THE ASATT SENSOR

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THE QUARTERLY NEWSLETTER OF THE
AMERICAN SOCIETY OF ANESTHESIA TECHNOLOGISTS AND TECHNICIANS

PRESIDENT'S MESSAGE...

ASATT....ON THE MOVE

by Ruth A. Ochoa, CerAT

Since my last "President's Message," the ASATT Board of Directors, various committees and numerous individuals have dedicated many hours to achieving significant advances on behalf of ASATT and its membership. I'd like to highlight a few of these efforts in this issue. They indicate the continued growth we see in ASATT—we are growing in both number and in our strength as an organization.

In January, the ASATT Board of Directors and the Education Committee met for two days in Houston, Texas, to finalize policies and procedures for continuing education/contact hours for certification. Certified Anesthesia Technicians (CerAT) will soon receive a packet of information explaining the process for obtaining and receiving credit for qualified continued education to maintain your certification designation. This has been a long, detailed process, which I'm proud to say, is now complete. I would like to acknowledge and thank the ASATT Board of Directors, particularly Wilma Frisco, CerAT and the Education Committee, chaired by Sheila White, CerAT, for their many hours of hard work and dedication to this project. Thank you also to William King, MD and Lisa Fornicoia, MT(ASCP),CerAT for their efforts and help as members of the Education Committee.

It was my privilege to attend the Certification Test Writing Committee meeting in Lenexa, Kansas, in February. This committee spent two and a half long, intense days formulating, reviewing and finalizing the test questions for the ASATT National Certification Examination, to be held at various locations across the country on May 17. On behalf of ASATT, I would like to thank those committee members for their hard work and professional dedication to this project. The committee members are: Jerry S. Guttery, CerAT (Chair); Chris Patterson, CerAT (Vice Chair); Don Biggs, MMSc, AAC; Jim Claffey, CRNA; Lisa Fornicoia, MT (ASCP), CerAT; Wilma F. Frisco,

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[Camera-ready, mechanicals, one-color process.]

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All submissions pertinent to the objectives of the ASATT will be considered for publication. Preferred format: micro diskette, (PC or Mac), or email text file. Photographs, preferably black-&-white are also welcome and will be returned.

Deadline for the next issue is May 15, 1997

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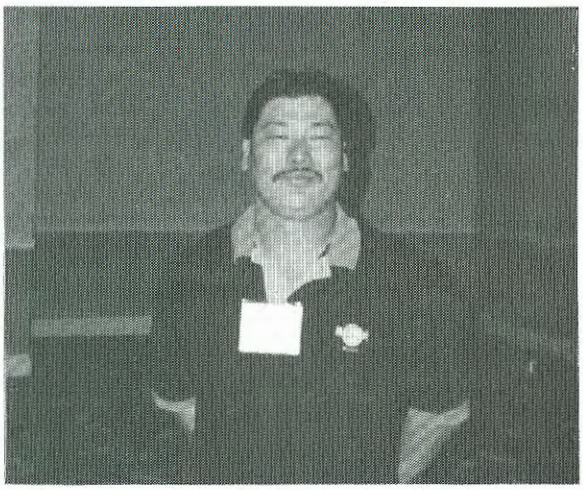
KUAKINI MEDICAL CENTER

by Delbert K. Macanas, Sr, CerAT
Chief Anesthesia Technician, Honolulu, HI

Kuakini Medical Center started as a 38-bed facility called Japanese Charity Hospital. It was established in April 1900 by the Japanese Benevolent Society. The hospital provided free care to the Japanese immigrants who needed help. Between 1885 and 1900, over 70,000 immigrants crossed the Pacific Ocean. They came in force to work on the flourishing sugar cane fields. In 1917, the hospital moved to its current location and was renamed Japanese Hospital, with 16 buildings and 70 beds. The Society built an additional 50-bed facility named Japanese Home of Hawaii in 1932. This annex was organized to care for the unmarried immigrant men who had no family to care for them. These men were reaching retirement age after laboring all those years on the plantation. During World War II, in 1941, the US Army took control of half the hospital and called it the 147th General Hospital Oahu. Full control of the hospital was regained in 1945, and the hospital was renamed Kuakini Hospital and Home. Along with the new identity, Kuakini broadened its scope of services to provide healthcare services to the entire community. Kuakini received its first accreditation from the Joint Commission on Accreditation of Hospitals (JCAHO) in 1954.

Kuakini Medical Center is a subsidiary of Kuakini Health System. The health system is organized for charitable, research, and educational purposes to support and encourage health and medical care services. We are one of four nonprofit subsidiaries. Kuakini Geriatric Care is the section responsible for programs for the older adults. It provides a Nursing home facility and a Residential home facility on the campus. Our motto is, "Caring is our tradition."



Delbert Macanas, Sr, CerAT, Honolulu, HI, between lectures at the ASATT Annual Meeting in New Orleans, October 1996. "Living in paradise is at times very difficult..."

Kuakini Medical Center is a private 250-bed acute care hospital. We provide service to our community, our state, and the Pacific Basin. This teaching institution has an affiliation to the University of Hawaii's Schools of: Medicine with Surgical and Medical residence Programs, Public Health and Social Work. It also has ties to three Schools of Nursing. Kuakini offers a wide range of programs and services, here are a few: Acute Cardiovascular Services, Ambulatory Care Services, Community Health Education, Executive Health Program, Nuclear Medicine, and much more. The center also has strong international relationships, with students and other observers coming for frequent visits. These bonds are especially strong with Japan. Kuakini is a site used for annual visits by the Hiroshima Atomic Bomb researchers from Hiroshima, Japan.

Our hospital is located within walking distance to downtown Honolulu and about eight miles from the world-famous Waikiki Beach. Living in Hawaii is not as easy as it seems. We do not get to see the seasons change. We especially miss winters, watching snow falling on our streets and sidewalks, shoveling the driveways. The average daily temperature is, maybe, 80 degrees F. The roughest thing about living in Hawaii is having to put up with year-round outdoor activities. You know, we can golf, surf, play baseball, or soccer any time of the year. It is difficult living in paradise.

The operating room consists of eight suites: one designated for open heart, one cysto, one ortho, and one for eyes. We do approximately 400 cases a month with 300 open heart cases a year. The anesthesia staff also provides support services to: GI Lab, X-ray, MRI, Pulmonary Lab, and Cardiac Cath Lab. In the 1960's, the hospital stopped doing any Obstetrics or pediatric cases.

When I arrived at Kuakini as a Cardiovascular Technician in 1986, the Anesthesia Department consisted of 6 CRNA's and one Anesthesia Aide. I was transferred into the Anesthesia Department with another CV Technician I had trained, in 1990. Since then, we have lost our CRNA's due to attrition and could not replace them. The department has evolved into a staff consisting of: one part-time CRNA, one anesthesia clerk, and six technicians. We have two levels of technicians: Anesthesia Monitoring Technician (AMT) and Anesthesia Technician (AT). The department is staffed Monday through Friday, 0630 to 1930, and Saturdays, 0630 to 1530. After these hours, and Sundays, we either have a CRNA on duty or an Anesthesia Technician on call for emergency general surgery cases. For emergency OHS, cell saver, or IABP cases, someone is on

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OFFICIAL NOTICES.....

Bylaws/Amendments Vote Results: All 20 of the proposed bylaws Amendments passed with a wide margin for each. A revised set of bylaws will be mailed to each ASATT member. 763 notices were mailed and 160 returned their votes. This amounts to 21% of the total voting.

Proposal	Yes	No	Proposal	Yes	No
#1	149	10	#11	143	18
#2	151	9	#12	137	24
#3	15	19	#13	149	9
#4	136	26	#14	151	8
#5	147	12	#15	146	15
#6	150	10	#16	150	10
#7	139	21	#17	150	8
#8	142	17	#18	148	11
#9	140	20	#19	141	18
#10	138	20	#20	151	7

ASATT Continuing Education and Recertification Guidelines: Watch your mailbox for ASATT Continuing Education and Recertification Guidelines. The Education/Continuing Education Committee (Sheila White, CerAT, William King, MD, Susan Caulk, CRNA, Lisa Fornicoia, CerAT, and Wilma Frisco, CerAT), and the ASATT Board of Directors have worked diligently to compile the manual for the Continuing Education and Recertification Guidelines. For questions, call the ASATT home office.

