January 1998

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

SIENTS

PRESIDENT'S MESSAGE...

SECURING THE STEPS TO SUCCESS



by Sheila K. White, CerAT Mercy Medical Center, Dubuque, IA

If anyone would have told me 4 years ago that I was going to be involved in ASATT and the pursuits and goals of the organization to this extent, I

would have laughed at the idea. I was never one to get "caught up" in a cause. But that all changed for me after I attended my first ASATT annual meeting October, 1994, in San Francisco, CA. The idea of traveling halfway across the country to a beautiful city was fascinating enough, but walking into that meeting room surrounded by almost 200 anesthesia technicians was absolutely stimulating! The knowledge that permeated that room was overpowering. The lectures were all so interesting–but it wasn't until Doug Draper came roller skating out onto the floor that the meeting had its full affect on me. He spoke with such fervor about keeping your job-role interesting; making that first impression a great one; making yourself indispensable; and the list goes on. However, the most noteworthy point he drove home was to get involved. Don't ask me why his presentation affected me in the way it did-destiny perhaps, but I was hooked! I learned that same day that the position of ASATT Region 4 Director was open. I announced my interest to then Vice President Chris Patterson, and as they say-the rest is history!

So much has happened to me, as a person, during these last four years. I would tremble at the thought of having to speak in front of a group of people. (To those of you in attendance in San Diego, I apologize, because you had to witness firsthand the extreme to which the terror of public speaking still affects me!) But this is precisely my point. Four years ago, I wouldn't even have gotten up in front of a group! It takes time and self-esteem, and I am constantly working on this goal which I hope to one day conquer.

continued on page 22...

Volume 8, Number 1



ASATT TELEPHONE:

609-853-9382 (voice) 202-833-3843 (fax) http://www.asatt.org/

Office Hours: 9am-5pm M-F (EST)

1997-1998 OFFICERS:

President

Sheila White, CerAT Mercy Medical Center Dubuque, IA 319-589-8665(W)

Vice President/President-Elect

Chris Patterson, CerAT Kaiser Medical Center Redwood City, CA 510-471-9327(H),415-299-3080(F) 415-299-3541 (V Mail)

Secretary

Wilma F. Frisco, CerAT 24101 Lakeshore Blvd, #314-A Cleveland, OH 216-261-0649(H), 216-289-4122(F)

Immediate Past President

Ruth A. Ochoa, CerAT Salem Hospital Salem, OR 503-390-0736(H)

ASA Liaison

William H. King, MD UT Medical Branch Galveston, TX

AANA Liaison

Denise Martin-Sheridan, CRNA, EdD Albany Medical College Albany, NY

Executive Director

Katrina Crist Washington, DC 609-853-9382 202-833-3843(F) 1997-1998 DIRECTORS:

Region 1: ME, NH, VT, MA, RI, CT, NY, NJ Joyce Freeman, CerAT SUNY Health Science Center Syracuse, NY 315-464-2825(W)

Region 2: *PA, MD, OH, IN, MI, VA, WV, DE* Wilma F. Frisco, CerAT 24101 Lakeshore Blvd, #314-A Cleveland, OH 216-261-0649(H), 216-261-0695(F)

Region 3: KY, TN, NC, SC, AL, GA, FL Gail Walker, CerAT University of NC Medical Center Chapel Hill, NC 919-966-5136(W), 910-376-0327(H)

Region 4: *wI, IL, MO, MN, ND, SD, IA* Samuel Ortiz, CerAT Mercy Hospital & Medical Center Chicago, IL 312-772-7830(H),312-567-2190(W)

Region 5: *co, NE, KS, OK, LA, AR, MS* Ann Martin, CerAT University of Colorado Hospital Denver, CO 303-372-6300(W)

Region 6: *CA*, *NV*, *UT*, *AZ*, *NM*, *TX* Dean Rux, CerAT Chandler Regional Hospital Chandler, AZ 602-821-3279 rux@doitnow.com(E)

Region 7: *wA, OR, ID, MT, WY, AK, HI* David G. Mastalski, CerAT VA Medical Center Portland, OR 503-642-1537(H) nmastalski@aol.com(E)

ADVERTISING RATES:

Display Ads: Announcements of products, services, employment opportunities, or educational programs relevant to the theory, maintenance, or application of anesthesia technology.

