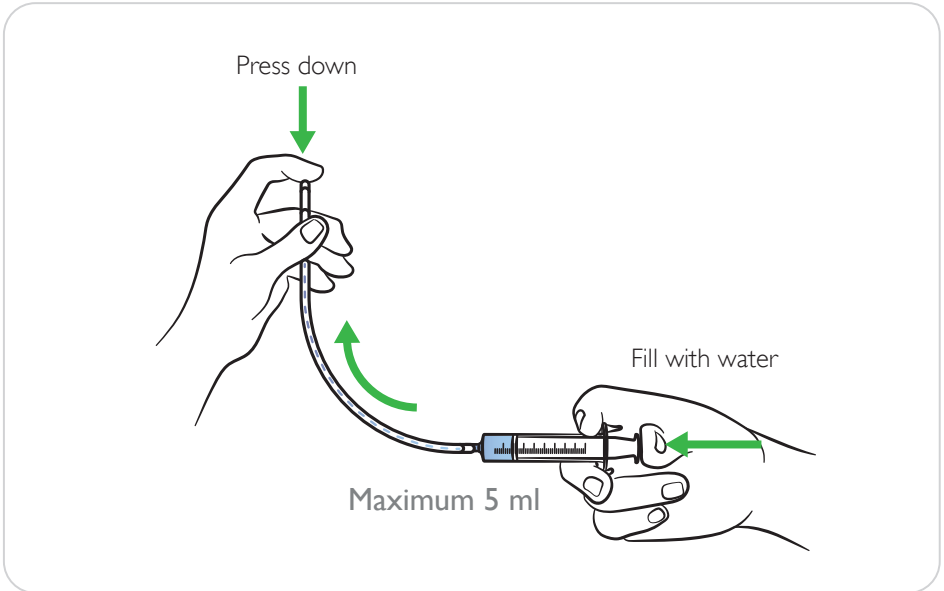
## Fill Blood Tank

Mix the blood according to manufacturers instructions. Maximum 1.5 liters.

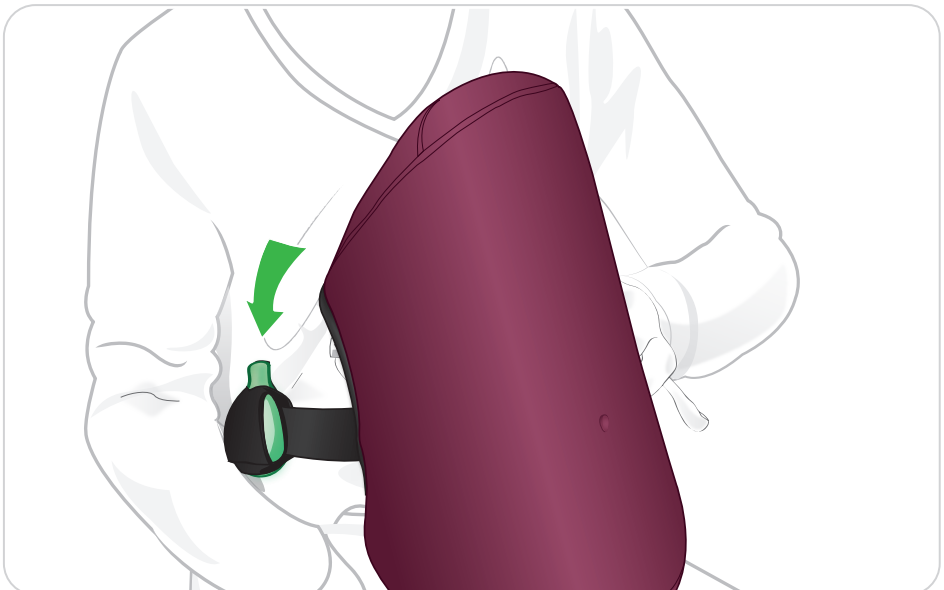


## Fill the Catheter

Press the button on the end of the catheter whilst squeezing the syringe.

