



Complacency in the Practice of Hyperbaric Medicine

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SerenaGroup
Building the Nation's leading Wound Care Team



Definition of Complacency

- Webster defines complacency as, *“self-satisfaction especially when accompanied by unawareness of actual dangers or deficiencies.”*
- When it comes to safety, **complacency is dangerous.**

<https://www.merriamwebster.com/dictionary/complacency>

Situations Leading to Complacency in the Hyperbaric Suite



- When technicians perform repetitive functions without incident or complication.
- When the center prioritizes time over safety.
- When there are no repercussions or remedial education for unsafe behaviors.
- When daily check lists take too long to complete.
- When there are too many check lists.

STUDY

In 1997 P.J. Sheffield and D.A. Desautels undertook a retrospective study: *Hyperbaric and hypobaric fires, a 73-year analysis, which clearly demonstrated that since 1980, the primary source of Chamber fires has been prohibited items taken into the HBO chamber by the patient. This phenomenon has not changed in the years since the initial study.*



Every time a patient enters the hyperbaric chamber, the potential for a catastrophic event EXISTS.

Hyperbaric Chambers

- Everyone working in the hyperbaric center from technician to physician, assumes the role of risk manager. Resources detailing the safe operation of hyperbaric chambers are provided along with SerenaGroup® Policies and Procedures. A simple adage summarizes these texts, “Control everything that enters the chamber”.
- Tim Mayhugh often exclaims, *“If I didn’t give it to you and God didn’t give it to you, then it doesn’t go in the chamber.”*
- Each item placed into the chamber from the patient to the linens, dressings, comfort items such as pillows, and extra blankets must be evaluated before they are allowed in the chamber.
- Fire can result from the combination of three factors:
 - The abundance of oxygen.
 - The increased flammability of all fuel sources.
 - Energy sources including possible sources of static electricity.



Case Study Facts

In the case study presented below, the participants are careful, well trained, well-educated and experienced technicians. They possess all of the tools needed to avoid this “near miss”, but something went awry.

Case Study Facts:

Jane, the technician, retrieves inpatient, Ms. Smith, from the floor and prepares her for HBOT. A half-an-hour earlier technician Joe had taken inpatient, Mr. Jones, from the floor to the HBO suite. After loading Ms. Smith into the chamber, Jane tells Joe that she must leave immediately to attend to a family emergency. She informs him that she has completed the checklist for Mr. Jones, and he is ready for treatment. As she rushes from the unit, she reiterates that Mr. Jones is all set. Joe acknowledges receipt of the information with a nod and wave. Joe is also in a hurry. The physician stuck his head in the center earlier in the day and stressed that he had to leave on time that day. Joe observes that Mr. Jones is still in a floor gown with a T-shirt underneath. He examines the gown. The tag reads 100% cotton. Similarly, the T-shirt is 100% cotton. He recalls that 100% cotton is safe in a hyperbaric environment. He concludes that the patient's current attire is safe. To be sure, he asks Mr. Jones if he has any prohibited items. Mr. Jones, experienced with hyperbaric treatments, denies having anything might explode. The technician, satisfied with the response, put the check list aside and loaded him into the chamber. After pressurizing the chamber to 2.4 ATA, Joe completes the pre-treatment check list. The treatment is uneventful. Joe removes Mr. Jones from the chamber. Immediately he notices a tube of denture glue in the breast pocket of his gown. On further investigation Joe finds tissue paper and coins in Mr. Jones' pockets. He then discovers a powered up smart phone in transmit mode. This is a near miss. The cell phone could have ignited a fire in the chamber leading to Mr. Jones certain death and destruction of the hyperbaric suite.

Errors Caused by Complacency



- The patient received treatment in a floor gown and T shirt rather than the approved hyperbaric attire. This was a flagrant violation of the center's policy on garments permissible in the high oxygen environment of the monoplace chamber.
- Both technicians failed to complete the pre-treatment check list
- The technician signed the statement "Operator is satisfied that:
 1. Chamber is operating correctly and in safe condition and
 2. All safety policies and procedures have been followed and any exceptions were listed in chamber log statement."
- The technician failed to control the items that went into the chamber.
- The technician failed to follow several of the hyperbaric center's policies and procedures.
- Technician Jane was untruthful.
- The medicated patient was not a reliable source of information critical to the safe operation of the chamber.

Outside Factors

- The overseeing physician had an important engagement and pressured the technicians finish on time.
- A family emergency required Jane to leave clinic ahead of schedule.



Root Cause Analysis

Root cause analysis uncovers the primary reason for an adverse event.

In this case, there were several violations of policy, but the underlying cause for this potentially lethal incident was complacency.

- Complacency occurs when individuals perform repetitive tasks with infrequent complications.
- Check lists, first popularized by the airline industry, reduce the risk of errors due to complacency.
- Pre-treatment check lists save lives.
- **They are not optional.**
- In addition, policies and procedures provide further protection against complacency.

Time Out

- The last item on the “chamber side check list” is a time out, the intent of which is to reflect on the immediate previous activity involved in the preparation of the patient.
- Take this time to do one last mental check list and be sure that you, the patient, and the chamber are as prepared as humanly possible to provide a safe treatment.
- The technician must always control what enters the chamber. There are no exceptions.

Lessons Learned

What lessons can this real-life scenario teach us?

Burned into your auditory memory is Tim's gruff exclamation, *"If God didn't give it to you and I didn't give it to you, it doesn't go in the chamber."*

- If Joe, the technician, had recalled this admonition he would never have allowed Mr. Jones in the chamber with a hospital gown or T-shirt. While changing the gown Joe would have found the contraband.
- In addition, had the pre-treatment check lists had been completed as designed, the contraband would have been discovered.
- HBOT is safe. It is safe when check lists are completed and policies and procedures followed.
- The technician holds the life of the patient in his or her hands. Dr. Serena frequently repeats the surgeon's mantra, *"the same way every time."*



QWZ!

Question 1

List at least 2 reasons why individuals become complacent:

Answer:

Question 1
ANSWER

List at least 2 reasons why individuals become complacent:

Answer:

1. When a center prioritizes time over safety.
2. No repercussions or remedial education for unsafe behaviors

Question 2

List at least 2 results of complacency:

Answer:

Question 2
Answer

List at least 2 results of complacency:

Answer:

1. Failure to control what goes into the tank.
2. Failure to maintain hyperbaric center's policies and procedures

Question 3

It is not necessary to ask all pre-treatment checklist questions after a patient has had 10 treatments?

True or False?

Question 3
Answer

It is not necessary to ask all pre-treatment checklist questions after a patient has had 10 treatments?



Question 4

Policies are just guidelines and as such are optional?

True or False?

Question 4
Answer

Policies are just guidelines and
as such are optional?



Question 5

When following all regulations and all policies and procedures:

- A. We are guaranteed that we will have a safe treatment.
- B. We can be reasonably sure of a safe treatment.
- C. We can be absolutely sure of a safe treatment.
- D. We can be sure not to have an intendent.
- E. We will probably still have an issue.

Question 5 Answer

A large, white, sans-serif letter 'A' is centered on a green, textured background.

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THE END!



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SerenaGroup Org Chart

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ORGANIZATIONAL CHART