Rates:

1

Half-Page:	\$250 per insertion	
Horizontal:	$7^{1}/_{4}$ " wide x 5" deep	
Vertical:	$3^{1}/_{2}$ " wide x 10" deep	
Quarter-Page:	\$125 per insertion $3^{1}/_{2}^{2}$ wide x 5" deep	

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

<u>Classified Ads:</u> Individuals seeking employment, or employers seeking candidates in anesthesia technical support.

Rate: \$8/line, 5-line minimum $3^{1}/2^{2}$ wide

[Times-Roman type, 12-pt, typeset by editors.]

For further information, contact:

The ASATT Sensor Dianne Holley, CerAT, Editor 3810-A Tonkawa Trail Austin, TX 78756 (512) 451-7457

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

Discount for current members: 20%

All funds derived from advertising support the ongoing education of anesthesia technicians and technologists.

(ASATT reserves the right to refuse advertising copy for any reason at any time.)

THE SENSOR: Quarterly Newsletter of the ASATT

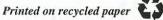
© 1998, The American Society of Anesthesia Technologists and Technicians

The opinions expressed herein are those of individual authors, and do not necessarily reflect the views or opinions of the ASATT.

Editor: L. Dianne Holley, CerAT 3810-A Tonkawa Tr, Austin, TX 78756. 512-451-7457(H), 512-323-1104(F), ldholley@aol.com(E) Associate Editor: David G. Mastalski, CerAT VAMC, Portland, OR. 503-642-1537(H), 503-721-7859(F), nmastalski@aol.com(E) Graphics Assistance: Infinity Design, Houston, TX

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 February 15, 1998



THE NEW ASATT OFFICERS:

Chris Patterson, CerAT, Vice President/President-Elect Joyce Freeman, CerAT, Director, Region 1 Gail Walker, CerAT, Director, Region 3



Chris Patterson, CerAT, Vice President/President-Elect

Chris is one of the original charter members of ASATT, and was instrumental in the formation and growth of our society. She served as ASATT Director, Region 6, from 1989 to 1993. She served as Vice President in 1993-94, and as President in 1994-95. Her continuing involvement in ASATT has included establishing fund-raising for ASATT Certification, forging closer alliances with anesthesia tech societies in other countries, and serving on various committees involving our certification examination.

Chris worked for 18 years at Kaiser Hayward (CA) where she trained as a pharmacy tech, typist, and anesthesia tech. She then moved to Kaiser Redwood City where she has been employed as an anesthesia tech for the past 9 years. She has also worked



Chris Patterson, ASATT Vice President/President-Elect, and Sheila White, ASATT President address the membership at the 8th Annual Meeting and Educational Semimar in San Diego, October 1997

part-time for 7-1/2 years at San Jose Medical Center where she received further experience in trauma, cell-saving, and open heart surgery. She has also trained others in Cell-Saver Blood Recovery and Transesophageal Echocardiography.

Chris currently resides in Union City, CA (in the Bay area) with her husband, Jack. She and Jack have been married for 40 years and have 4 children and 6 grandchildren. Her hobbies are gardening, knitting and crocheting, cooking, home-teaching projects with her church, and of course ASATT.

Joyce Freeman, CerAT, Director, Region 1

Joyce lives in and grew up outside of Syracuse, NY. After graduation from high school, she studied medical assisting and received that diploma in 1974. She started her medical career in 1978 as a nurse's aide at State University Hospital (formerly Upstate Medical Center and now also known as SUNY Health Science



Center). Two years later, Joyce returned to school to study surgical technology, which led to 8-1/2 years as a surgical tech.

