

MOULAGE SPECIAL EDITION

HEALTHCARE SIMULATION MIDDLE EAST



**CISO
GONZALES**

MOULAGE ART EXPERTS

**ARDEE
DOMINGO**

**JALAL
AL FROUKH**



*MOULAGE
TIPS &
HACKS*

*NOVICE
ENTHUSIAST
MISTAKES*



MOULAGE ART
THE INSIDE STORY

HEALTHCARE SIMULATION MIDDLE EAST



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MOULAGE ART

THE INSIDE STORY

MASS CASUALTY

HANGING EYE MOULAGE

Staff Sgt. Lyna Camarga, 96th Medical Group, places a hanging eye onto a 6th Ranger Training Battalion Soldier's face for a mass casualty exercise Oct. 3 at Eglin Air Force Base, Fla.

The moulage team comprising medical Airmen, create injuries, burns and gore on simulated victims for Eglin's major exercises. The team moulaged more than 40 soldiers for the exercise.

(U.S. Air Force)
PHOTO: Samuel King Jr.



Public domain image: <https://www.eglin.af.mil/News/Photos/tgphoto/2002049207/>

MASS CASUALTY

FINGER AMPUTATION / COMPOUND FRACTURE

U.S. Air Force Staff Sgt. Allison Randall, 81st Medical Operations Squadron cardiology lab NCO-in-charge, adds fake blood to her finger. Moulage training on Keesler Air Force Base, Mississippi

(U.S. Air Force)
PHOTO: Kemberly Groue



Public domain image: <https://www.keesler.af.mil/News/Art/1gphoto/2002093013/>

MASS CASUALTY

COMPOUND FRACTURED KNEE

Mayra Guerra, 81st Training Wing, Wing inspector, adds fake blood to compound fractured knee of U.S. Air Force Senior Airman Marty Logsdon, 81st Surgical Operations Squadron medical technician. Moulage training on Keesler Air Force Base, Mississippi

(U.S. Air Force)

PHOTO: Kemberly Groue



Public domain image: <https://www.keesler.af.mil/News/Art/igphoto/2002093014/>

WHY MOULAGE?

EMPOWERS CAREGIVERS



When a learner sees pain and injury experienced by another human being...

... responses span dread, anxiety, fear.

The ability to access critical medical information may be hijacked by sympathetic (fight-flight-freeze) responses.

Patient presentations and exposure to injuries via moulage prepares learners for caregiving & timely interventions.



EDITOR'S NOTE

ANSARI SHABNAM ATEEQ

Medical Moulage Artists.

Unless you are in the military, there isn't money in this line of work. Level of medical accuracy? Daunting. Regardless of the expertise, the learning is NEVER over.

These folks don't wait for applause, helping hands or performance rewards.

A shout-out to you, my friends.

Love creating simulated wounds? Experts share stuff you won't learn in a workshop.

Ansari Shabnam Ateeq

Mistakes novice moulage enthusiasts make. Turn trash to treasure. Hacks & tips to save time, effort, money.

And more.

Let's go!



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MEDICAL MOULAGE

THE INSIDE STORY



Ciso Gonzales | Jalal Al Froukh | Ardee Domingo

EXPERT SPOTLIGHT

Moulage expertise pairs artistry with medical accuracy. So, learners experience continuity of realism in simulation scenarios.

There isn't a moulage school or competency framework yet. So get the inside scoop on accelerating from novice to pro.

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SAVE TIME, COST, EFFORT



a dash of fun!



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From oozing pus pockets to quick effects that make you look like a pro!
No experience required.

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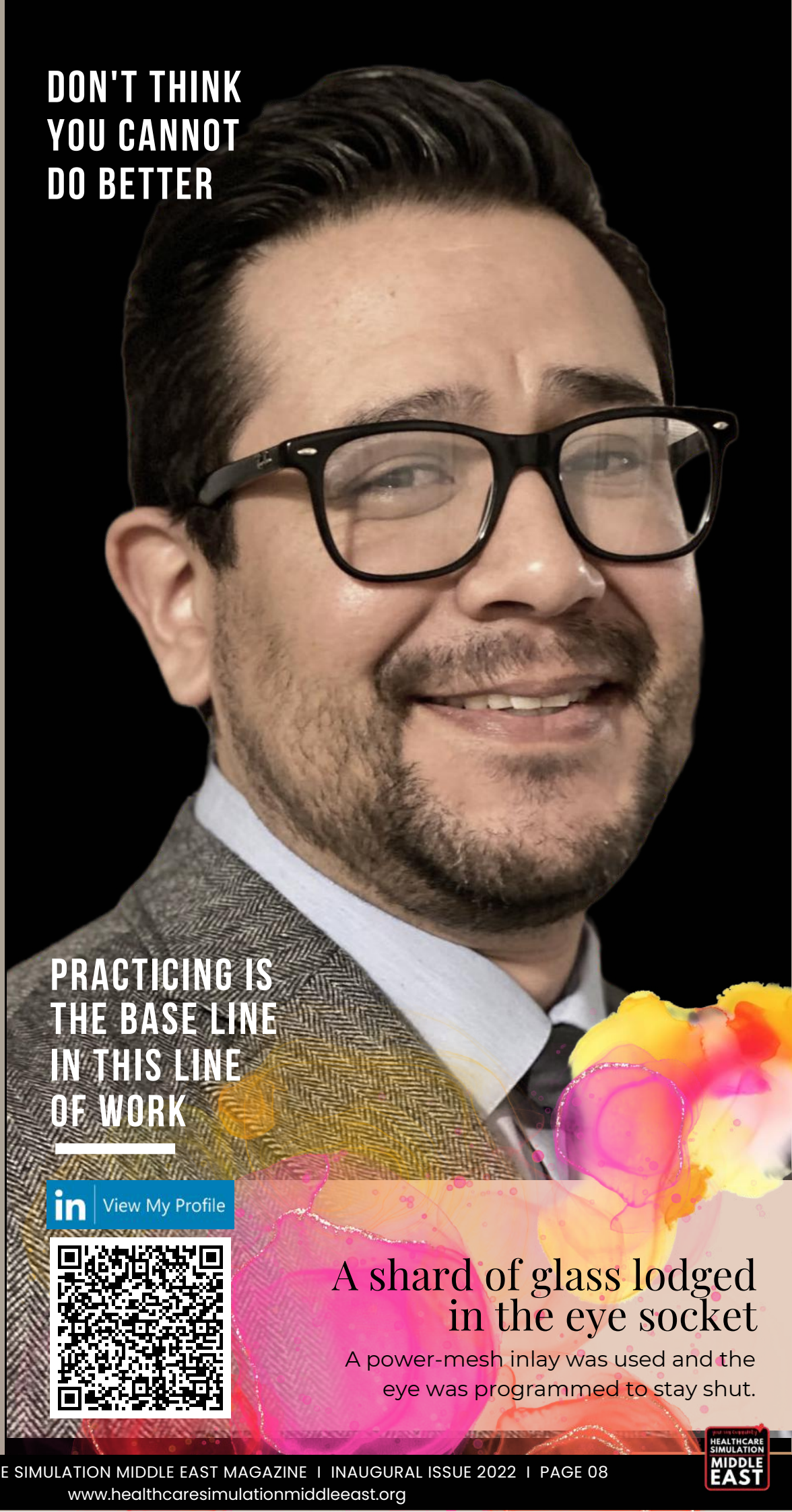
REFERENCE BOOKS:
Moulage FX & Real Injuries



CISO GONZALEZ

MOULAGE ART EXPERT

DON'T THINK
YOU CANNOT
DO BETTER



PRACTICING IS
THE BASE LINE
IN THIS LINE
OF WORK



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A shard of glass lodged
in the eye socket

A power-mesh inlay was used and the
eye was programmed to stay shut.

