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Moulage Resource Book

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Moulage Resource Book

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ABOUT THE AUTHORS

Jessica is a Registered Nurse and Health Professions educator, with expertise in a variety of settings. Her PhD in Medical Education focused on the role of moulage as a tool for engagement in simulation. She has interests in health literacy and communication, and the use of innovative teaching methods to engage learners. You can find her at @j_stokesparish on most social media platforms.

Giulia is the Simulated Participant Expert in Scenario Design and Authenticity at Bond University. She has a diploma in beauty therapy and makeup, a certificate IV in training and assessment and has worked as a freelance makeup artist for 18 years.

Giulia has worked in film and television, photography, and special occasion make up, and has also worked for 14 years as a Simulated Participant at Bond University.

Giulia is in charge of incorporating moulage to simulations for SPs in medicine, physiotherapy, diet and nutrition, and runs training workshops for SP's and academic staff.

HISTORY:

Moulage has a long history in medical education. From as early as the 1600s, wax moulds were created to replicate illness and disease for teaching and research purposes. The word moulage is French – it translates to "to mould". Physicians recruited artists to create a mould of the ill-afflicted (or injured), filled the mould with wax and then painted it to commemorate it. Some of these artefacts still exist, housed in various musea globally. The traditional moulage went out of vogue in the early 1960s as colour photography became more accessible. More recently, a resurgence of using historical moulage has occurred in Europe, where lecturers utilise the museum artefacts in dermatology teaching (UniBern).

Prior to its resurgence, the term moulage took on a new meaning. In the modern era, moulage is also used to describe the use of special effects makeup techniques to replicate illness and effects on simulated persons, manikins or task trainers. This use of moulage is used to increase the physical, semantic and phenomenal realism of simulations across health professions education. Modern moulage is not restricted to the use of wax. In addition to the professional makeup resources, you will often find common household items used to create blood, vomit or faeces. Other frequent uses include creating blood, wounds or rashes for diagnosis or as a part of a broader simulated scenario.

THEORY:

Despite it's long use in medical education, there has been very little evidence to guide its use up until recently. The majority of research and publications are descriptive recipes! Moulage is evidenced by a number of theories that support good learning. These include: Dieckmann's Theory of Realism, Authentic Learning Frameworks and the Theory of Visual Attention.



Dieckmann's Theory of Realism

Dieckmann's realism is derived from Uwe Laucken's work. It argues that realism is made up of three components - physical, semantic and phenomenal realism. Physical realism refers to the physical properties of the moulage. The colour, the depth, the texture and so on. Semantic realism refers to a conceptual kind of realism – is it believable enough? Does it realistically represent what it is trying to represent? For example, does the bleeding represented enable action A to B in the scenario. Phenomenal realism is about emotions and persuasiveness – does the moulage engage the viewer in a way that emotionally engages them.

Authentic Learning Frameworks

In work by Diamond et al, researchers defined that for learning to be considered authentic, it must have the following four components: real worldness, open-ended enquiring, discourse among learners and choice. Moulage contributes to real-worldness by situating the learner in something that feels like the real world.

Theory of Visual Attention

The theory of visual attention underscores that our eyes are the window to cognitive processes whether we are aware of it or not, our brain works tirelessly to determine what we should pay attention to. The brain prefers things that are: bright, have high contrast and have well defined edges.

We can support these cognitive processes by creating moulage that achieves these goals. It also begs the question, "how authentic does moulage need to be?"

Authenticity in Moulage

The answer to this is not clear. We have some research that highlights that a higher level of authenticity is preferred by students, but does not contribute to their clinical performance. This same research informs us that poorly-created moulage can cause the students to be confused about the purpose of the simulation. Further work needs to be done in this area.

Other areas of emerging research include the role of moulage in emotional preparedness and confidence in clinical practice.

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Health & Safety

When using moulage, there are key infection minimisation and safety steps to consider. These are recommendations in line with the Queensland Work Health and Safety Laws (Infection Control for Personal Appearance Services) Act 2003 (the Act). Please ensure you are across the relevant health and safety laws in your state.

Good hygiene practices help prevent the spread of bacteria when applying moulage. Unsafe practices such as sharing tools between subjects can lead to the spread of infection, both through procedures that penetrate skin and skin to skin contact. Infections are high risk in any area that involve mucosa, toe/fingernails, and broken skin.

Here's an example of some skin conditions that may prevent you from applying moulage to yourself and to others. Always inspect the skin prior to application.



image : wikipedia commons

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image : Flicker







image : wikipedia commons

Allergies and other Skin Conditions

Product allergies:

Some products may cause skin irritation or an allergic reaction.

