OPERATIONS MANUAL

Casualty Care
Rescue Randy

Nasco HEALTHCARE

PP7691

Included

a. Casualty Care Rescue Randy

b. Simulated blood powder (makes 5 gallons) (800-225)

c. Inner skin

d. Outer skin

e. Mechanical (foot-powered) simulated blood pump

f. Hose set includes four (4) color-coded connector hoses that have been secured together. Each hose includes a separate shutoff and one-way valve. Can run three (3) blood lines simultaneously.

g. Instructions

h. Rugged transfer case, for accessories

i. Silicone repair kit (149-6081)

j. Ten (10) repairable cricothyroid trainers (149-6079)

k. Three (3) repairable neck skins (149-6080)

l. Randy instruction sheet

m. Shorts

Overview

Casualty Care Rescue Randy (CCRR) has been designed to train TCCC/TECC for all service members, EMS, EMT and LEO professionals. CCRR can also be used for initial active scene and extraction interventions. CCRR allows for hyper-realistic training procedures to treat the three most preventable causes of death on the battlefield or in civilian trauma situations:

1. Massive hemorrhage managed using tourniquets, hemostatic dressings, junctional devices, and pressure dressings.
2. Airway managed by oral/nasal airway devices and surgical cricothyroidotomy.
3. Treatment of tension pneumothorax with placement of a needle decompression device.

Features

1. Hemorrhage control using wound packing and/or tourniquet techniques at four different locations.
    a. Neck
    b. Brachial - left
    c. Inguinal - left
    d. Femoral - right

a. Neck

b. Brachial - left

c. Inguinal - left

b. Femoral - right

2. Treatment of a sucking chest wound.

3. Needle decompression procedures both anterior and axillary locations.

4. Surgical airway (cricothyroidotomy). Supports multiple training cycles with each repairable neck skin, and multiple repairable tracheas for the cricothyroidotomy procedure.

Getting Started

1. Unpack all the components, lay them out and make sure all the components in the kit are included.

   a. Casualty Care Rescue Randy

   b. Simulated blood powder (makes 5 gallons)

   c. Inner skin

   d. Outer skin

Inner skin

Outer skin

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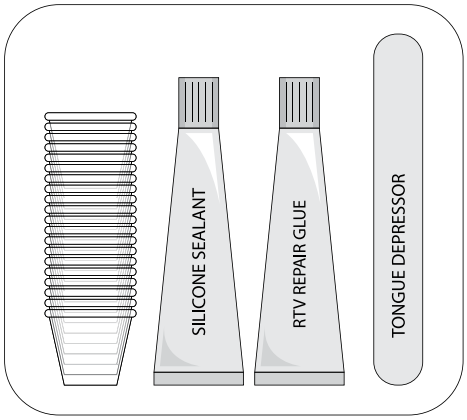
   g. Instructions

   h. Rugged transfer case

   i. Repair kit

   j. Ten (10) repairable cricothyroid trainers

   k. Three (3) repairable neck skins



REPAIR KIT CONTENTS	
ITEM	**QTY**
Tongue Depressor	15
Silicone Sealant	1
RTV Repair Glue	1
Dram Cups	XX

Pre-Operational Service Check

1. Inner Skin

    a. Ensure that there are no rips or tears.
    b. Ensure that all the tubes are in place.
    c. Put the inner skin on Randy.
        i. During this entire process, keep track of the tubes being sure not to crush, pinch, kink, twist or compromise the tubes in any way. With the zipper completely open, put the inner skin over both feet and pull it up tight into the hip area.
        ii. Work the fabric to be sure that all the material is above the knees.
        iii. Put the hands into the arm holes and work the material up both arms at the same rate.
        iv. When the material is up to the top of the shoulders, lift both arms over CCRR head to pull it up tight.
        v. Make sure that all of the tubes are coming out of the Velcro® flap without being crushed, pinched, kinked, twisted, or anything else that might compromise the flow of fluids within the tubes.
        vi. Zip up the inner skin.
        vii. Do any final alignments to the inner skin so it fits properly.

