



Moulage Application

Laerdal Part No.

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1 SYSTEM SUMMARY

This document covers the preparation, use, and care of the application of moulage on a live actor or on a human patient simulator. SIMETRI developed realistic wound appliances compatible with live actors and human patient simulators that help train in treating wound care. The moulage's reliability and maintainability are critical to the objective of maintaining warfighters' combat emergency response readiness. Steps on how to use and maintain these simulated injuries are detailed in the sections below.

2 INSTALLATION INSTRUCTIONS

2.1 Supplies

The list of supplies is required to apply the moulage for a live actor or human patient simulator.

- Plastic Palette Knife
- Paint Brush
- Stipple Sponge
- Plastic Tubing
- Coagulated Blood
- Face Powder
- Isopropyl Alcohol (70% - 99%)

2.2 Environment

Although installation can be done in any environment, a dry and climate-controlled environment is ideal for installing the Moulage on the Laerdal SimMan 3G manikin or live actor.

3 USER INSTRUCTIONS

3.1 Application on Human Skin

1. Take out a cotton swab, soak it with alcohol, and clean the area that the wound will be placed on.
2. Open your Adhesive for Humans Part A and Part B jars and using a palette knife scoop a quarter size amount of material of each part into a mixing palette and mix until both parts are combined.
3. Using palette knife spread some of the mixed material onto the back of the prosthetic wound (**Figure 1**). Gently press the wound onto the skin (**Figure 2**).

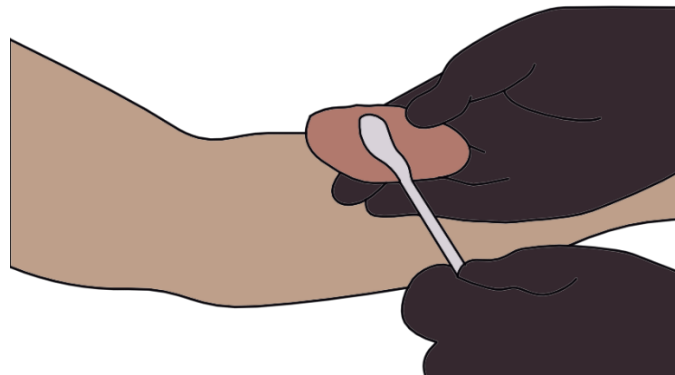


Figure 1. Applying the Adhesive to Moulage

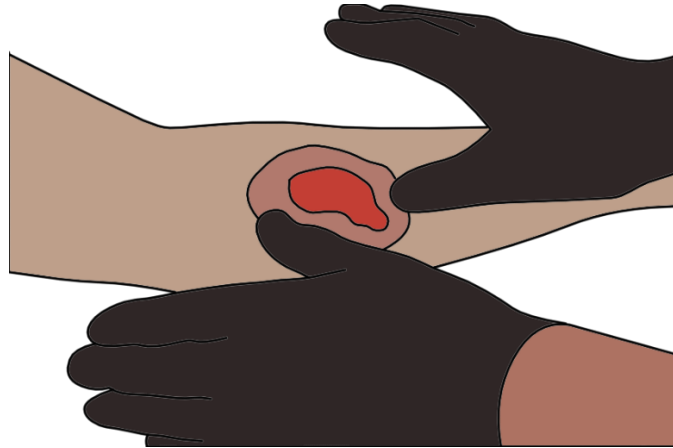


Figure 2. Securing the Moulage

4. Use the remaining adhesive under the edges of the wound to further blend it in (**Figure 3**). Make sure not to roll up the edges or there will be a sharp contrast.