1997 ASATT Annual Elections: Nominations for elections for ASATT Directors in Regions 1, 3, 5, and 7 and Vice President/President Elect are due this May. Please complete your nomination forms and return them no later than May 16.

Advertising Rates: New advertising rates will go into effect for ads placed in the January 1998 issue of *The ASATT Sensor*. The new rates are per insertion and are as follows: 1/4 page: $125, 1/2 page: $250. Current members will receive a 20% discount.

OPEN FORUM...

by David G. Mastalski, CerAT
ASATT Region 7 Director , SENSOR Associate Editor
Chief Technician, VA Medical Center, Portland, Oregon

The intent of this page is to provide an "Open Forum" for ASATT members or anyone with an interest in anesthesia technology to exchange information and ideas.

Dear OPEN FORUM:

Our Anesthesiologists would like me to investigate the possibility of switching to a standard "needleless" I.V. system at our hospital. I have heard that these systems are expensive. Is this a realistic change we should be making?

Flaggstaff, AZ

Considering the consequences from risks of injury associated with needlesticks (HIV, HBV etc.) to healthcare workers, many hospitals have converted to some form of "needleless" IV system. Many facilities consider the higher costs associated with these systems vs. the reduction of risks to their employees to be a sound investment in resources. According to the ASA's publication, Recommendations for Infection Control for the Practice of Anesthesiology: "Prevention of injuries by needles.....is vital. Use of "needleless" systems (stopcocks, one-way valves, etc.) should be encouraged to prevent injury." To receive a copy of this publication, contact the ASA @ (847) 825-5586. To learn more about "needleless" IV systems, contact your local supply representative.

Dear OPEN FORUM:

While reading my January edition of *The Sensor*, I thought of a great idea. The articles written for the "Science and Technology" section of the newsletter are always of excellent quality and content. In fact, I used these articles as a study tool to pass the National Certification Exam last May. My question is: Can we use these articles for continuing education credits?

Many other professional organizations use this concept to assist their members in obtaining CEU's or continuing education points. You could even charge 5 or 10 dollars per article used for this purpose to cover processing or right to obtain CEU's from the organization. Let me know what your feelings are about this idea.

Calvin E. Johnson, CerAT.
Xenia, Ohio

As you stated in your letter, many educational organizations provide for continued education credit for reading technical articles such as those in The Sensor. *The ASATT Education Committee has recently completed the detailed guidelines for qualifying continuing education/ contact hour credit as it pertains to ASATT National Certification. Included in those guidelines, which all ASATT Certified Anesthesia Technicians will receive very soon, are instructions for applying for contact hour credit for reading, comprehending, and self-testing on the educational content of qualifying articles. It is anticipated that most of the technical articles in* The Sensor *will qualify according to the guidelines.*

The following letter is a follow-up of an OPEN FORUM letter and response from the January 1997 (Vol.7#1) issue which I would like to share with our readers as it demonstrates the ideas and efforts of some of our members. I would add that if there are any ASATT members who have questions, concerns or ideas regarding any aspect of the organization, please submit these to your Regional Director, as they are your elected representatives. Thank you, Mr. Swaim, for your letter.

Dear OPEN FORUM:

With all of the restructuring going on in the hospital job environment, the Anesthesia Tech needs strong credentialing.

A national registry is an easily attainable goal. According to AMP, Inc., national registry can be achieved by simply electing to add "Registered" to the next level, i.e., "Registered Certified Anesthesia Technologist." We already have an entry level test that is administered under controlled conditions, i.e., "Certified Anesthesia Technician." We also have a national society, ASATT, as well as a list of its members. All that we need to do at this point is to vote/elect/choose to call the next level "Registered." Each state society should also pursue the goal of a state licensure. The information needed for this goal may be obtained through each State Department of Health located, usually, in each state capital. The reason why we need a state licensure is job security, so that RNs, RRTs, CRTTs, etc. cannot take our jobs through cross training without first being credentialed through certification and licensure.

The idea is to have licensure follow the technologist (hopefully registered) level exam.

States that do not have a society should form one. Techs who are not current members of their state societies should join and form a committee to create a licensure for their own state.

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All OPEN FORUM questions and "Did You Know ..." ideas may be addressed to:

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Those chosen for publication in this column will receive a free ASATT T-shirt.

PROVIDING ANESTHESIA IN REMOTE AREAS

by Wayne Griffith, CerAT, Chief Anesthesia Technician
Ochsner Medical Institution, New Orleans, LA

The environment outside the operating room offers a unique challenge to anesthesia personnel. With the increasing number of diagnostic and therapeutic procedures performed every year, there is a greater need for patient monitoring and assurance of quality care. Technologic advancements as well as new equipment requiring specialized environments have provided an expansion of anesthetic care to the nonoperative location. The role of the anesthesia personnel in this setting is to ensure the safety and comfort of the patient and to help facilitate the performance of the procedure. Fundamental anesthetic principles apply to all patient care whether the procedures are within or outside of the operating room.

NEEDED EQUIPMENT AND SUPPLIES

Monitoring capabilities and anesthesia equipment may not be as sophisticated outside the operating room as in the operating room. Although uniformity of anesthesia equipment would enhance safety, many anesthesia machines in locations outside the operating room may be outdated and not adapted to meet the needs of the frequently restricted environments in which they are used. Constant maintenance of this equipment is essential because the remote location of the procedure often makes immediate help from operating room personnel unavailable. Thorough preoperative or preprocedural preparation is a must. The anesthesia personnel unfamiliar with the anesthesia machines and layout in the nonoperating room location should spend additional time ensuring proper function of this equipment.

Several problems may be encountered in the nonoperative location. Most facilities for nonsurgical procedures were not designed to meet the needs of anesthetic care for the patient. There is often limited space. In addition, access to the patient may be limited, which may pose a significant safety risk. In certain procedures, e.g., radiation therapy, the anesthesia personnel may not even be present in the same room as the patient. Room lighting may not be optimal. Darkness may be required for radiologic procedures; this increases the likelihood of unrecognized airway obstruction, circuit disconnections, and possible exhaustion of gas cylinders. In addition to routine anesthesia equipment, self-inflating bags, extra oxygen cylinders, a defibrillator, and emergency drugs must be readily accessible. If suction is not available, portable vacuum devices will be necessary.

Usual standards for monitoring should be followed just as in the operating room, including determination of blood pressure and heart rate. An electrocardiogram should be continuously displayed. Continuous monitoring of ventilation and circulation during general anesthesia with qualitative end-tidal carbon dioxide measurement and pulse oximetry should be performed. Ventilation controlled mechanically mandates continuous use of a breathing system disconnection device. In addition, oxygen concentration should be monitored by an oxygen analyzer equipped with a low-concentration alarm.

The nonoperative environment may be hazardous to both the anesthesia personnel and the patient. Increased exposure to radiation during radiologic procedures can occur. Anesthesia personnel who are involved in these procedures, even on an infrequent basis, should consider wearing badges to measure cumulative exposure.

Electrical equipment used for monitoring should be evaluated for electrical safety and line isolation. Electrical outlets should be identified and checked for adequate grounding. Proper equipment for scavenging of anesthetic gases should be available.

Reliance on sophisticated monitors has become a necessary part of anesthetic management. In the nonoperative location, monitoring must play an even greater role because of the frequent need for separation of patient from anesthesia personnel. When restrictions on space limit monitoring capabilities, reliance on tactile and auditory signs during anesthesia assume increased importance.

RADIOLOGY

Diagnostic and therapeutic radiology constitute the major requirement for anesthesia outside the operating room. Diagnostic procedures can be both invasive and noninvasive, including angiography, magnetic resonance imaging (MRI), and computed tomography (CT). Therapeutic radiology includes embolization during angiography, external beam radiation, and intraoperative radiation therapy. Cardiac catheterization and angioplasty are other invasive procedures commonly performed.

