MEDICAL GAS CYLINDER REQUIREMENTS
FREQUENTLY ASKED QUESTIONS

1. I understand the UCDHS Fire Prevention Department worked with Patient Care Services and the Ambulatory Care Administration in putting together an Information Bulletin on storage of the medical gas cylinders. Can you simply tell me how many medical gas cylinders I can store in the room/unit where I work?

   a. I can provide you with a general answer but you will probably need to spend some time reading the Fire Net on Medical Gas Storage and the balance of the Frequently Asked Questions below. Generally, for each smoke compartment in the hospital or clinic, you are permitted to have up to 12 “E” (small) cylinders. Medical gas cylinders stored in an “approved” gas storage room and medical gas cylinders available for “immediate use” are considered exempt and are not included in the permitted amount (12 small “E” cylinders).

2. I have over 12 small (“E” cylinders) in my unit and we can’t provide adequate patient care with less. What do I do?

   a. The first step is to review the Fire Net (informational bulletin) on Storage and Handling of Medical Gas Cylinders. After reading the Fire Net and the Frequently Asked Questions you can contact the UCDHS Fire Prevention Department at 4-3036 if you still have questions.

3. I only have 10 small gas cylinders on my unit but Jeff Mobley told me I need to count the number of empty cylinders as well. Why is this?

   a. The code regulating medical gas cylinders, NFPA 99, is clear that all cylinders located on the unit are treated toward the total count, so Jeff is correct. Therefore, if you have 10 full small cylinders and 5 “empty” small cylinders then your unit must either reduce the total number by 3 or store them in a Gas Storage Room (see Fire Net on Gas Storage Room requirements).

4. I read the Smoke Compartment definition on the Fire Net but I still don’t understand how many smoke compartments are in my unit or where the smoke barrier walls are located. How do I determine how many smoke compartments are in my unit?

   a. Hospital: Each patient care area/unit in the hospital has at least one smoke compartment. One way to find out how many smoke compartments are in
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your unit and the location of the smoke barrier wall is to look at the floor plan included with your unit Fire and Evacuation Plan. If you are still unclear then contact the UCDHS Fire Prevention Department at 4-3036.

b. Clinics: As a general rule of thumb, each clinic has only one smoke compartment. The larger clinics (ACC, Glassrock, Cancer Center, and Cypress building) may have more than one. The UCDHS Fire Prevention Department is working with Ambulatory Care Administration to identify the location and number of smoke compartments for our larger clinics, on an as-needed basis.

5. If I am reading the Medical Gas Storage Fire Net correctly it states that small cylinders attached to patient beds and cylinders (large and small) in our Gas Storage Room don’t count towards the 12 small cylinder total for our unit. Is this correct?

   a. Your understanding is correct. Small cylinders attached to patient beds are considered “immediate use” and don’t count toward the 12 small cylinder total. The large and small cylinders stored in the designated Gas Storage Rooms are also considered exempt from the overall total for the unit (12 small or 1 large and 2 small). Therefore, your unit may have 12 small cylinders stored appropriately throughout the unit in addition to the cylinders attached to the patient beds and cylinders stored in the Gas Storage Rooms.

6. The Medical Gas Storage Fire Net says that gas cylinders stored in the Gas Storage Room must be 5 feet from combustible materials if the room is provided with fire sprinklers or 20 feet from combustible material if the room doesn’t have fire sprinklers. I have two questions: Isn’t the entire Hospital protected with fire sprinklers and what is considered “combustible” material?

   a. The University Tower, Davis Tower and Pavilions are completely protected with fire sprinklers. However, most floors of the North, South and East Wings are not protected with fire sprinklers as these Wings were constructed before the building code required fire sprinklers. As major renovations are initiated fire sprinklers are installed. Therefore, Gas Storage Rooms located in the North, South or East Wings may be subject to the 20 foot distance from combustibles.
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b. Combustible Material – Generally speaking, combustible material is material that will burn if subjected to fire. Examples include paper products, packaging material, boxes, etc.

7. The Gas Storage Room (has the NFPA diamond on the outside of the room) on our unit currently has 12 small oxygen cylinders (6 empty and 6 full) but the room is small and is used to meet other storage needs (i.e. has combustible material). It is impossible to separate the combustible material from the cylinders and we don’t have any other place on our unit to store either the gas cylinders or the combustible material and we cannot meet the 20 foot separation distance between the combustibles and the gas cylinders. Our unit is located in the East Wing and doesn’t have any other gas cylinder storage other than in the Gas Storage Room. Can you give us some guidance?

a. Since your unit only has 12 small oxygen cylinders there is no need for a Gas Storage Room. Therefore, storing the 12 small cylinders in the same room as the combustibles is acceptable (as long as the cylinders are stored in approved apparatus-properly secured) and there isn’t a minimum separation distance to combustibles. Since the room has an NFPA 704 diamond it is possible that a surveyor may identify the need for a separation distance to combustibles. However, I would not advocate removing the NFPA 704 diamond as it still serves to notify staff and emergency responders that oxygen is located in the room. If this becomes a sticking point with an outside regulatory department then we can remove the NFPA 704 diamond.

8. Our oxygen cylinders have a red strap over the outlet. If the red strap is removed or broken, but the oxygen cylinder is not in use, do I consider the cylinder empty or full?

a. If the red strap is broken and the cylinder doesn’t have a gauge, then consider the oxygen tank to be empty.

9. In our unit we currently use and store oxygen and nitrous oxide gases. Are we permitted to store these together?

a. Yes, oxygen and nitrous oxide are considered oxidizers and can be stored together.
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10. Can I store as many small or large compressed gas cylinders as I want in the Gas Storage Room?

   a. No, there is a threshold but I can’t think of a unit that will come even close to meeting the limit. Gas Storage Rooms are limited to no more than 3000 cubic feet (120 small or 12 large cylinders).

11. We are located in a PCN Clinic remote from the Hospital. Do we still need to follow the guidelines outlined in the Medical Gas Storage Fire Net?

   a. Yes, see below.

**Clinics – Hospital Based and PCN’s**

When it comes to the use and storage of medical gasses, the requirements don’t generally discern between a unit located in a hospital versus a unit located in a clinic outside the hospital.

The requirements are *smoke compartment* based. Smaller one and two story clinics generally have only one smoke compartment. At this time, UCDHS Fire Prevention is working with the Ambulatory Care Administration to ensure each clinic is storing medical gas cylinders in accordance with the requirements.