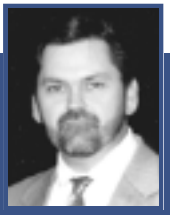
NEWSLETTER
Iowa Emergency Medical Services Association

IEMSA

April/June 2001
Volume 2 Number 2



President's Message

The Name Game?

by Jeff Messerole, IEMSA President

Much attention has been given to the choice IDPH Bureau of EMS has made in adopting the National Registry Curricula and the names they have given to those who complete them. I'm referring to the students who complete the National Registry Intermediate curricula being called an Iowa Paramedic and students who complete the National Registry Paramedic being called an Iowa Paramedic Specialist. Pick up any EMS Journal and you'll find an article from someone who has an opinion on the subject, most of them not favorable. What you are not told is that the Bureau's decision is not unique. Iowa is one of five (I belive it's five) states who have adopted the National Registry Curricula this way. There are about a dozen states that have either not yet adopted any of the new changes or have made modifications to the curricula. Those who have written the curriculum are the most vocal about any deviation and obviously offended that all have not endorsed their work equally. I would think it almost impossible to write EMS curriculum that would meet the needs of the entire country, and perhaps adopting one cart blanche would not be in everyone's best interest.

The Iowa EMS Association published a position statement in the October 1999 newsletter and in revisiting that position, the following items have not changed.

- The terminology for the levels is confusing to those in EMS and misleading to the public.
- Utilizing the National Registry EMT-I curricula as the model for the "State Paramedic" creates a watered down effect compared to our previous model. Identical skills are taught in a much shorter time - our concern being there is not enough time allotted for the comprehension of those skills
- Critical Care Paramedic should be offered as an endorsement

I believe it is too early to tell what effect, if any, the Bureau's decision to call those who successfully complete a National Registry Intermediate exam an Iowa Paramedic will have on EMS. Remember the intent of what the Bureau was trying to accomplish. The need to perpetuate the paramedic skill level of care to the rural areas requiring it was admirable, and perhaps not without conflict. The rural and volunteer EMSers were the most vocal about losing the rural or volunteer paramedic should they have to sit through a 1,200-hour paramedic course. When comparing the Iowa Paramedic scope of practice to the Iowa Paramedic Specialist, there are only 6 skills that set them apart and only three of them are significant (RSI, 12 Lead EKG, and Cardioversion). So call them what you will, because regardless of the name, the skills they are allowed to perform remain the same. Managers of ambulance services will have to address issues like competency, pay scales, availability, and staffing with this new lean mean resuscitation machine. If anything I envision a shortage of home grown Paramedic Specialists as those training institutions offering the 1,200-hour variety will be few and far between.

There exists a process to enact change and time will tell. It would be premature and so like EMS to get revved up over an issue that needs time to mature. We won't have any of these Iowa Paramedics for several months. Before we go changing everything one way or the other let us see what has been done. The Iowa EMS Association is keeping close tabs on this issue, redeveloping our position statement and welcomes any comments you may have. We'll keep you posted. Take care and keep the discussions going.

Your friend in EMS,

Jeff Messerole,
~~*EMT-P*~~ *Paramedic Specialist*

What's inside.....

A Publication of **IEMSA**
PO Box 349
West Union, Iowa 52175-0349
888-592-IEMS (Iowa Only)
319.422.9399
fax 319.422.3196

EMTALA Workshop

by Cindy Hewitt, SE Region Represenative

On Feb. 20, 2001, Iowa Hospital Association hosted the workshop "EMTALA Requirements and Implications for Iowa's Trauma System and Hospital-Based Ambulance Services". The course was held at the Scheman Building at Iowa State Center in Ames, IA.

This program is funded entirely by the Iowa Dept of Public Health, Office of Rural Health, through a grant from the Federal of Rural Health Policy, Health Resources and Services Administration, Public Health Service, U.S. Dept of Health and Human Services. Sponsors included IA Dept of Public Health-Office of Rural Health and Bureau of EMS, Iowa Hospital Association and Iowa Dept of Inspections and Appeals.

Speakers included Nancy Ruzicka, Bureau Chief from Inspections and Appeals, who spoke on her experiences in Iowa with the EMTALA regulations and implications for CAH's and Hospital based service. Barbara Person, J.D. spoke of Case Law for the CAH and Hospital based ambulances. In the afternoon, Mary Jones and Dr. Tim Peterson, IA Dept of Public Health,discussed how the IA Trauma System fits into the EMTALA regulations. Over 183 health care providers attended this useful workshop. Attendants had the opportunity to ask questions of the speakers.

New EMT-Intermediate T raining is Making Progress

By Lori Reeves, IEMSA Education Chair
EMS Training Coordinator, Indian Hills Community College

As most EMTs are already aware of, the current EMT-Intermediate training in Iowa utilizes the 1985 National DOT curriculum. For most training programs this means a program length of 75-85 hours of classroom time plus 100 hours of clinical and ambulance ride time. In 1999, the National DOT released the revised EMT-Intermediate curriculum which included a large increase in not only the skills but also the recommended program length. The 1985 EMT-I and 1999 EMT-P curriculums paralleled each other closely and here in Iowa the EMS Bureau has made the decisionto use this new National DOT EMT-Intermediate curriculum for the base curriculum used to train individuals certified in Iowa at the paramedic level. This left no national curriculum to use to train EMT-Is. It's here in Iowa and the previous 1985 curriculum had become too antiquated. As a result, Iowa made the decision to develop an "Iowa only" EMT-Intermediate level curriculum for individuals wanting to be certified be in Iowa at the EMT-I level.

Work on this "Iowa only" EMT-I curriculum has been progressing. A group of training program coordinators volunteered to serve on a committee to work to develop this program and its curriculum. The group had two goals as they accomplished this task: 1) keep the skills and knowledge of this EMT-I equivalent to the EMT-Is trained under the 1985 curriculum and 2) decrease the overall length of the program to be no more than 100 hours in length including classroom, clinical and/or ambulance time. This decrease in hours was possible due to the fact that some of the 1985 EMT-I curriculum content is now covered in the EMT-B program and could be removed.

