



# A **WORLD FIRST** FOR WATER RESCUE

## **ADVANCED WATER RESCUE MANIKIN**



# *TAKING WATER RESCUE TRAINING TO THE NEXT LEVEL...*

## Combine water rescue and medical training

Replicating a realistic rescue scenario prepares your team for a genuine emergency. Previously, teams practised water rescue techniques using one manikin and switched to a different one for medical skills. With the Advanced Water Rescue Manikin, this is no longer necessary, allowing your crews to complete a full, simulated drowning rescue with just one manikin.





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*This product offers a unique opportunity to take training from start point of rescue, right to resuscitation.*

**Adam Khan - Critical Care Paramedic with Wiltshire Air Ambulance**

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## LIFECAST BODY SIMULATION

Introducing a step change in realism for the medical and rescue training industry, Lifecast Body Simulation has developed a range of highly accurate and lifelike medical manikins which are transforming the way that medical simulation and education are delivered and absorbed.

With 30 years of clinical experience and 30 years of designing manikins for TV & films we are able to bring realism to the world of medical simulation.

## RUTH LEE

Over the last 25 years, Ruth Lee Ltd has established itself as one of the world's leading manufacturers of training manikins. Located in rural North Wales, and from humble beginnings, when production was run from the family barn, the company now operates from two sites, selling manikins all over the world, to more than 50 countries.

Working with professional and volunteer teams in the Fire Service, Armed Forces, Healthcare, SAR, Police, Prisons, Lifeguard and water rescue sectors and multiple specialist rescue and training organizations, the company manufactures a wide range of manikins with unique features. Each manikin has been designed in consultation with industry experts to ensure that they meet the rigours of individual training requirements .

# TRANSFORMING DROWNING TRAINING

Combining the ultra-realistic technology of Lifecast Body Simulation with the protective and rugged Ruth Lee body means that the manikin can be used to accurately simulate the rescue of drowning victim from the water, allowing rescuers and medical practitioners to train more effectively and more quickly, under pressure and in hostile conditions.

The Ruth Lee outer body aids buoyancy in all waters, whether open waters, pools, lakes and rivers helping to maintain the body in the drowned position ensuring the advanced water rescue manikin is protected in hostile environments.

The manikin replicates hydrostatic squeeze, which means water won't enter the lung system, but you can choose to add water using a three-way tap allowing for both submerged or immersed drowning scenarios to be created - a world first for water rescue training.

## FEATURES & BENEFITS

- A high-tech drowning torso from Lifecast for ultra-realistic medical skills training.
- Specialist technology replicated hydrostatic squeeze to allow for submerged or immersed drowning scenarios including management of pulmonary oedema.
- The manikin is designed to mimic a drowned person in the water - it floats like an unconscious person but can also be weighted to sink or increase the realism of rescue.
- Pockets on arms, legs, chest and back to allow for additional divers weights or equivalent to be added (a maximum of 10kg can be added before the manikin will sink and we would advise use of a buoyancy aid if you plan to add any more weight to the manikin).
- Cardiopulmonary Resuscitation - chest compression - 5-6cm with built in recoil.
- Supplied with easy drain wellingtons and soft shoes to allow military uniforms to be dressed over carcass.
- Easy access point to reach drainage/fill 3 way tube lets you introduce liquid to replicate 'foaming' as part of a wet lung rescue. 350ml of water should be introduced via the tap to produce the effect of pulmonary oedema and foaming.
- Anatomically correct weight distribution for the 'feel' of a real casualty.
- Dry weight 50kgs in total (with soft feet) or 52kgs (with wellington boots).

## KEY MEDICAL PARAMETERS

- Nasopharyngeal Airway insertion
- Nasal intubation
- Oropharyngeal Airway insertion
- Oro tracheal intubation
- Laryngeal Mask airway insertion
- i-gel® insertion
- Combitube insertion
- Bag valve Mask ventilation
- Mechanical Ventilator compatibility
- Manual suction or mechanical suction of nasal and oral cavities.

# CLEANING AND MAINTENANCE

## MANIKIN TORSO

- Wash with a soft sponge and water.
- A PH neutral, non-coloured mild liquid soap may be used if required.
- Dry thoroughly before storing.
- Do not use any abrasive cleaning agents or materials.
- Once clean and dry, bodies can be lightly dusted with talcum powder to dull any shiny areas.
- We advise that after each training session, before you put the manikin in storage, you flush water through the valve and lung system by gently inserting a hosepipe into the mouth cavity and running for approx. 1 minute.
- If storing the manikin between sessions or if the manikin has been used in brackish water, we would recommend flushing a cleaning agent through the valve and lung system. In particular, look for the following specifications on appropriate cleaning products
  - Bactericidal : in 5 minutes EN1040, EN1276 (including MRSA), EN 14561 and at 1.8% V/V EN13697.
  - Fungicidal : in 15 minutes EN1275, EN 1650 and EN14562 on Candida albicans (agent responsible for thrush).
  - Virucidal : in 15 minutes NF T72-180. Effective on Rotavirus and Coronavirus.

## OUTER BODY AND OVERALLS

The main body of the manikin is manufactured using a sturdy waterproof polyester that is easy to clean and decontaminate.