- An allergic reaction to a product may result in any of these symptoms:
 - Redness
 - Rash
 - Itchiness
 - Inflamed skin
 - Small blisters in some cases

How severe the allergy is will depend on how long the product has been on the skin and the genetic disposition of the person affected. Some skin types are more sensitive and are prone to allergic reaction than others. It is recommended to do a patch test if you are unsure.

If you experience any of the listed symptoms, take the make up off, stop applying and seek medical advice.

SIGNS OF ALLERGIC REACTION:



Images courtesy of Wikipedia Commons. https://commons.wikimedia.org/wiki/Commons:Reusing_content_outside_Wikimedia



Avoiding Contamination

Some simple and important steps to avoid the spread of bacteria to products and from person to person.

- On commencement, wash hands with soap and water for at least 20 seconds and dry them completely with paper towels. A hand sanitiser can be used when it is not possible to wash and dry hands.
- Sanitise your work area with alcohol wipes.
- To avoid cross-contamination of bacteria use disposable applicators. The key when using disposables, is to <u>NOT</u> "Double Dip" use each disposable only once without re-inserting into product. Do not share applicators and dispose straight after each use.

Handy hint: Use a disposable or a spatula to obtain enough product/s and place on a pallet or paper towel for individual use.



Note:

In the instance that penetration of the skin occurs, the instrument should be disposed of or sterilised after use.

Cleaning Equipment

It is important to clean and sanitise products and equipment after each use to prevent bacterial build-up whilst in storage.





Hand Hygiene Procedure

Method 1: Wash hands with soap and water for at least 20 seconds and dry them completely with paper towels.

Method 2:

A hand sanitiser should be used when it is not possible to wash and dry hands. Use hand washing when hands are visibly soiled



Moulage Instructions

Bruises

Bruises are caused when blunt trauma breaks the capillaries just beneath the skin, flooding the dermis with blood. Depending on the severity of the injury bruises will vary in appearance. Skin tone and age of the person also factor into what the bruise will look like. Bruises will be more prominent on lighter skin as well as older skin.

Products required:





source: flickr.com



Different Stages of a Bruise

There are four stage to a bruise, At first bruises will be mainly red and blue tones. As the bruise heals, the shape, size and colour of the bruise changes.

Stage 1:

A fresh bruise usually appears red. The colour comes from fresh blood leaking into your tissues.





Step 1:

Begin by stippling all over the area with some red from Bruise wheel with your finger or/and a stipple sponge.





Different Stages of a Bruise

Stage 2:

Within a few hours or 2 days the blood becomes darker and your bruise begins to look more bluish or purple and may even appear black in some areas.



Step 2:

Apply red then purple, stipple on some blue and some black ensuring that the highest concentration of colour remains at the point of impact and fades out around the edges.



Stage 3:

In 5 to 10 days the bruise is just beginning to heal when you first notice the transition from purple to green and yellow at the edges or the centre of the bruise.



Step 3:

Began with a wash of yellow all over the area with a stipple sponge, then add a few streaks of green. Stipple some deep red and a little purple and blue, always blend and fade out around the edges.





Stage 4:

As the bruise continues to heal, the red, purple, and blue tones will dissipate, leaving more a yellow and green tone before disappearing completely.



Step 4:

Began with a lighter wash yellow and some green tones and add lighter stipples of reddish-brown tones blending and fading out around the edges.



Darker skin tones

When applying a bruise to a darker complexion the same techniques apply the only difference is that the colours you'll use must be more intense and darker.



Sick Look



Equipment and products required:



- Bruise wheel
- Hand sanitiser
- Foundations
- Red/Pink blush
- Red lip pencil
- Dark eye shadow
- Face powder
- Sweat spray
- Sponge
- Makeup brushes
- Palette and spatula



Sick Look



Step 1: Make your face look pale

- Start with a clean face then apply some foundation or powder 1-2 shades lighter than your natural skin tone with a makeup brush or sponge, avoid the eye area.
- Blend it thoroughly so it's not too obvious, you want to create the look like all the colour has drained out of your face.



Step 2: Create cracked and dry lips

- Start by puckering the lips and then dab on some foundation with a sponge, this will create little cracks and creases.
- A pale lip will make you look sick and dehydrated.



Step 3: Create sunken, sleepless eyes

• Apply some dark eyeshadow on the inner corner and the sockets of the eyes and blend well.



Step 4: For allergies

- Apply some pink/red lip pencil or lipstick under both eyes along the lash line and smudge a little on top of the lids.
- Use some saline eye drops to create watery puffy eyes.



Sick Look



Step 5: Create a raw, runny nose.