Inner suit pulled up to waist

Inner suit with arms inserted

Inner suit with arms inserted

Zip up the inner suit

Hoses coming out of inner suit

2. Outer Skin

    a. Ensure that there are no rips or tears.
    b. Ensure that all the tubes connected to the wounds on the outer skin are in place.
    c. Test that the wounds and their tubes are open and not clogged or pinched. Do this by blowing air through the tube.
    d. Ensure that the edges of all wounds are still properly secured to the outer skin.
    e. Put the outer skin on Randy.

Because the outer skin needs to be tight and wrinkle-free, it takes a sequence to put it on. Follow these steps to have the skin on or off in just a couple of minutes.

    i. During this entire process, keep track of the tubes being sure not to crush, pinch, kink or compromise the tubes in any way.
    ii. With the zipper completely open, put the outer skin over both feet and pull the suit up tight into the hip area.
    iii. Work the fabric to be sure that all the material is above the knees.
    iv. Plug in the tubes for the inguinal and femoral wounds.
    v. Work the outer skin up over the waist making sure that the tubes that were just connected lie in the proper position.

Outer skin pulled up to waist

Connect wound

Connect other wound

vi. Put the hands into the arm holes and work the material up both arms at the same rate.
vii. When the material is up to the top of the shoulder, lift both arms over the head to help pull it up tight.
viii. Loosen up the outer skin and connect the neck and the brachial wounds.
ix. Ensure that all the tubes are coming out the Velcro® flap without being crushed, pinched, kinked, twisted or do anything else that might compromise the flow of fluids within the tubes.
x. Zip up the outer skin.
xi. Do any final adjustments to the outer skin so it fits properly.
xii. Place preferred clothing over CCRR.

Put arms into skin

Raise arms to pull skin tight

Connect wound

Connect wound

Insert thorax

Add neck skin

Clothes

Because CCRR is a Human Patient Simulator (HPS) and not a drag dummy, it should be treated like a human and not be dragged without clothing. While the back of the outer skin is protected with a layer of CORDURA® (an abrasion, scuff and tear resistant material) it must not be dragged on any surface without clothing, otherwise the warranty will be voided.

The Foot Pump

1. The foot pump is specially made to work in conjunction with your CCRR. It is human-powered and doesn't need electricity or batteries to operate.

2. Although there are four wounds, only these wounds can operate manually. There are color-coded tubing to connect the wounds that will be selected for bleeding. The colors are as follows:

   Red - Neck Bleed
   Yellow - Brachial Bleed
   Green - Inguinal Bleed
   Blue - Femoral Bleed

Foot Pump Pre-Operational Setup

1. Filling the foot pump with simulated blood

    a. The type of blood used and the way it is mixed will affect the viscosity of the blood and how it works in the system. Use whatever blood to achieve the desired effect. Mixing the blood the exact same way every time will achieve the best results.

    b. Open the small section of the top and unscrew the cap.

    c. Make sure the large section of the top is closed and latched.

    d. Fill the container through the small section of the top with simulated blood.

    e. Screw the small section lid onto the tank.

    f. Close the top and latch it shut.

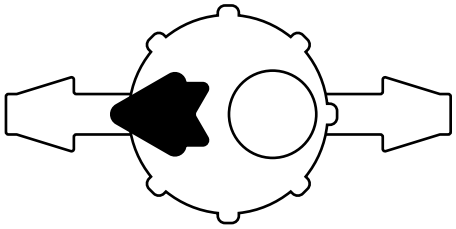
    g. Note: This cap is a special type that is vented. If a standard cap is used, the system will not operate properly.

