



# 2023 MONTHLY HBOT WEBINAR

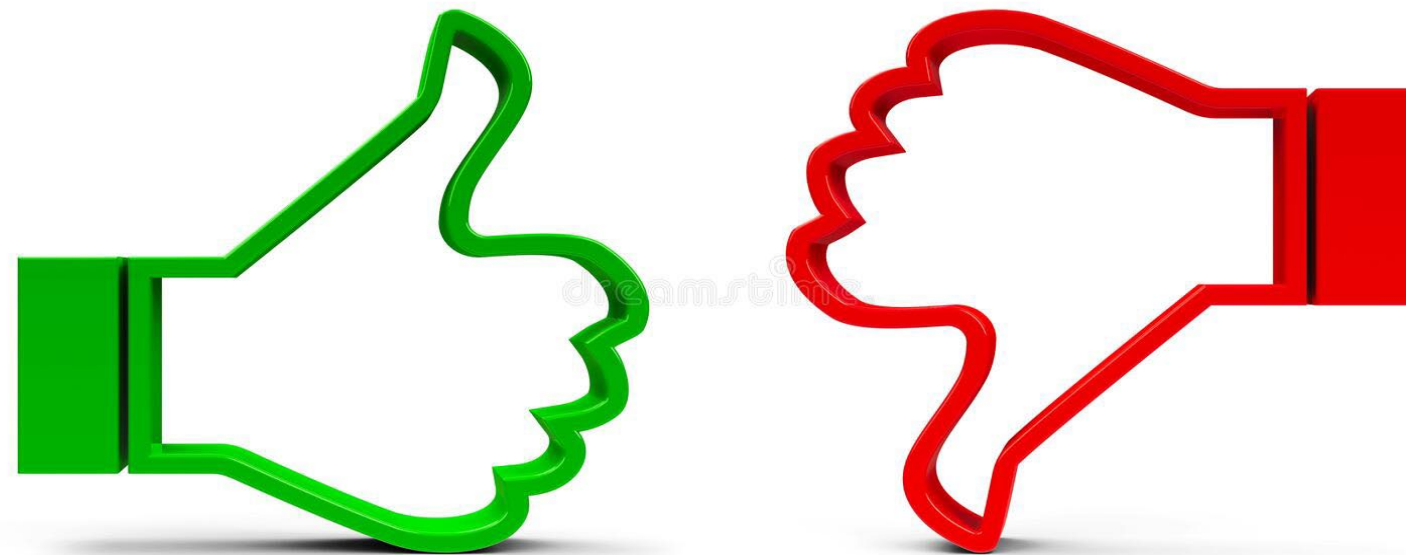
TOPIC: What Can and Cannot

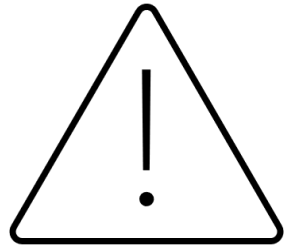
g o i n t o t h e c h a m b e r

Presented By: Memorial Hermann – The Woodlands

# What can go into the chamber ?

This question can confound HBO techs daily, some have gone to the extreme of removing all medical related dressings and skin barriers prior to HBO T; of course, you cannot be too safe, right? Well, not really. You do run the risk of making the patient's wound worse by drying it out and exposing it to the atmosphere as well as denying the patient a treatment that a physician has deemed nece