- Apply a little amount of red lipstick or cream onto a cotton tip and dab around both nostrils and blend it outward with sponge.
- You can even apply dabs of clear glycerine to mimic sweat or snot under the nostrils.



Step 6: Create a feverish look.

- Apply some pink blush lightly with a makeup brush onto the apples of your cheeks and the centre of your forehead and blend well.
- Finish off by spraying on some sweat made from Glycerine and water onto the brow, hairline and under the nose to create beads of sweat for flu like symptoms.

Ageing

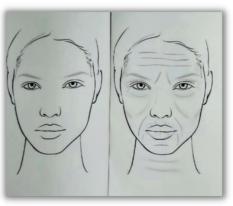
Using make up to create an ageing look:

To create the appearance of wrinkles on your face, you trace over the natural lines and folds with a medium or dark brown eyeshadow or eyeliner.

The idea is to identify the areas of your face that are the most recessed and then darken them, so they look even more recessed. By using a lighter shadow to some areas, it will help create the appearance of puffiness



Photo used with permission from Gwyneth Price Panos https://youtu.be/HImkOr4qAbo





Ageing





- Foundation
- Light and dark shadows
- Dark brown eyeliner pencils
- Face powder
- Makeup brushes and sponges
- Pallete and spatula

Steps:

1. To get line marks on the forehead, look up with your eyes, and by frowning draw in the vertical lines between the brows.

2. By smiling you can trace the lines on the outer corners of the eyes to create crow's feet. Also, the lines around the nose and mouth and cheeks.

- 3. Purse your lips and use a dark brown eyeliner to fill in a few lines above your lips.
- 4. To create sunken eyes, shadow in the sockets, under the eye and the inner corners.
- 5. Use a lighter shadow under the eyes to create bags or on the brow bone to create a sagging lid.
- 6. Shadow under cheekbone and temple area.
- 7. Draw in a few lines across the neck to create wrinkly folds.
- 8. Always blend the lines a little and set with face powder.



Handy hints: Start from the top of the face and work down to the neck. This will prevent smudging

your makeup as you work.



Burns are classified as superficial, partial or full thickness, depending on how deeply and severely they penetrate the skin's layers.



Products Required:

- Bruise wheel
- Thick blood
- Latex (if not allergic) or clear peel-off face mask
- Charcoal/soot, dirt, or coffee grounds
- Vaseline and a syringe
- Tissues
- Hair dryer
- Sponges wedge and stipple
- Palettes and spatula.

Superficial Burns

Superficial burns affect only the outer layer of skin, the epidermis. The burn site is red, painful, hot to uch and with no blisters.

Causes:

- Mild sunburn
- Hot water
- Cooking fluids
- Hot appliances, such an iron
- Friction between skin and hard surfaces, such as turf on a sports field, roads, or carpets.



Source: Flickr

Steps: Superficial burns

• Apply red cream/powder to an area on the skin.



Partial Thickness Burns

These are partial burns that affect the lower layers of skin. They result in redness, swelling, and blistering on the skin.

Causes of second-degree burns include:

- boiling water
- flames from a fire
- hot stoves
- steam from an iron
- sunburn in extreme cases over a large area
- chemical burns







Step 1:

Start on a clean surface, apply some red using the sponge on the cheeks, nose, forehead and chin and then blend well with a make-up brush.



Step 2:

Dab the sponge into the liquid latex and dab onto the cheekbone, use hairdryer on a cool setting and dry completely and then apply another layer of latex, repeat 3 or 4 times until it looks thick enough to lift up





Step 3:

Use a toothpick to gently lift the latex to create a hole.



Step 5:

Add more redness around the blister.



Step 7:

Once the latex is completely dry, gentle rub the latex in some sections to create a peeling effect



Step 4:

Insert a ready made blister into the hole or some vaseline using a syringe.



Step 6:

To create peeling on the forehead, cheekbones and lips apply layers of latex on the skin and dry off each layer with the hairdryer.



Step 8:

Finish off by spraying on some sweat to create the look of small blisters.



Full Thickness Burns:

These are full deep burns that go into the deeper layers of the skin and affect the underlying tissues. They result in blackened or white, charred skin.

Causes of full thickness burns include:

- Scalding liquid
- Flames
- Boiling hot water
- An electrical source
- A chemical source

Steps:

As above plus add:

- Patches of deeper red, brown and purple.
- Apply layers of latex/peel off mask with small torn bits of single ply tissue to give the appearance of raised peeling skin.
- Dab on some thick blood.
- Apply dirt, or charcoal/soot over the top in random areas.