CISO GONZALEZ

MOULAGE ART EXPERT

"Seek out advice from those in the clinical simulation scene. Some have been at this for years. Others transitioned from movie FX to medical simulation. All experts have made mistakes. So learning from them what not to do saves time & money in the short AND long term. "



How I became interested in moulage art and got better at it...

"Trekking along the clinical simulation domain, I noticed nothing grabs attention of a learner more than moulage in a scenario. I knew this is something to explore and quickly figure how to be good at it."

The natural materials or base media I use most often. Because....

"Personally I stick to the smooth-on products for a high percentage of my silicone applications. The two-part mix and pace in which it sets is just something I find easy and applicable to my needs."



Something to keep in mind - "Build where you do not mind messing things up. I ruined plenty of desks, clothes and flooring mocking up things. If my boss only knew, LOL."

CISO GONZALEZ

MOULAGE ART EXPERT



"The incident is a tractor accident.

A farmer fell off his tractor and was run over by his mower deck.

This injury was for a monthly simulation in the ER department to test activation times."

"Learners were required to assess the case & initiate interventions such as applying a tourniquet, give blood and administer medication."



SIMULATED LEG INJURY 1

CISO GONZALEZ

MOULAGE ART EXPERT



"Spray foam is utilized to cut down cost and volume of silicone.

Foam application is followed by a bone mid-cure.

Cut the foam down next day and apply silicone in varying tints. Apply blood and fresh grass on sim day for that extra dash of realism."

"The injury is created using a spare manikin leg. I am surprised by how well it turned out."



SIMULATED LEG INJURY 1

CISO GONZALES

MOULAGE ART EXPERT



2 Days
TO DONE

"Construction is a two-day process, as the foam needs to fully set before silicone can be applied.

Clean up is relatively easy.

Being a spare apparatus, all that is needed is to disassemble till the next use."

tip

"Build texture and depth into the wound by layering blood in (clinically accurate) tints and shades."

SIMULATED LEG INJURY 1

MOULAGE MAKEUP

TOOLS OF THE TRADE



Recommended by moulage art experts

**Ciso Gonzales | Jalal Al Froukh
David Shablak**

Civilian and military EMT trainers use Ben Nye's Professional Moulage Kit to simulate burns, broken bones, lacerations, cyanosis and more for mass casualty scenarios.

Professional kits are expensive, so moulage experts get creative with sourcing materials from expired makeup, food, liquids, etc.



FAKE BLOOD GEL

TOOLS OF THE TRADE



Recommended by moulage art expert
Jalal Al Froukh

Graftobian Blood Gel is a glycerin-based formulation that never dries, giving the look of oozing, wet, thick blood. It simulates cuts, broken nose, scrapes and head wounds.

JALAL AL FROUKH

MOULAGE ART EXPERT

"RESIST THE TEMPTATION TO OVERDO.

Moulage isn't about you and your 'art'.
It is aligned to learning. The art
shouldn't distract from the case."



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JALAL AL FROUKH

MOULAGE ART EXPERT

"As I started to work in simulation, the impact of moulage on learning struck me. The skill appealed to my artistic side. I began to read and learn about moulage.

By applying and building upon learning, I mastered it. It was only afterwards that I attended a moulage course."



"As opposed to other forms of art, the primary consideration in moulage art is SAFETY. The materials used on a standardized patient must not react with the skin or trigger an allergic reaction. Especially from latex, and for that I prefer to use natural substitutes."



JALAL AL FROUKH

MOULAGE ART EXPERT

Warning:
Classroom monitored by minion

Break time huddle in a moulage workshop at
Mohammed Bin Rashid University





**MISTAKES
NOVICE
ENTHUSIASTS
MAKE...**

Do not visualize
final result before
starting the build

Use excessive
materials leading to
poor end-result



Choose incorrect
materials for
the build

JALAL AL FROUKH

MOULAGE ART EXPERT



Ask any moulage
artist...

there is order in
chaos.

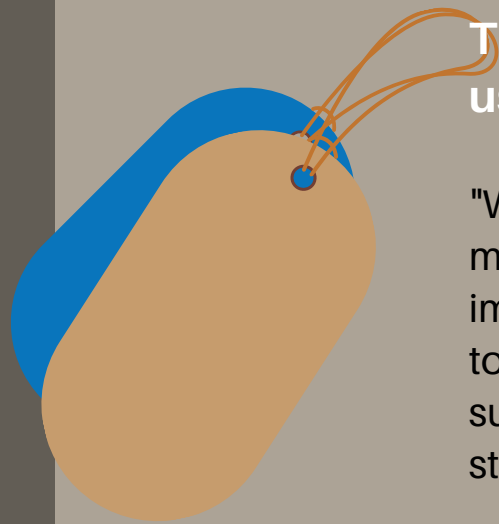
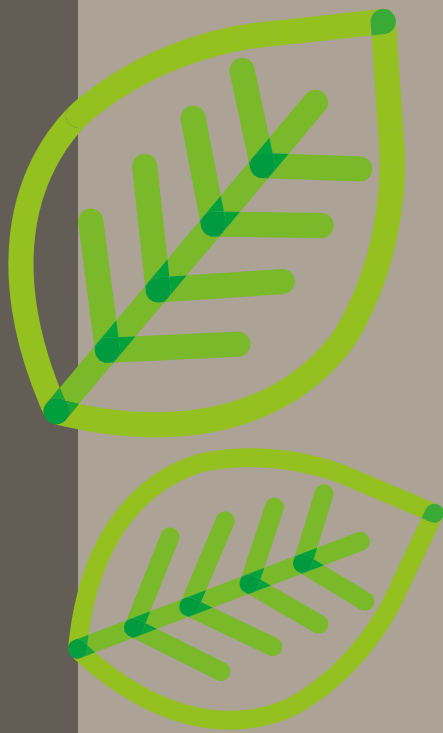
Art Den.

Do Not Enter.



JALAL AL FROUKH

MOULAGE ART EXPERT



Favorite hacks and re-purposing tips to save cost, effort, time in moulage work.

"When I know that a simulation scenario will be repeated, pre-made silicon wounds or ulcers save time and cost.