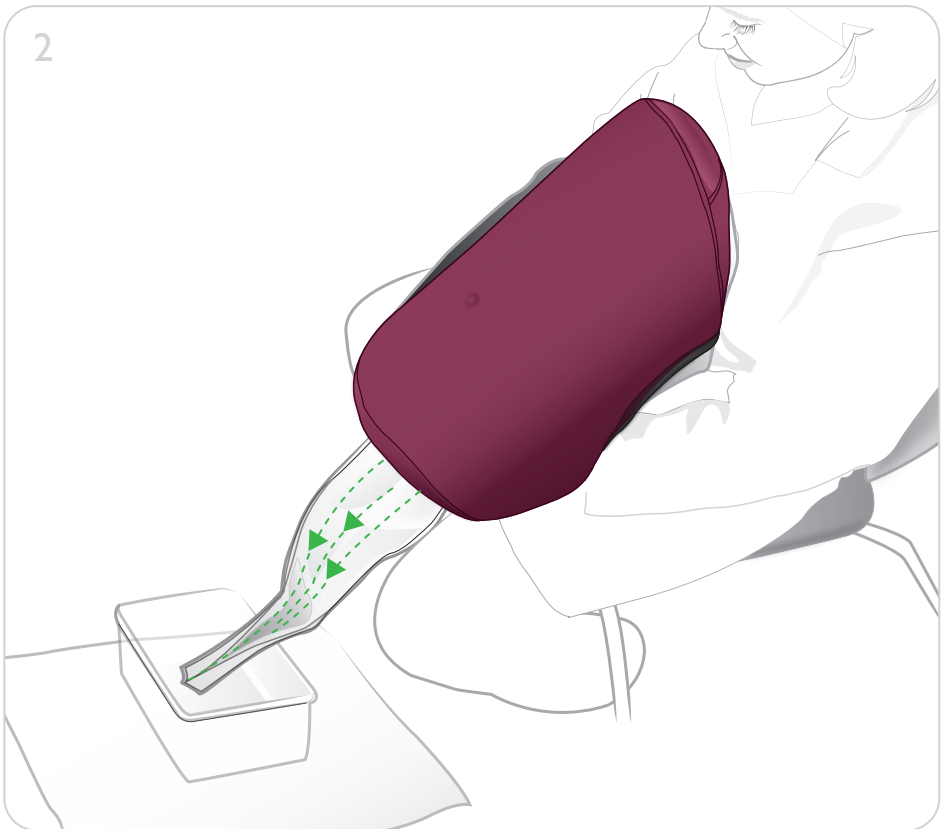
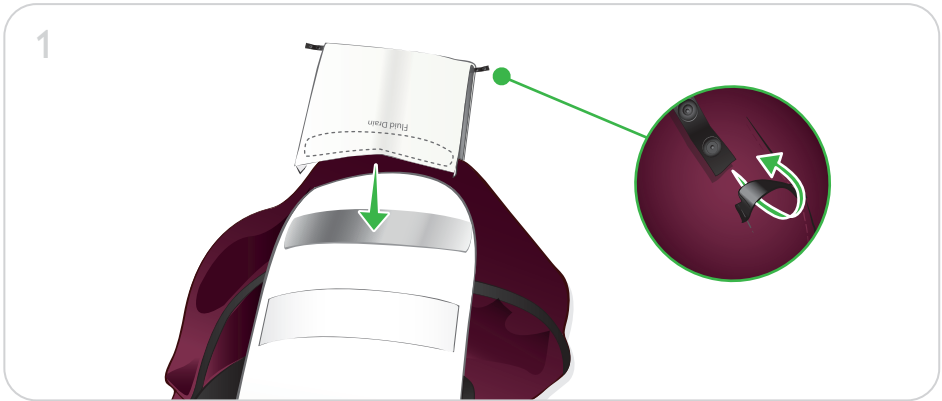