Lacerations





Products required:

- Wound wax
- Bruise wheel
- Makeup foundation
- Thick and spray blood
- Spirit gum
- Wedge sponges
- Brushes
- Palette and Spatulas
- Toothpicks
- Vaseline



Lacerations



Step 1:

Start on a clean surface, brush on a thin layer of spirit gum then add a small amount of wound wax to a finger.



Step 2:

Use a spatula to spread the wax and smooth out the edges so it blends into the skin while maintaining a mound of wax in the centre. Use a toothpick to create a line across the wax and then spread the wax outwards to create a cleft.

Hint: Smear some vaseline on the spatula to prevent the wax sticking to it.



Step 3:

Use a toothpick to create a line across the wax and then spread the wax outwards to create a cleft.

Hint: Smear some vaseline on the spatula to prevent the wax sticking to it.



Step 4:

Use a make up sponge and lightly dab on some foundation to match the natural skin colour. Blend outer edges.



Lacerations





Step 5:

Using a toothpick or thin brush add some thick blood to the centre of cut, dab some blood with the stipple sponge to the outer edges.



Image source: wikipedia commons

How to make and add stitches to the laceration:

Use a piece of string / thread that that resembles ones used in hospitals and fold it in two. Tie knots in the string with half a centimetre gap and then cut in each gap.

Other examples, you can have an object like glass, a stick even a bone protrude out of the laceration.









Grazes



Products needed:

- Bruise wheel
- Thick blood
- Liquid blood
- Dirt/Gravel
- Wedge and stipple sponges
- Palette and Spatula



Image source: flickr



Image source: flickr



Grazes



Step 1:

Start on a clean surface, apply some red using the sponge and blend out around the edges.



Step 2:

Then use a stipple sponge and dab on a small amount of thick blood. Use swift strokes across the skin in one direction to create the graze. Repeat technique to create longer scratch lines.



Step 3:

Finish off by spraying on some liquid blood.



Gravel Rash





Use the same technique as a graze, also dab some thick blood in small areas and apply dirt for gravel rash.

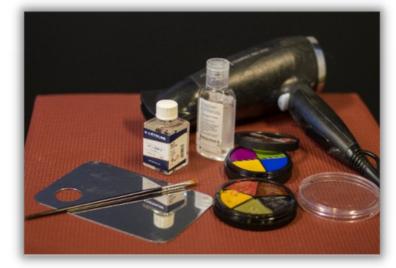


Note: To moulage a graze on a darker complexion follow the same procedure and techniques, the only difference is that you apply a darker red and even some purple to the skin.









Products required:

- Rigid Collodion
- Red from Bruise Wheel or red lip pencil
- Thin makeup brush
- Pallet and spatula
- Hairdryer





Steps:

- 1. Draw a line using some red cream or lip pencil, blend a little with finger or sponge.
- 2. Then apply the Rigid Collodion over the red line, let dry and reapply several coats. use a hairdryer on a cool setting to help it dry.
- 3. To create an uneven scar, dab the rigid collodion in some areas and along the outer line, this will create a deeper indentation.



Drug Track Marks



Products required:

- Rigid Collodion
- Bruise Wheel
- Thin makeup brush
- Wedge sponge
- Pallet and spatula
- Hairdryer





Steps:

- 1. With small brush use some blue/purple colour and trace own visible veins, blend slightly with fingers.
- 2. Use a small brush and paint on some dots of red/purple for the entry wounds.
- 3. Apply Rigid Collodion on the small, dotted entry wounds, let dry and repeat with another coat. This will create a scabbed effect.
- 4. Apply a little yellow and green around the wounds to create and old bruise effect.



Gout



Products required:

- Bruise wheel
- Palette and spatula
- Sponge

Most common site where Gout occurs is in the joint at the base of the big toe, but it does occur in the other toe joints, fingers, wrists, ankles, elbows and knees.

Steps:

1. Apply some colour red from bruise wheel onto a palette with a spatula. Use a sponge to apply to the skin of the joint.

2. Blend out the edges so the darkest area is at the site of the joint.

Nicotine Stain



Products required:

- Bruise wheel
- Sponge
- Palette and spatula

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Steps:

- Apply some yellow to thumb, index and middle fingers with a sponge.
- Then add a little of dark red and black in some areas on the skin around the nail and even under the nail, blend well.