In 1988, Joyce began on-the-job-training as an anesthesia tech. After several years as a staff anesthesia tech, she became chief anesthesia tech. This promotion was based partly upon her experience as an anesthesia tech, and partly upon her broad OR experience. Joyce studied science for 2 years at a local junior college. She has also taken courses in management.

Joyce describes herself as a simple, easy-to-know person. She is married with 2 children. When she's not busy with family, she also enjoys walking, reading, decorating, and ushering at her church.

Joyce intends to host annual Region 1 meetings in Syracuse.

Gail Walker, CerAT, Director, Region 3

Gail is originally from Chicago, but later moved to Florida. She trained as an anesthesia tech at Southwest Florida Regional Medical Center in Ft. Myers, and worked there for 11 years. Wilmington, NC then became Gail's home for a year, where she was employed as an anesthesia tech at New Hanover Regional Medical Center for one year. Gail continued her career as an anesthesia tech during the past five years at the University of North Carolina-Chapel Hill Medical Center.

Gail became president of the NCSAT in 1995. She also originated and coordinated the NCSAT Job Hotline during her 2 years in that office. She helped plan the past 2 Region 3 Meetings with Linda Cotton, previous Region 3 Director.

Gail has an 18-year-old daughter, and a house full of animals.

Gail has received a lot of on-the-job

training, but she is still learning. Her hospital has been very pro-active in conducting in-house training of anesthesia technicians. If anyone would like information on how to set up their own in-house training program, please contact her



COMMITTEE MEMBERS....

Strategic Planning/Review Committee

David Mastalski, CerAT, Chairperson Jacqueline Polak, CerAT, Member Dean Rux, CerAT, Member Linda Cotton, CerAT, Member Samuel Ortiz, CerAT, Member Wilma F. Frisco, CerAT, Member

Bylaws Committee Wilma F. Frisco, CerAT, Chairperson All Board of Directors are members.

Financial Committee

Ruth Ochoa, CerAT, Chairperson Ann Martin, CerAT, Member Samuel Ortiz, CerAT, Member Wilma F. Frisco, CerAT, Member

Outreach Committee Chris Patterson, CerAT, Chairperson Sheila White, CerAT, Member

Anesthesia Technician Day Committee Gail Walker, CerAT

Past President/Immediate Past President Ad Hoc Ruth Ochoa, CerAT

10th Anniversary Gala Committee

Ann Martin, CerAT, Chairperson Jaqueline Polak, CerAT, Co-Chairperson Bob Reno, CerAT, Member Ruth Ochoa, CerAT, Member Wilma F. Frisco, CerAT, Member

Anesthesia Technical Study Recommendations with References (Technician Study Manual)

Linda Cotton, CerAT Sheila White, CerAT Wilma F. Frisco, CerAT

Test Development (Writing) Committee (Technologists)

David G. Mastalski, CerAT, Chairperson Ruth Ochoa, CerAT, Member Vicki Carse, CerAT, Member Murray J. Welte, CerAT, Member Lee Amorin, CerAT, Member Sammye Harris, ST, CCA, Corporate Member

Study Recommendations (Technologist Manual)

Ann Martin, CerAT, Chairperson Robin Tang, CerAT, Co-Chairperson Denise Martin-Sheridan, CRNA, EdD, AANA Liaison Wayne Griffith, CerAT, Member Linda Cotton, CerAT, Member

Certification Examination Bulletin Joyce Freeman, CerAT, Chairperson

Education/Continuing Education Committee

Chris Patterson, CerAT, Chairperson Sheila White, CerAT, Member Wilma F. Frisco, CerAT, Member Lisa M. Fornicoia, CerAT, Corporate Member William H. King, MD, ASA Liaison Susan Caulk, CRNA, AANA Liaison

Executive Committee

Sheila White, CerAT, President Chris Patterson, CerAT, Vice President/President-Elect Wilma F. Frisco, CerAT, Secretary Ruth Ochoa, CerAT, Immediate Past President, Treasurer