## Place the Squeaker Unit



# Preparing for Simulation - MamaNatalie

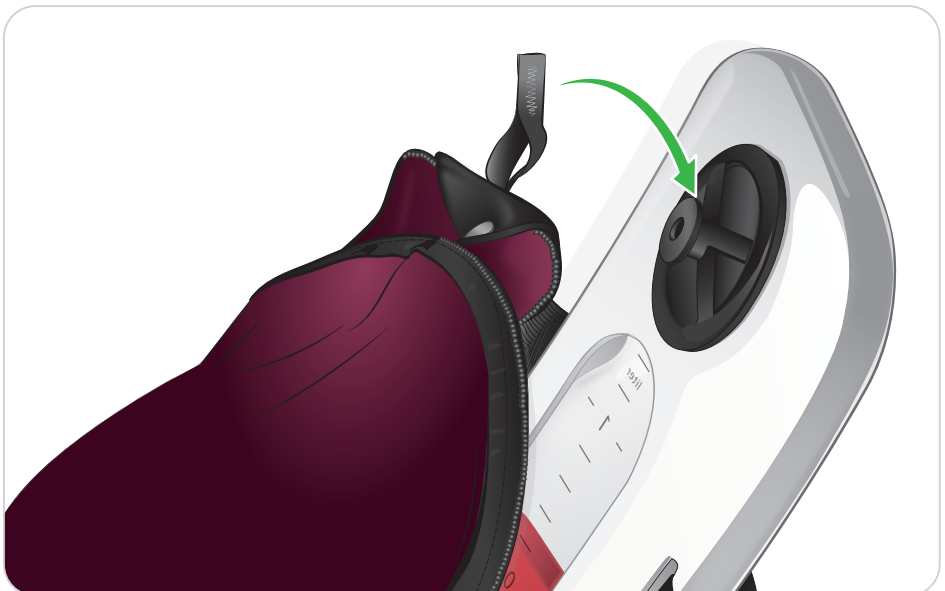
## Protection Against Fluid Spillage



## Attaching MamaNatalie to the Body



## Hang the Uterus over the Hook

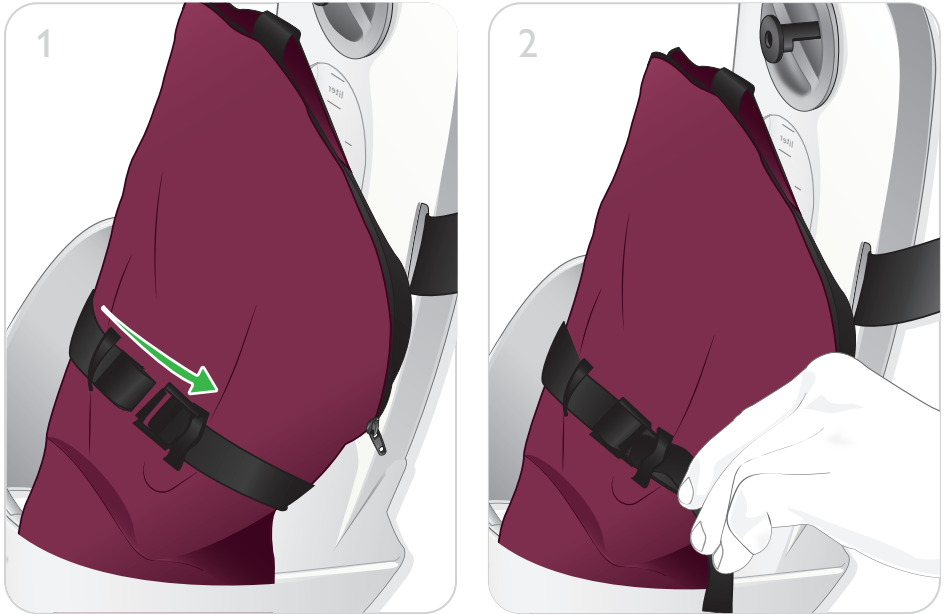


## Preparing for Simulation - MamaNatalie

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### For Cervix Landmark

The Cervix Ribbon allows simulating a landmark for the cervix. This can be useful, for example when training on bimanual compressions.



### Tip

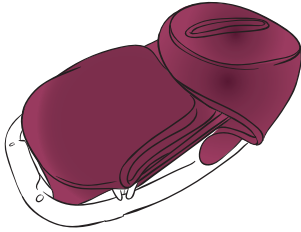
*Remove the Cervix Ribbon when cervix landmark is not needed during simulation training.*



## Preparing for Simulation - Installing Mama-U in MamaNatalie

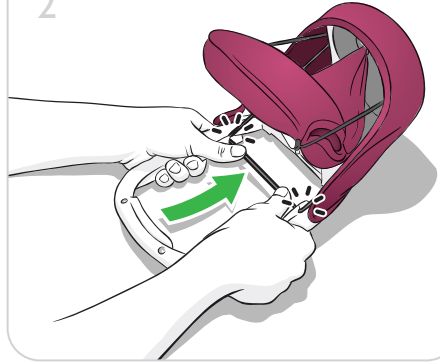
Mama-U is a uterus training model for postpartum care designed for training PPIUD and UBT, and is compatible for use with MamaNatalie.

1



Mama-U

2

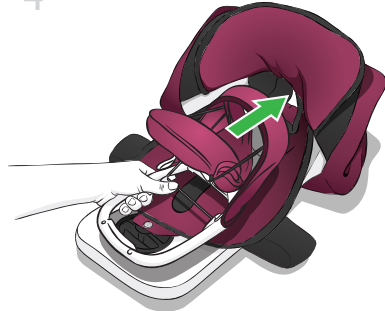


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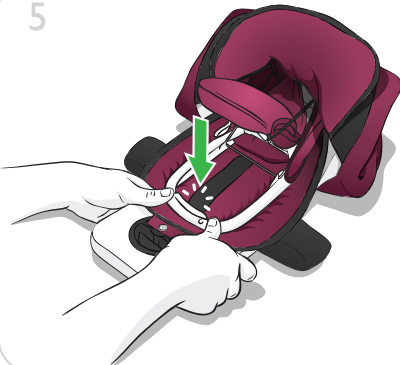