The main new skill in this EMT-I curriculum, as before, is venous access. Classroom content will review some of the important areas covered in the EMT-Basic class plus add new classroom content on medical terminology, pathophysiology of shock, fluid resuscitation, and venous access. This new curriculum should be ready and available for training programs to begin utilizing by 01/01/2002.

LEGISLATIVE NEWS

Legislative Update

by Mark Postma, Legislative Chair

EMS DAY 2001 A SUCCESS

A special thanks to all who attended the EMS Day On the Hill. It was another great success. We had over 50 legislators stop and visit with us, and over 25 EMS providers available to answer questions.

Mark your calendars for next year - February 21, 2001 at 0 700. Remember it's important to keep in contact with your legislators throughout the year, invite them to your fund raising, local EMS education day and events. Involving them in our activities will increase their knowledge of our community and the things we're involved in. This will directly effect and improve the kind of legislative support we get.

Below is an update of this year's legislation and a white paper that was developed by the legislative committee in response to recruitment and retention.

We at IEMSA apologize for the limited EMS Hill day notice. We willcontinue to improve our communication, remember our office is always open, or you can contact:

Mark Postma, Legislative Chair at 319/323-6806 or email postma@medicems.com

Dave Cole at 319-330-2029 or email lifeline.dcole@psaccess.net

Thanks again for your involvement and interest in IEMSA and the legislative committee.

Proposed Legislation IEMSA is involved in:

HF 88 Volunteer Tax Credit: (New Bill this session)

- Establishes a dollar amount tax credit for volunteer EMS & Firefighters ($2500)
- Ways and Means Committee (introduced by Iowa State Representative Heaton)

We need to continue lobbying for ways we can keep EMS volunteers.

We also need to help provide them with incentives to volunteer.

Appropriation for EMS T raining and Equipment Funds:

Thank the legislators for the past appropriations. Ask again for the appropriation.

Remind them we have had this appropriation without an increase or decrease in the amount since 1989. EMS needs to keep this appropriation for this year as well.

SSB 1126 (introduced by Iowa State Senator Redwine) End of Life Legislation

An Act concerning physicians' orders for limiting resuscitation and other life sustaining procedures by health care providers outside the hospital setting. To include: Appropriate respect for patient's wishes, uniform orders, patient identifiers, immunity,....

HF 2576

Provides a death benefit for certain volunteer emergency service providers killed in the line of duty and providing a standing appropriation. This benefit is for two years and will be reviewed in a study committee for future action.

Other Issues

Proposed Bic ycle Helmet Legislation:

An act making findings relating to bicycle helmet safety and requiring that protective headgear be required for bicyclists under the age of fourteen.

Dept of Health appropriation for EMS system de velopment .

Thank you for all your help and involvement today and throughout the year.

Mark Postma,Legislative Chair
Cal Hultman, Lobbyist
David Cole, IEMSA Member
Ric Jones, IEMSA Member

White Paper on EMS in Iowa -- *Recruitment and Retention of EMS Volunteers*

The provision of Emergency Medical Services (EMS) is ongoing and requires an increasing need for volunteers and financial support. Just as Law Enforcement and Fire Protection have established a long history of "public expectation," pubic safety is now joined by EMS as an "expected" public service.

The reduction of death and long-term disability, and the response to sudden acute illness requires more than a fast ride. Prehospital care is finally being recognized as more than mere transportation, it requires trained personnel. The citizens of Iowa deserve and have grown to expect a system of care; an EMS system that brings to bear all available resources to successfully intervene in emergency situations.

To achieve such a system of care is not enough —- to achieve and maintain that system is the ultimate objective in our pursuit of an ongoing EMS system with trained professionals both volunteer and paid. Trained personnel must be provided with incentives to continue to volunteer. EMS systems must be able to provide more incentives to recruit new members.

In rural Iowa especially, where time and distance to a hospital and the reliance upon volunteers to deliver emergency care are crucial factors in life-threatening situations, there must be an ongoing mechanism of support in place if these services are to be available when needed. Adequately trained and funded volunteers need incentives to continue to serve the people of Iowa. Government must recognize and invest in this important resource.

As the picture of rural health care delivery continues to change, we must be sure to remember that an important part of that picture (a part that can only become more important as the traditional role of the rural hospital continues to change) is EMS -- A System to Save Lives.

Northwest Region Report

By Evan Bensley,

Northwest Region Representative

The Emergency 2001 Conference was held March 9th and 10th at the Sioux City Convention Center. Six hundred students pre-registered for the event as of this newsletter deadline. The Iowa EMS Association was on hand with a booth in the Exhibit Hall. A few of the speakers at the conference include Ken Bouvier from New Orleans, Louisiana and Terry Foster from Kentucky. Another featured speaker was Steve Berry from Colorado Springs, Colorado. Steve is best known for his cartoon books entitled, "I am Not an Ambulance Driver!" Steve shares his sense of humor in his presentations. I'll have a full report on the conference in the next newsletter.

Jeff Messerole has been reappointed to another term as the regional representative to the Iowa EMS Association Board. Jeff is the MICS Manager at Dickinson County Memorial Hospital in Spirit Lake. Jeff currently serves as the IEMSA President.

A date has not been set for the next Sioux-Lakes EMS Board meeting. The Board usually meets in April at the Sioux Valley Hospital in Cherokee.