Scope of Practice Task Force

Wilma F. Frisco, CerAT, Chairperson Jacqueline Polak, CerAT, Co-Chairperson Angel Martinez, CerAT, Region 1 Representative Kent Foreman, CerAT, Region 2 Representative Andrea Williams, CerAT, Region 2 Representative Sharon Baskette, CerAT, Region 3 Representative Samuel Ortiz, CerAT, Region 4 Representative Teresa E. Chavez, CerAT, Region 5 Representative Alex Panay, CerAT, Region 6 Representative Grainne Senier, CerAT, Region 6 Representative Delbert Macanas, CerAT, Region 7 Representative Nora Tiffany, CerAT, Region 7 Representative

Certification/Recertification Oversight Committee

Wilma F. Frisco, CerAT, Chairperson Barbara E. Powell, CerAT, Co-Chairperson Craig Smith, CerAT, Member Karen Winterich-Farhat, CerAT, Member

Test Development (Writing) Committee (Technician)

Chris Patterson, CerAT, Chairperson Gail Walker, CerAT, Co-Chairperson James Tibbals, CerAT, Member Wilma F. Frisco, CerAT Alternate Member Lisa M. Fornicoia, CerAT, Corporate Member William H. King, MD, ASA/ASATT Liaison Thomas C. Healey, CRNA, MA, AANA Member Curt Pudwill, CRNA, AANA Member A. William Paulsen, MMSc (Anes), PhD, CCE, ASA Member Howard Odum, MD, ASA Member

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, ASATT Director, Region 3 2156 E. Greensboro Chapel Hill Rd Graham, NC 27253 Phone: (919) 966-5136[W] or (910) 376-0327[H].

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:

I have just come from presenting "VRE in a world of merging resistance: approaches for control" at the eighth annual meeting and educational seminar held in San Diego, October 17-19. My presentation was impressively received. After the question and answer session, following the presentation, two certified technologists asked (1) how to handle a patient requiring surgery who is suspected of having TB, and (2) how to handle the HIV-infected patient. In the interest of time, I suggested writing a response for *The ASATT Sensor*, rather than reappear before the group. It just so happened that Mr. Mastalski, one of *The Sensor*'s editors, penned a very good response to a similar query from J. Sellars, CerAT, for the October issue, which was available at the registration tables. This enables me to confirm, as well as, expand upon Mr. Mastalski's response.

Bloodborne pathogens: To confirm Mr. Mastalski, you are not going to transmit bloodborne pathogens (HBV, HIV, HCV) through anesthesia equipment. These are bloodborne pathogens, not airborne. There is no requirement or recommendation for the internal routine cleaning of anesthesia machines or culturing them. Evidence is lacking that anesthesia machines are a significant source of respiratory infections. In view of this, they should not be cultured because, even if positive, the data is meaningless and there is no reference for comparison. Demanding sterility of anesthesia machines is probably unrealistic and not clinically significant. Collecting (sterility) data that you cannot interpret will get you into trouble every time.

Anesthesia considerations for tuberculosis: CDC has made some recommendations for "anesthetic considerations" in their famous 132-page book, *Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Healthcare Facilities*, 1994, p50. This is available on the internet at www.cdc.gov.

1 Postpone elective procedures until the patient is no longer infectious.

2 Place a bacterial filter on the patient endotracheal tube or at the expiratory side of the breathing circuit of a ventilator or anesthesia machine. "If used, it may help reduce the risk for contaminating anesthesia equipment or discharging tubercle bacilli into the ambient air." (The filter for the patient should be between the Y-piece and the mask or between the Y-piece and the ET tube.)

