Laryngeal Mask Airway: A New Frontier in Airway Management

M. D. Anderson Site of Recent Trial, Training  

Calling the laryngeal mask airway (LMA) “one of the most important developments in airway management in the past 50 to 60 years” and equal in impact to the introduction of the endotracheal tube, David Ferson, M.D., displays a quiet but contagious enthusiasm for the device developed in the early 1980s. (Continued on page 2)

Near the operating room with David Ferson, M.D. (second from left), who is holding a laryngeal mask airway (LMA), are Carol A. Smith, CRNA, director of anesthesiology services, Prita K. Mohindra, M.D., assistant anesthesiologist clinical director, and Alana Yee, recovery room nurse. M. D. Anderson, site of the world’s only LMA training center, offered its first training session in December 1998.
Laryngeal Mask Airway

(Continued from page 1)

Demonstration of intubation through the original LMA in an airway model.\[Image\]

Why is he so enthusiastic? "It is a tremendous step forward in airway management and patient safety," said Dr. Ferson, an assistant professor of anesthesiology at The University of Texas M. D. Anderson Cancer Center.

The LMA is a minimally invasive bridge between artificial and anatomic airways that can be used as a reliable ventilatory device or as a conduit for endotracheal intubation. Dr. Ferson enumerates the LMA's associated virtues: lighter anesthesia; no need for muscle relaxants; quicker turnover in the operating room from one case to another; and most important, greater comfort for the patient.

"Although initially introduced as a better and more reliable alternative to the face mask, now, the LMA benefits every single subspecialty of anesthesiology," he says.

The LMA design resulted from a good understanding of pharyngeal anatomy and physiology. When the LMA is inserted properly, patients under light anesthesia—especially infants—simply swallow the device like a bolus of food until it is positioned.

The LMA lies at the juncture of the gastrointestinal and respiratory tracts. In contrast to the endotracheal tube, the LMA does not penetrate the respiratory tract below the level of the vocal cords, and thus it avoids respiratory tract stimulation, which can cause such defensive reflexes as coughing or bronchospasm. Because stress is reduced, such detrimental physiologic changes as increased blood pressure, tachycardia, and a rise in intracranial pressure can be avoided, according to Dr. Ferson.

The LMA has been shown to be safe. Not one death has been reported in more than 100 million patients worldwide anesthetized through the device. More than 1,600 articles have been published about the LMA over the past few years. "In my opinion, this illustrates the great impact that the LMA has on our modern anesthetic practice," concludes Dr. Ferson.

Dr. Ferson's belief in the LMA's superior design has prompted the creation of the LMA Center for Training, Education, and Research at M. D. Anderson Cancer Center, which presented its first training session last December. Thirty physicians and one certified registered nurse anesthetist participated in the session. That makes M. D. Anderson the first U.S. training and research center for the LMA. According to British anesthesiologist Dr. Archie Brain, inventor of the LMA, M. D. Anderson was selected because it offers a supportive environment for patient care and research and more challenging cases not normally available at other institutions.

Dr. Ferson estimates that anesthesiologists typically handle 10 to 20 life-threatening, difficult intubations in the course of their career. "Anesthesiologists here at M. D. Anderson handle about 600 difficult intubations per year. So it's much easier to actually assess the efficacy and the feasibility of using some of the airway devices in our patients," he said. Dr. Ferson credits the LMA's success rate in patients with difficult airways for fueling his continued interest, and he believes that this experience increases the safety and comfort of these patients.

In experienced hands, LMA insertion appears simple and takes 6 to 10 seconds to perform; however, an improperly placed device may lead to unnecessary complications. Dr. Ferson strongly believes that acquisition of the correct insertion technique is imperative. When taught in an appropriate format, proper skill acquisition is easy, according to Dr. Ferson.

"It takes much less time to learn to use the LMA than to learn endotracheal intubation," he says, "and the skill seems to be retained for a much longer period than that for
endotracheal intubation in emergent airway management by nonanesthesia personnel.”