# What do the NFPA Guidelines suggest?

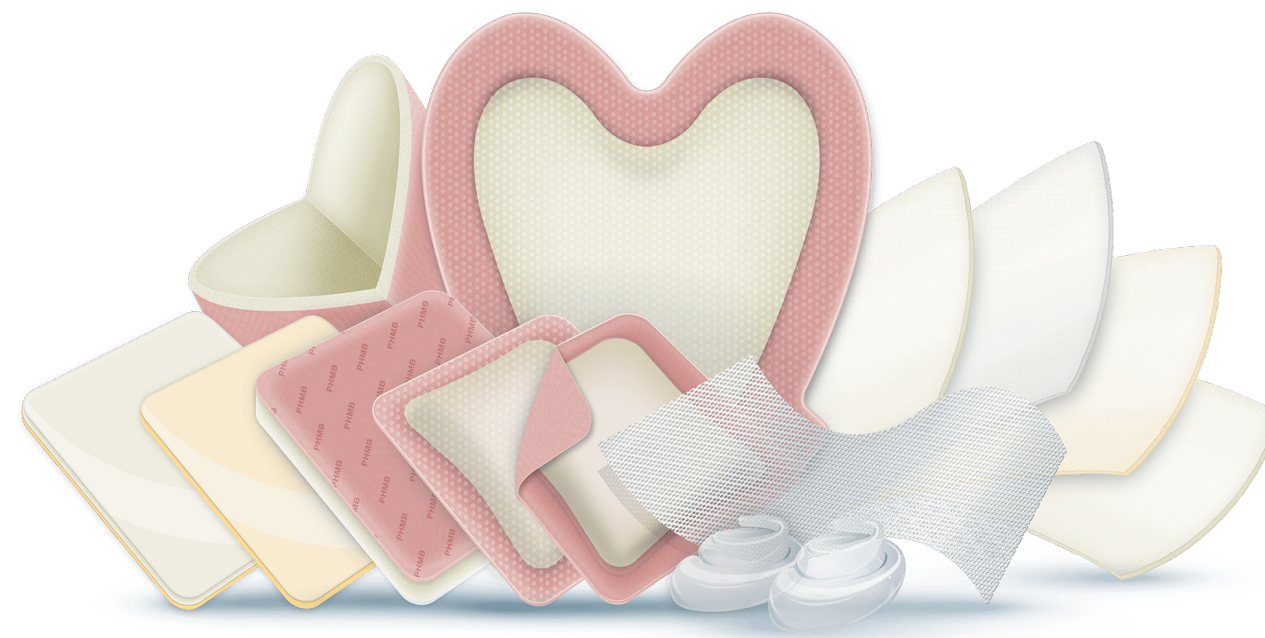
“The physician or surgeon in charge, with the concurrence of the safety director, shall be permitted to use prohibited items in the chamber that are one of the following:

- Suture material
- Alloplastic devices
- Bacterial barriers
- Surgical dressings
- Biological interfaces" (NFPA 14.3.5.4.3)



The answer lies in the balance between the risks associated with the dressing and its potential benefits in treating the wound. First ask, “is the dressing necessary?” If the answer is no, the dressing is removed prior to treatment. If the answer is yes, decide whether to cancel the treatment or mitigate the risk.





When evaluating a dressing it is important to first understand the roll of fuel in the chemical reaction known as fire. Normally this reaction is between oxygen in the atmosphere and some sort of fuel. (wood or gasoline, for example) Of course, wood and gasoline do not spontaneously catch fire just because they are surrounded by oxygen. Fuel must be heated to its ignition temperature for combustion to occur. The reaction will keep going as long as there is enough heat, fuel, and oxygen. This is known as the fire triangle.

# Fire



Fuels can be solids, liquids or gases. During the chemical reaction that produces fire, fuel is heated to such an extent that (if not already a gas) it releases gases from its surface. Only gas can be used as fuel. Gas is made up of molecules (groups of atoms). When these gases are hot enough, heated molecules are loosened, moving apart to form a gas. The gas molecules combine with oxygen in the air resulting in fire. This is important to us for two reasons: first, the hyperbaric environment is 100% oxygen under pressure. There are 15 times more molecules of oxygen available to "mix" with molecules of fuel.

# Fire continued...

This lowers the heat required for combustion, or flash point. The second factor is the need to convert fuel to gas, meaning that any product that evaporates or 'off gases' at room temperature becomes exceptionally rich fuel as no heat is required to convert the solid or liquid to gas. An example of this can be found in the oily rags left in the attic that on a hot summer day spontaneously combust. This happens at temperatures as low as 120 degrees Fahrenheit in room air (21% oxygen).





Most skin and wound care products have petroleum, alcohol, or benzene base. These are all rich fuels and according to our prohibited items list should not enter the chamber. Let's examine this a little more closely. These highly flammable products are used in most cases as 'carriers'; in other words they keep the product moist or pliable for storage and once exposed to air they evaporate. Once they evaporate, they are no longer a 'rich fuel' and no longer pose an unacceptable fire risk.