MamaNatalie

4



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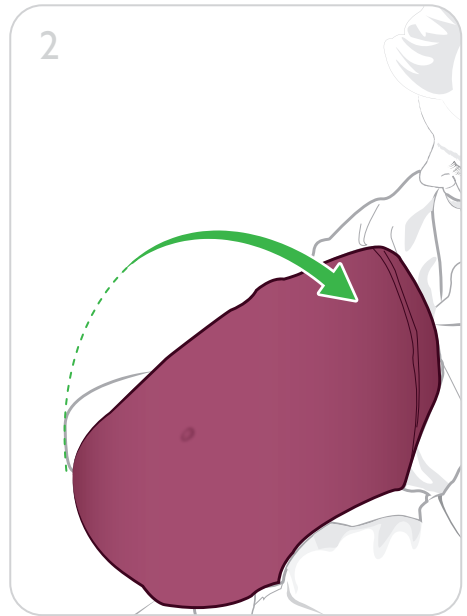
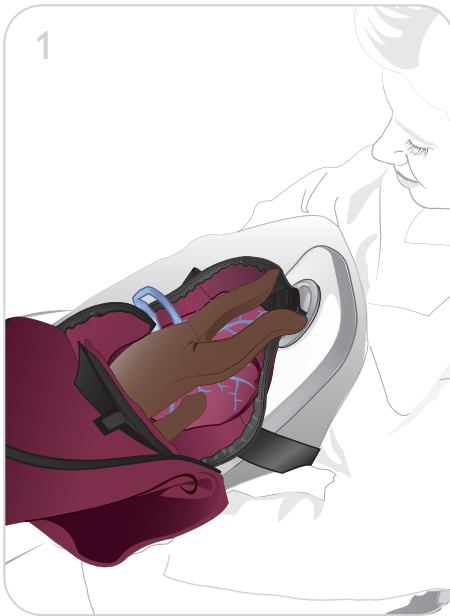
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## Use - MamaNatalie

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Insert NeoNatalie into uterus and attach the Placenta to the velcro located inside the uterus.



### Tip

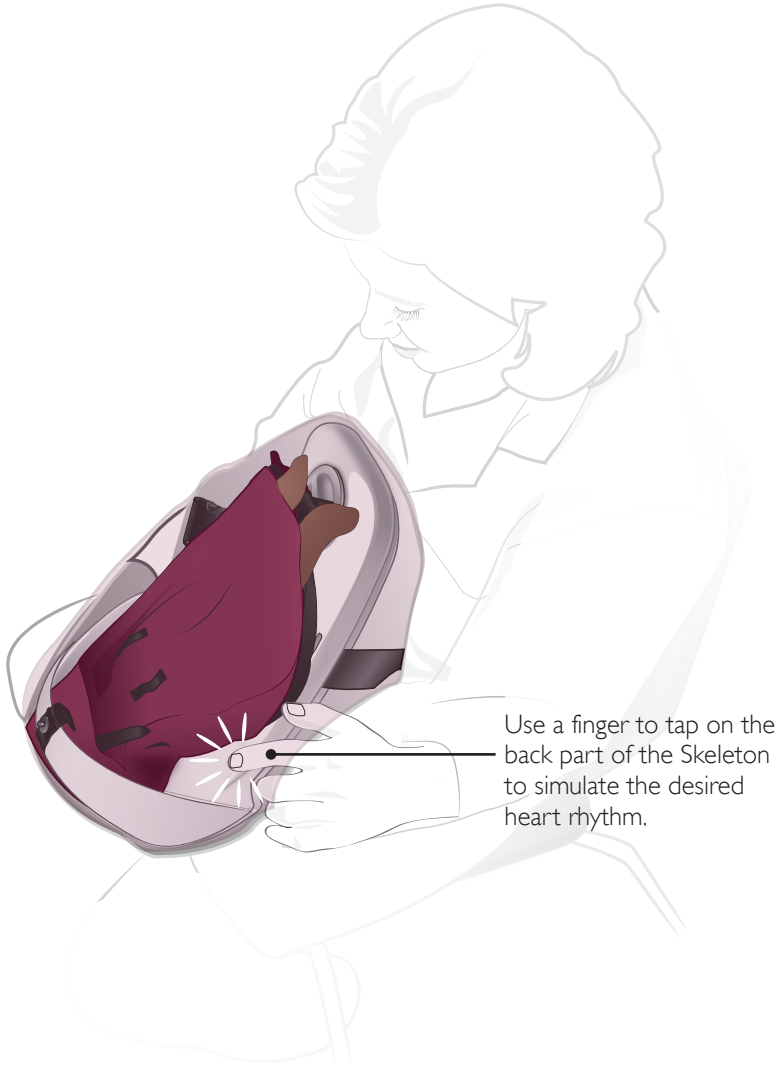
*To hide NeoNatalie's head from the birth canal: Place your hands between the Abdominal Skin and the lower part of the Uterus Bag. Hold your hands around NeoNatalie's head and clamp the birth opening together.*

### Tips for Performing Simulations

- Pay attention to the learners.
- Respond appropriately to the treatment given.
- Play and act as a birthing mother.