Most adult patients with adequate instruction and preparatory guidance are able to tolerate noninvasive procedures even without sedation. Imaging will be satisfactory in most cases; however, some patients may require an increased level of care. Monitoring of the patient with trauma, intracranial hypertension, or a compromised airway may be necessary. Anesthesiology consultation may be needed for confused or combative patients and for patients who are unwilling or unable to remain still because of neuromuscular movement disorders. Pediatric patients have special needs. Fear, anxiety, and separation from parents make it difficult to perform radiologic procedures without anesthesia.

Contrast agents are used routinely during angiographic and other radiologic procedures. Frequently, anesthesia personnel are asked to monitor or care for patients at risk for adverse reactions to contrast media. The incidence of adverse reactions to intravascular injection of contrast dye is approximately

continued on next page...

5-8%. Many factors contribute to development of such adverse reactions. The method of injection (either slow infusion or bolus), the type of dye used, and dose may influence the risk of systemic reactions. Type of technique or site to be studied also have a significant influence on the incidence of adverse reactions. For example, both coronary artery and cerebral angiography are associated with a high risk of reactions. Patients with a prior history of atopy or known allergy to shell fish or seafood are more prone to contrast-related adverse reactions. Obviously, patients with prior reactions to contrast media should be treated very cautiously. Adverse reactions can be mild, moderate, or severe.

Although nausea and vomiting are classified as mild reactions to contrast dye injection, they occur as prodromal symptoms in as many as 20% of all anaphylactoid and fatal reactions. Direct vasoactive substance release and complement activation stimulated by contrast media have been proposed as mechanisms for many adverse reactions including hypotension, urticaria, flushing, and bronchospasm . Hypotension frequently occurs and, although mild, is often preceded by a transient period of systemic hypertension. In addition to systemic hypertension, increases in central venous, pulmonary artery, and left atrial pressure may occur. Contrast dyes are made of iodine-containing anions linked ionically to various cations including magnesium, calcium, and methylglucamine.

RADIATION THERAPY

The two major types of radiation therapy requiring anesthesia care are external beam radiation, usually in children, and intraoperative radiation therapy (I.O.R.T.).

Anesthetic management of the child for radiation therapy is a challenge. External beam radiation is useful for a number of radiosensitive tumors. These patients are usually scheduled for a series of treatments extended over several weeks. Radiation doses are in the range of 180-250 rad per treatment. For this reason, all personnel must leave the room during the treatment period. Special capabilities are necessary to provide safe and adequate monitoring . Although the anesthesia personnel are some distance from the patient, with closed-circuit television and equipment capable of even intensive-care application, the quality of care can approach that of the standard operating room. Standard monitoring is interfaced with the remote location. Television cameras may be mounted so that observation of equipment and the patient are possible. In the event of patient problems or circuit disconnections, access to the patient should be rapid (20-30 sec). Patient immobility is the primary reason anesthesia is required. Fairly large doses of radiation are used, and this must be precisely focused to minimize surrounding tissue damage. General anesthesia may be facilitated with a number of techniques that must be appropriate for the short duration of the procedure. Caution should

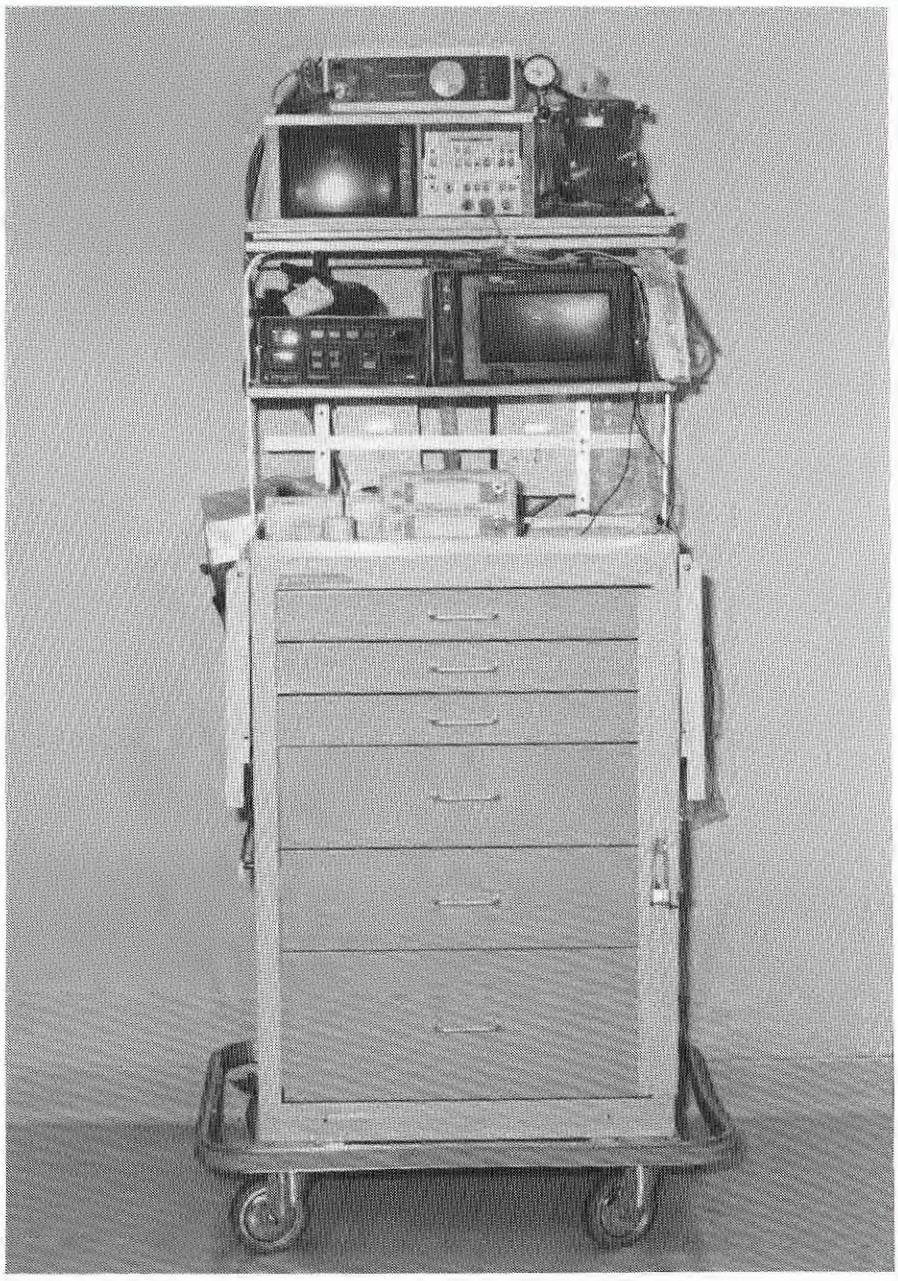


Fig 1: "Traveling" Anesthesia Cart and Monitors

be exercised with patients who may have elevated intracranial pressure. With these patients, ketamine may not be appropriate. After induction, the airway may be secured by placement of an aquaplast immobilization mask. This serves two purposes: improvement of immobilization and marking for focusing the radiation beam.

Extremely high levels of radiation are used intraoperatively to effect palliative treatment of a variety of tumors. Doses of 5000-6000 rad may be used during a single treatment.

Examples of tumors treated by this method include pancreatic cancer, colon or rectal cancer, radiation-sensitive sarcomas, and many gynecologic cancers. Hospitals may be equipped with combination radiation therapy-operating room suites. In other centers, surgical exploration must be done in the operating room with subsequent transfer of the patient to the radiation therapy room. This may require transporting the patient considerable distances. For example, we must transport from the second floor to the first floor. Portable monitoring equipment and methods for delivery of oxygen and anesthetics are necessary. Intravenous techniques are used to keep the patient comfortable during this difficult transport.

Monitoring for intraoperative radiation is much the same as described for external beam radiation. Personnel must leave the room during the radiation treatment. Equipment interfaced to an external control desk allows adequate monitoring. Observation of the patient is by closed-circuit television. After treatment, patients are transported back to the operating room.