3 Special masks must be worn by healthcare workers called "N-95 respirators" for cough-inducing procedures such as endotracheal intubation, bronchoscopy, extubation, and suctioning. These masks are similar in appearance to surgical masks. However, they protect HCW from inhaling tubercle bacilli suspended in the air, which is the opposite function of most surgical masks, which is to protect the sterile field from outgoing respiratory contaminants of HCW's. For surgery upon TB-infected tissue, neither surgical masks nor N-95 respirators will do since the N-95's don't protect the surgical field, and surgical masks don't protect the surgical team. Therefore, other respiratory protection that protects both sides must be used. For reasons that we do not completely understand, cutting into infected tissue is many times more risky than close contact to a person with TB disease who is coughing.

4 During postoperative recovery (when coughing is likely), the patient should be placed in an isolation room meeting all the requirements for TB control including negative air pressure. This means that you will have to do some planning to get your monitoring equipment into position prior to the arrival of the postsurgical TB patient. You should not recover the case in the PACU, and you must wear N-95 respirators while in the patient's room.

Other considerations: Patients who are coughing and must be transported, should be instructed to cough into a tissue if they can cooperate with their care. I feel that this is more effective than putting a surgical mask on the patient to contain TB droplet nuclei. N-95 masks should never be put on the TB patient. Anesthetized patients who cannot cough are not going to be disseminating TB.

Operating rooms have opposite airflow to TB rooms. In TB rooms, the air must flow in. In operating rooms, the air flows out. Therefore, it is desirable for operating rooms to have anterooms. Many operating rooms don't have anterooms. Therefore, keep the doors to the OR shut, reduce traffic to the minimum, and try to do the case at the end of the day when there are no other patients and nonessential staff may have left. Finally, I would like to point out that unless the patient is coughing, TB will not be broadcast.

> Judy Gassett, MT, MPH, CIC Infection Control Consultant

Dear OPEN FORUM:

I am an anesthesiologist and have had several opportunities to review your national newsletter, *The Sensor*, but I have not seen

continued on page 10

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

ASATT SENSOR OPEN FORUM Attn: Dave Mastalski, CerAT., Associate Editor 2000 L Street NW Suite 200 Washington, DC 20036

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

TECHNIQUES OF EXTRACORPOREAL LIFE SUPPORT

by Sally E. Garner, FIOT Chief ODA, Glenfield Hospital Leicester, U.K.

Introduction: ECMO (the abbreviation of "extracorporeal membrane oxygenation") has been adopted as a generic term, synomymous with "extracorporeal life support" (ECLS) and includes related techniques such as extracorporeal CO_2 removal (ECCOR). ECMO is currently indicated when potentially reversible pulmonary or cardiopulmonary failure has reached a severity where mortality is expected despite maximal conventional therapy.

The principle of the ECMO circuit is deceptively simple. Life support is provided by draining venous blood to an extracorporeal circuit a nd oxygenating it artificially before returning it to the patient. In this way the patient's cardiac and pulmonary status can become a function of the circuitry and the patient becomes independent of the functional implications of his or her disease. Unlike other forms of support "when gas exchange fails" [like the intravenous oxygenator (IVOX)], ECMO can completely satisfy gas exchange and cardiac output requirements.

ECMO¹ has now been associated with the successful salvage of the sickest patients. Worldwide experience represents a series of over 6,000 cases (the majority neonates).² Generally speaking, however, understanding of the technique in the UK, is in the most part conceptual. The variety of equipment available and the diversity of circuit designs and methods that have been used on an ad hoc basis may therefore cause (or result from) confusion.³ An atmosphere of innovative experimentation when introducing this technology is best avoided until experienced in the techniques. This article provides an overview of ECMO, as currently practised, with an emphasis on practical considerations.

Background: Historically, attempts to use techniques of cardiopulmonary bypass to provide prolonged life support share a common ancestry with the evolution of perioperative bypass⁴. Extensive haemolysis limited early perfusions but developments in technique and improvements in technology have minimized, although not eliminated, these risks.

