



## EDUCATING THE PATIENT ON HYPERBARIC MEDICINE

*by Kenneth Capek RRT, CHT, MPA*

**P**atient education is one of the more important services we can provide to our patients. Educational material design and content along with verbal presentation of information are all factors that can determine the effectiveness of education. Therefore we should spend an appropriate amount of time on the development and presentation of these materials. Unfortunately this may not always be the case in a busy service and patient education may not get the attention it deserves. Patient education can be quite extension and cover a wide range of topics pertinent to the needs of the patient and services they receive. How comprehensive and effective is your current patient education program?

One of the best examples of a patient education program that I've been associated with is in the pulmonary rehabilitation

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department. This program was created to achieve two primary goals; improve patient conditioning by exercise and improved quality of life and health through education. As you can imagine, the educa-

tion section gets plenty of attention. The comprehension of information provided is measured and its effectiveness is evident. To determine what makes patient education effective we must look at its components and its application. Since a pulmonary rehabilitation program must provide education that encompasses all aspects of the patients' disease and life style, there are many diverse materials developed to achieve this goal. Any service or department responsible for providing education should have a process in place that evaluates the needs of the patients being treated. Educational programs and the materials used should be periodically assessed for content and completeness. There are usually some type of written materials used (hand outs or forms) given to patients to read and/or take home. Do your patients understand the information provided on these forms? These materials must be written at an appropriate reading level so patients from various educational backgrounds may understand them. Some forms have a space for the patient's signature indicating that they simply received the information but there are others that require the patient to indicate actual comprehension of the material. A short quiz on the topic can validate this process (which is standard for every topic in the pulmonary rehab program). These

forms may also need to be written in various languages in addition to English. If you live in a community with large number of Spanish, Korean, or other populations, translated versions of patient information should be available.

Hyperbaric patients have very specific and varied educational needs. All require a general orientation to the chamber. We use a form called the "patient treatment instruction" form. It contains safety information as to what may or may not be brought into a chamber. It covers what a patient may eat or drink prior to therapy and what the patient may experience during the treatment. Since the patient may experience unfamiliar noises and temperature changes and the possibility of claustrophobia while in the chamber, these are also addressed. The form describes necessary ear equalization techniques and any effects that may be experienced post-treatment such as visual or hearing change. There is a section that describes the negative impact smoking has on wound healing and a section that informs the patient to notify the staff of any changes in the patients condition prior to treatment (such as congestion from a cold). Ultimately this form is used as a guide and prompt for discussion and it is given to every patient at the time of the hyperbaric evaluation, usually performed the day before we start therapy - a time when a great deal of information flows both to and from the patient. The evaluation serves as our "teachable moment". Discussion will center on what we hope to accomplish with hyperbaric oxygen therapy and about the patient's general condition. Educational deficits may become evident at this time, which can range from inadequate glucose management to not understanding the medications being prescribed. Education is provided regarding general department policies and procedures and any specific items such as the patients' scheduled treatment time. Certainly a department that provides wound care should have information about basic wound care procedures such as dressing care. There are other topics that may need to be addressed with hyperbaric patients such as nutrition, diabetic care with glucose monitoring, and smoking cessation. Sometimes written education is not enough and a patient may benefit from a referral to a specialist, such as a diabetic counselor or to a smoking cessation program.

Patient education can be provided in the form of a legal document, which is the case with the "Consent to Treat" form.

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*Flow-Through Ventilation... Continued from page 86*

Apart from upright body positioning, I asked the nurse to suction the stomach intermittently at 30 minute intervals for less than 30 seconds at a time. Remembering that she had no esophagus or esophageal sphincter and had shown free bile reflux during bronchoscopy, I also placed an abdominal binder to reduce abdominal compliance relative to the rib cage and thereby help prevent gas entry into the abdomen through the stomach. I was feeling rather proud of myself for being such a good bedside physiologist and went for a coffee break. I was about halfway through when I was interrupted by another page from the Unit. More trouble--apparently achieving better ventilation was not the end of the story. This time the therapist and nurse were concerned that they simply could not clear the airway of bilious secretions; in fact, suctioning just seemed to make ventilation worse. Having just done the bronchoscopy, I understood why. The combination of airway suctioning, increased abdominal pressure due to binding and absence of oro-enteric suctioning encouraged the airway catheter to pull bilious secretions into the trachea via the fistula. My solution was to suction the airway and turn on the gastric suctioning simultaneously—"Do not airway suction without unclamping the oro-gastric tube first". (We never needed to undo the binder during airway suctioning, but that was my planned next step.) She was extubated successfully the next day, the binder was released, and she was placed in an upright position and breathed comfortably. This was another example of flow-through 'bypass' ventilation with potentially adverse consequences.

In my view, these cases illustrate that there simply is no substitute for physiological understanding and well-honed analytical skills for on-the-fly management of difficult cases. Respiratory Caregivers are on the front lines of such struggles - We should all remember that there are few professional satisfactions that compare to successfully reasoning through tough problems to help patients who really need it.

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*Hyperbaric Medicine... Continued from previous page*

Although hyperbaric treatment is very safe, the contents of this document can sound scary if not explained within context. The consent form describes any possible problem or potential hazard that can occur as a result of hyperbaric therapy. This form is verbally presented and signed by the physician and then signed by the patient (which denotes understanding), and witness or guardian if required. Separate sections are including, which require additional signatures, for photographing wounds, use of conscious sedation, or use of patient information in research when applicable.

Discharge education (provided post-treatment) is also important and should also be available in multi-language versions. For example, every patient discharged following treatment for carbon monoxide poisoning and decompression illness (DCI) receive written information specific to these problems. Patients that are treated for DCI are provided information that we have downloaded from the Divers Alert Network web site. Examples of these topics are; when can I return to diving, how soon can I fly after diving, and DCI recovery times. The patient treated for carbon monoxide poisoning must be aware of symptoms that could return after treatment and discharge. If heat and fire were evolved with the poisoning, other concerns must be highlighted which could appear 24 hours after the incident. There are two very important sections that must be included in these 'take-home' documents; the section on the recognition of recurring symptoms or side effects and the section on how and when to communicate back to the department or hospital. Is the phone number on your form correct for the hyperbaric or emergency departments?

There are certainly more topics under the heading of patient education than discussed here but I believe these to be the core of most programs and a starting point for your own assessment. Since patient education can have such a significant impact on safety, patient care and quality of life, we should all strive to give it the attention it truly deserves.

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