Rashes



Products required:

- Red, yellow and white cream from colour wheel
- Latex
- Baby powder or makeup face powder
- Stipple sponge
- Craft/makeup brushes or cotton tips
- Palette and spatula

A skin rash is an area of skin that has become swollen, inflamed, or irritated. Skin rashes can include bumps that look like pimples or sores, can be blotchy, scaly or red and itchy or burning skin. Allergens, virus, heat, and certain medical conditions (some more serious than others) can all cause skin reactions like these:

Eczema:



Source: Wikimedia Commons

Psoriasis:



Source: Flickr

Procedure:

- 1. Apply some dark pink and stipple some yellow and white on top.
- 2. For Eczema apply smaller pink spots near a larger patch.
- 3. For a crusting effect apply some latex in patches and let dry.
- 4. Dust some baby powder or translucent powder, gently brush off excess.



ERSITY

Chickenpox:



Source: Wikimedia Commons







Products required:

- Bruise wheel
- Latex or blister gel
- Small make up brush or cotton tip
- Palette and spatula



Step 1:

The first stage appears as red bumps, use a small brush and red colouring make round spots onto the area.

Step 2:

Second stage spots becomes a clear blister. On top of spots apply some made up blisters or dab on some latex or blister gel.

Step 3:

Third stage blister scab over. Use some latex to create scabbing and apply some red, purple, brown colouring on top.



Make your own Blisters:







Ingredients and Equipment Required:

- 1 tbsp of gelatine powder (found in the baking aisle of any grocery store)
- 1 tbsp of glycerine (usually found in grocery store or a pharmacy)
- Half a tbsp of water
- Baking paper
- Plastic cup or plate (one you can throw out)
- Wooden skewer
- Yellow food colouring or liquid foundation
- Spirit gum or latex

Steps:

- 1. Mix the gelatine and glycerine together in cup, then mix in the water. Add the food colouring or foundation
- 2. Heat in the microwave in short 5-7 second bursts. Do not let it boil but heat it until all the gelatine is dissolved.
- 3. Using a wooden skewer, drop small dots onto some baking paper, they will become hard once completely cooled. Peel them off and use spirit gum or latex to place onto skin.

The gelatine can be reheated and reused as needed. Be careful, it gets VERY HOT!



Make your own Blood:



Thin, bright blood for spluttering and spraying.

Ingredients and Equipment Required:

- 1/2 cup water
- 8-10 drops of red food colouring
- Spray bottle

Simply add the food colouring to the water one drop at a time until its the colour that you desire.

Perfect for using in a spray bottle or for splattering with a brush.





Thin, dark blood for splattering.



Ingredients and Equipment Required:

- 1/2 cup water
- 4tbsp glucose syrup
- 12+ drops of red food colouring
- 4 drops yellow food colouring
- 2 drops green or blue food colouring

Combine the water and glucose, then add the food colouring until you reach the colour that you desire.

Note: You can use hot water, allow to completely cool before using it anywhere near skin.







Make your own Blood

Dripping, thick, dark blood



Ingredients and Equipment Required:

- 4tbsp glucose syrup
- 8 drops of red food colouring
- 2 tsp cocoa powder

This creates a sticky, dark blood mix that gives the impression of real blood... Combine all ingredients together (this canbe done over a low heat) until it has the consistency and colour that you desire. Allow to completely cool before using it anywhere near skin.





- For a thicker Blood add some corn flour
- For a coagulated look add some powdered gelatine
- For blood clots add a teaspoon or two of dried onion flakes or mix in some dark set jelly or black tin cherries turned inside out.







Recreate Stools

Formed or Diarrhoea

Ingredients and Equipment Required:

- Chocolate sauce
- Water
- Oatmeal
- Raisins (cut into small pieces)
- Red jelly (Option for blood required in stool)

For formed stool: Combine water with oatmeal to soften. Add oatmeal to chocolate sauce and add water until desired thickness.

For diarrhoea stool: liquefy with water.

Note: Throw away mixture used that day or keep in the fridge.

Urine

Ingredients & Supplies:

- Water
- Yellow food colouring or tea (brewed)
- Red food colouring for haematuria
- Ammonia for urine smell
- Milk optional (for cloudy urine)
- Urine cup/bag

Steps:

Mix water and food colouring to desired colour or dilute tea until desired colour.

- Add a few drops of ammonia for smell, or
- Add a few drops of milk for a cloudy urine
- Add a drop of red food colouring for a UTI



Sweat

Products & Supplies:

- Glycerine
- Water
- Spray bottle or cotton ball

Steps:

Mix 3 parts glycerine with 1 part water in a spray bottle, give it a shake and then spray onto the skin or dab on with a cotton ball.

Snot: Mix KY Jelly with some green/yellow food colouring.

Pus: Mix Sorbolene cream and yellow/green food colouring





Vomit



Use a tin of chunky vegetable soup and mix in some parmesan cheese for odour.



Acknowledgements

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