For demonstration videos and updated information visit: [www.laerdalglobalhealth.com](http://www.laerdalglobalhealth.com)

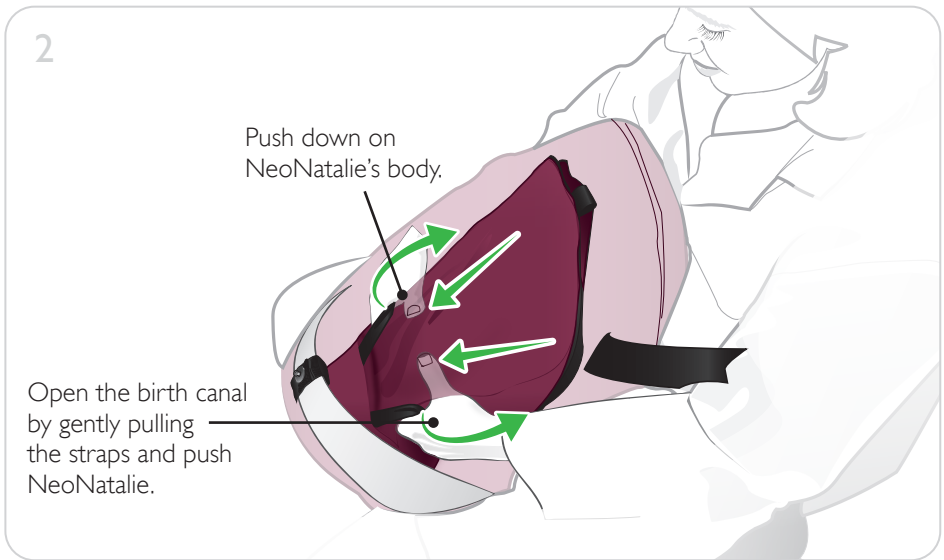
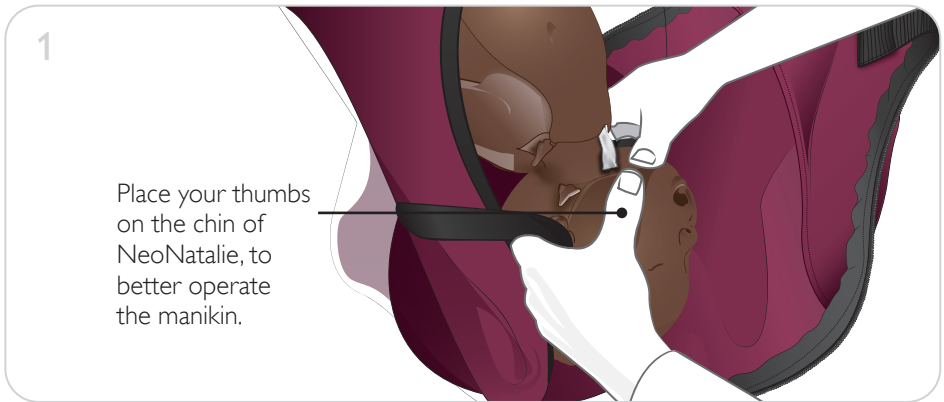
Simulation of Fetal Heart Sounds



Use a finger to tap on the back part of the Skeleton to simulate the desired heart rhythm.

# Use - MamaNatalie

## Delivering NeoNatalie



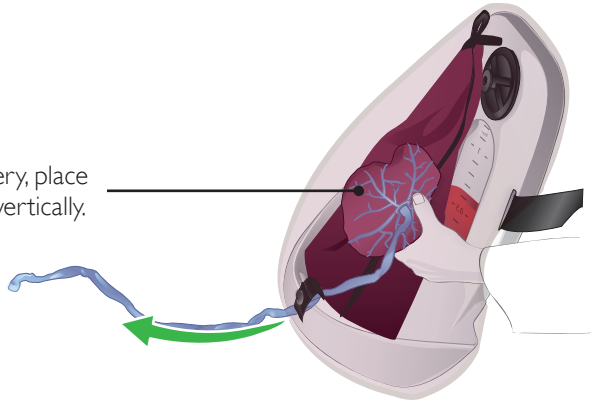
### Tips

- For normal delivery, push directly on NeoNatalie's chin. Deliver the rest of NeoNatalie by pushing onto the body.
- For easier delivery lubricate NeoNatalie's head with a few drops of water or baby oil before putting NeoNatalie into the Uterus.
- During delivery, manipulate NeoNatalie as in a natural birth, for example by rotating the baby after the head is delivered. Hold NeoNatalie's body inside the uterus, while rotating the body as desired.

## Delivering the Placenta

After NeoNatalie is delivered, detach the Placenta from the velcro inside the uterus.

To ease delivery, place the Placenta vertically.



## Placenta conditions

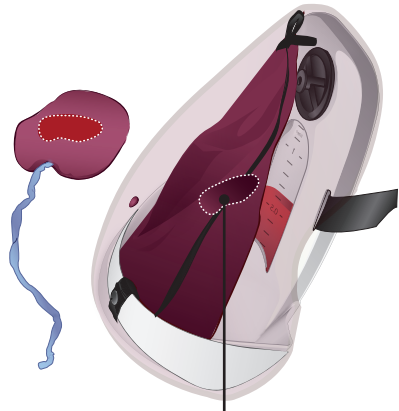
To deliver the placenta, detach the Placenta from the velcro inside the uterus.