Dr. Ferson determined through a prospective, randomized study that the LMA insertion technique is best learned when training is hands-on rather than restricted to instruction by video or training manual. Hands-on training is also meant to cover diagnosis and treatment of potential problems, especially the risk of aspiration.

Although the risk of aspiration with the LMA appears to be the main potential problem, it has been shown through a meta-analysis of several million cases worldwide that the risk is the same as that for the endotracheal tube. With proper training and appropriate patient selection, that risk can be reduced even further, according to Dr. Ferson.

Dr. Ferson envisions training not only anesthesiologists but also other medical specialists involved in airway management. In addition, basic courses are being planned for nurses. The LMA training center is scheduled to offer two eight-hour seminars in 1999.

“M. D. Anderson was the first U.S. hospital to use the new intubating LMA, and in more than one emergent situation this device not only prevented serious injury but also actually saved lives,” Dr. Ferson said. “The future for LMA research at M. D. Anderson is quite exciting and continues to extend into different clinical areas. One example is minimally invasive airway management of immunocompromised patients in the intensive care unit, and another is developing systems that provide feedback about the depth of patients’ anesthesia. A third is continuing unique clinical applications in different surgical specialties, for example, neurosurgery and thoracic surgery.”

In addition, the LMA has been very useful in patients undergoing specialized neurosurgical procedures, such as awake craniotomies, for more accurate and safer excision of tumors involving certain areas of the brain. These operations require the patient to be awake for neurological testing during the most critical part of the operation. Using the LMA during awake craniotomies at M. D. Anderson has not only increased safety and accuracy of the operation, but, more important, provided greater comfort to the patients, according to Dr. Ferson.

Efforts continue to broaden the device’s uses. Collaborative research between the Department of Anesthesiology and the Department of Thoracic and Cardiovascular Surgery at M. D. Anderson resulted in a proposal for a new standard for fiberoptic airway evaluation through the LMA immediately prior to thoracotomy.

“Although the LMA started as a simple device, the LMA concept will have a lasting impact on anesthesia practice and future anesthesiology research. We are very happy to be at the forefront of that research here at M. D. Anderson,” says Dr. Ferson.

FOR MORE INFORMATION, contact Dr. Ferson at (713) 745-1190.

Cervical Cancer
Study Results
Expected to
Change Practice

A multisite national study led by researchers at The University of Texas M. D. Anderson Cancer Center is expected to have an immediate impact on the treatment of cervical cancer.

The randomized trial, which studied 403 patients from 1990 to 1998, found that patients with locally advanced cervical cancer treated with both radiation and chemotherapy had a 73% overall survival rate and a 66% disease-free survival rate, compared with a 58% overall survival rate and 40% disease-free survival rate for patients who received radiotherapy only.

Based on the Radiation Therapy Oncology Group (RTOG) study data, as well as data from four similar studies, the National Cancer Institute, for only the fifth time in its history, issued a clinical announcement urging clinicians to give “strong consideration” to adding chemotherapy to radiotherapy in treatment of invasive cervical cancer.

Because of possible implications for public health, the New England Journal of Medicine authorized the release of the study and two other similar trials prior to their scheduled publication in the April 15 issue. The journal posted the articles on the journal’s Web site at http://www.nejm.org.

Professor of Radiation Oncology Patricia Eifel, M.D., and Professor of Gynecologic Oncology Mitchell Morris, M.D., were the RTOG study’s co–principal investigators.

“Now that we have the data, it is vital to make chemotherapy a part of standard care for women with advanced cervical cancer,” said Dr. Morris. “Every day that we wait to make it a part of treatment, fewer women have the opportunity to benefit.”
May I Take Your Order?

by Sunni Hosemann

"I'll take fruits and vegetables, please, and cut the breast cancer."

It is Thursday evening cooking class. Twenty or thirty women are here listening intently to dietitian Catherine Foreman. Over the course of the two-hour class, she will lecture about nutrition and share new recipes. She will talk about how to prepare them, and then the students will cook and taste some of the dishes. There will be social banter, laughter, small talk, opinions about last month’s recipes. The gathering is like any group or club except that these women all share a rather profound link. They all have beaten breast cancer, and they’re all here to push it even farther away.