2. Open the top storage area and remove the multi hose assembly.

    a. Make sure that the arrow on the flow adjustment knob is lined up with the tubing for each tube that will be used. This will open that valve all the way.

    b. Plug the tubes into the pump that you want to bleed.

    c. Plug 1, 2, or 3 of the bleeds into the pump at any time in any order. The blood flow can be adjusted by using the inline valves.



    d. If you do not want a specific wound to bleed, do not plug it in to the pump. The pump only needs one tube plugged in to operate.

Adjusting the Pressure Regulator

1. The foot pump includes a regulator to maintain the pressure in the lines to simulate human values. The recommended pressure to adjust this system to is 4 psi even though the average person has a blood pressure in the 2-2.5 psi range.
2. There are several reasons for this but basically speaking, the pump is farther away from the wounds than a heart would normally be. Pressure decreases the farther away from the pump (or heart).
3. The viscosity of the blood will make a large difference in the pressure.
4. While the regulator will come pre-adjusted from the factory, it will periodically need to be recalibrated.
5. To test the calibration of the regulator:
    a. Plug in any one hose to any connector on the pump.
    b. Operate the pump until simulated blood comes out of the tube.
    c. While continuing to operate the pump, plug the end of the tube with your thumb.
    d. Rapidly unplug and re-plug the end of the tube three times and then hold the tube closed and read the gauge located next to the fill port while continuing to operate the pump. If the gauge reads different than 4 psi the regulator will need to be readjusted.
6. To readjust the regulator:
    a. Before adjusting the regulator, unlock it. To unlock it, grab the plastic knob on top and pull it out approximately 1/4" until it stops. The knob will now turn (see section d).
    b. When adjusting the regulator, small adjustments are the best. Medium sized adjustments can cause jumping past where you wanted to go.
    c. Start again by rapidly un-plugging and re-plugging the end of the tube three times and then hold the tube closed and read the gauge while continuing to operate the pump.
    d. If the pressure is too high, turn the regulator knob down no more than 1/4 turn. If the pressure is too low, turn the regulator up no more than 1/4 turn.
    e. Repeat these last two steps until the pressure is exactly where you want it. Once the desired pressure is achieved, push down on the regulator handle to lock it in place.

Bleed Air Out of the Lines and Adjust Flow

1. Bleed the air out of the lines and adjust the flow before training. It is easier and wastes less simulated blood if the bleeding and everything else was adjusted at one time.

2. Plug in one of the tubes for a wound intended for use.

3. Operate the pump and watch the wound. Simulated blood will be seen from the wounds in just a few seconds

4. Adjust the knob to get the desired flow.

5. Unplug the wound from the pump.

6. Repeat the process 1-4 for the other wounds.

7. The CCRR is now ready to start.

Operation

1. Because of the design of CCRR, there are several ways for stopping the bleed:
   a. Direct pressure.
   b. Pack wound with gauze.
   c. Use application of tourniquets to stop the wound from bleeding.

Storage

When training sessions are completed, proper cleaning/drying procedures must be followed to maintain the CCRR.

Flush the System

1. Pump out any simulated blood left in the system.
2. Fill the reservoir with cold water. Do not use hot water.
3. Operate the pump and run the water throughout the system while repeatedly turning on and off all flow controls.
4. While operating the pump, repeatedly un-plug and re-plug the tubes for the wounds from the pump.

Note: The most common places for a clog to develop is at connections and valves.

5. Refill the reservoir and run the water through again.
6. Continue running water through the system until the water is no longer red.
7. Run additional water through the system.
8. Proper flushing of the pumps, tubes and wounds after training is imperative!
9. Once the blood dries in the tubes it is very difficult to remove, necessitating replacing the tubes.

Drying

Because water is used, CCRR can be subjected to mold and mildew if not properly dried between training sessions. Along with discoloration and odor, mold and mildew will shorten the lifespan of the inner and outer skins.

Caution - Many kinds of molds are hazardous and even deadly to humans.