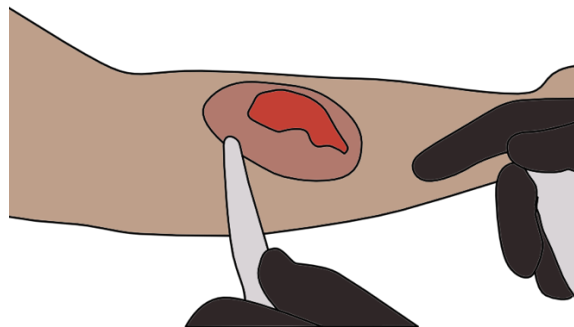


Figure 3. Blending Edges

5. While adhesive is still drying, take a small amount of alcohol on your finger and smooth out the edges by tapping on them lightly. Allow 3-5 minutes to cure. You can a blow dryer on low heat to speed up the curing process.
6. Use the stipple sponge lightly coated with face powder (**Figure 4**) to tone down the glossy finish on the adhesive. This is necessary for obtaining a more natural look.



Figure 4. Sample Stipple Sponges and Face Powder

7. To remove the stickiness of the wound, use the orange stipple sponge and a small amount of translucent neutral set face powder (**Figure 4**) and matte down the edges of the wound.

8. For added effects, using a plastic palette knife spread the simulated coagulated thick blood (**Figure 5**) around and/or on the wound for a coagulated aged blood look.



Figure 5. Sample Simulated Coagulated Blood

9. Some moulage appliances include the capability to simulate bleeding. To make these wound appliances bleed, using a connector, place corresponding plastic tubing (**Figure 6**) and connect to wound at the connection point.

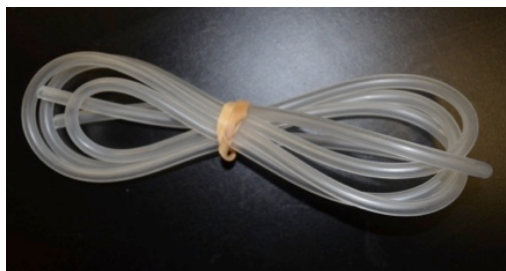


Figure 6. Sample Plastic Tubing

10. On the open end of the tubing, connect the simulated blood supply and push fluid through so that wound can actively bleed. You can use a syringe or blood bag as your blood supply.

3.2 Application on Manikin Skin

1. Lightly coat the entire back side of the wound with Adhesive for Manikin using a dry paint brush or plastic palette knife (**Figure 7**). The adhesive will turn clear when it is dry. Using a blow dryer can speed up this process.