In the case of scenarios such as post-partum hemorrhage, a large volume of simulated blood is required. I blend a formulation from low cost materials."

The brand or moulage toolkit I use most often. Because...

"When making your choice of moulage materials and brands, it is important to make sure they are easy to clean, non-reactive to manikin surfaces and do not the harm skin of standardized actors.

I work with materials from more than one company known for good products - Ben Nye, Mehron, Military Moulage, Graftobian and Simulaid's."

STICK - ON WOUNDS

TOOLS OF THE TRADE



MEDICFX

Recommended by moulage art experts
Jalal Al Froukh | Ardee Domingo

BRANDS

Simulaids | MedicFX



MOULAGE MAKEUP

TOOLS OF THE TRADE



mehron.
MAKEUP



EBA
PERFORMANCE MAKEUP



Skin Illustrator[®]

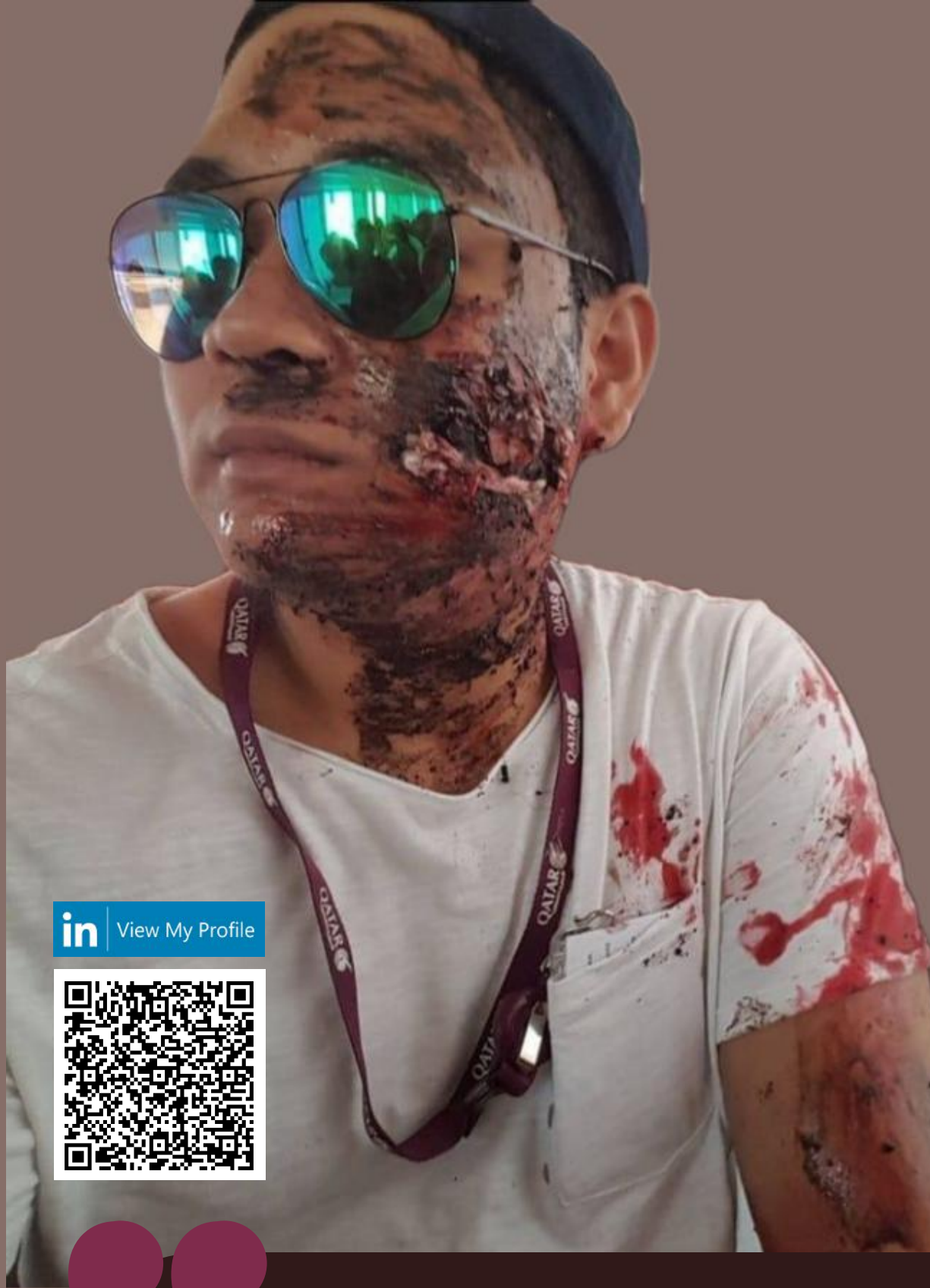
Recommended by moulage art experts
Ciso Gonzales | Jalal Al Froukh
David Shablak

BRANDS

Mehron MakeUp | EBA Performance MakeUp
Military Moulage | Reel Creations
Skin Illustrator

ARDEE DOMINGO

MOULAGE ART EXPERT



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"Learner feedback indicates that when simulated injuries are close to reality, it helps them manage 'wounds' appropriately."

ARDEE DOMINGO

MOULAGE ART EXPERT

MOULAGE RESOURCES

SIMGEEKS



SIMGHOSTS



HEALTHY SIMULATION



Moulage is enjoyable to do

Attend hands-on workshops

Moulage videos

Watch them on the internet

Practice! Practice!

But of course, seek feedback from subject matter experts

Moulage recipes

There are many available for download online

Listen to podcasts

I recommend The SimGeeks Podcast

Connect with the experts from LinkedIn

I always ask what would be the best thing to do, if I am stuck with something. You'll be surprised that expert simulationists give away the information for free!

Take advantage of paid and free on-demand resources

Raid SimGHOSTS resources and view webinars from HealthySimulation.com



ARDEE DOMINGO

MOULAGE ART EXPERT



mistakes moulage enthusiasts make...

Ignoring learning objectives

They add wounds or injuries incongruent with learning outcomes

Not consulting subject matter experts

Don't trek alone when learning or executing

Buying expensive moulage kits

and not investing in proper training on usage



ARDEE DOMINGO

MOULAGE ART EXPERT



"YOU CAN CREATE MOULAGE ON A BUDGET."

Creating simulated injuries does not need to be expensive. You can create moulage on a budget.

I keep saying to other healthcare educators to ask ladies for expired makeup kits. With those alone, you can make bruises in varying stages of healing.

Food colors, corn syrup, flour, petroleum jelly, and liquid chocolates are some of my go-to products.

I create artificial skin from gelatin, glycerin, water and liquid foundation. For blood and other body fluids, I use corn syrup and some food colors.

Stick-on wounds save time. They help avoid 'artistic' mess, do not stain the manikin, and you've quickly increased the fidelity of the simulation scenario.