While the outer skin is breathable, the head and neoprene inner skin are not. Even though the inner skin is neoprene and waterproof, it is sewn together so it has tiny holes that let in the water.

It is recommend removing both skins and placing CCRR and the inner and outer skins in front of a fan until it is everything is completely dry. Do not place in dryer.

Glossary

Arm wound

Neck wound

Inguinal wound

Chest wound

Face wound

Thigh wound

Training Supply List

Recommended medical supplies to facilitate training on CCRR (not included)

- Scalpel
- Two (2) - 3 ½", 14 gauge angiocath needles for needle decompression
- Cricothyrotomy kit / Cric key
- Chest seal
- Two (2) CAT – Combat Application Tourniquets (or) two (2) SAM tourniquets
- Junctional tourniquet - with subclavian artery tourniquet option – SAM tourniquets
- Pressure dressing
- Self-adherent wrap
- Wound packing gauze
- Nasopharyngeal airway
- Oropharyngeal airway
- Latex gloves
- Repair kit with three (3) neck skins – included with CCRR
- Ten (10) tracheas – included with CCRR
- Blood / Blood mix – 5 gallons of mix included with CCRR

Angiocath

Chest seal

Cric key

Cricothyrotomy kit

Nasopharyngeal airway

Oropharyngeal airway

Pressure dressing

SAM junctional tourniquet

Self adherent wrap

Wound packing gauze

SAM tourniquet

CAT tourniquet

Troubleshooting Guide

Problem	Possible Causes	Solutions
Pump not functioning.	Is there blood in the reservoir?	If yes, go to the next possible cause. If not, put blood into the reservoir.
	Is a tube plugged into the pump?	If yes, go to the next possible cause. If not, the pump must have a tube plugged in to work. Plug in a tube.
	The pump is firm, and the gauge does not show pressure?	If yes, open the regulator two turns and try again. If no, go to the next possible cause.
	The gauge shows pressure when pumped but nothing comes out?	If yes, check that your wound is plugged in and the flow control valve is in the open position. If that did not help, go to the next possible cause.
	Unplug the connection where it enters the suit. Does fluid come out here?	If yes, move to the possible cause. If not, check the flow control valve is in the open position. If it is open, the tube is plugged.
	Plug the tube into a different wound and operate the pump. Does that wound bleed?	If yes, the original tube inside the suit is plugged or kinked. Check for kinks at the connection by the wound.
No fluid from a tube.	Is the tube plugged into the pump?	If yes, move to the next possible cause. If not, plug in the tube.
	Is the flow control turned on?	If yes, move to the possible cause. If not, turn on the flow control.
No blood coming from wound.	Plug a known working tube into wound and operate the pump. Does the wound bleed?	If yes, the original tube has an issue. If not, the tube inside the suit is plugged or kinked. Check for kinks at the connection by the wound.
Blood is coming from wrong wound.	Are the color codes correct?	Check for proper color codes on the tubes.

Warranty

1 Year Warranty

Simulaids guarantees their products to be free from defects in materials and/or workmanship for a period of one year from the date of purchase, as evidenced by the date on the invoice of the product shipment to the end user. This warranty expressly does not cover abuse, accidental or purposeful damage, or any form of modification to the product. This warranty does not cover moulage products. Only products manufactured at the Simulaids plant in Saugerties, NY receive this limited warranty status. All other products sold through Simulaids, but manufactured elsewhere, are subject to the warranties supplied by the product manufacturer. These warranties may differ from the Simulaids warranty.

Warranty Exclusions

CCRR has been designed to be a robust and long-lasting field training device. Some components are considered to be 'consumable' subject to determination over use and are not covered under the standard warranty. All items are covered by workmanship warranty. However, items excluded from warranty due to wear include:

- Damage to cloth components due to wear through as this may be caused by dragging
- Stained clothing and suit components
- Damage sustained as a result of using simulated blood other than provided by Nasco Healthcare
- Damage sustained by needles, scalpels, or other such instruments

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