These women are part of the Women’s Healthy Eating and Living (WHEL) Study, a National Cancer Institute-sponsored research effort aimed at determining the role of diet in preventing breast cancer recurrence. It’s probably no accident that in conversation, it sounds like people are talking about the “well” study, because the women here say they’ve never felt better.

A retired career secretary, is in her second year as a study participant. It has been three years since her breast cancer treatment concluded. She says she enjoys the support, the counseling, the newsletters, and the recipes. But the real bonus for her is that since she implemented the dietary recommendations, she feels a lot better. Her life is an active one that includes gardening and deer hunting.

“I never get colds or flu anymore, no headaches or depression. I feel great,” she says.

agrees. This is 24th cooking class. She continues to come because she really enjoys it. As a systems analyst working on the Y2K problem, so it’s not surprising that one of the things she most appreciates about the study is the access to expert knowledge: “The counseling we get is worth a lot. They really analyze things and provide excellent information.” Plus, she says, the cooking classes have been fun and interesting. A second group of participants meets on another night.

The benefit to the women enrolled is evident; they are feeling good about taking proactive steps against recurrence. The benefit to science promises to be considerable as well.

The WHEL study plans to enroll 3,000 cancer-free breast cancer survivors at seven sites nationwide before recruitment ends in March 2000. Its aim is to evaluate the effect of a plant-based diet on the prevention of breast cancer recurrence. A pilot, conducted at the University of California, San Diego (UCSD), was funded by the Walton Family Foundation. Other study sites beside UCSD and M. D. Anderson are the University of Arizona, the Center for Health Research Portland in Oregon, and three other sites in California.

At M. D. Anderson, the study’s principal investigator is Lovell Jones, Ph.D., professor of Gynecologic Oncology, Molecular Biology, and Biochemistry and director of the Experimental Gynecology-Endocrinology Laboratory.

Dr. Jones currently oversees two clinical trials, both examining the roles of nutrition, hormones, and other markers in breast cancer. His coinvestigators are Richard Theriault, D.O., associate professor, Department of Breast Medical Oncology, and Richard Hajek, Ph.D., a Department of Gynecologic Oncology research scientist specializing in hormonal carcinogenesis. Dr. Theriault is the study’s clinical director.

Women in the study are assigned to one of two dietary groups. Both groups are given healthful diet guidelines, dietary goals, training, counseling, and support. The study groups differ slightly in the type and amount of counseling they get. The diets for both groups are healthful and low in fat, but one is a very high vegetable diet. Going beyond the
collection of dietary logs typical of many nutritional studies, the WHEL study also monitors clinical markers.

"We're documenting blood levels of lipids, hormones, and also carotenoids, which we've only recently been able to use accurately as a marker," says Dr. Hajek.

In addition, the information the researchers are collecting about nutritional supplements will, according to Dr. Jones, "probably represent the world's largest database of supplements that cancer patients take." They have logged more than 3,000 different ones.

"After questions about what can be done about their cancer, the next most common question we're asked is about diet," says Dr. Theriault. "There is so much information out there—in the papers, on the Internet—marketing information about foods that cause cancer or diets and supplements that will prevent it. Our patients are very well informed, very concerned. They want to know what's effective, what's safe. And up to now, we've not been able to say for sure."

Dr. Hajek believes the study's results will help answer patients' questions. He also thinks the study is a perfect example of a clinical trial where the short-term benefits to participants and the long-term value to science are both very high. The study's scientific importance lies in its ability to provide definitive answers to what research has thus far only suggested: that diet plays an important role in cancer prevention.

"Because of the large number of participants, and the length of the study, it will have the statistical power to link diet and nutrition to recurrence," said Dr. Hajek. No matter what the outcomes of the study are, he says, the researchers will be able to make strong statements about these links that have never been possible before.

For the participants, the immediate benefit is clear in smile when she says, "I feel great!"

Janice Chilton, M.A., M.P.H., the study coordinator, says participants come from Austin, San Antonio, and Fort Worth. She has received calls from women in other states who want to join. Why? "Most of them are highly motivated to do something in support of their health after their treatment has ended. There's also a heightened interest now in diet and nutrition," she said, adding, "People believe diet matters." Women need not have been treated at M. D. Anderson to enroll.