ARDEE DOMINGO

MOULAGE ART EXPERT



I first encountered moulage as a paramedic, six years ago. We were tasked with a large-scale mass casualty simulation.

Joel Suarez taught me moulage art using items found in the kitchen. I was fascinated we could create simulated wounds that looked real.

Now that I have transferred to a simulation center, moulage is still a part of my tasks.

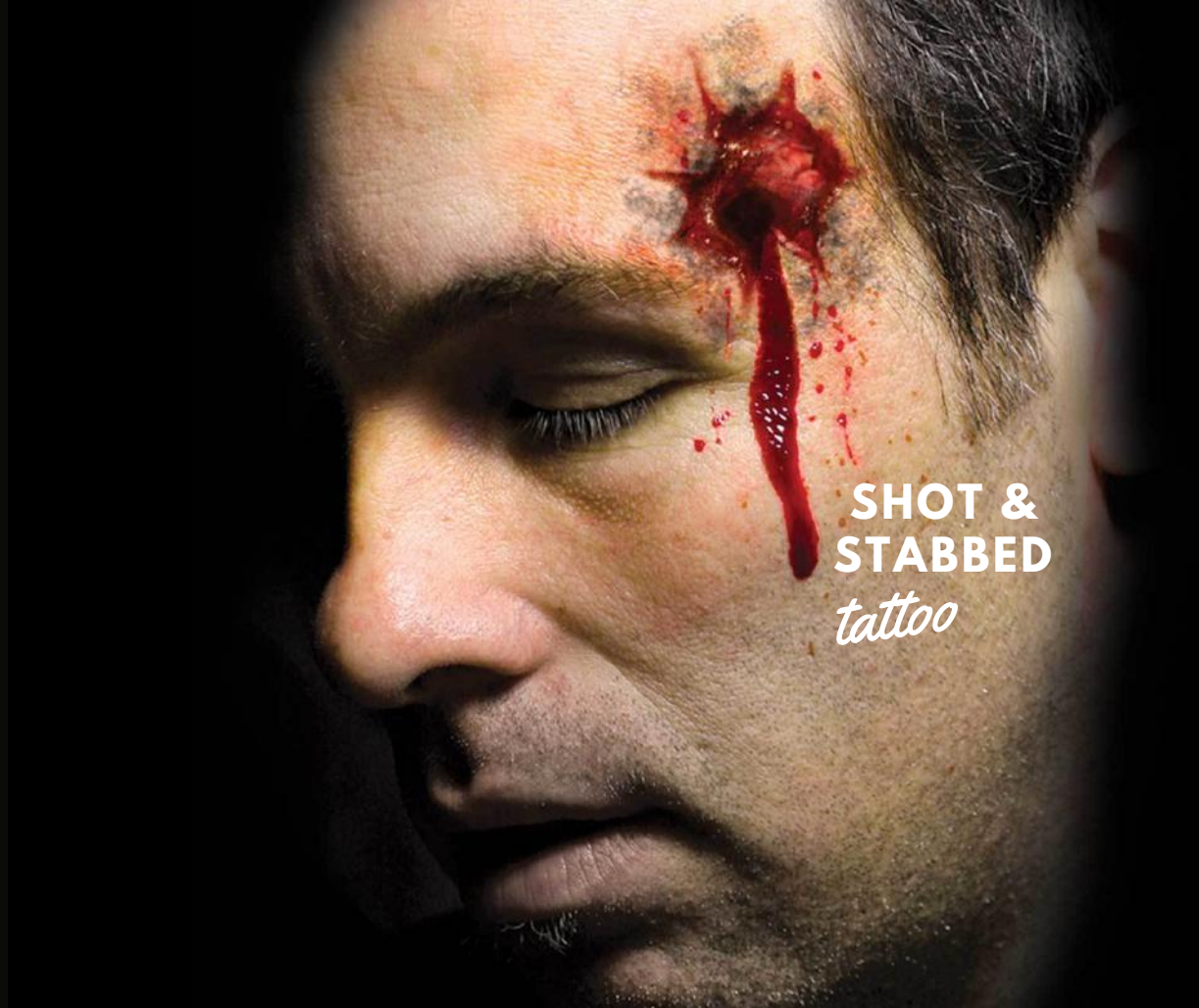
A moulage micro-session for faculty development spiked the interest of healthcare educators. Eventually, it led to a full-fledged moulage workshop.

”

How I became interested in moulage work and got better at it...

TEMPORARY TATTOOS

TOOLS OF THE TRADE



SHOT &
STABBED
tattoo



Recommended by moulage art expert
David Shablak

BRAND
Tinsley Transfers

FULL MOULAGE SUITE

TOOLS OF THE TRADE



Recommended by leading industry professionals

BRAND
Moulage Concepts

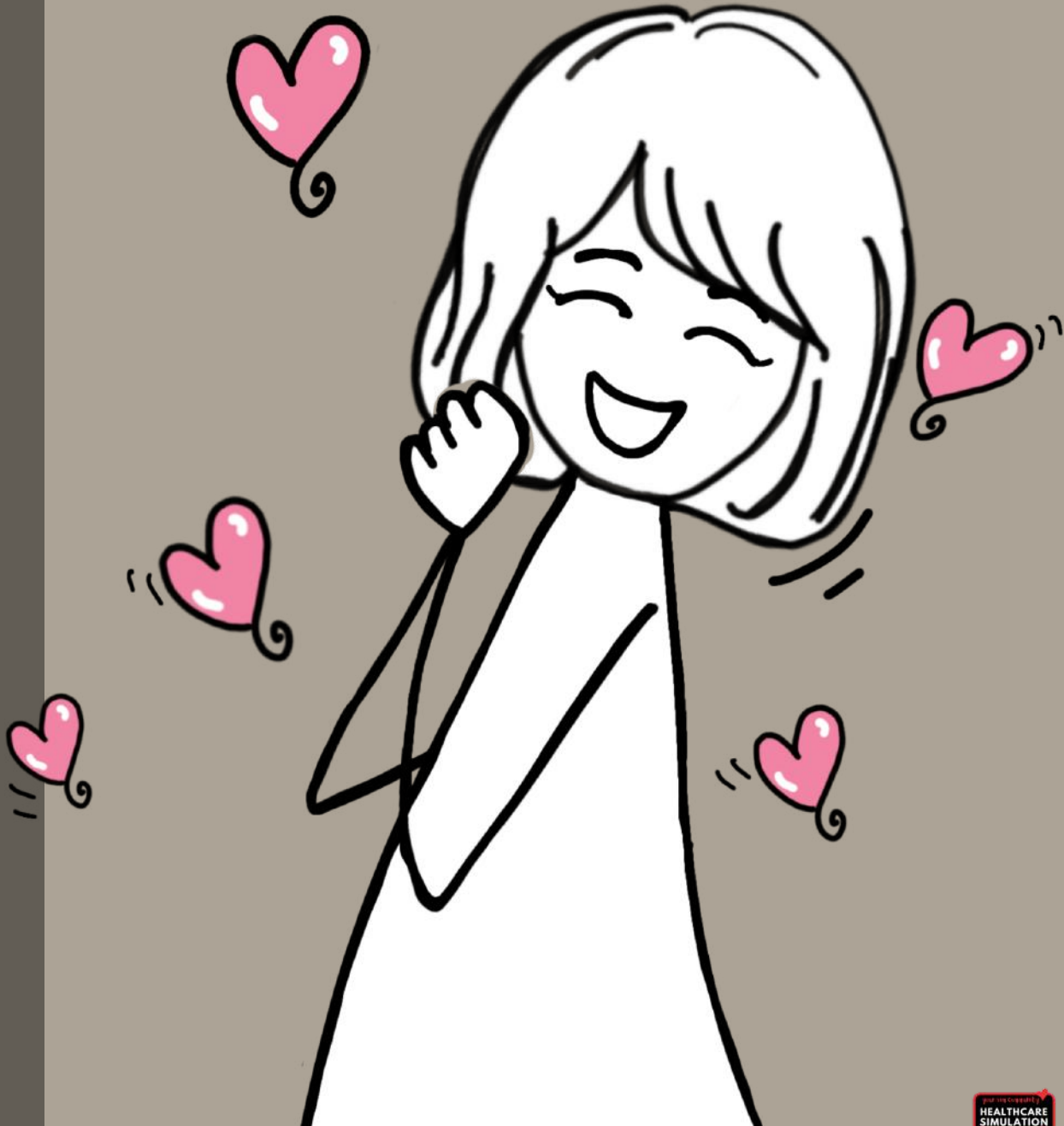
Full suite of makeup, sensory elements, props & wounds that can be triaged, sutured, debrided, drained, and ruptured.