### Delivery of complete Placenta



Complete placenta.

### Delivery of incomplete Placenta



Leave the small part attached inside the uterus.

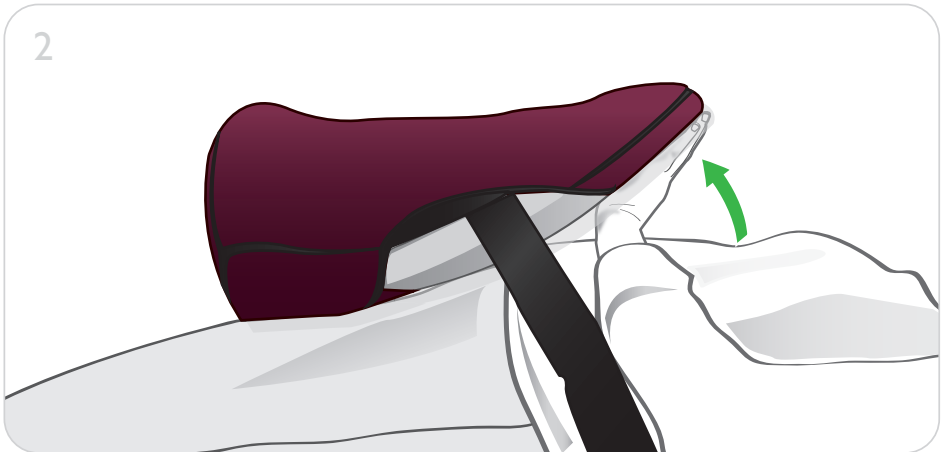
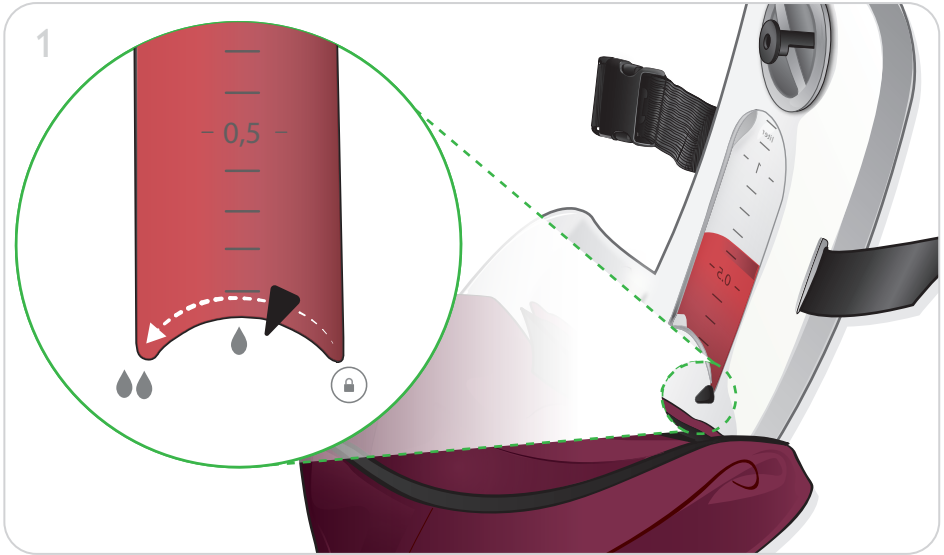
## Retained Placenta

Do not detach the Placenta. If the learner is pulling the cord, hold onto the Placenta to ensure it stays in place.

# Use - MamaNatalie

## Controlling Blood Flow

To open the blood flow, push the Blood Valve inwards and slide it from the locked position to the middle position. If more blood is needed, push and slide the Blood Valve to the far right position.

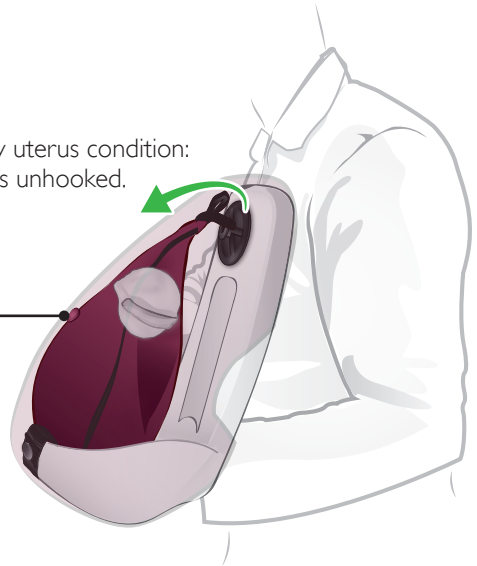


If the operator lies flat, tilt MamaNatalie forward to keep the blood running.

## Controlling Uterus Conditions

Before simulation of any uterus condition:  
Ensure that the uterus is unhooked.