The widespread application of extracorporeal life support has been delayed by inconclusive attempts at objective comparison with conventional treatment.^{5,6,7} Consequently, ECMO has been confined to specialist centres and reserved for situations when a potentially reversible disease was anticipated to cause death from cardiopulmonary or pulmonary failure. Selection criteria have been widely employed to restrict treatment to appropriate situations. The apparent success of ECMO is therefore difficult to interpret. There is no frame of reference to allow comparison of results as no such selection is applied to non-ECMO candidates. The results of ECMO are improved by the fact that its use has been confined to experienced centres, performing the techniques on a regular basis. Reliable prospective randomized comparisons between ECMO and conventional treatment are not available and doubts about the validity of criteria used to predict mortality without ECMO persist.^{8,9,10} This has meant that despite high survival rates and large series of patients, the introduction of ECMO proceeds on a background of conflicting information that provokes active debate.^{11,12,13,14,15}

Clinical application was first found in the treatment of severe neonatal cardiopulmonary failure. ECMO has been accepted as a standard life support technique for mature neonates in the USA since 1985. Survival rates of over 80% reverse the *predicted* mortality associated with conventional treatment. Following this success further refinement has led to a review of the technique's application in cardiorespiratory failure in older patients. Appreciable survival rates (55%)¹⁶ have again followed. As a result, despite the lack of conclusive trials, interest in extracorporeal life support is increasing. Not least in the UK, where Leicester has been providing a tertiary referral service for ECMO since 1989, and has treated over 75 patients who far exceeded conventional selection criteria, and yet, in whom a cumulative survival rate of 70% has been achieved.

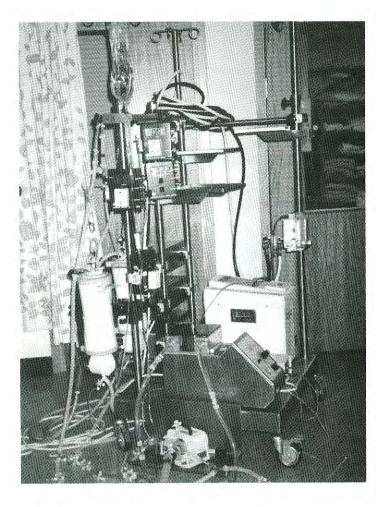
Methods: Although ECMO circuit components are similar to those used for perioperative cardiopulmonary bypass, the processes themselves are very much distinct entities. ECMO circuits function as a closed, continuous flow system in continuity with the patient's circulation. Circuit design for ECMO needs to avoid areas of stasis such as venous reservoirs (necessitating high levels of heparinization that may promote haemorrhage) and promote normothermia (to allow prolonged support). Typical circuit design and the principle is shown in the figure.

Blood is drained by cannulation of a systemic vein(s). Usually the cannula is inserted from the right internal jugular vein to the right atrium. The choice of pulmonary support alone or combined cardiopulmonary support is provided by deciding where to return the blood after it has been drained and oxygenated. Return to a systemic artery (venoarterial ECMO) provides a degree of cardiopulmonary bypass proportional to the extracorporeal blood flow. Return to the same or another systemic vein means that support of gas exchange alone is provided. This may be associated with a degree of recirculation of the oxygenated blood back through the circuit which requires a compensatory higher blood flow.

During ECMO, the emphasis of oxygenation and CO_2 removal is shifted from the patient's lungs to the circuit. Gas exchange takes place within the oxygenator. Current oxgenator designs partition blood and gas phases to minimize haemolysis. The functional principles that apply are common to all types. Membrane oxygenators are so called because they separate blood and gas phases with a silastic membrane that is freely permeable to the respiratory gases. Oxygen and carbon dioxide move across this membrane driven by diffusion gradients which may be maximized by the introduction counter current flow and the use of 100% oxygen as the sweep gas.