Participants are also referred by community physicians who tell Chilton they consider it a good intervention for the patient who has been successfully treated but feels, as many patients do, a need to try to exert control over their disease.

Study participants have access to dietary counseling, information and newsletters, nutrition advice, and cooking classes. Additionally, there are some unique aspects of this study that may interest potential candidates, according to Catherine Foreman, M.S., R.D., L.D., the study's research dietitian.

First and foremost, the diets for both groups are healthful and aimed at prevention of recurrence. Second, the diet in the study is not what Foreman calls a "deprivation diet." Foreman notes that for many people, going on a diet means getting a list of foods that are off-limits, reducing amounts, missing out on favorite foods, eating unfamiliar foods, or just plain going hungry. This diet isn't about any of those things, she says.

"The focus is not on specific foods to eat or avoid but on an overall pattern. It's not about eating less overall, but about eating more of the foods that are healthful."

"Of course, most women do find that if they eat the amount of fruit, vegetables, and other foods identified as goals, they don't have room for anything else," she smiles. One of the common things she hears is, "Why didn't I do this sooner?"

Foreman stresses that the diet is very simple and easy to incorporate: "It's doable, and it's good for the whole family."

For more information about the WHEL study at M. D. Anderson, call Chilton at (713) 792-3275.

To receive three recipes from the study, send your name and address to Recipes, OncoLog—Box 234, M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, Texas 77030.
Continuing Medical Education Events

Conferences Offer Variety of Topics

by Kimberly JT Herrick

Conferences sponsored by M. D. Anderson Cancer Center's Office of Continuing Medical Education and Conference Services from mid-March 1999 to January 2000 will encompass a broad spectrum of oncology topics, including specific cancers; the disciplines of radiology, anesthesiology, and nursing; and cancer research at the millennium.

Continuing education credit hours, including American Medical Association/Physicians Recognition Award Category 1 (AMA/PRA Cat. 1) and other professional certifications, are listed for those conferences for which such certification has been approved according to criteria of the Accreditation Council for Continuing Medical Education.

Additional and updated information about these and other conferences and in-house educational events at M. D. Anderson can be obtained from the Conferences and Educational Events links on the M. D. Anderson home page on the World Wide Web (www.mdanderson.org).

Contact M. D. Anderson Conference Services by phone at (713) 792-2222, facsimile at (713) 794-1724, or electronic mail (meetings@www.mdacc.tmc.edu) for any additional information.

Other events of interest include the 90th Annual Meeting of the American Association for Cancer Research, which will be held April 10–14 in Philadelphia, and the 35th Annual Meeting of the American Society of Clinical Oncology, which will be held May 15–18 in Atlanta. See these organizations' home pages on the World Wide Web at www.aarc.org and www.asco.org for more information.