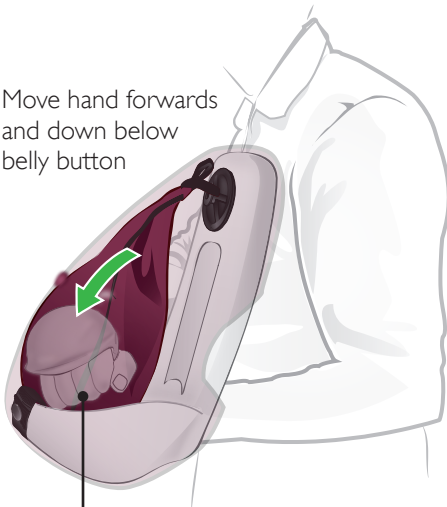
Belly Button



To Simulate Contracted Uterus Condition

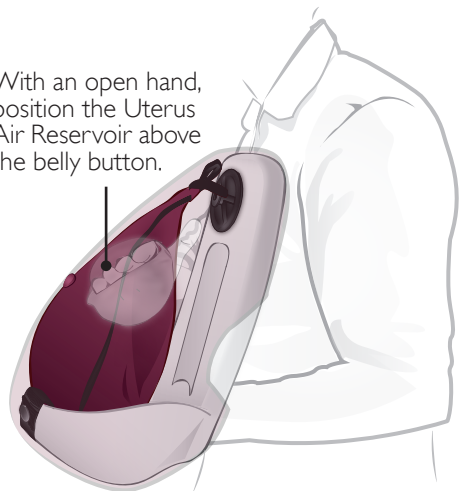
To Simulate Soft Uterus Condition

Move hand forwards  
and down below  
belly button



Gradually squeeze reservoir.

With an open hand,  
position the Uterus  
Air Reservoir above  
the belly button.



### Note

When palpating a soft uterus, learners may start to palpate from the pubic bone and upwards. The Operator should follow this movement with the Uterus Air Reservoir until it is at the appropriate position.

## Use - MamaNatalie

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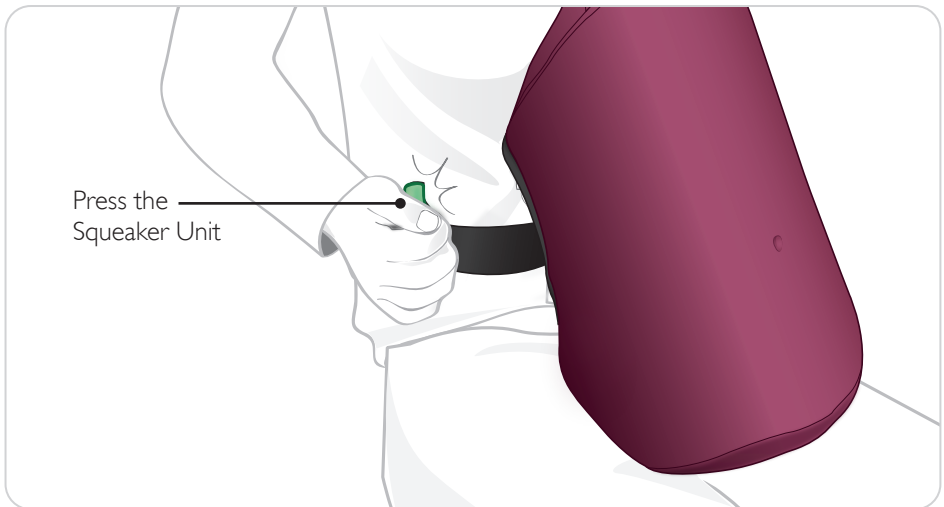
### Urine Catheterization

Let the learner insert the prefilled urine catheter through the urethra until the catheter is empty.

### Cervix Landmark

To create the cervix landmark, tighten the Cervix Ribbon to the desired level (see Cervix Landmark section).

### Simulation of Baby Cries



### Administration of Medications

- To simulate intramuscular administration of medications, use the 20 ml Syringe (do not use a needle).
- To simulate administration of suppositories, medications can be inserted into the rectum.



## Textile Parts

### Light Cleaning

1. Use a soft cloth soaked in soapy water to clean all textile parts of MamaNatalie.
2. Rinse in clean water.
3. Hang to dry.



#### Note

*Do not hang MamaNatalie to dry in direct sunlight.*

### Thorough Cleaning

1. Soak the Abdominal Skin in water for an hour (soaking the neoprene in water will dissolve salt and chemical build-up in the material).
2. Hang to dry, avoiding direct sunlight.

## Hard Parts

Use a soft cloth soaked in soapy water to wipe off dirt.

## Blood and Urine

- Empty the tank after each training session. Do not travel with artificial blood stored in the MamaNatalie blood tank.
- Flush the Blood Tank with clean water or, alternatively a 0.2% NaClO (sodium hypochlorite) solution.
- If improvised blood is used (hibiscus tea etc.), empty and flush the Blood Tank after every day of use.