My hospital ensures a quick move to and from the operating room by including our security personnel. About 5 minutes before we come out of the operating room to go to the radiation therapy room we call security. Their job is to hold the elevator and stop all traffic in the hallway. We can now proceed to the elevator and down to the first floor without having any delays. Since we have a parade of personnel moving this patient we are able to do so without obstacles. This system works very well for us. After we have finished with the radiation therapy we get the same cooperation for the trip back to the operating room.

We have the same anesthesia equipment available for our remote cases as we do in the operating rooms. This equipment is checked before we move to an area. Bair Hugger blankets and warmers as well as fluid warmers are available for patient temperature management. Tanks are full, equipment is checked to ensure they are operational, and supplies are readied. Agent analysis is also available. Since we do a large amount of cases outside the operating rooms we have developed a traveling cart that includes all supplies and monitors. (fig. 1) Included is an extra strip of electrical plugs and both adult and pediatric supplies. An Ohmeda Excel 210 ventilator is used as well. We can do any case that needs anesthesia support outside the operating room without any compromise to the patient.

THE MIDCAB PROCEDURE

by James R. McMichael, MD
Capitol Anesthesiology Association, Austin, TX

(Editor's note: Most anesthesia techs are familiar with the Coronary Artery Bypass (CAB). These techs probably have a standard routine for setup and assistance during these procedures, and general expectations for the events accompanying the procedure. These routines and events generally include invasive and non-invasive monitor placement, sternotomy (sternum is sawed open to expose the heart), cardio-pulmonary bypass (lungs are "down" and the heart is stopped), and transport of an intubated patient to the critical care area. Some anesthesia techs supply and even prepare the necessary drugs for the procedure. Following is a description of a newer procedure gaining wider acceptance when deemed appropriate. Anesthesia techs should tailor their CAB routine to meet the different needs of this type of CAB.)

The MIDCAB (Minimally Invasive Direct Coronary Artery Bypass) procedure (at our hospital) is being performed for single vessel coronary artery disease using the Internal Mammary Artery (IMA) in a patient with good Left Ventricular function. The goals are to avoid sternotomy and cardio-pulmonary bypass, accomplish the bypass anastomosis, have (at most) an overnight stay in the ICU, and discharge the patient on the first or second postoperative day.

The key considerations for the anesthetic management include tailoring the anesthetic so that the patient, in the absence of any other contraindications, can be awakened and extubated at the end of the procedure. How one chooses to accomplish this goal is up to the individual clinician (using intermediate-duration neuromuscular-blocking agent and less fentanyl and midazolam), but the expectation of the surgeon is that the patient will be extubated before leaving the operating room.

Invasive monitoring will be as usual for someone with good ventricular function undergoing coronary artery surgery (an arterial line and a PA introducer with a single-lumen infusion catheter for CVP monitoring). External defibrillation pads are also standard.

There are a few unique aspects to this particular procedure:

The surgeon will need for the heart to be slowed to a rate of ~40 beats per minute. Many of these patients will come to the OR already on a beta-blocker; in those patients, simply using an infusion of esmolol may be enough to keep the heart rate slow enough. In patients not adequately beta-blocked, a bolus of esmolol and continuing by infusion should suffice. The ventilator may need to be adjusted to lower the tidal volume to keep the lungs out of the surgeon's way. If the heart will not tolerate this procedure, conversion to sternotomy and cardiopulmonary bypass may be necessary.

Using a continuous infusion of nitroglycerine should be considered. With the absence of a perfusionist in the room, the anesthesia provider will give both the heparin and protamine. The surgeon will do a field block of the operative area prior to closing.

As always, ongoing communication among the surgery and anesthesia teams is necessary and important.

PHARMACOLOGICAL CALCULATIONS AND CONVERSIONS

By Dianne Holley, CerAT,
Chief Technician, Seton Medical Center, Austin, TX

METRIC SYSTEM

Basic Units:

- gram (g) (weight)
- liter (l or L) (volume)
- meter (m) (distance)

Prefixes:

- milli- (m)=1/1000x (1,000mg=1g, 1mg=.001g) (also, 1ml=1cc or cubic centimeter)
- kilo- (k)=1000x (1km=1000m, .001km=1m)
- micro- (mc or m)=1/1,000,000x or 1/1000x milli- (1000mcg=1mg, 1,000,000mcg=1g, 1mcg=.001mg)

CONCENTRATION:

- mg/ml (milligrams per milliliter)
- % (percent)

CONVERSIONS:

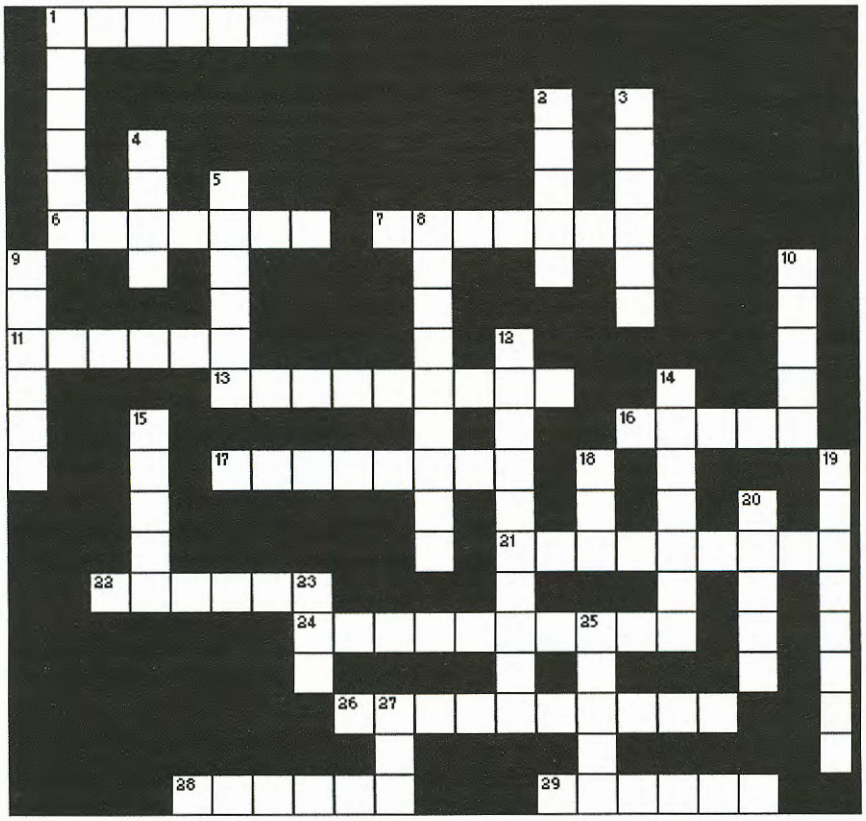
1. mcg to mg (divide mcg by 1000 or move decimal left by 3 places)
2. mg to mcg (multiply mg by 1000 or move decimal right by 3 places)
3. grams to kilograms (divide g by 1000 or move decimal left by 3 places)
4. kilograms to grams (multiply kg by 1000 or move decimal right by 3 places)
5. grams to milligrams (multiply grams by 1000 or move decimal right by 3 places) (true also for changing liters to milliliters, or meters to millimeters)
6. milligrams to grams (divide milligrams by 1000 or move decimal left by 3 places) (true also for changing milliliters to liters, or millimeters to meters)
7. kilograms to pounds (multiply # of kilos by 2.2)
8. pounds to kilograms (divide # of pounds by 2.2)
9. % to mg/ml (multiply percentage by 10 or move decimal 1 place to the right)
10. mg to ml (divide # of mg by concentration)
11. ml to mg (multiply # of ml by concentration)
12. total mg/total ml to mg/ml (divide # of total mg by # of total ml)

SAMPLE CONVERSIONS:

1. How many mg are in 400 mcg?
   Use rule # *1*, [400mcg ¸ 1000 = **.4mg**]
2. How many pounds does a 3,000 gram baby weigh? _____
   Use rule # *3*, [3000g¸1000=3kg], then use rule # *7*, [3kg x 2.2 = **6.6lb**]
3. How many milliliters are in 1 and 1/2 liters?_____
   Use rule # *5*, [1.5L x 1000 = **1500ml**]
4. How many kilos does a 22 pound child weigh? _____
   Use rule # *8*, [22lb ¸ 2.2 = **10kg**]
5. What is the concentration in mg/ml of .4% lidocaine? _____
   Use rule # *9*, [.4% x 10 = **4mg/ml**]
6. How many ml of epinephrine (1mg/ml) must be drawn up to get a total of 5 mg? _____
   Use rule # *10*, [5mg ¸ 1mg/ml = **5ml**]
7. How many mg of midazolam (2mg/ml) are in a 2 ml amp? _____
   Use rule # *11*, [2ml x 2mg/ml = **4mg**]
8. What is the concentration in mcg/ml of an epinephrine drip, with 4mg of epinephrine in a 250ml bag of saline? _____
   Use rule # *12*, [4mg ¸ 250ml = .016mg/ml], then use rule #*2*, [.016mg/ml x 1000 = **16mcg/ml**]

TECHNICIAN

CROSSWORD



SCIENCE AND TECHNOLOGY POST TEST: Remote Anesthesia, MIDCAB's, Math Conversions

Use this crossword puzzle to test your knowledge on the "Science and Technology ..." articles on pages 6-9. Puzzle answers can be found on page 11 of this issue.

Across

1. How many kg does a 66lb child weigh?
6. A known allergy to __ can warn of potential adverse reactions to contrast dyes.
7. One possible adverse reaction to the dye injection used in radiation therapy is __-spasm.
11. Portable methods of __ delivery must be available during longer out-of-department transports.
13. At the end of a MIDCAB procedure, patients are frequently awakened and __ prior to transport to ICU.
16. Proper scavanging of anesthetic __ should be available.
17. MIDCAB stands for Minimally __ Direct Coronary Artery Bypass.
21. Electrical equipment should be checked for electrical safety and line __.
22. During cardiopulmonary __ the lungs are "down" and the heart is stopped.
24. Patient __ is the primary reason anesthesia is required in radiation therapy.
26. During a __, the sternum is sawed open to expose the heart.
28. How many pounds does a 5kg baby weigh?
29. __ should be worn to measure cumulative exposure to radiation.

Down

1. Radiation therapy treats certain types of __.
2. At the end of a MIDCAB, the surgeon will do a field __ of the operative area.
3. __ monitoring must take place when the anesthesia clinician cannot remain near the patient.
4. A major type of radiation therapy is external __ therapy.
5. Contrast dyes are made of __-containing compounds.
8. Increased exposure to __ can occur during radiologic procedures.
9. During a MIDCAB, the surgeon will need for the heart to be __ to ~40 bpm.
10. During a MIDCAB, the tidal volume may need to be lowered to keep the __ out of the surgeon's way.
12. Closed-circuit __ can aid observation of a patient when the anesthesia clinician cannot remain near.
14. I.M.A. stands for Internal __ Artery.
15. How many grams are in 40,000 mg?
18. The concentration (in mcg/ml) of 50mg of nitroglycerine in a 250ml btl of D5W is __ hundred.
19. Adverse reactions to __ agents used in radiation therapy are not uncommon.
20. How many mg of Ephedrine (10mg/ml) are in 5cc.
23. How many cc's of propofol (10mg/ml) equal 60mg?
25. I.O.R.T. stands for __-operative radiation therapy.
27. What is the concentration (in mg/ml) of 1% phenylephrine?

THE VIEW FROM.... *(continued from page 3)*

call from Monday through Friday, 1500-0630, and 24 hours on the weekends.

As you all know, anesthesia technicians' duties are very diverse. We set up rooms before they start: be it a block, spinal, epidural, MAC, or general anesthetic. Prepare routine equipment such as: blood pressure cuffs, pulse oximeters, multi-gas monitors, and ECG monitors. The technicians will set up hemodynamic monitors, blood warmers, or any other specialty equipment. Staff members must also be able to: set up IV's, blood pumps, and mix drugs. They can troubleshoot any monitor, anesthesia machine, or device in the department. We also do the normal stocking and restocking of OR Suites with drugs and supplies after cases. Another important area is maintaining and restocking our different specialty carts: difficult intubation, IV, central line, spinal, and emergency.

The Anesthesia Monitoring Technicians are the heart of the staff. They are trained to do every task done by the anesthesia technician. In addition, they must do open heart surgery, intra-aortic balloon pump, and cell saver cases. In OHS, they must also prepare laboratory machines according to College of American Pathologist's (CAP) standards. We run an anticoagulent unit-Hepcon HMS, blood gas machine-GEM Premier, and blood glucose unit-Accucheck. If a patient comes to the OR with an IABP, the AMT must maintain it. During the case, if one is needed, they will set up, assist in the insertion, and operate it. Cell savers are done with OHS, total hips, and replacement or grafting of the aorta. We also do plasma sequestration cases on other select cases. The AMT's must also be proficient at starting IV's. The AMT's are on a rotating call schedule to cover emergency cases and Monday through Fridays, we also cover a second call.

Training and meetings.....I have set up a rotation for inservices and meetings on Wednesday mornings. The first, third, and fifth Wednesday are set aside for inservice. On the second Wednesday we have a team meeting, part of our TQM process. During this meeting, we take a problem or something we want to improve and discuss how this may be accomplished. The fourth Wednesday is for our staff meetings. Training is done through different avenues. We will schedule anesthesiologists to speak on different topics. The topics of these lectures come from the staff. Different manufacturer or pharmaceutical representatives are brought in to talk occasionally. Our department of education and training will arrange job-specific courses for us. There are also different seminars attended off-campus. The most difficult seminar we must attend is a three-day comprehensive symposium on cell saving done in either Denver or Minneapolis. This extensive seminar requires you to pass an exam on the last day. We are very well supported by the anesthesiologists who come to our hospital to do cases.

Living in paradise is at times very difficult, but there is no where else I would rather be working. Please come to visit us when you are in Hawaii.

PRESIDENT'S MESSAGE... *(continued from pg 1)*

CerAT; Nicholas Gravenstein, MD; William King, MD; Howard Odom, MD; William Paulsen, MMSc (Anes.), PhD,CCE; and Curt Pudwill, CRNA. Thank you also to the American Society of Anesthesiology (ASA) and the American Association of Nurse Anesthetists (AANA) for their support of this committee.

The ASATT Board of Directors met March 25-26 for our mid-year Board meeting, discussing and finalizing a wide range of topics regarding day-to-day operations and future planning of ASATT. As a result of several months of negotiations, I am proud to announce that ASATT has contracted SLACK, Inc., a major association management company, as our new business management company, effective April 1. The ASATT Board of Directors is excited by this partnership with SLACK and anticipate a long and prosperous relationship. On behalf of the ASATT membership, I would like to take this opportunity to publicly thank John and Leanne Spaulding of Accurate Management and Transcription Services for their many years of service to ASATT. We would not be where we are today without their dedication.

The Board of Directors also took action on the process of formulating plans to initiate the Anesthesia Technologist Level by the year 2000. Wilma Frisco, CerAT, ASATT Secretary and Region 2 Director, presented plans to form an independent liaison council to facilitate all aspects of education for the ASATT. This would include managing Certification of Technicians and Technologists, and the continuing education process. The process for declaration of a National Anesthesia Technician day is also underway.

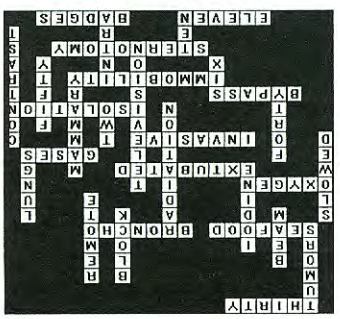
All members will soon recieve ballots for voting on various positions within ASATT. Please consider nominating yourself or any other qualified candidate.

I would like to wish good luck to all of those candidates who are registered to take the ASATT National Certification Exam on May 17. I am confident you will do well. Please plan to attend any local, state and regional meetings in your area. We will all benefit by continuing to receive education through these sources. Please refer to this issue of *The Sensor*, or contact your Regional Director, for details about upcoming educational meetings.