Calendar of Events

April 21, 2001 Air Care Ground Crew Safety Class @ VB Co Hospital, 2CEH's
Contact Rochelle Scovel at Van buren County Ambulance - 319-293-3171

April 21, 22, 27, 28, 2001 -- Swift Water/Basic River Rescue, (4 days), Instructors from the IA DNR, 34 CEHs,
Sponsored by Southern Iowa Technical Rescue Team
Contact Cindy Hewitt 641-684-2333

May 24th, 2001 -- EMS Council of Northeast Iowa —Mercy-McKinley --Cedar Rapids, Iowa,
The EMS Council of N. E. Iowa Annual Meeting at 10:00 a.m.--
Best Western Long Branch
90 Twixt Town Road
Cedar Rapids, Iowa
Contact Connie Leicher, President at 319-234-5745

IEMSA Board of Directors Meeting Minutes for January 18, 2001 @ 10 am

Location: West Des Moines Fire/EMS Station #2
1401 Railroad Avenue
West Des Moines, Iowa

Present: Brett Bredman - Steve Noland - Kay Lucas - Brian Jacobsen - Julie Lang - Connie Leicher - Mark Postma - Melissa Sally-Mueller - Evan Bensley - Jeff Messerole - Jeff Dumermuth - John Copper - Rosemary Adam - Cindy Hewitt - Jerry Johnston

Call To Order: 10:08

Determination of Quorum/Proxies:

Proxies presented - Cliff Greedy

Approval of December minutes: In the December minutes we need to change physical therapist to respiratory therapist. Also change voluntary services to volunteer. With these changes Jeff Dumermuth made a motion to approve, seconded by Rosemary Adam.

Treasurer's Report: Reports have been approved.

Bureau of EMS Report:

System Development fund - 12 out of the 19 county meetings have been held. Four counties have submitted a proposal. These meetings will be done by January 31st. The Bureau feels that this is working very well.

End Of Life - They are meeting today also. Ric Jones is working with John Redwine, from Western Iowa, to get this introduced. The Bureau could be asked to write the rules.

Gary took a couple rules to the board. A few minor changes were made in the trauma. House 23:33 will not allow paramedics to go out of their scope of practice. The scope of practice will be included in the document. To change the scope of practice it can be handled by rule and doesn't have to go in front of the whole legislation. These rules start on March 14. Where are we going to ask questions about the scope of practice?

Iowa has chosen to pick all the data that they can collect. Services need to get this information in every 90 days, but they are not going to start collecting the information until July. The special teams (for example the flight teams) are going to have some problems. Rosie is taking this to the SEQIC. The services need to do this for a year before any changes should be made to the collecting process. They need to go through all of this information and see what is actually going to be needed. There is a service that their computers went down and they will be delivering all this information on paper. How is the Bureau going to handle all of this information?

Committee Reports:

Legislative:

- EMS Day on the Hill - This will be Feb 15th from 7:00 a.m. - 9:00 a.m. Everyone should dress in uniform and bring a display.
- Position on EMT-I - The Ad-Hoc committee will be reformed and Jerry will be the chair. Mark Postma and Rosemary Adam will be part of this committee. We agree that this needs to be revisited and maybe revised.
- President Jeff Messerole appointed Mark Postma as the new Legislative chair.
- End of Life - According to the way it is written there is concern about the Power of Attorney. It doesn't say Power of Attorney proof is needed.
- Fee Schedule - Nationally they are fighting hard to keep ALS1. This is for 911 calls.
- Bike Helmet - They are meeting today.
- License Plates - The money for the EMS license plates is not going for the Bureau of EMS. Mark will look to see if we can change this. The money from the kids' license plates does go to the Bureau of EMS.

By-Laws: No Report.

PI&E/Membership: The appointing of the chair position will be tabled for next meeting. Ginny really didn't know how long the PI&E would be active.

Newsletter/Web Page: Go without the Trauma article. We will add Dana to the agenda under web page. Rosemary or Jeff D will get SCS a CE article. Cindy passed around a sheet for everyone to sign-up to prepare a CE article. Lisa will e-mail the board to remind them what is still needed for the newsletter. *-- continued on page 4*

Board Minutes - cont.

Booth: Central Iowa's Show is March 2-3. We are looking at getting long-sleeve T-shirts. We had a member that would like to quote us some prices and we will get in contact with him.

State Fire Service and Emergency Response Council : The State Fire Marshall told Jeff that he doesn't appoint the board. Jeff is waiting for a call back from Kathy. Ann was at the last meeting. We are trying to find out who appoints people to this council. Jerry Johnston is willing to write the Governor of Iowa if needed.

Service Directors/Pr oviders: The next meeting is in April.

Nominating/Elections: No Report

2001 Conference: We are meeting at the convention center today. Still looking for speakers.

911/Telecommunications: No Report

Advisory Council: There has been some talk about the protocols.

State Medical Examiner Advisory Council: No Report

Old Business

Patch Update: Jeff received a quote and we will be able to use the seal. Jeff Messerole made the motion to get all embroidered patches and Cindy seconded. We will order 5000 patches and 1000 of each of the rockers. The old patches will sell for a 1.00 at the Regional Shows.

Budget for 2001: Steve, Jerry, and Jeff D will be meeting after the board meeting.

Expired Board Memberships: Letters need to be sent from your region to Tami or Jeff M.

New Business:

The meetings will be at the West Des Moines Fire/EMS Station on 3421 Ashworth Road from this point on. We donated $50.00 to West Des Moines EMS for letting us use their place free of charge and for making us coffee.

Policies : Please be sure to make the changes and give back to Cindy.

Endorsements: If someone is looking for the IEMSA to endorse their organization, they need to get on the agenda for the next meeting. At the meeting, they need to make a presentation and then the board will vote.