Medical | EMS | Military | Disaster | Veterinary | Pandemic

As seen in the book:
Medical Moulage: How to Make Your Simulations Come Alive
by Bobbie Merica

MOULAGE TIPS & TRICKS

SAVE TIME, COST, EFFORT



a dash of fun!

BILLIE PASCHAL

MOULAGE ART EXPERT

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May make others dizzy, but SHE enjoys being on the brink of clinical simulation technology. You are likely to find her... everywhere.



"I have been asked to do some crazy things to beds & IV pumps..."

... if you are unsure of the warranty status, verify it! Never do anything that could jeopardize your warranty."

"You always want to 'dry run' a new moulage recipe..."

... Is the right consistency achieved in the drool? Does the bruise look fresh or too old for the scenario? Is the blood the correct color to reflect venous or arterial? Trial and error takes time, energy and sometimes money..."



"Incorporating moulage adds another level of complexity..."

...it will change the timing needed for preparation depending on which manikin, what supplies are used, and who the learners are. Do you need to create a rash, gunshot wound, or even postpartum hemorrhage? Each of these vary greatly regarding time, supplies, re-setting, and clean up.."



Source: Do you moulage? <https://tinyurl.com/ps7kvr7w>



Author of 'Medical Moulage' & facilitator of 'Art & Science of Training Realism' workshops. Among a zillion other things.



"Make it happen in a hurry..." 

'Google' an image, print, cut, apply barrier, and adhere to simulator. I wrote a book on medical moulage. So yeah, if I say it's fine, it's fine.

"Test moulage make-up on replaceable simulator neck skin piece..."

... prior to using on simulator. Place make-up on skin piece for at least 1 hour before removing with GooGone or equivalent. Remember: This is only ground breaking if it comes off!"



"Art and all is fine, but..."

...you may be busy or allotted setup time is 5 - 10 mins. Clean-up needs to happen even faster. Pre-create wounds, secretions, etc. during downtime (hah! if you have any, that is). This enables you to pull together a realistic simulation in minutes."



MOULAGE TIPS & TRICKS

SAVE TIME, COST, EFFORT

Interested in moulage but haven't tried a build yet? The vid takes you through the steps and has you looking like a pro. Honest!

How to simulate a burn wound...



Step-by-step video tutorial:
Simulate a burn wound

Video Duration: 5.07 mins
Prior moulage experience: Not required



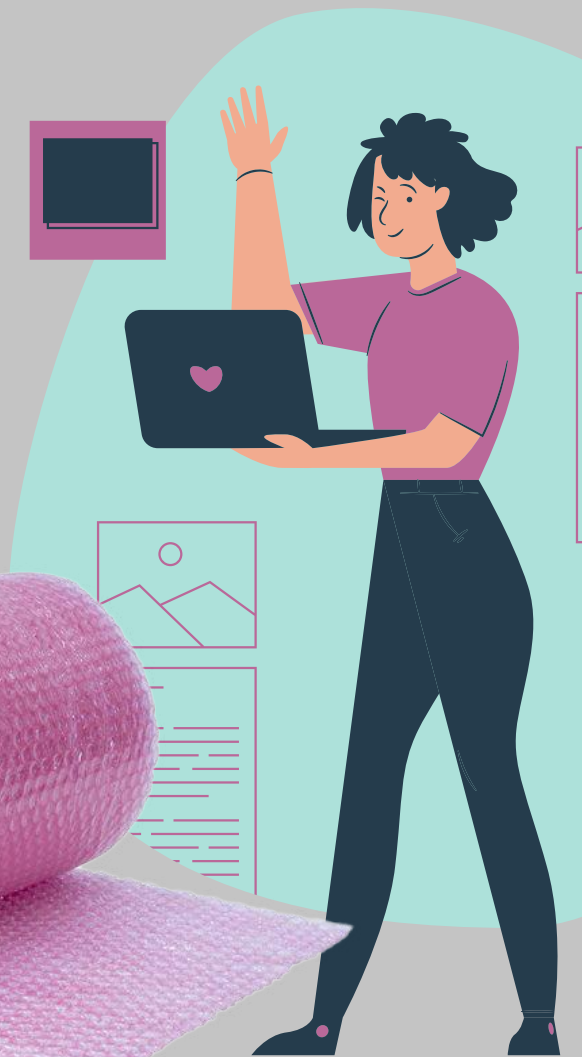
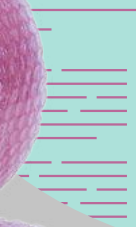
MOULAGE TIPS & TRICKS

SAVE TIME, COST, EFFORT

Bubble wrap underneath the skin on the manikin's neck creates the textile feel of subcutaneous emphysema.

Moulage it with bruising on skin. Provides learners with the frightening airway scenario that keeps emergency practitioners up at night.

All you need is bubble wrap...



MOULAGE TIPS & TRICKS

SAVE TIME, COST, EFFORT

Cut out a single bubble wrap air pocket. Fill it with a mixture of lotion, food coloring and water using a syringe. Learners can squeeze the pus out during the scenario. It's sure to gross them out, ha ha. Watch the vid to see how it's done.

Eww, oozing pus pocket in a jiffy...