Fuel is not the only consideration in deciding on whether an item can enter the chamber. We must consider the amount of fuel, potential energy sources, interactions with high dose oxygen, ability to produce a static charge, and potential damage to the chamber acrylic.



# HYPERBARIC OXYGEN THERAPY

FOR EVERYONE'S SAFETY PLEASE DO **NOT** TAKE THE FOLLOWING ITEMS INTO THE CHAMBER.

- Batteries
- Books
- Cigarettes
- Coins/Money
- Electronics
- Hair Accessories
- Hair Gel/Spray
- Hearing Aids
- Heat Warmers
- Jewelry
- Keys
- Lighters
- Lotion/Oil
- Anything containing oil, grease, or alcohol
- Anything deemed unsafe by this center
- Makeup
- Matches
- Medications
- Metal Objects
- Mobile Phones
- Nail polish
- Newspaper
- Pagers
- Perfume
- Shoes
- Stockings
- Unsafe Dressings
- Watches

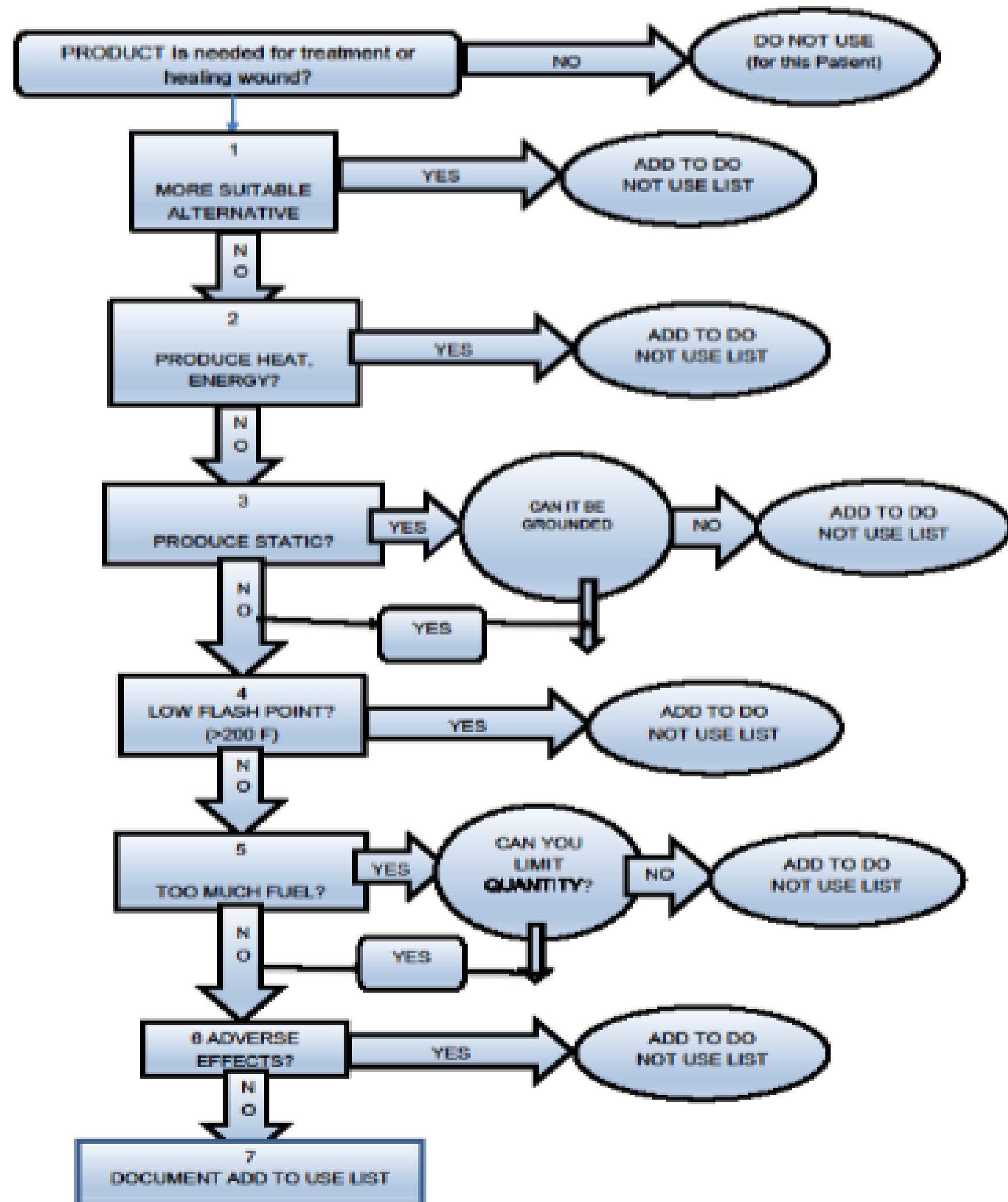


- When developing a “go” or “no go” list, it is also important to consider ways to mitigate risk, minimizing the likelihood of an incident. Mitigating risk can include covering a dressing with a damp cloth, increasing the vent rate, padding over a device, and substitution with a compatible product.
- Utilizing the decision tree below, let’s walk through a go/no-go list.



# Flowchart

Available on the member's portal



# Can it go in?

	<b>Unna Boot</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>Continuous Glucose Monitoring (CGM)</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>Loop Recorder Implant</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>External Fixator Device</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>Pacemaker</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>Vaseline Gauze</b>	<input type="radio"/> YES OR <input type="radio"/> NO
	<b>Silver Alginate</b>	<input type="radio"/> YES OR <input type="radio"/> NO

# Exception to protocol form

Should you need to move forward with a prohibited item after weighing risk versus benefit and mitigating risk, you will complete an Exception to Protocol form. (Located in the policy and procedures or send an email to Ally or Matt)



# In conclusion...

- Procedure: When evaluating a dressing for use in HBOT, employ a logical method and document the reasoning underpinning the decision. To lesser extent, consider the psychosocial results when considering low risk personal items; however, never compromise safety: when in doubt leave it out.
- References:
- “Hyperbaric Medicine Practice ” 2nd edition by Dr. Kindwall (pp. 417). NFPA 99, 2012 addition chapter 14 SerenaGroup policy and procedure.2020



quizz



# Question 1



**True or False?**

A 2 x 2 Vaseline gauze dressing may be permitted in the monoplace chamber.



# Answer 1



True, but the Vaseline gauze should be covered with an appropriate dry sterile dressing and should not remain exposed in the chamber.

# Question 2



The first question to ask when evaluating a dressing or product for the chamber is?

# Answer 2



Is the product needed for treatment or healing wound?



# Question 3



Per the NFPA, the physician or surgeon in charge, with the concurrence of the safety director, shall be permitted to use prohibited items in the chamber that are one of the following:  
(list two)

# Answer 3



- 1 Suture material
- 2 Alloplastic devices
- 3 Bacterial barriers
- 4 Surgical dressings
- 5 Biological interfaces (NFPA 14.3.5.4.3)

# Question 4



**True or false?**

If the doctor orders a dressing, then it is safe to go into the chamber without further investigation.

# Answer 4



False, the hyperbaric tech should always be aware of what is going in the chamber and whether or not it is safe for use in the chamber.

# Question 5



**True or false?**

If a product contains a small amount of a questionable ingredient, such as a petroleum base, a good practice is simply to cover it during treatment.



# Answer 5



- False, a decision should be made on each questionable product individually based on the decision tree flow chart.



THANK  
YOU



# SG JUNE 2023 Quality Metrics

- % of New/Active HBO Pts with Approved HBO Form Completed = 100%
- HBO Show Rate = 90%

# Housekeeping Items

- Updated Medical Necessity Must Haves & SerenaGroup PAT checklist. Please replace any saved or printed copies in your clinic with the updated version from the member's portal.



# Next Month



August Hyperbaric Safety Webinar



Topic: Know the Resources Available for You and Your Patients



Presenter: Deborah Heart & Lung



Date: 8/15/2023, 12 pm est.



# Round Table Discussion



# July 20<sup>th</sup> is Ser ena Group's Annual Hyperbaric Technician Day!

And to all those I do  
not have pictures of...  
we appreciate you just  
as much! 😊  
-Ally



To the experts that don't crack under  
pressure, we appreciate you and thank  
you for all that you do!