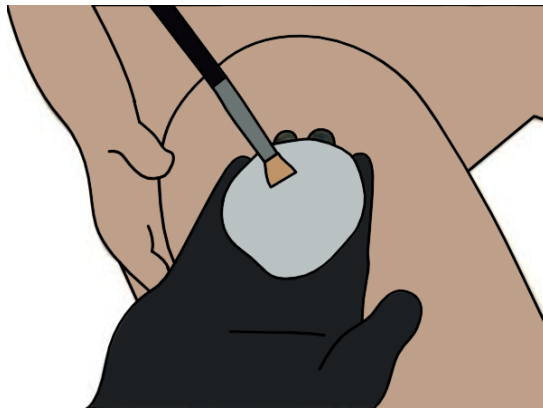


Figure 7. Adhesive for Manikin Application Method

2. Repeat this on the area of the manikin you intend to apply the wound and let cure for 3-4 minutes (**Figure 8**).

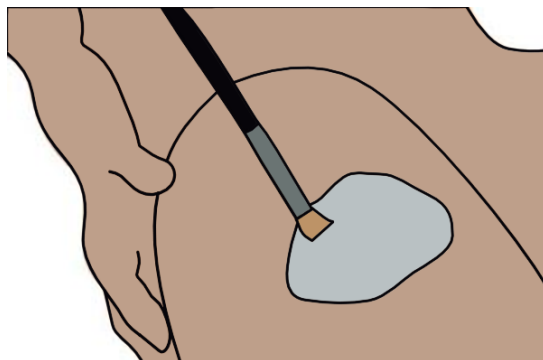


Figure 8. Adhesive for Manikin Cure Process

3. Once the adhesive has turned clear and dry, place the prosthetic wound appliance on the surface of the manikin.
4. Make sure not to roll up the edges on application. If an edge rolls up, use an alcohol-soaked cotton swab to straighten it out.
5. While adhesive is still drying, take a small amount of alcohol on your finger and smooth out the edges by tapping on them lightly. Allow 3-5 minutes to cure. You can use a blow dryer on low heat to speed up the curing process.
6. Use the stipple sponge lightly coated with face powder to tone down the glossy finish on the adhesive (**Figure 9**). This is necessary for obtaining a more natural look.



Figure 9. Sample Stipple Sponges and Face Powder

7. To remove the stickiness of the wound, use the orange stipple sponge and a small amount of translucent neutral set face powder (**Figure 9**) and matte down the edges of the wound.
8. For added effects, using a plastic palette knife spread the simulated coagulated blood (**Figure 10**) around and/or on the wound appliance for a coagulated aged blood look.

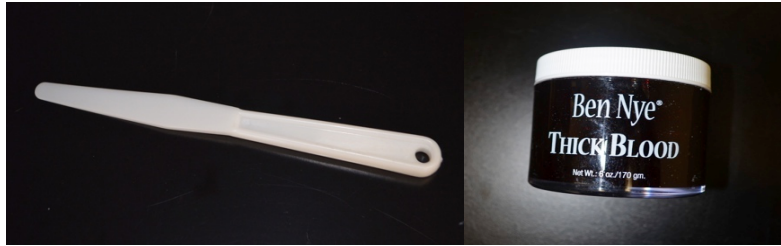


Figure 10. Sample Coagulated Simulated Blood

9. Wounds that include connection points are used for bleeding purposes. Using flexible, soft tubing, connect the end of the tubing to the corresponding connector of the wound. Connect wound to the bleeding ports of the manikin torso by twist and locking the loc connectors of the tubing into the bleed ports of the manikin (**Figure 11**).