Within design (and haemoglobin concentration) limits, oxygen delivery depends upon the blood flow through the oxygenator. Oxygenators have a rated flow beyond which increases in blood flow are not accompanied by changes in oxygenation. It is customary in neonatal perfusions to choose an oxygenator which far exceeds the likely demands to be made upon it during the perfusion. An oxygenator working within its defined blood and gas flow parameters remove CO, with much greater efficiency than delivery of oxygen. Bloodborne carbon dioxide is readily accessible for diffusion and CO, removal is primarily a function of the minute volume of the oxygenator (and the diffusion gradient). This minute volume is dictated by the rate of gas flow across the oxygenator or "Sweep rate." Because of the remarkable efficiency of oxygenators at removing carbon dioxide, some patients can receive respiratory support from a venovenous cannulation with very low blood flows and high sweep rates. The emphasis is then on CO, removal and hence the term "ECCOR."

During ECMO, reliance upon the function of the patient's lungs is reduced and excessive ventilation is avoided. Classically, some degree of lung rest is provided by reduced settings which are designed to minimize atelectasis and counteract any tendency toward pulmonary edema. All infusions are made into the circuit and invasive procedures are wherever possible avoided to reduce any risk of bleeding.



Circuit construction: The choice of circuit components is crucial to the subsequent progress of the perfusion. Cannulae through which to establish an extracorporeal circuit are chosen carefully.¹⁷ The resistance of the drainage cannulae to blood flow imposes a limit to the extracorporeal blood flow (the main variable affecting patient oxygenation during bypass). The resistance of the arterial cannula primarily influences the pressure within the circuit which has implications for the prevention of haemolysis and safety of the circuit. The resistance of cannulae is affected by their length and internal diameter and also the presence of laminar or turbulent flow. The optimal choice of cannula will then depend upon the surgical ease of cannulation which is in turn affected by vessel size and intravascular volume and pressure.

Similar considerations apply to the choice of tubing diameter from which to construct the circuit. Larger flows require larger diameter tubing particularly in the venous drainage line in order to achieve sufficient support. PVC tubing is commonly used for conventional perioperative bypass but prolonged bypass requires components capable of withstanding prolonged use. This is particularly true of the raceway in a roller pump which is currently constructed from supertygon. The venous blood drains through a servo mechanism that is linked to the pump controller. In this way the pump speed can be inhibited in the presence of inadequate or obstructed venous drainage and suction will not be applied to the patient.

Standard ECMO circuits employ a roller pump governed by a controller which in turn is reacting to the volume of a distensible bladder positioned in the venous drainage limb of the circuit. The advantages of this system in minimizing blood trauma have been well proven. Theoretical advantages of constrained vortex or centrifugal impeller pumps, which would not require a bladder have been outweighed by increased haemolysis (primarily from a degree of suction applied to the venous drainage) and the limited life of pump heads which can fail suddenly and catastrophically. More recent designs of self-regulating, pressure sensing, roller pumps have yet to be fully evaluated in ECMO.

A variation of classical ECMO providing tidal flow through a single lumen cannula has been pioneered in France where the technique is know as AREC (*"assistance respiratoire extracorporealle"*).¹⁸ The method depends primarily on a specific pump design. This pump is, as yet, not available outside France.

The choice of oxygenator is not limited to its gas exchange or coagulation characteristics, however. Different designs are associated with different flow dynamics and with different degrees of blood trauma, factors which also influence selection. Hollow fibre oxygenators are smaller and may impart less resistance to blood flow. They are also widely available in heparin-bonded form. Widespread adoption however has not followed because of problems with profuse plasma leakage. Heparin-bonded membrane oxygenators are about to undergo preliminary clinical trials in *continued on page 8...* the UK. Normothermia during prolonged perfusion is essential. Heat exchangers may be provided as separate components in which case they are positioned post oxygenator to counteract its cooling effects. Some however are integral in the oxygenator design. Stainless steel oxygenators are preferable as aluminium construction has been associated with metallic microembolization.¹⁹

Future Developments: New developments in ECMO technology are continually being promoted. Many improved monitoring systems that have been incorporated into perioperative bypass circuit design such as bubble and particle detectors may have roles to play in long term extracorporeal support. Each must be considered on its individual merits. However, it must be remembered that classical circuit design 1 has probably been so successful *because* of its simplicity. The more adaptations and additional components the more potential for circuit component failure.