#### Warnings

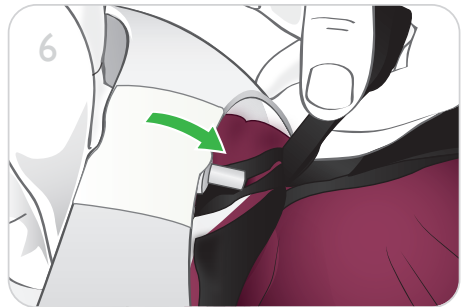
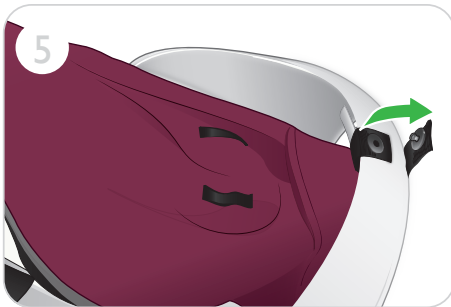
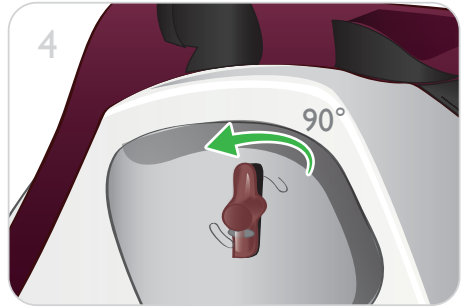
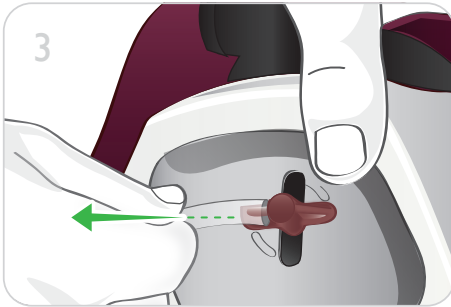
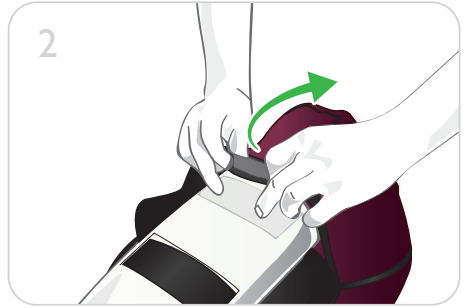
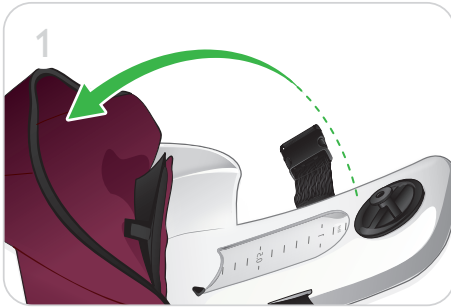
- *Do not use strong washing detergents for cleaning, as it may damage the product.*
- *Do not leave MamaNatalie in direct sun light.*
- *Do not leave a wet MamaNatalie inside a bag. Clean it and dry it after use.*

## NeoNatalie

- See NeoNatalie User Guide for further instructions on cleaning .

# Disassembly & Reassembly

Disassemble MamaNatalie before cleaning or other maintenance. Empty Blood Tank before disassembly. To reassemble, follow the steps in the reverse order.



## Notes

- When reassembling, ensure the urethra is positioned into the small opening of the Uterus before closing the Uterus Strap around the Skeleton. When correctly positioned, the urethra should be visible for the Learner from the outside.
- When reassembling, position the blood nipple into the opening of the Skeleton with the inlet tube pointing downwards. Twist 90 degrees to fixate.

Temperature and Environment	
Operating temperatures	15 to 40 °C (59 - 104 °F)
Storage temperatures	-10 to 50 °C (14 - 122 °F)
Operating humidity	5 - 100% RH
Storage humidity	max 95% RH



## Note

*Do not store artificial blood in the Mama Natalie Blood Tank.*

# Troubleshooting

Issue	Action
Artificial blood flows when it should not	<ul style="list-style-type: none"> <li>• Check that the Blood Valve is in the closed position.</li> <li>• Check all components for leakage.</li> </ul>
If the Blood Tube seems to be blocked	<ol style="list-style-type: none"> <li>a) Fill a syringe with water and try to flush the water through the tube from the blood outlet inside the uterus.</li> <li>b) Inspect the tube from the Blood Tank. If the tube is deformed, massage the relevant point with your fingers until the tube has opened.</li> </ol>
Hard to push NeoNatalie's head out of the vaginal opening	<ul style="list-style-type: none"> <li>• Check that the Uterus hangs on the hook of the Blood Tank Cap.</li> <li>• Check the position of the head.</li> <li>• Check that the Abdominal Skin is fixed with the Uterus Strap to the pubic bone.</li> <li>• Try lubricating NeoNatalie's head with a few drops of baby oil.</li> </ul>

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helpline save lives