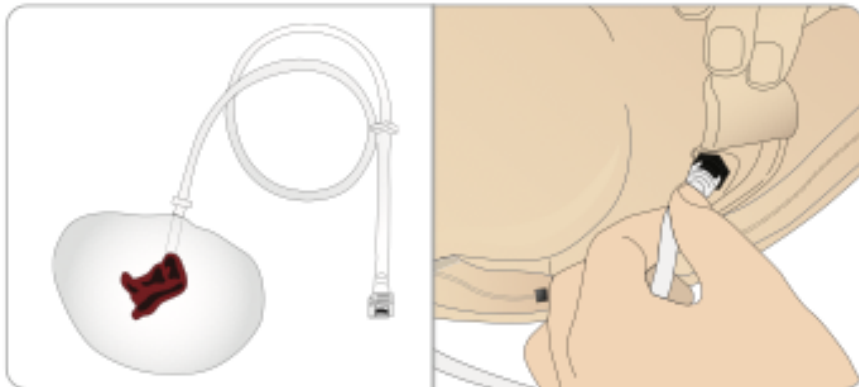


Figure 11. Laerdal SimMan 3G Wound Connection

10. The bleed ports accessible on the torso of the manikin are located in four areas, as illustrated in **Figure 12**.

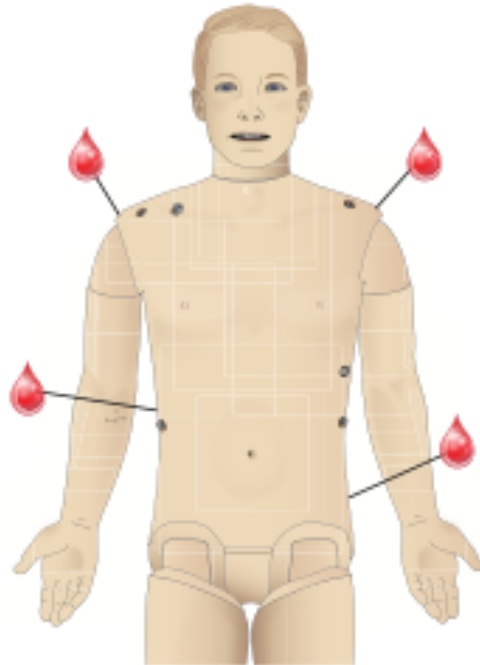


Figure 12. Laerdal SimMan 3G Bleed Ports

3.3 Moulage Removal from Human Skin

1. Roll up the edges of the wound appliance in the direction of hair growth. Once the edge is loosened, use an alcohol-soaked cotton swab and gently loosen the other edges.

2. Use the swab to help peel the wound appliance off the application site (**Figure 13**). Keep working in the direction of hair growth. Use the alcohol hand wipes to remove any make-up or adhesive from the skin. Make sure you do not use these wipes on the wound itself.

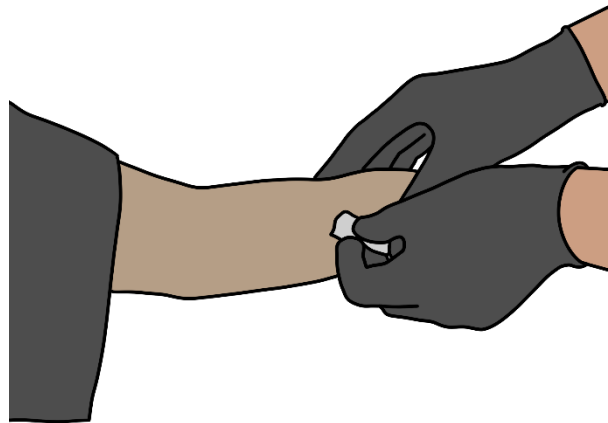


Figure 13. Removal of Moulage from Human Skin

3.4 Moulage Removal from Manikin

1. Roll up the edges of the wound appliance using your fingers or dry paint brush (**Figure 14**). Once the edge is loosened, use an alcohol-soaked cotton swab and gently loosen the other edges.

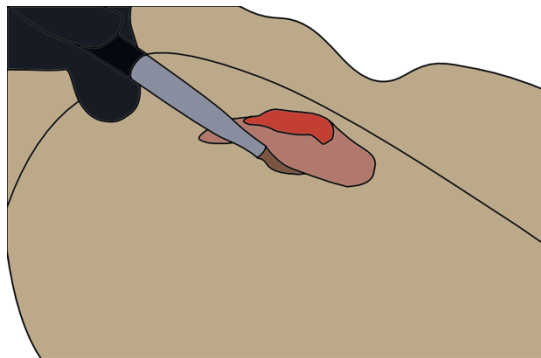


Figure 14. Removal of Moulage from Manikin Surface

2. Use the swab to help peel the wound appliance off the surface of the manikin.
3. Rub an alcohol-soaked cotton swab on the surface to remove any adhesive left over.

4 MAINTENANCE

4.1 Supplies

The only supplies required to maintain the moulage are soap, water, Isopropyl Alcohol (70%-90%), and cotton swabs (Figure 15).



Figure 15. Sample Materials for Cleaning with Isopropyl Alcohol

4.2 Procedure – Cleaning and Drying

Silicone material is extremely durable and needs little maintenance.

1. Rinse the wound appliance with soap and water to remove any simulated blood left on the wound if you would like to reuse for another application.
2. To remove any leftover adhesive on the wound, place a small amount of Isopropyl Alcohol (70% - 99%) on a cotton swab and wipe the wound.
3. The adhesive used during human application will not be removed from the wound. Instead, use the stretched “skin” still attached to aid in blending in the edges during the next application.
4. Allow the wound appliance to dry before the next application.