Welcome Aboard! IEMSA Member s

Adjournment: 12:14

New Active Members:

David Dove, Hubbard
Katherine Boeke, Hubbard
Stacy Meyers, Nichols
Karl Kellen, Granville
Michael Pottebaum, Granville
Denise Kellen, Granville
Greg Penning, Granville
Rahkel Hansen, Granville
Tina Ecklin, Diagonal
David Evans, Lenox
Stephanie Marshall, Lenox
Jennifer Miller, Sharpsburg

New Bronze Corporate Sponsor:
Iowa Donor Network

Treasurer s Report

by Steve Noland, Treasurer

January 31, 2001

Checking Account	18,581.49
Sweep Account	80,355.09
Investment	16,517.26
Savings	6,384.73
Total Balance	121,838.57*
Income	2,651.64
Expenses	11,120.88

February 28, 2001

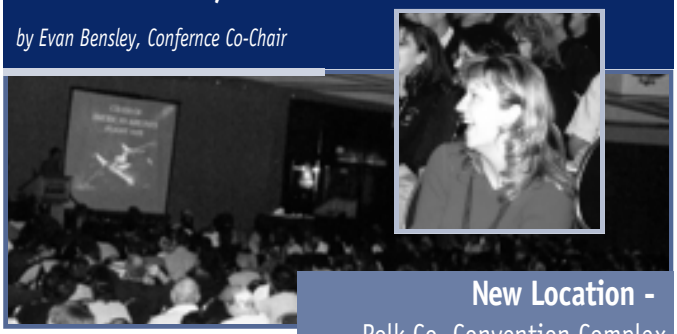
Checking Account	19,744.88
Sweep Account	80,271.87
Investment	16,572.90
Savings	6,393.23
Total Balance	123,012.88*
Income	577.32
Expenses	383.01

Note: At the time this newsletter went to press (3/3/01) the March 31, 2001 Treasurers Report was not available. See the July/September issue for that report.

**Total does not reflect an Outstanding Invoice being negotiated for $69,933.79.*

2001 IEMSA Conference
October 25-27, 2001

by Evan Bensley, Confernce Co-Chair



New Location - Polk Co. Convention Complex

We are working har d on the 2001 Io wa EMS Association Conference . Be sure to mark your calendar for the new dates! The Conference will be held **October 25-27** at the Polk County Convention Complex in downtown Des Moines. The Conference moved to the Convention Center to allow more room for the growing number of participants. Simply said, we outgrew the Marriott Hotel Meeting Facilities. Last year's conference had a record attendance and we expect our attendance to grow again this year. Therefore the Convention Complex allows for the necessary additional classroom space and larger Exhibit Hall Facility.

This conference is your conference. The IEMSA Board uses the results of the evaluations from the previous year to make changes to the next year's program, facility and activities.

As a result you will see the following changes this year:

- **The Annual A wards Ceremony** will be moved from Saturday morning to Friday night before the dance. This would allow more exposure to the award recipients and allow a little extra sleep time on Saturday morning for the conference attendees. We have also eliminated the Sunday morning session.
- **The Friday night dance will have a Hallo ween theme** this year. Plans are in the works for a best costume contest during the dance. We encourage participants to attend the dance in their funny and/or scary costume!
- **Expanded Exhibit Hall** - The convention center facility will allow us to offer up to 100 vendor displays from across the spectrum of EMS equipment and services. This expansion means you'll have a one-on-one opportunity to visit and explore new equipment and services.

We have a full slate of speakers scheduled this year.

- **Terry Braverman will be the keynote speaker** on Saturday morning. Terry will give his humorous presentation entitled, "When the Going Gets Tough, the Tough Lighten Up!" He is a national speaker and recently spoke at the national EMS Magazine Exposition in Charlotte, North Carolina. This will be Terry's first time speaking in Iowa.
- **Steve Murphy will be back** from Tacoma, Washington to entertain us with the keynote address on Friday. Other speakers include Dawn Bidwell from Alexandria, Minnesota; Bernie Heilicser from Flossmoor, Illinois; Frank Nagorka from Chicago, Illinois; and Charly Miller from Lincoln, Nebraska. A complete pediatrics track will be offered on Friday. The Bureau of EMS will be on hand to provide an update on EMS in Iowa and the EMS Instructor Update.

The Chairpersons for this year's conference are Lori Reeves from Indian Hills Community College and Evan Bensley from Northwest Iowa Community College. If you have questions or need additional information about the conference, please call me at 1-800-352-4907 extension 160.

See you in October!!!

IEMSA EDUCATION CORNER *Continuing Education Article*

Airway and Ventilation: What's New?

by Rosemary Adam, Nurse Instructor, University of Iowa Health Care
IEMSA At-Large Board Member

Did you know, as a member of the Iowa EMS Association, you are entitled to 1.0 hours of free continuing education within this newsletter? It's true.

Simply, read over this article, complete the attached 10-question post-test, return postmarked by July 15, 2001, achieve a post test final score of 80% or higher and we will grant you 1.0 hours of EMS continuing education through the EMS Learning Resources Center of The University of Iowa Health Care. ***Note:*** *You must be an active member of IEMSA.*

In August of 2000, the American Heart Association (AHA) published their new recommendations for emergency cardiovascular care, including basic life support, advanced cardiac life support and pediatric advanced life support. A new, huge emphasis was placed on airway and ventilation at the basic and advanced levels of patient care by the Anesthesiology group on the advisory committees at the National level. The purpose of this article is to review some of these new recommendations for EMS providers.

The objective for this continuing education topic are that by reading the article and successfully completing the post test, each participant will be able to:

1) Review and list the indications, contraindications, insertion techniques, and complications with the new basic airway and discuss new quality assurance ideas when using advanced airways.

2) Review the new recommendations for tidal volumes in both basic and advanced life support when providing positive pressure ventilation

3) List the techniques for confirming endotracheal tube placement in both the pediatric and adult patient.

Introduction

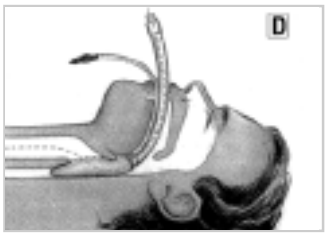
The principles of airway management should include the thoughts that the simplest technique that works for the patient should be used. The simplest technique is the patient maintaining their own airway. If they have a Glasgow Coma Score above 8, that should be easy.