Video tutorial:
Oozing pus pocket

Video Duration: 2.19 mins
Prior moulage experience: Not required



MOULAGE TIPS & TRICKS

SAVE TIME, COST, EFFORT

On a budget? Need something quick? Rash, blister, buwaaack! (emesis) and more. Watch the vid and have fun mixing stuff!

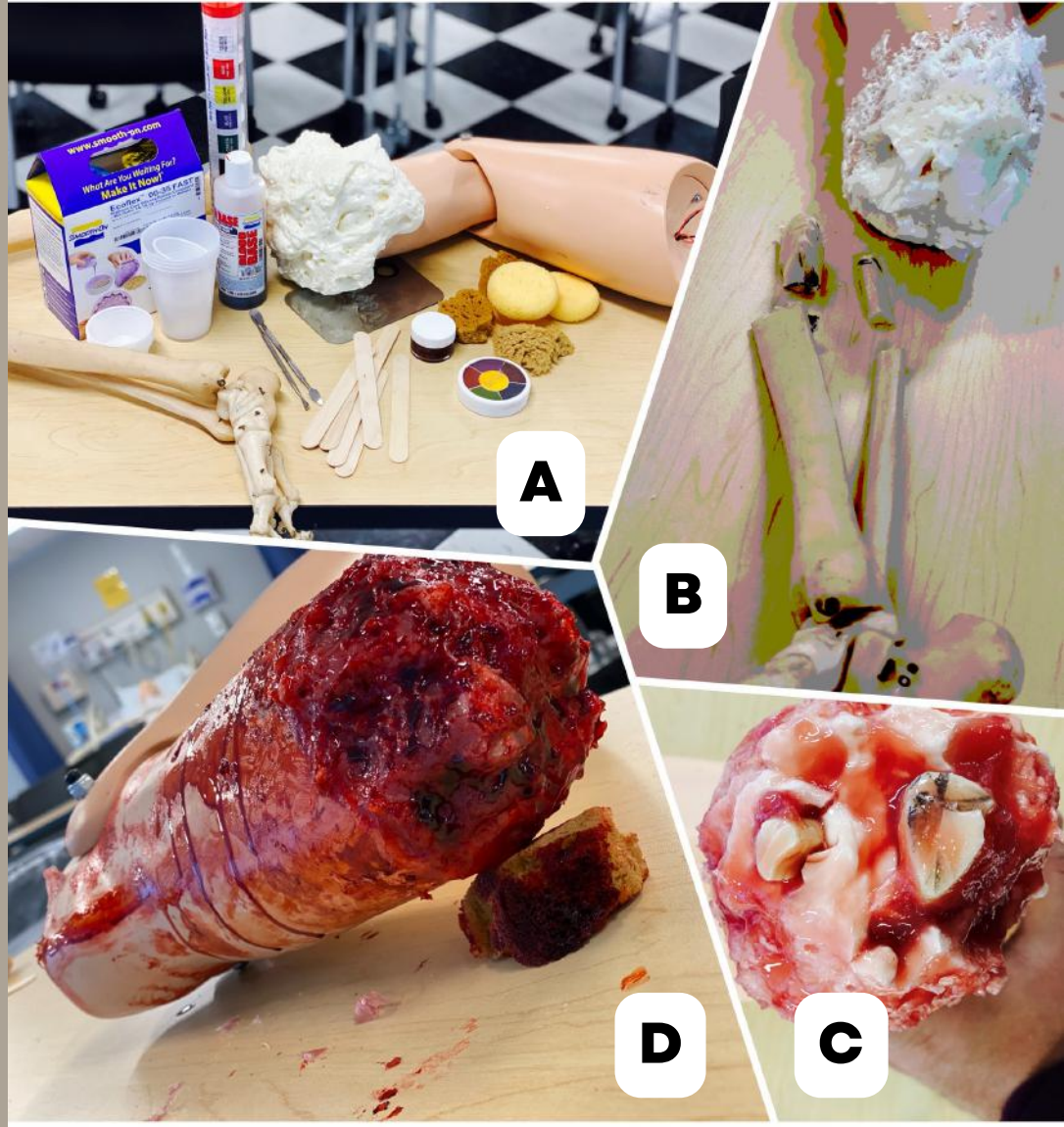
Five quick moulage effects...



Step-by-step video tutorial:
Five quick moulage effects

Video Duration: 4.50 mins
Prior moulage experience: Not required





THE PIC SHOWS STAGES OF LEG INJURY BUILD.

- A - Leg with foam pre-installed and dried
- B - Bone cut up to be installed into sprayed foam
- C - Bone installed and layering of silicone starts. 3 layers with different tints applied
- D - Finished product with blood added on sim day

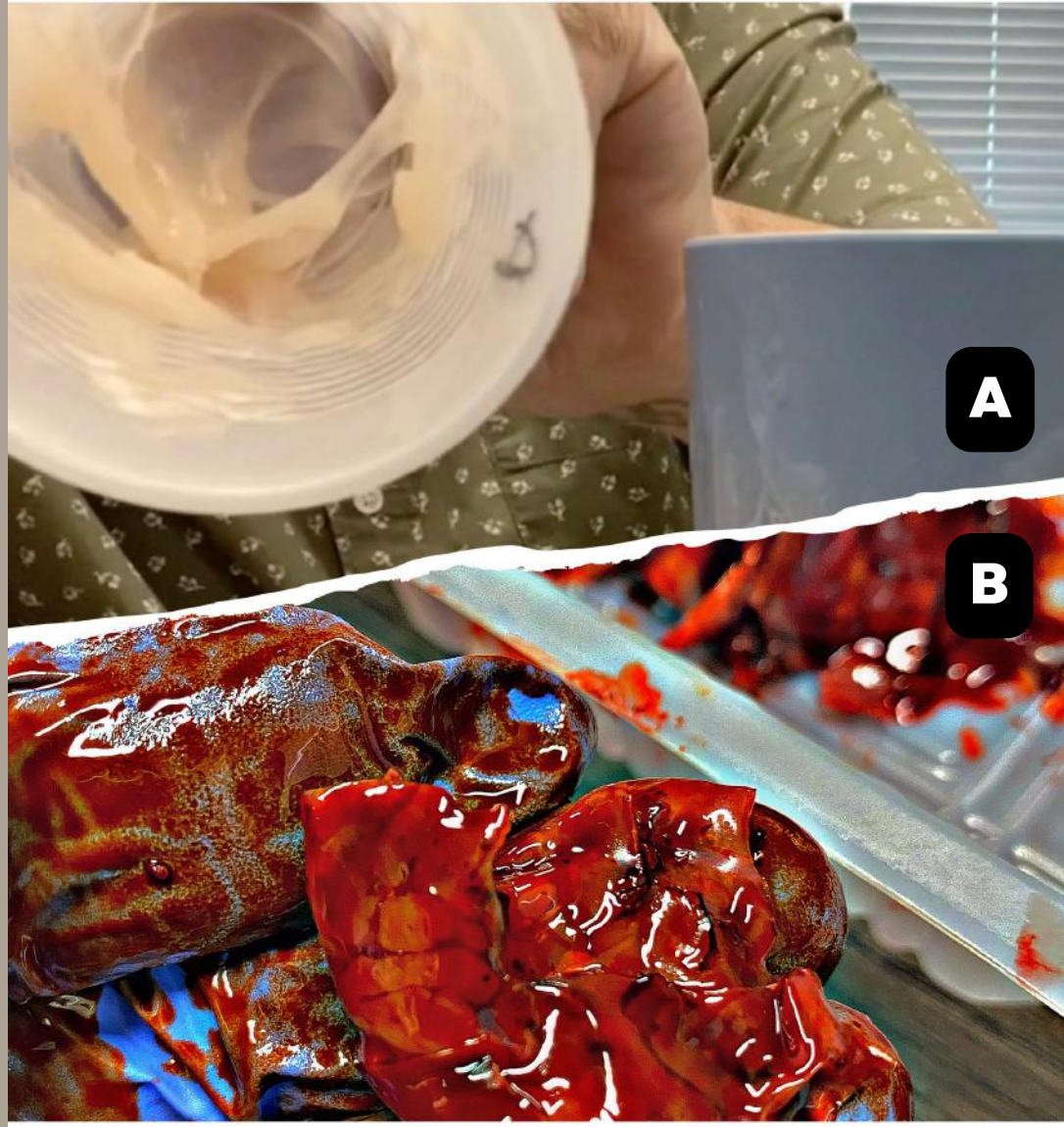
"Took 4-5 hours after the foam fully dried (24hrs)."