### Conferences Sponsored by The University of Texas M. D. Anderson Cancer Center

<table>
<thead>
<tr>
<th>Date</th>
<th>Conference (Location)</th>
<th>Chairpersons (Contact)</th>
<th>Continuing Education Credit (Credit Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 29–April 2</td>
<td>Twenty-fourth Annual Gilbert Fletcher Society Conference: Breast Cancer (a cruise from Fort Lauderdale, Florida)</td>
<td>Adam Garden, M.D. Contact Marie Byrd at (713) 792-3400.</td>
<td>AMA/PRA Category 1 (9.5)</td>
</tr>
<tr>
<td>April 24</td>
<td>Thirty-ninth Annual Houston Society of Clinical Pathologists Conference: Recent Advances and Selected Topics in Head and Neck Pathology (Houston)</td>
<td>Sergio Soroka, M.D.</td>
<td></td>
</tr>
<tr>
<td>April 29–30</td>
<td>Third Annual Hands-on Workshop for Interventional Pain Management (Houston)</td>
<td>S. Reddy, M.D. Contact Troylene Leonard at (713) 792-6911.</td>
<td>AMA/PRA Category 1 (15.5)</td>
</tr>
<tr>
<td>May 1–2</td>
<td>Fourth Annual Hands-on and High-tech Workshop for the Difficult Airway (Houston)</td>
<td>Joseph Chiang, M.D. Contact Mary Ann Schneider at (713) 792-6911.</td>
<td>AMA/PRA Category 1 (13.5)</td>
</tr>
<tr>
<td>May 14–16</td>
<td>Medicina Transfusional Para Técnicos (Houston)</td>
<td>Benjamin Lichtiger, M.D.</td>
<td></td>
</tr>
<tr>
<td>June 4–5</td>
<td>Fourth Annual Human Dimensions in Cancer Care Conference (Houston)</td>
<td>Pamela H. Jones</td>
<td>AMA/PRA Category 1 (6.5)</td>
</tr>
<tr>
<td>September 24–25</td>
<td>Adolescent and Young Adult Issues in Oncology (Houston)</td>
<td>Sima Jeha, M.D.</td>
<td>Call (713) 792-2222</td>
</tr>
<tr>
<td>September 24–25</td>
<td>Living Fully with Cancer Conference (Houston)</td>
<td>Judy Gerner</td>
<td></td>
</tr>
<tr>
<td>October 3–5</td>
<td>Twenty-first Annual Pharmacy Symposium (Houston)</td>
<td>Sharon Bronson, M.S., and William Dana, Pharm.D.</td>
<td>Call (713) 792-2222</td>
</tr>
<tr>
<td>October 8–9</td>
<td>Anderson's Alumni Conference: Cancer Care—UT M. D. Anderson Approach (Houston)</td>
<td>Ralph Freedman, M.D.</td>
<td>AMA/PRA Category 1 (14.5)</td>
</tr>
<tr>
<td>January 9–12, 2000</td>
<td>Cancer Research at the Millennium (Houston)</td>
<td>John Mendelsohn, M.D., and Margaret Kripke, Ph.D.</td>
<td>AMA/PRA Category 1 (22.5)</td>
</tr>
</tbody>
</table>
Exercise—A Hop, Skip, and a Jump for Reducing Cancer Risk

Exercise has long been touted as a way to keep trim and fit, but research now indicates that regular physical activity can also help reduce your risk of having some cancers.

- **Regular exercise protects against colon cancer.** A summary of 16 cancer studies indicated that highly active people were 60 percent less likely to get colon cancer than sedentary people, according to the American Institute for Cancer Research.

- **Exercise helps reduce the risk of breast cancer.** A recent Norwegian study of 25,624 females found that women who exercised regularly in their leisure time had a 37 percent lower risk of developing breast cancer than sedentary women did. Women whose jobs involved a great deal of physical activity also had a lower risk than sedentary women, with the greatest reduction among women with the most strenuous work.

- **Regular exercisers may also enjoy reduced risk of cancers of the prostate, endometrium, and kidney.** Other studies indicate that exercise may also lower the risk of lung cancer and alleviate some of the side effects of high-dose chemotherapy by helping patients regain their strength and energy.

**Explaining Exercise’s Role in Risk Reduction**

The multiple benefits of exercise may explain its role in cancer risk reduction. In the case of colon cancer, researchers hypothesize that physical activity helps push food through the bowel, thus shortening the time that carcinogenic substances spend there. For breast cancer, studies suggest that exercise makes the body produce less estrogen. Some breast cancers depend on estrogen for development.

Exercise also helps curb weight gain. Being obese increases a person’s risk of developing breast, colon, endometrial, kidney, and gallbladder cancers as well as hypertension, diabetes, and heart disease.

And if that isn’t enough benefit, exercise also helps people handle stress and sleep better, improves their mental outlook, and bolsters their immune system.

Despite these payoffs, however, more than 60 percent of Americans get little or no exercise. Too often exercise seems like something people should do—but don’t.

**Working in Working Out**

The good news is that you don’t have to jog or work out at a gym to reap the benefits of exercise. Instead, you just need to incorporate more physical activity into your day.