If the patient is unable to maintain their own airway, assistance can be achieved by either a head-tilt, chin lift or a jaw thrust procedure. Of course, tilting the head back into hyperextension is not allowed in the trauma patient but both techniques are easy to use and reliable if the provider has at least two hands and reassesses the patient once any intervention is attempted.

In EMS, it is rare that we can continue to provide manual airway assistance with only two hands as we are usually busy with patient packaging and transport. In order to free our hands so that the patient can be transferred, airway adjuncts may need to be used. The nasal and oral airways have long been our bridging devices to more advanced airway adjuncts. The nasal airway is probably the perfect device for patients having seizures or who have an intact gag reflex and decreased level of consciousness. The oral airway, for the patient with no gag reflex, is more commonly used by EMS providers as a bridge to another device.

No matter what airway device is used, it is imperative that the provider reassess the patient after any airway adjunct insertion to make sure it works. It's pretty reliable that if a patient tolerates an oral airway, some sort of advanced airway is headed their way. Let's take a look at some of these choices.

Laryngeal Mask Airway



The two LMA® products most frequently used are the LMA-Unique® and the LMA-Fastrach®, both used by Anesthesiologists and CRNAs for many years. The LMA-Unique® is made up of two parts: the tube and the mask made of silicone. The mask is inserted, inflated and provides an oval seal around the laryngeal inlet so that positive pressure ventilation can be provided on the tube that extends out through the mouth in the patient without a gag reflex.

The American Heart Association® Emergency Cardiovascular Care Committee has recommended that the LMA-Unique® be considered a basic airway alternative in emergency settings. According to the recommendations, "The LMA provides a more secure and reliable means of ventilation than the face mask. Although the LMA does not ensure absolute protection against aspiration, studies have shown that regurgitation is less likely with the LMA than with the bag-mask device and that aspiration is uncommon."

The simple LMA is inserted into the pharynx with tip pressure against the hard palate, advancing the device until resistance is felt as the distal portion of the tube locates in the posterior pharynx. The cuff is then inflated, which seals the larynx, leaving the distal opening of the tube just above the glottis, providing a clear, secure airway. Successful insertion rates with the LMA range from 64% to 100% in non-physician groups.

Some problems arise with insertion of this device when inexperienced providers attempt to "jam it in". The most common malposition occurs when the tip "folds over" on the cuff, creating a poor seal with the larynx. Another problem can occur when the provider has difficulty inserting the mask past a patient's thick tongue. Local Anesthesiologists encourage us to use tongue blades and insertion techniques similar to insertion of the oral airway when the patient's large tongue impedes progress of the LMA.

For the advanced providers who are assisting or upgrading the airway during emergency events, a properly placed, regular adult size LMA Unique will allow the passage of a cuffed 6 mm endotracheal tube. A size 5 LMA will allow a 7mm ETT. To perform this blind maneuver through the previously-inserted LMA, the advanced provider positions the patient's head in a sniffing position

-- continued on page 6

CE Article - *continued*

(if no trauma) while the sized-ETT is held at a 90-degree left position to the LMA tube. Continue to insert this ETT into the LMA Unique tube at the 90 degree left position until the last few centimeters remain, then allow it to attain the normal anteroposterior position. Assure ETT position as per protocol and secure both devices. Studies have shown a 90% successful placement by this means.

The LMA-Fastrach® is another device available from LMA of North America, Inc.. This reusable intubating LMA, once inserted, creates a patent airway through which an 8mm ETT can be inserted blindly into the trachea. Practice with this device in the supervised setting of the operating rooms is highly recommended. Many advanced providers who are using staged induction anesthesia (a.k.a. RSI) for intubation use this device as a "back-up" airway should usual techniques of endotracheal intubation fail.

For more information on these devices, perform a computer search for LMA of North America or Laryngeal Mask Airway (LMA).

Esophageal-Tracheal (Dual Lumen) Combitube

A standard airway at the basic level, the Combitube® provides an advanced airway in a blind insertion technique. One lumen contains ventilating side holes at the hypo pharyngeal level and is closed at the distal end; the other lumen has a distal open end with a cuff similar to a tracheal tube. When inflated, the large pharyngeal balloon fills the space between the base of the tongue and the soft palate, anchoring the tube into position, and isolates the oropharynx from the hypo pharynx. Nearly 90% of the time, the tube finds its way into the esophagus. This device provides more protection against aspiration of gastric contents than bag and mask ventilation and the LMA.

The Heart Association cites one study proving that the incorrect port was used for ventilation 3.5% of the time by the provider. For this reason, end-tidal CO-2 or esophageal detector devices should be used to assure proper tube position and identification for ventilation, (see later in this article).

Another possible complication with this device is esophageal trauma. Adequate initial training and subsequent practice on a routine basis should help minimize these types of complications. Additionally, EMS squads and transport companies should monitor success rates and complications when using this airway device.

Tracheal Intubation

It's so easy to say, "lets intubate." Sometimes easier said than done. Repeated safe and effective placement of an endotracheal tube over the wide range of patient types and unusual situations requires considerable skill and experience. Unless initial training is sufficient and ongoing practice and experience are adequate, fatal complications may occur.

Failure-to-intubate rates are as high as 50% in some EMS systems across the US where there is low patient volume with providers who do not perform the skill frequently. When this skill is attempted by those with insufficient experience, the following complications may occur: trauma to the oropharynx, ventilation withheld for unacceptably long periods, delayed or withheld chest compressions, esophageal or bronchial intubation, failure to secure the tube, and failure to recognize misplaced tubes.

The emphasis by the ECC advisory group with Anesthesiology input is that those advanced providers who may, within their scope of practice, intubate but who do so infrequently as described above, should use only airway management devices for which they have been adequately trained. Their suggestion is to use simpler airway devices that take less continued skills to achieve. Controversial? You bet.