SIMULATED LEG INJURY 2

CISO GONZALEZ

MOULAGE ART EXPERT



"What you see in the picture A is deemed trash from over-pouring for a project. It eventually turned into a simulation 'treasure' as seen in picture B.

I found this process by pure accident."

"These are blood clots that I use in postpartum hemorrhage scenarios..."

POSTPARTUM BLOOD CLOTS

CISO GONZALEZ

MOULAGE ART EXPERT



I hate waste, so...

treasure

"Like most simulation operation specialists, it is difficult to carve out time during the day for experimentation. So I applied blood and got called to help with a manikin issue. Totally forgot about the clots till I walked in later."

"You get pretty neat, low-cost creations that can be used over and over. The materials are silicone, silicone paints & dried blood."



POSTPARTUM BLOOD CLOTS

CISO GONZALEZ

MOULAGE ART EXPERT



trash

reusable

I thought it was a total loss.

On a whim, I wondered what the outcome would be if I locked that dried blood in... BAM! A 'veiny' look achieved that added one more level of realism and texture.

"To those attempting a moulage build, DO NOT hesitate to try something different. The outcome could be an aspect that changes simulation for the better."



POSTPARTUM BLOOD CLOTS

CISO GONZALEZ

MOULAGE ART EXPERT



With just a few items; IV bag, used neck skins, expired chest tubing, and a few fittings this trainer had the ability to be hooked on to an ECMO pump and circulate.

"This one helped me learn what will and won't work. Led to a model development award at IMSH 2021."

ECMO MODEL



CISO GONZALEZ

MOULAGE ART EXPERT



Looks miniscule?

This former CPR trainer has put in some serious work in its lifetime.



"ECMO in a hospital setting integrates multiple areas of practice during an activation; which is why it sparked my interest."



ECMO MODEL

CISO GONZALEZ

MOULAGE ART EXPERT



A challenge with the build was sourcing a vein that could be sutured. A eureka moment occurred in a sim session for residents.

If a chest tube can be sutured, why not use that as the "vein" to be sutured???

"Everything sourced was absolutely deemed 'expired' in one way or another. The model performed on par with those 500 times in cost."

ECMO MODEL

CISO GONZALEZ

MOULAGE ART EXPERT



In this simulation, the patient was in a motor vehicle accident where he flew through the windshield.

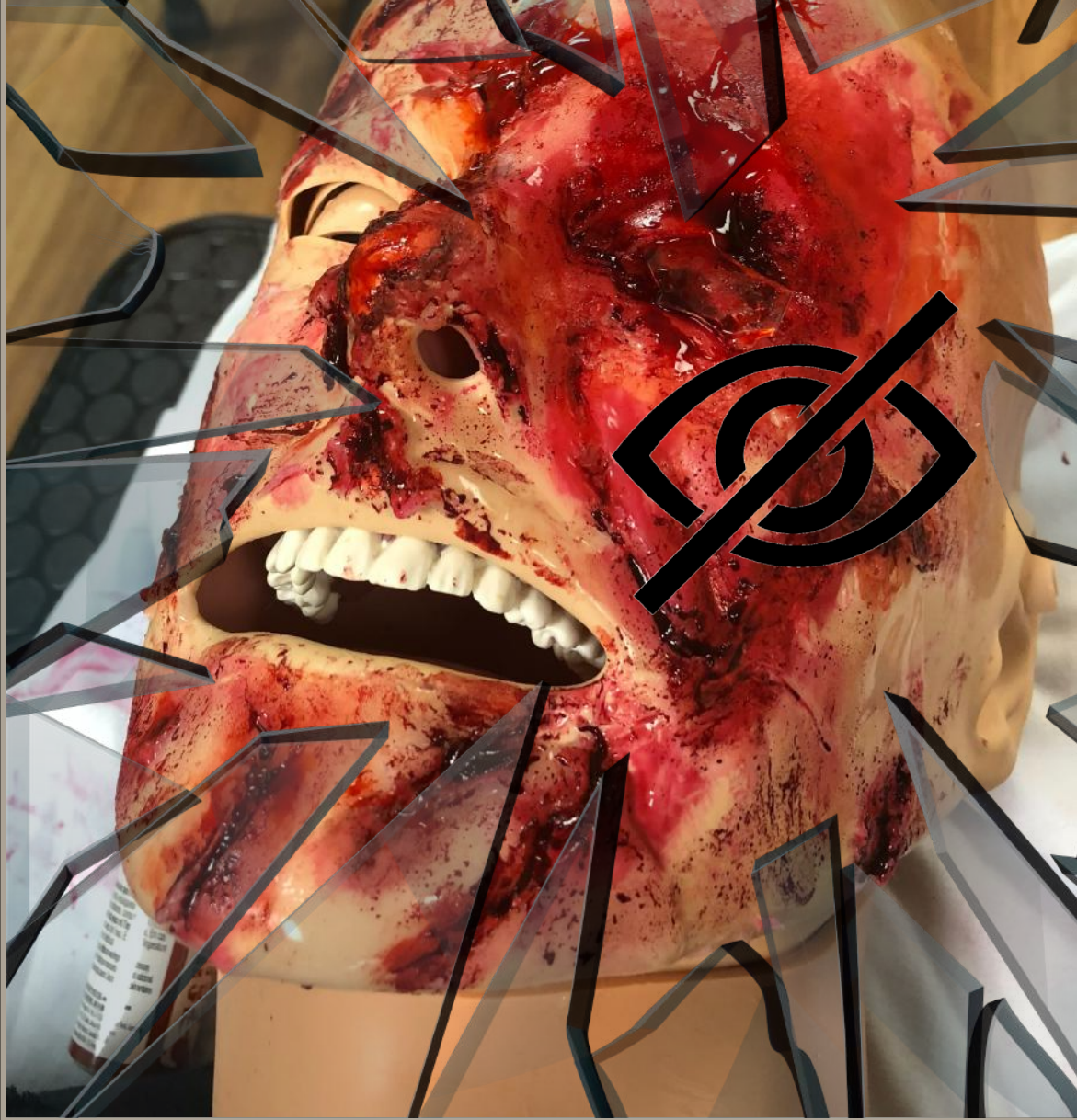
"There is a shard of glass lodged in the left eye socket along with major and minor cuts to the face."