**How much do you need to do?**

The American Cancer Society, American Heart Association, American College of Sports Medicine, and the Centers for Disease Control and Prevention suggest that everyone do at least 30 minutes of moderately intense physical exercise on most—and preferably all—days. This could mean walking briskly, swimming, raking leaves, gardening, doing housework, or playing with your kids. The 30 minutes can even be divided into as many as three 10-minute segments.

The American Institute for Cancer Research’s new research report, Food, Nutrition and the Prevention of Cancer, recommends one hour of moderate activity a day plus one additional hour per week of vigorous activity such as brisk walking uphill, swimming, playing tennis, or dancing.

Sound overwhelming? It doesn’t have to be. Try to find some activities you enjoy—maybe bike riding, bird-watching treks, dancing, or joining a mall walkers’ club. Insert exercise into your life by changing your routine a little: take the stairs instead of the elevator, park further away from the grocery store, walk short distances you previously would have driven. Remember that a little exercise is better than none.

Once you make regular exercise a habit, it’s likely that you’ll feel so much better you won’t want to miss a day.

---

For more information, contact your physician or contact the M. D. Anderson Information Line:

 пен телефонов в США:

.methods 392-1611

.methods 792-6161

February 1999

©1999 The University of Texas
M. D. Anderson Cancer Center
M. D. Anderson Care Centers

Information and New Patient Referral

The M. D. Anderson Information Line
(713) 792-3245 or (800) 992-1611

M. D. Anderson New Patient Referral Office
(713) 792-6161

Multidisciplinary Care Centers

Breast Center
The Nellie B. Connally Breast Center
(713) 792-2360

Cancer Prevention Center
Medical Director:
Therese Bevers, M.D.
(713) 745-8040

Child and Adolescent Center
Medical Director:
David Tubergen, M.D.
(713) 792-6610

Gastrointestinal Center
Medical Director:
Steven Curley, M.D.
(713) 792-2330

General Oncology Center
Medical Director:
Rena Sellin, M.D.
(713) 792-2340

Genitourinary Center
Medical Director:
David Swanson, M.D.
(713) 792-8780

Gynecologic Oncology Center
Medical Director:
Charles Levenback, M.D.
(713) 792-6810

Head and Neck Center
Medical Director:
Eduardo Diaz, Jr.
(713) 792-6520

Hematology Center
Medical Director:
James Gajewski, M.D.
(713) 792-6100

Melanoma and Skin Center
Medical Director:
Jeffrey Lee, M.D.
(713) 792-6800

Neuro and Supportive Care Center
Medical Director:
W. K. Alfred Yung, M.D.
(713) 792-6600

Plastic Surgery Center
Medical Director:
Geoffrey Robb, M.D.
(713) 792-7300

Radiation Oncology Center
Medical Director:
Moshe Maoz, M.D.
(713) 792-3440

Sarcoma Center
Medical Director:
Robert Benjamin, M.D.
(713) 792-8851

Thoracic Oncology Center
Medical Director:
Frank Fossella, M.D.
(713) 792-6110

The University of Texas
M. D. Anderson Cancer Center
1515 Holcombe Boulevard
Houston, Texas 77030
(713) 792-2121 for any other number

http://www.mdanderson.org
http://www.clinicaltrials.org

M. D. Anderson is designated a Comprehensive Cancer Center by the National Cancer Institute.

Design
Matsuya Design
Photography
Jim Lemesne

Editorial Board
W. K. Alfred Yung, M.D., Chair
Robert Benjamin, M.D.
Therese Bevers, M.D.
Thomas Burke, M.D.
David Callender, M.D.
Steven Curley, M.D.
Frank Fossella, M.D.
Lewis Fosbair, M.D.
James Gajewski, M.D.
Marilyn Howigil
Jeffrey E. Lee, M.D.
Moshe Maoz, M.D.
Geoffrey Robb, M.D.
Rena Sellin, M.D.
David Swanson, M.D.
Richard Theriault, D.O.
David Tubergen, M.D.

Published by the Department of Scientific Publications—234, The University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, Texas 77030.

Made possible in part by a gift from the late Mrs. Harry C. Wass. Not printed at state expense.

© 1999 The University of Texas M. D. Anderson Cancer Center