"Those who perform tracheal intubation require either frequent experience or frequent retraining. EMS systems should keep a record for each provider, documenting the number of intubations performed and success rates and complications ", according to the August, 2000 ECC Guidelines. Their recommendation is that each provider who wishes to intubate do so at least 6-12 times per year to remain proficient. The Paramedic service Medical Director will have to determine what minimum requirements are for retention of skills.

A common mistake during intubation is that the provider chooses an incorrectly sized tube.

Both adult males and females should be able to accommodate an 8 mm ETT. In order to realize how important size is - take a 6 mm ETT, plug your nose and attempt to inhale and exhale for at least 5 minutes. You will begin to feel air hunger very shortly.

Basic and advanced personnel who are assisting with endotracheal intubation should use cricoid pressure while ventilating with bag and mask and continue this procedure until the cuff of the endotracheal tube is inflated. While the 30-second intubation procedure is being performed, assistants can use the "BURP" technique to assist in visualization of the cords. Backward, Upward, Rightward Pressure technique assists in bringing the vocal cords into the field of vision of the intubator.

New Emphasis on Two Methods of Confirming ETT Placement

Confirmation of ETT Placement:

Confirm tube placement immediately, assessing the first breath delivered by the bag-valve unit.

1) **As the bag is squeezed, listen** over the epigastrium and observe the chest wall for motion. Auscultating epigastric sounds and no chest movement means esophageal intubation. Remove the tube immediately and reoxygenate/reventilate the patient.

2) **If chest motion is observed** and no epigastric sounds are heard during the first ventilation, listen over the right and left anterior mid-axillary lines in the chest. Document and continue "slow and low" ventilations at 12/ minute.

3) **If in doubt - stop ventilations and re-evaluate.** You may reinsert the laryngoscope blade and view where the tube is located.

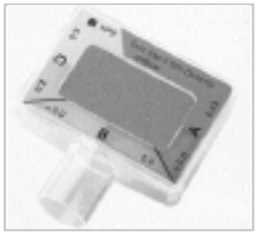
4) **Confirm the tube mark at the front teeth.** In a properly sized ETT in the adult, the marking should be between 21 and 23 cm at the teeth.

5) **Secure the tube** as per protocol and secure the patient's head/neck to prevent internal extubation. There is growing evidence that even correctly secured ETTs can be internally moved enough with simple head and neck movement to create an exbutation.

Secondary Confirmation of ETT Placement:

There are a variety of devices on the market that may assist EMS in good airway management by secondary confirmation of ETT placement. They range from simple and inexpensive to complex and costly. Here are some…

End-Tidal CO2 Detectors:



Colormetric CO2 Detector

Capnography

These devices measure the con - centration of exhaled CO2 from the lungs . The mere presence of CO2 indicates proper tracheal tube placement. The lack of CO2 detected may mean that the tube is in the esophagus, especially if the patient's lungs are receiving a good blood supply.

Colormetric end-tidal CO2 detec - tors may show "false positive" because the CO2 delivery is so low in cardiac arrest or in patients with large pulmonary embolus . Even patients who were reported to have ingested large amounts of carbonated beverages prior to intubating events may present a "false negative" result on these devices.

The colormetric type of end-tidal CO2 does not like to be moist. They are packaged carefully to prevent inadvertent absorption of moisture and the package will show expiration dates that must be adhered to. If attached to an ETT that has previously had drugs instilled, the device may not function well. Additionally, any human secretion that regresses out an ETT will interfere with the device.

They may be used on all age groups and are reliable if good blood flow is perfusing to the lungs. There are two sizes and using the adult size on small children will work but should not be kept in the bag-valve/ETT system continuously because of the dead space in the device.

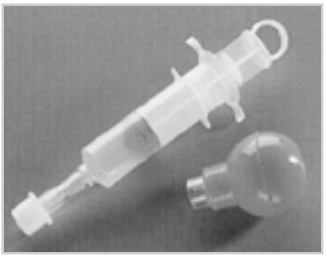
After successful ETT insertion, perform the three-point auscult a- tion for ETT placement as described earlier. As secondary confirmation, you may choose the colormetric end-tidal CO2 detector. Attach the device between the secured ETT and your ventilation system.

Ventilate 6 times before reading the color reader.

- If it turns yellow, that means "yes", you are detecting CO2
- If it turns tan, it's tentative. Ventilate 6 more times. It may mean that the patient's lungs are not receiving enough blood supply. Don't extubate yet - confirm by another means.
- If it turns purple and the patient has a pulse - uh oh! You are in the esophagus.

Continuous, usually quantativ e, end-tidal CO2 monitoring is as the title sa ys, performs continu - ous readings and can detect CO2 within seconds and pr ovides a level that is comparative to the patient's pCO2 (+5). Sometimes called capnography, these devices can be quite costly but are very accurate and reliable.

Esophageal Detector Devices



This inexpensiv e, simple device creates a suction force at the tr a- cheal end of the tube , either from pulling back on a plunger (similar to a large syringe) or compressing a flexible bulb.

-- continued on page 8

CE Article - *continued*

Because of the structures of the trachea and esophagus, the following results are pretty reliable:

- If the syringe plunger pulls back easily - ETT is in the trachea; if the bulb device springs back - ETT is in the trachea
- If the syringe plunger will not pull back - ETT is in the esophagus; if the bulb device does not spring back into position, ETT is in the esophagus.

This device may not be used in children less than 5 years of age.

Confirmation of ETT placement should be done with at least two methods initially, then reassessed immediately after moving the patient and/or at routine intervals with documentation.

New Emphasis on Delivering Good Minute Volumes

There is mounting evidence that our attempts at ventilating patients during respiratory and cardiac arrest is poor at best. There are high complication rates with problems like aspiration of gastric contents, barotrauma, and poor oxygenation levels with high CO2 levels.