FACIAL INJURY

CISO GONZALEZ

MOULAGE ART EXPERT



This build took time and thought. I wanted to have that shard of glass as wow factor. A power-mesh inlay was used and eye was programmed to stay shut. Pretty much the same concept as a sheet stretched across the bed, it worked like a dream.

"The cuts, peeled-back skin on nose & scrapes were created with silicone and fx blood. Varied the laceration lengths & depths so that no one was the same. With this build, I referenced pictures often."

FACIAL INJURY

REFERENCE BOOKS

MOULAGE & REAL INJURIES



Clinically accurate moulage requires artistry + practice + **reference books illustrating REAL injuries**



REFERENCE BOOKS

MOULAGE & REAL INJURIES



Get it on
amazon

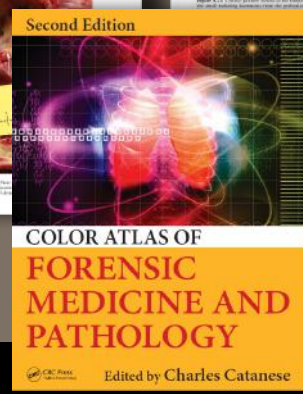


Chapter 7
Sharp Force Injuries

Chapter 6
Blunt Force Injuries

Chapter 8
Gunshot Wounds

Chapter 9
Burn Wounds



Color Atlas of Forensic Medicine and Pathology

CHARLES CATANESE

2000+

FULL-COLOR IMAGES FOR MEDICAL & NON-MEDICAL PERSONNEL.

Substance abuse | Poisoning | Child abuse
| Firearms | Blunt instruments | Sharp instruments | Burns | Asphyxia



REFERENCE BOOKS

MOULAGE & REAL INJURIES



Get it on
amazon



Basic Techniques
- Float



Basic Skills
- Blood Droplets



Basic Skills
- Skin Piece



Basic Skills
- Fat

Medical Moulage: How to make your simulations come alive

BOBBIE MERICA

1200+

FULL-COLOR ILLUSTRATIONS

300+ SPECIAL EFFECTS FOR CLINICAL SIMULATION

Bites & Stings | Cyanosis | Bruises & Contusions
| Burns & Blisters | Abscesses | Odors | Pus |
Feces | Urine | Vomit | Sutures

SUBJECT MATTER EXPERT

WANT TO BE FEATURED IN THE MAG ?



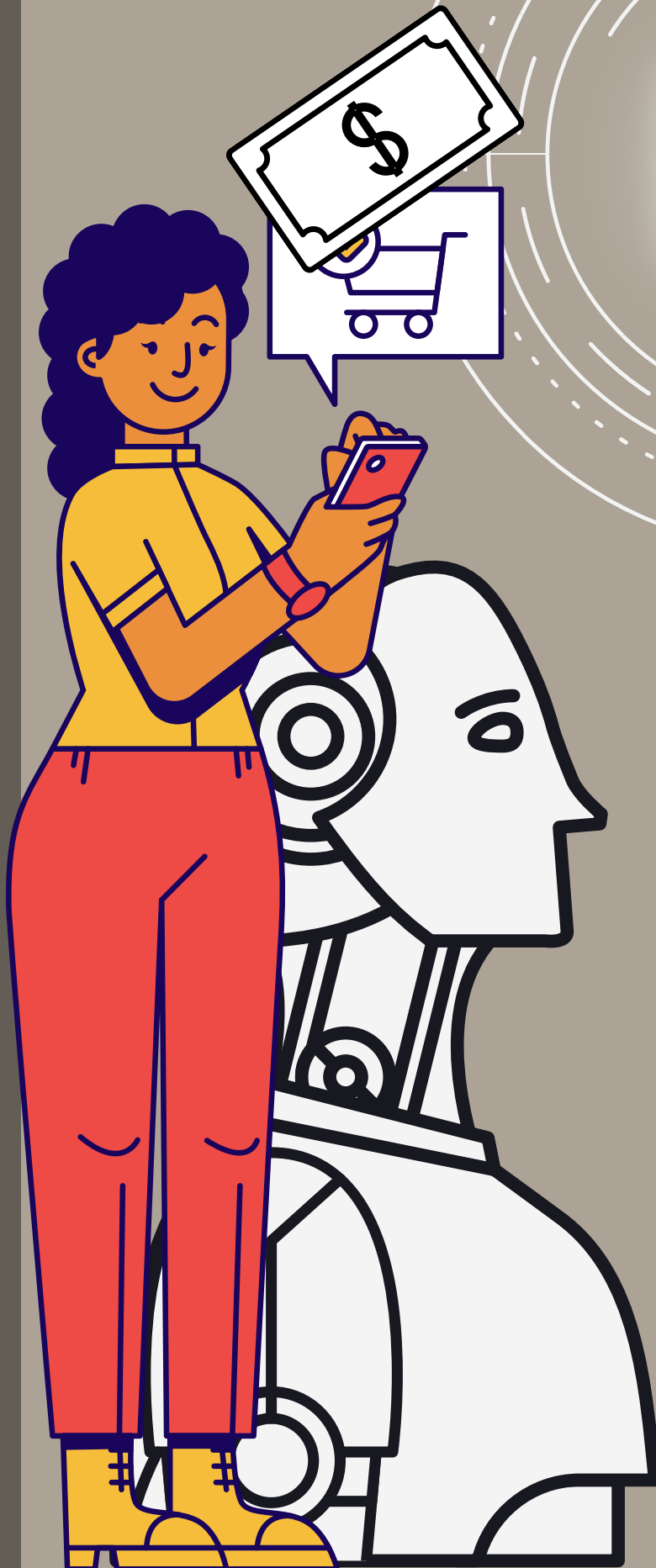
Ansari Shabnam Ateeq

Drop me a line on LinkedIn.



NEXT ISSUE

THE INSIDE SCOOP ON BUYING SIM TECH



SIM PROFESSIONAL

IN THE MIDDLE EAST ?



Linked **in**

HEALTHCARE SIMULATION MIDDLE EAST
G R O U P

EXPAND YOUR PEER NETWORK