Finally, I would like to encourage everyone to make plans now to attend the ASATT 8th Annual Meeting and Educational Seminar October 17-19, 1997, in San Diego. Please see the ad in this issue for details. This promises to be the best meeting ever.

ANSWERS TO PUZZLE:

(From page 10)



REGIONAL SOCIETY ACTIVITIES...

Let us announce what's happening in your area. Send a brief report of recent or future activities for the next issue by May 15, 1997 to your ASATT Regional Director or to Dave Mastalski (address and numbers on page 2). Send newsletters, if available, a brief write-up, or call with your info. Photos (captioned) are also welcome, and can be returned.

ASATT Region 1:

The ASATT Region 1 Meeting and Education Seminar will be held June 21-22 in Morristown, NJ in association with AIME, Inc. Cost is $249 for both days.
For further information:
Jacqueline Polak at (718) 283-7188[W] or (718) 979-8644[H].

New York

For information on future events:
George Mann at (315) 471-6077.

ASATT Region 2:

Please see Ohio and Pennsylvania.
For further information:
Wilma Frisco at (216) 261-0649.

Ohio

The following are scheduled educational meetings:
April 26 - Children's Hospital, Akron, OH; June 28 - VA Cleveland. See also the article on pg 14.
For further information:
Wilma Frisco at (216) 261-0649.

Pennsylvania

The PSATT is sponsoring the "Anesthesia Patient Safety Seminar" on June 14, 7:30am - 3:30pm at the Mercy Hospital of Pittsburgh. The cost is $50 and includes registration, continental breakfast and lunch. Selected topics for discussion relating to patient safety issues are: " Regulations Affecting Anesthesia Monitoring," "Issues of Safety and Regulations," " IV Equipment, Human Error and the Anesthesia Machine." The seminar is designed to offer 6 continuing education/contact hours. Hotel accommodations will be made for out-of-town registrants.
For a complete brochure or
For further information:
Vicki Carse at (412) 232-5807.

Virginia

For information on future events:
Linda Ferris at (703) 985-8351.

ASATT Region 3:

North Carolina is hosting the Region 3 Meeting again this year. It will be held September 20, at the Grove Park Inn in Asheville.
For information on future events:
Linda Cotton (904) 351-7343[W] or (904) 347-8118[H], or
Gail Walker at (919) 966-5136[W] or (919) 929-1865[H].

Florida

For information on future events:
Linda Cotton at (904) 351-7343[W] or (904) 347-8118[H].

Georgia

For information on future events:
Marc Dickens at (404) 712-7710.

North Carolina

For information on future events:
Gail Walker at (919) 966-5136[W] or (919) 929-1865[H].

Tennessee

For information on future events:
Sharon Baskette at (615) 322-4000[W] or (615) 646-1599[H].

ASATT Region 4:

Please welcome our new Region 4 Director, Sam Ortiz from Chicago, IL. Sam was appointed by the ASATT Board of Directors on October 21, 1996 in New Orleans to fill the vacant position after Sheila White was elected Vice President/President-Elect. Sam comes to the ASATT Board with excellent qualifications and job skills. He will be an asset to our organization. If you have any questions, concerns, comments, or
For further information:
Sam Ortiz at (312) 772-7830[H] or (312) 567-2190[W].

Illinois

For more information:
Pat Zueck (217) 788-3780.

Iowa

We will be holding our annual spring educational meeting in conjunction with ISA on Saturday, April 5 in Des Moines. Watch your mail for further information and registration form. These meetings have proven to be an excellent source for additional job-related knowledge and a great way to meet your fellow techs, anesthesiologists, and sales reps. ISATT is still looking for interesting and energetic anesthesia techs willing to hold an office and/or help locate other anesthesia techs. Please contact me if you are interested in helping. It can be a very rewarding experience.
For further information:
Sheila White at (319) 589-8665[W] or (319) 556-8234[H].

ASATT Region 5:

See the article on pg 14 in this issue for details on "CRASH'97."
For further information:
Ann Martin at (303) 372-6300 [W] or (303) 987-3907[H].

Colorado

For information on future events:
Teresa Chavez at (303) 320-2440.

Mississippi

For information on future events:
Earl Coleman at (601) 984-5951

ASATT Region 6:

A Regional Meeting is scheduled for May 3rd in Phoenix. Topics: cardiac output, lab values, infection control, hypothermia, machine malfunctions, pharmacology.
For further information:
Dean Rux at (602) 821-3279[W] or (602) 497-9709[H].

Arizona

Anyone interested in starting a state society call Tom Maggs in Phoenix at (602) 267-5011(W) or (602) 939-3554(H) or Jane Fry in Tucson (numbers below).
For information on future events:
Jane Fry at (602) 885-5756[H] or (602) 721-3836[W]

California

Grainne Senier is the new CAATT President and will be hosting their 12th Annual Educational Meeting in beautiful Monterey, CA in conjunction with the CSA Meeting on May 16-18. See ad on pg 15.
For registration information:
Grainne Senier at (408) 735-1346.

New Mexico

For information on future events:
Chris Urso at (505) 286-1168[H] or (505) 272-0383[W]

Texas

TSAT members met in Houston at Ben Taub Hospital on March 15; San Antonio members on March 8; and in Dallas on April 12. The 1997 Annual Fall Meeting will be Sept. 6 in Irving. St. Luke's in Houston is hosting an AIME Seminar on April 25-27. Austin plans a meeting on May 13 at Brackenridge. Dallas/Fort Worth technicians hold their regular meetings on the 2nd Saturday of each month. [Lisa Shelton (817) 685-4917] Houston members meet every other month, [Gerardo Trejo at (713) 793-2898]. San Antonio members also meet regularly [Raul Sanchez at (210) 675-1564].
For further information:
Dianne Holley at (512) 451-7457.

Utah

For information on future events:
Kirk Hanson (801) 625-2700.

ASATT Region 7:

See article on Region 7 Meeting on pg 15 in this issue.
For further information:
Dave Mastalski at (503) 642-1537[H] or (503) 273-5389[W]

Hawaii

For information on future events:
Delbert Macanas (808) 547-9872

Oregon

For further information:
Linda Bewely at (503) 291-2151
Richard White at (503) 273-5389

Washington

The NWSAT is hosting a meeting on May 3 at Harrison in Bremerton. Topics include the cerebral oximeter and neuro-muscular-blocking agents.
For further information:
Nora Tiffany at (360) 427-9562.

OSATT/ASATT: AS WE MEET SOME OF THE CHALLENGES OF EDUCATION/CONTINUING EDUCATION

by Wilma Frisco, CerAT
ASATT Secretary/Director Region 2, OSATT Director

The Rhodes Hall Auditorium at Ohio State University, Columbus, Ohio, the home of "The Ohio State Buckeyes, the 1997 Rose Bowl Champions," was the site for the one-day seminar that was coordinated by Kathy Siebel, CerAT, William Thompson, CerAT, and Nancy Parker, RN.

Topics and Faculty:

Evaluation of Problem Airway and Management Difficulties, Bhagwandas Gupta, MD; Blood Brain Barrier Disruption, Michael G. Johanson, DO, FAOCA; Chronic Pain Management, Constantino Benedetti, MD; Nitrous Oxide in the Workplace/ What Can We Do About It? Dave Momeyer, Certified Bio-Med Engineer; Lung Reduction Surgery, Patrick Ross, Jr, MD, PhD.

Those who attended the seminar were greatly enriched with information that will enhance their day-to-day practice in the technical areas of anesthesia.

Our vendors are always appreciated as they display their anesthesia products and equipment. Our sincere thanks are extended to: Cardinal Medical Specialties, Spectrum Anesthesia, Ohmeda, Circon, Kancor, Clinical Technology, AIME, Marquette, and Mallinckrodt.

As the Director of Region 2 and Director of OSATT, I commend the anesthesia staff at the James Cancer Medical Center and the Ohio State University Medical Center, Kathy, Bill, Nancy, the speakers, and the vendors for "A Day of Education That Will Always Be Remembered."