During initial attempts at ventilation with pocket mask and with bag and mask device, the rescuer should attach oxygen as soon as possible. The key to prevention of some of the common complications is to deliver "slow and low" ventilations.

If no oxygen is immediately available, deliver your ventilation over 2 seconds that just allows the chest to rise and fall.

Once oxygen is added to your device, at least 10 L/min, you may decrease the tidal volume and time interval over which you deliver the inhalation. Deliver the ventilation with oxygen over 1-2 seconds with less chest rise (just barely perceived).

Whenever possible, a second or third rescuer should be applying cricoid pressure to prevent passive regurgitation and subsequent aspiration. This is accomplished with by exerting backward pressure with the dominant thumb and forefinger on the lateral borders of the cricoid ring.

Using a bag and mask device many times requires two rescuers to provide adequate tidal volumes to the patient. The appropriately-sized mask is applied to the patient's face, using an "E-C clamp technique". The non-dominant thumb and forefinger are placed into a "C" position around the outlet of the mask. The 3 remaining non-dominant fingers are placed into the "E" position on the patient's mandible, with efforts to raise the patient's face into the mask. If a second rescuer is delivering the ventilation, two hands can be applied to the mask in a double E-C clamp technique. Just remember to raise the face into the mask - not push down, as that collapses the airway.

Minimum sizes of bag-valve-mask systems should be 1600 ml for the adult, and at least 450-500 ml for pediatric patients.

Once a tracheal tube is inserted and two means of confirmation are accomplished, the tube is secured as per protocol and attempts are made to secure the patient's head and neck (even medical patients) in order to prevent internal extubation from exaggerated patient movement during transport.

Slow and low ventilations should continue with oxygen. Delivering high airway pressures to the intubated patient causes low oxygen delivery, high CO2 buildup and possible trauma to the pulmonary system. This type of rapid squeeze of the bag system many times creates unusual noises or "barking" of the bag. This is NOT good delivery of ventilation.

A slow "squeeze" of the bag while observing the chest creates an excellent tidal volume. Combine this with common sense and well-documented protocols on the rate of rescue breathing and you have excellent minute volumes.

The rate with which the ventilations should be delivered to the adult is at 10-12 per minute. This means that the rescuer actually counts to five slowly prior to delivering another ventilation. Mindless bagging of patients during cardiac or respiratory arrest events usually delivers 60-80 ventilations per minute without even understanding the damage being done to the patient's cardio-pulmonary system and brain.

The most common problem associated with providing ventilations to the intubated patient is rescuers "bagging" the patient at rates extremely high with tidal volumes not adequate.

Remember: *slow and low.*

Summary

- Medical and trauma patients with need for basic and advanced airway and ventilation procedures ask for competent rescuers when they call 911. This basic competency level requires EMS providers to routinely practice with supervision, maintain quality control measures, and keep up with the "latest" in airway practices.
- The newest recommendation at the basic level is the LMA, a device used by Anesthesia Departments for quite some time. Indicated as a step up from simple bag and mask ventilation with jaw thrust, this device requires some supervised practice for training.
- Verification of tracheal tube position initially, and at routine intervals has become the most emphasized recommendation to come from numerous organizations, including the AHA and the Anesthesiologists groups. "No single confirmation technique is 100% reliable under all circumstances." EMS agencies should employ at least two measures to confirm ETT position.
- Slow and low ventilation has become the buzz words when it comes to proper technique for delivering excellent minute volume.

Take Post-Test on Page 10

CE Directions:

- Read over the article
- Complete the post-test on page 9 & 10
- Legibly enter your name, address, certification level, and phone number, along with your IEMSA member number, (or attach your IEMSA Newsletter address tag in the space indicated -- subject to audit)
- Mail the post test by July 15, 2001to:

Rosemary Adam,
Nurse Instructor
University of Iowa Health Care
200 Hawkins Drive, EMSLRC
South 608 GH
Iowa City, IA 52242-1009

If you have questions, please call (319) 356-2599 or email: adamr@uihc.uiowa.edu

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712-336-4306 (F)
jpjjmess@rconnect.com (email)

Vice President
Cindy Hewitt
Ottumwa Regional Health Center
1001 E Pennsylvania
Ottumwa, Iowa 52501
515-684-2333 (W)
515-684-2401 (F)
chewitt@orhc.com (email)

Secretary -
Jeff Dumermuth
West Des Moines EMS
PO Box 65320
West Des Moines, Iowa 50265
515-222-3652 (W)
515-222-3379 (F)
jdumermuth@WDM-IA.com (email)

Treasurer
Steve Noland
IA Methodist Medical Center
Emergency Department
1200 Pleasant Street
Des Moines, Iowa 50309
515-241-5758 (W)
515-241-6469 (F)
nolandsj@ihs.org (email)

Immediate Past President
Jerry Johnston
Henry County Health Center
Saunders Park
407 South White
Mt. Pleasant, Iowa 52641
319-385-3141 (W)
319-385-6731 (F)
johnstonj@hchc.org (email)

Northwest Region - Jeff Messerole
See above for address and phone number.

Northwest Region - Evan Bensley
NW Iowa Community College
603 West Park Street
Sheldon, Iowa 51201
712-324-5061 (W)
712-324-4136 (F)
Ebensley@nwicc.cc.ia.us (email)

Southwest Region - Kay Lucas
1405 Bent
Bedford, Iowa 50833
712-523-2390 (W)
712-523-2393 (F)

Southwest Region - Cliff Greedy
208 Fletcher
Sidney, Iowa 51652
Greedy4ems@hotmail.com (email)

North Central Region - Bruce Thomas
1615 East Elm
Algona, Iowa 50511
515-295-7247 (W)
515-295-2335 (F)
bruce@heartlandmutual.com (email)

North Central Region - John Copper
1323 25th Ave North
Fort Dodge, Iowa 50501
515-574-6687 (W)
515-574-6987 (F)
gibsons@ihs.org (email)

South Central Region - Jeff Dumermuth
See first column for address and phone number.