- Water rescue manikins are designed to allow the ingress of water during use and it important that this water is allowed to drain out after use. We recommended that the manikin is hung up using the large webbing loop to the back and that the wellington boots are removed.
- If the manikin becomes soiled with oil or other similar substances, carefully clean using a suitable cleaning fluid before washing with soapy water to remove traces of the cleaning fluid. Please be aware that bleach or caustic based cleaning fluids will start to have a detrimental effect on the fabric integrity.
- Although the manikin is made from tough, waterproof polyester, always ensure that it is completely dry before stowing.

## GENERAL CARE

### STORAGE

- Allow to dry thoroughly before storing.
- Store face up in a cool and dry place.
- Do not store in an air-tight container.

### MOVING & HANDLING

- Move in the bags / cases / stretchers provided.
- Do not move by pulling the manikin limbs.
- Do not lift by the head or neck
- As the dry weight of this manikin is approximately 52kg, we recommend that a moving and handling risk assessment be conducted. Please note that the manikin will be significantly heavier when first hauled from the water and especially if additional weights have been inserted into the pockets.

### USING ELECTRODES, DEFIB PADS AND ADHESIVE TAPE

- The most effective solution is to use APHIX™ Silicone Adhesion Promoter - [www.smooth-on.com/products/aphix/](http://www.smooth-on.com/products/aphix/) - This link gives you access to product details, instructions for use and ability to purchase on-line directly or via a list of global distributors.
- We have also tested 3M™ Kind Removal Silicone Medical Tape 2770 (CAT No. 2770, Part Number M2770, 3M ID70200764549) and this works very well for securing dressings and airway adjuncts (ET tubes etc.).

## FEATURE SPECIFIC GUIDANCE

### AIRWAY

- Avoid putting solids in the nose, mouth or airway.
- Use recommended airway adjunct size. (Adult Male Manikin NP 7-8 / OP 5 / SG 5 / NTL 28.5cm)
- A lubricant should be used for each nasal/oral airway insertion. Only use IPA (Isopropyl Alcohol >99%) or Cottonseed Oil as the lubricant for airway insertions.

### LIMBS

- Avoid moving limbs into abnormal anatomical positions.

### HAIR

- Avoid over working or pulling the hair.

## AIRWAY MANAGEMENT AND VENTILATION

- Lifecast Body Simulation manikins are designed to enable step wise airway management and allow for the insertion of nasopharyngeal, oropharyngeal, supraglottic airways and endotracheal tubes.
- A lubricant should be used for each nasal/oral airway insertion. Only use IPA (Isopropyl Alcohol >99%) or Cottonseed Oil as the lubricant for airway insertions.
- Do not perform mouth to mouth ventilation (mouth to mask with a one-way valve is acceptable).
- Bag Valve Mask/Tube ventilation and mechanical ventilation can also be performed.

## CHEST COMPRESSIONS

- Manual chest compressions can be performed on all Lifecast Body Simulation manikins. The Advanced Water Rescue Manikin has 5-6 inches of recoil for CPR.
- Please contact Lifecast Body Simulation for advice before using mechanical chest compression devices.

## MATERIALS

- SKIN - Silicone
- HAIR - Human Hair
- CORE - Urethane & Silicone
- AIRWAY - Silicone
- EYES - Acrylic
- Latex free

## ENVIRONMENTAL SPECIFICATIONS

- Temperature Range - Storage: 0°C to 40°C
- Temperature Range - Use: 10°C to 35°C
- In high humidity regions, please ensure the manikin is always completely dry before storage.

## MANIKIN BODY

Carcass constructed from nylon mesh. High density polypropylene webbing (25mm rated to 207 Kg, 50mm rated to 440Kg). Non-absorbent closed cell foam – water absorption: 1 Day <0.1 (DIN 53428 1986) 28 Days < 0.5% VOL. Overall constructed using the same specification flame retardant Polyester that is used in Police ballistic/stab vests (conforms to OEKO-TEX® Standard 100, BS EN ISO 12947-2 & 14116: 2008).

# WARRANTY

Lifecast Body Simulation and Ruth Lee warrants their manikins to be free from manufacturing defects for a period of 12 months from the date of shipping. Accidental or malicious damage is not covered under this warranty.

## REPAIRS

Due to the nature of rescue training, it is possible for the unprotected parts of the manikin (the head and face) to suffer small nicks in the silicone. We have included a repair kit for making these small repairs.

In all instances, we ask you to contact us at Ruth Lee Limited on +44 (0)1490 413 282 so that we can put you in touch with one of the Lifecast Team who can instruct you on making the repair.

For larger warranty repairs or for repair quotations not covered under warranty, please contact Ruth Lee Limited on +44 (0)1490 413 282.

\*Please note - if you plan to use additional weights on the manikin, we advise attaching a rope/line very securely to avoid losing it in deep water. Also, please always remember that the manikin is designed to replicate an unresponsive casualty - in open water, part of the challenge is locating that person! It is advisable to attach a GPS tracker or similar to the manikin for performing any search and rescue training.



A collaboration between the experts at Ruth Lee and Lifecast, to create a 'World First' for water rescue professionals



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