William Thompson, CerAT and Kathy Siebel, CerAT– Coordinators of the OSATT/ASATT Seminar

NCSAT JOB "HOTLINE"

The North Carolina Society of Anesthesia Technicians has started a nationwide job referral service for anesthesia technicians looking for employment and hospitals with positions to fill.

A technician seeking a change of employment should send his/her name, address, phone numbers, fax number, and the city or state in which one desires employment. Hospitals should send job opening information and the name of a contact person. NCSAT is asking that technicians send in a one-time-only fee of $5 to help defray costs. Hospitals can register at no charge.

Hospitals can fax their job listings to (919) 966-4873, ATTN Gail Walker.

Technicians can mail their applications and a check made out to NCSAT to: Gail Walker, NCSAT President
6 Tamarack Ct.
Chapel Hill, NC 27514

Phone: (919) 966-5136[W] or
(919) 929-1865[H].

CRASH 97 PREPARES TECHS FOR TOMORROW

by Ann Martin, CerAT
Executive Board Director/ASATT Region 5 Director
CRASH 97 Technician Course Assistant Director

The location was the beautiful ski resort in Vail, Colorado, and the Annual Meeting was the Colorado Review Anesthesia Ski Holiday (CRASH 97) for Anesthesia Technologists and Technicians, held March 1, 2, and 3, 1997 with twenty-seven technologists participating. The $2^1/_2$-day course focused on the technical and clinical aspects of the anesthesia technologists role. Information and impressive lecture topics included an ASATT update, sample test, machine fundamentals and troubleshooting, obstetrical anesthesia, pediatric anesthesia, trauma anesthesia, and ASA difficult airway algorithm. Two afternoon workshops and roundtables on Saturday emphasized fiberoptic intubation and a malignant hyperthermia drill. On Sunday, invasive monitoring and IV admixtures were covered. Each day began with a continental breakfast followed by afternoon refreshments prior to hands-on workshop and roundtable discussions. The Welcome Reception was Saturday evening, with 27 technicians and 300 anesthesiologists participating from the United States, England, and Australia. Thirty-four exhibitors generated much interest with the newest equipment, supplies, and books.

Technician conversation included an exchange of ideas, hospital "shoptalk," and some suggestions for our ASATT Society. It was very gratifying to see technicians renewing friendships and forming new friendships. Twenty of the participants were ASATT members with the other seven very much interested in becoming members. Ten continuing education/contact hours will be awarded to those attending every session. Special thanks to all those attending the technician course.

Region 7 Education Meeting....A Success!

by David G. Mastalski, CerAT
ASATT Region 7 Director

Over 65 anesthesia professionals, including 13 new active ASATT members, from as far north as British Columbia, south to Los Angeles and west to Colorado gathered at the Downtown Red Lion Hotel in Portland, Oregon, on March 8 for the Fifth Annual ASATT Region 7 Meeting and Education Seminar. The focus of the program was Certification Preparation and continued education for Certified Anesthesia Technicians. The day began with a continental breakfast and a tour of the 14 vendor exhibits who graciously contributed to the program. The educational portion of the program commenced with opening remarks by Dave Mastalski, CerAT., ASATT Region 7 Director. Ruth Ochoa, CerAT., ASATT President, joined Dave for an update on ASATT and an informative question and answer session.

An esteemed faculty proceeded to provide the audience with educational presentations and study material on a wide range of topics including: Difficult Airway Management, Perioperative Hypothermia, Blood Gas and Acid Base Analysis, Equipment Safety in Anesthesia, One Lung Ventilation, and Blood Components and Transfusion Therapy. I would like to thank our faculty for giving their time to our program: Grace Chien, MD; Richard F. Davis, MD; Mr. Mark Desrosiers; Mr. John Doyle; Kim Geelan, MD; Sammye Harris, ST,CCA; and Ruth Ochoa, CerAT.

I would also like to thank the following representatives for giving their time and sponsoring our program: Mr. Alex Alexander - Abbott Laboratories, Mr. John Litchfield - AES,Inc., Mr. Ed Weidner - Arrow International, Inc., Mr. Garrett Mau - BD Anesthesia, Ms. Sherri Reed, RN - Cobe Cardiovascular, Mr. Mark Desrosiers - CoMedical, Inc., Mr. Don Brynelson - Datex-Engstrom,Inc., Ms. Erin Reed -Haemonetics Corp., Ms. Margaret Mathews - Mallinckrodt Medical, Inc., Mr. Gery Schirado -Ohmeda, Inc., Mr. Dennis McCormack - Olympic Medical, Mr. Brian Simpson - Salter Labs, Mr. Troy Prahl - Spacelabs Medical, Inc., Ms. Mimi Fuller - Vital Signs, Inc., and Ms. Dorine Bright - Zenca Pharmaceuticals.

The educational program concluded with a 33 question exam which proved to be an excellent test of the knowledge gained from the lectures. I would like to thank everyone who attended and I look forward to seeing everyone again at our next meeting.

SAN DIEGO 1997

Friday
OCTOBER 17

7:00 - 8:15	Registration and Continental Breakfast
8:15 - 8:30	Opening Ceremony/Welcome
8:30 - 9:30	One Lung Ventilation
9:30 - 10:30	Heart Procedure
10:30 - 11:00	Break - View ASATT Exhibits
11:00 - 12:00	Swan History & Function *also* Arterial Line Insertion
12:00 - 1:00	Lunch - Sponsored by. . . (TBA)
1:00 - 2:00	TEE
2:00 - 2:30	Break - View ASATT Exhibits
2:30 - 3:30	Blood Gas Analysis
3:30 - 4:30	Patient Positioning - what's safe!
5:00	Reception

Saturday
OCTOBER 18

7:30 - 8:30	Continental Breakfast
8:30 - 9:30	VRE
9:30 - 10:30	Cell Saver - Standards & Quality Assurance
10:30 - 11:00	Break - View ASATT Exhibits
11:00 - 12:00	Latex Allergy
12:00 - 1:00	Lunch - Sponsored by . . . (TBA)
1:00 - 2:00	Machine Scenario
2:00 - 2:30	Break - View ASATT Exhibits
2:30 - 3:30	Machine Scenario
3:30 - 4:30	Awareness During Anesthesia
5:00	Reception

Sunday
OCTOBER 19

7:30 - 8:00	Continental Breakfast
8:00 - 9:00	Pediatric Anesthesia
9:00 - 10:00	Difficult Intubation
10:00 - 10:15	Break
10:15 - 11:15	What's In It For Me (motivational speech)
11:15 - 12:00	Certification Ceremony
12:00	Adjournment

TENTATIVE AGENDA FOR THE ASATT 8TH ANNUAL MEETING AND EDUCATIONAL SEMINAR

PLEASE SEE THE AD ON PAGE 18 FOR MORE DETAILS

FACES OF ASATT....

(left) David Moriarty, CerAT, Technical Supervisor, and Sharon Basquette, CerAT, Technical Supervisor and President, Tennessee Society of Anesthesia Techs, both of Vanderbilt University Medical Center, Nashville, TN, discuss professional issues with a fellow anesthesia technician.

(above) Vicki Carse, CerAT, President, Pennsylvania Society of Anesthesia Technologists and Technicians during a quiet moment at the ASATT 7th Annual Meeting and Educational Seminar in New Orleans, October, 1996.

(right) Vilma Young, Seminar Coordinator, Alliance in Medical Education (AIME, Inc.), New Haven, KY, confers on educational opportunities with William H. King, MD, University of Texas Medical Branch, Galveston, TX, ASA Liaison to ASATT

OFFICIAL NOTICE.....

The American Society of Anesthesia Technologists and Technicians

proudly announces partnership with our new business management company:

SLACK, Inc.

****

The new ASATT business phone number and address is:

ASATT
2000 L. St., NW, Suite 200
Washington, DC 20036
609-853-9382
fax 202-833-3843

OPEN FORUM.... *(continued from page 5)*

Anesthesia techs who are waiting for some sort of monetary reward before becoming certified or joining the ASATT or their state society should consider making a career change in the next few years. It is unrealistic to expect to be paid before doing a job.

The future of the jobs available to the Anesthesia Tech will go to the ones who are the most qualified, through certification as well as a state licensure.