South Central Region - Steve Noland
See first column for address and phone number.

Northeast Region - Brett Bredman
Waterloo Fire Rescue
425 East 3rd
Waterloo, Iowa 50703
319-291-4460 (W)
319-291-4279 (F)
brett-b@waterloo-ia.org (email)

Northeast Region - Dana Sechler
Eastern Iowa Community College District
306 West 2nd Street
Davenport, Iowa 52801
319-336-3448 (W)
319-336-3451 (F)
dsechler@eiccd.cc.ia.us (email)

Southeast Region - Jerry Johnston
See first column for address and phone number.

Southeast Region - Cindy Hewitt
See first column for address and phone number.

At Large - Mark Postma
1204 East High Street
Davenport, Iowa 52803
319-323-6806 (W)
319-323-1705 (F)
postma@medicems.com (email)

At Large - Rosemary Adam
University of Iowa Hospitals & Clinics
EMSLRC, 200 Hawkins
Iowa City, Iowa 52242-1009
319-356-2599 (W)
319-353-7508 (F)
adamr@uihc.uiowa.edu (email)

Education - Connie Liecher
Hawkeye Community College
844 East 4th Street
Waterloo, Iowa 50702
319-234-5745 (W)
319-234-5748 (F)
cleicher@hawkeye.cc.ia.us (email)

Education - Lori Reeves
Indian Hills Community College
325 Grandview, Building #6
Ottumwa, Iowa 52501
800-726-2585 Ext 5162 (W)
lreeves@ihcc.cc.ia.us (email)

Lobbyist - Cal Hultman
Hultman Company
707 East Locust Street, Suite 200
Des Moines, Iowa 50309
515-244-4480 (W)
515-282-3186 (F)
hultmanco@aol.com (email)

IEMSA Office
PO Box 349
West Union, Iowa 52175-0349
888-592-IEMS (Iowa Only)
319-422-9399 (Phone)
319-422-3196 (Fax)
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CE Article POST-TEST -- Airway and Ventilation

Please choose the single, best answer to the following questions related to the article .

- **At the First Responder, Basic EMT, and EMT-I le vels**, answer questions 1-8.
- **At the EMT-Paramedic (and Specialist) levels,** answer all 10 questions.

IMPORTANT NOTE:

In order to successfully attain the 1.0 CEH, you must be a current member of IEMSA and attain at least an 80% on this post test.

1. It is thought that a patient must have at least a total score of ____ on the Glasgow Coma Scale in order to protect their own airway.

a. 4
b. 6
c. 8
d. 10

2. The laryngeal mask airway(LMA)® is inserted:

a. similarly to the Combitube (dual lumen tube), pulling upwards on the mandible

b. while inserting the tube along the anatomic curve.

c. with the silicone mask seated over the esophagus, thereby blocking it off.

d. with an inflated silicone mask, allowing the rescuer to find the larynx.

e. into the pharynx, with the tip pressure against the hard palate as the rescuer slides in until the silicone mask is seated on the laryngeal inlet.

3. The most common complication in using the laryngeal mask airway is:

a. malposition, when the tip of the deflated mask flips over on the cuff.

b. malposition, when the rescuer uses a laryngoscope to insert it.

c. vomiting and aspiration.

d. exaggerated head and neck position with possible c-spine complications.

4. Nearly 90% of the time, the dual-lumen, Combitube® finds its way to the esophagus when inserted.

a. True
b. False

5. Rescuers assisting with endotracheal intubation should provide good oxygenation and ventilation prior to the procedure and:

a. cricoid pressure with the thumb over the anterior neck to facilitate visualization of the cords and prevent aspiration of gastric contents.

b. Backwards, Upwards, Rightward Pressure on the cricoid ring during ETT attempt.

c. Backwards, Upwards, Leftward Pressure on the cricoid ring during ETT attempt.

d. cricoid pressure with the thumb and forefinger on the lateral borders of the cartilage to prevent aspiration, letting up just as the intubator arrives.

6. The best method for providing a good seal when using a bag and mask device is:

a. the Easy-Clamp technique where both hands push downward on the mask while a second rescuer squeezes the bag.

b. the E-C Clamp technique where the last three fingers pull the patient's face up, into the mask.

c. to use only the LMA device.

d. to invert the mask upside-down so that a better seal is achieved over the chin.

7. The new recommendations for tidal volume in basic and advanced life support are:

a. deliver the ventilation over 2 seconds, just to chest rise if oxygen is available.

b. deliver the ventilation over 1-2 seconds, just barely to chest rise if no oxygen available.

c. deliver the ventilation over 2 seconds, just to chest rise if oxygen not available.

d. A and B are both correct

8. Those assisting with ventilation in the tracheally intubated patient should secure:

a. the patient's head and neck to prevent internal extubation.

b. the tracheal tube only with tape as the commercially available devices are not trustworthy.

c. the tracheal tube at 25 cm at the patient's lip.

d. the patient's entire body on a backboard in all situations.

First Responder, EMT-Basic , and EMT-Intermediates

--- Stop Here ---

9. According to new recommendations, Paramedics should become competent and maintain competency in tracheal intubation by:

a completing a tracheal intubation procedure six to twelve times per year.

b. maintaining a good quality assurance mechanism within the Paramedic service program.

c. A and B are both correct

d. Neither A or B are correct

10. You are ventilating a four-year-old patient with a colormetric end-tidal CO2 detector and it turns tan after the initial six ventilations.

d. Immediately extubate the patient, it is in the esophagus.

d. You cannot use colormetric end-tidal CO2 detectors in kids < 5 years of age.

d. You should ventilate the patient six more times and recheck the color.

d. Secure the tube, it is in the right spot.

Deadline for sending this post-test in for CEHs is: July 15, 2001

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