Gregory A. Swaim, CerAT.
Dallas, TX

DID YOU KNOW....?

Web Sites of Interest:

The ASATT: http://www.kingsystems.com/asatt.htm

The American Association of Nurse Anesthetists: http://www.aana.com

The American Society of Anesthesiologists: http://www.asahq.org/

Tech Talk Discussion Board: Tech Talk@anaes.sickkids.on.ca

Job Hotline:

North Carolina Society of Anesthesia Technicians, contact Gail Walker, Phone:(919) 966-5136[W] or (919) 929-1865[H].

NEW MEMBERS....

ASATT would like to extend a warm welcome to the following new members who joined from 1/1/97 to 2/28/97.

ACTIVE MEMBERS

Wond-Wossen Abebe
Dallas, TX

Michael D. Babinski
Spokane, WA

Gregorio V. Baer
Houston, TX

Eunice A. Beatty
Castlehayne, NC

Christopher S. Brandt
Milledgeville, GA

Sean C. Collins
York, PA

Lesa K. Cooper
Kettering, OH

Robert C. Cross
Dallas, TX

Linda M. Cruz
Richardson, TX

David Dickinson
Middletown, CT

Frank F. Fernandez
Bronx, NY

Jannelle D. Gaither
Nineven, IN

Dorsey B. Greene, III
Fort Lewis, WA

Chris R. Guzman
Garland, TX

Michael A. Hall
Macon, GA

David M. Holland
Dallas, TX

Rodney Howard
Roberta, GA

Calvin B. Jackson, III
Macon, GA

Robert S. Jones, Sr.
Dayton, OH

McArthur Kitchen
Everett, MA

Jose L. LaGenade
Garland, TX

John W. Lavine.
Romeoville, IL

Ricky Lewis
Macon, GA

Elaine Lollar
Hartford, CT

Judy Massey
Gray, GA

Maria A. McCabe-Jaskar
Tucson, AZ

Matthew P. McManus
Lutz, FL

Fred C. McMurrian
North Port, FL

Garry Moore
Gray, GA

Jacquelyn L. Raines-Williams
Macon, GA

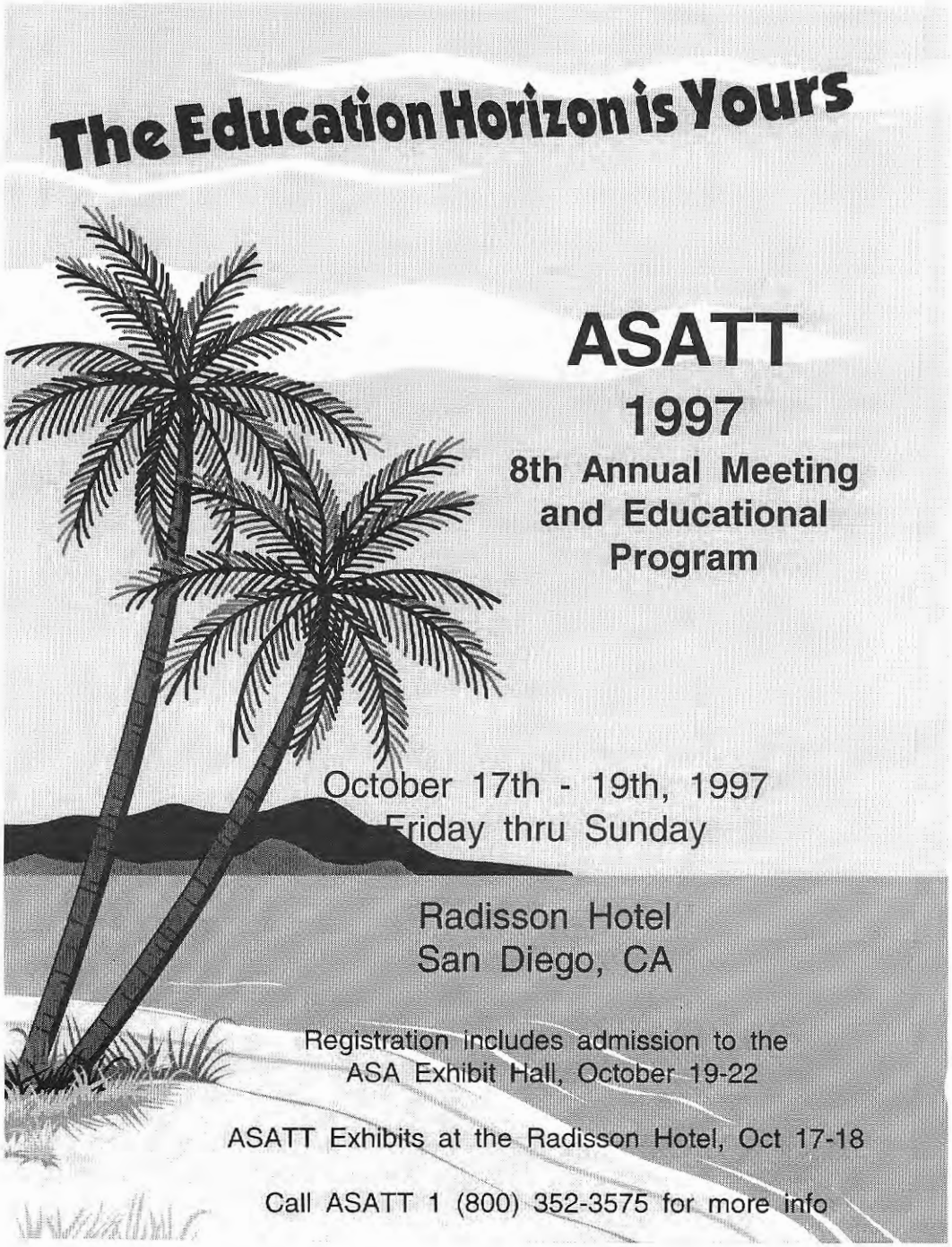
William Remes
Hartford, CT

Edwin Rodriguez.
Bronx, NY

David L. Ruff
Milford, CT

Mary A. Scott
Milledgeville, GA

Ray Seabrooks.
Macon, GA



Membership Application

American Society of Anesthesia Technologists & Technicians

2000 L. St., NW, Suite 200, Washington, DC 20036

(Please print clearly or type)

NAME: Last_____, First_____, M.I._____

Home Address_____

City_____, State (Province)_____zip (mail code)_____

Home phone (____)_____, May ASATT release your name to other members? Yes___, No___

Employer_____, Dept._____, Job title_____

Address_____e-mail address_____

City_____, State (Province)_____zip (mail code)_____

Phone (____)_____, ext._____, pager_____,fax (____)_____

Applicants signature here to be valid_____, Date_____

Please check your membership category listed below and send the correct amount of membership dues in U.S. currency.

*Active: $50____, This category shall extend to anyone who works in a healthcare facility under the supervision of an anesthetist and functions in the capacity of technologist, technician, assistant, or aide. **(US members only.)**

***To authenticate that Active membership is the proper category, you are required to have your supervisor verify that you belong in this category by having his/her signature placed in the space provided below.**

_____ _____

(Print your Supervisor's name and title here.) *(Supervisor's signature here for application to be valid.)*

**Individual: $60____, This category is open to anyone who has an interest in the anesthesia field.

**Associate: $60____, This category shall extend to Anesthesiologists, C.R.N.A.'s, and Anesthetists.

**Institutional: $100____, This category is open to academic, medical, hospital, philanthropic, scientific, governmental, or other nonprofit organizations with an interest in anesthesia technology.

**Corporate: $100____, This category is open to businesses and other profit oriented organizations that manufacture, distribute, and provide services that otherwise have an interest in anesthesia technology.

**Change of Address____

(for official use only)

Date rec'd_____, Region____,Mem#_____, Check#_____,Amt_____

Comments:_____

NEW MEMBERS....

James H. Sigler
Califon, NJ

Mark C. Simmons
Rowlett, TX

Frederick Whitby
Macon, GA

Wendell E. Wooten
Macon, GA

Carlito L. Zamora
Cedar Hill, TX

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