The need for systemic heparinization combined with platelet consumption contribute to the most complications for ECMOhaemorrhage. Efforts to minimize such complications include the administration of drugs designed to increase platelet survival and reduce risks of haemorrhage. The advent of heparinbonded circuitry and oxygenators may reduce the need for heparinization although this is not yet proven.

Conclusion: The high survival rates of patients treated, at the extremes of illness, with ECMO prove that it is a potent life support technique. It can succeed in clinical situations where other techniques are likely to fail. The continued debate that surrounds ECMO is fueled by difficulties in deciding exactly when the risks of conventional treatment are sufficient to justify a more invasive life support. The lack of reliable comparative data between ECMO and conventional treatment prevents resolution of such issues.

The success of modern ECMO is partly a result of its use being confined to experienced centres and partly because reliable circuit designs and components are adhered to. Although the technology of ECMO is continually evolving, innovations can only be reliably assessed once experience has been gained in established techniques.

References:

1Bartlett RH. Extracorporeal life support for cardiopulmonary failure. Current Problems in Surgery. 1990;27:621-705.

2Stolar CJ, Snedecor SM, Barlett RH. Extracorporeal membrane oxygenation and neonatal respiratory failure: experience from the extracorporeal life support organization. *Journal of Pediatric Surgery*. 1991;26:563-71.

3Pearson GA, Firmin RK, Sosnowski A, Reeves R. Support when gas exchange fails (Let). *Clinical Intensive Care*. 1992;3:41-42.

4Gibbon JH. Application of a mechanical heart and lung apparatus to cardiac surgery. *Minn Med.* 1954;37:171.

5Bartlett RH, Roloff DW, Cornell RG, Andrews AF, Dillon PW, Zwischenberger JB. Extracorporeal circulation in neonatal respiratory failure: a prospective randomized study. *Pediatrics*. 1985;76:479-87.

6O'Rourke PP, Crone RK, Vacanti JP, Ware JH, Lillehei CW, Parad RB, Epstein MF. Extracorporeal membrane oxygenation and conventional medical therapy in neonates with persistent pulmonary hypertension of the newborn: a prospective randomized study. *Pediatrics*. 1989;84:957-63.

7Zapol WM, Snider MT, Hill JD, Fallat RJ, Bartlett RH, Edmunds LH, Morris AH, Peirce EZ, Thomas An, Proctor HJ, Drinker PA, Pratt PC, Bagniewski A, Miller RJ. Extracorporeal membrane oxygenation in severe acute respiratory failure. A randomized prospective study. *JAMA*. 1979;242:2193-6.

8Dworetz AR, Moya FR, Sabo B, Gladstone I, Gross I. Survival of infants with persistent pulmonary hypertension without extracorporeal membrane oxygenation [see comments]. *Pediatrics.* 1989;84:1-6.

9Greenough A, Emery E. ECMO and outcome of mechanical ventilation in infants of birthweight over 2 kg [letter] [see comments]. Lancet. 1990;336.

10Nading JH. Historical controls for extracorporeal membrane oxygenation in neonates. Critical Care Medicine. 1989;17:423-5.

11Anonymous. Persistent fetal circulation and extracorporeal membrane oxygenation [editorial] [see comments]. *Lancet*. 1988;2:1289-91.

12Elliott SJ. Neonatal extracorporeal membrane oxygenation: how not to assess novel technologies [see comments]. *Lancet*. 1991;337:476-8.

13Lantos JD, Frader J. Extracorporeal membrane oxygenation and the ethics of clinical research in pediatrics [see comments]. *New England Journal of Medicine*. 1990;323:409-13.

14Sosnowski AW, Bonser SJ, Field DJ, Graham TR, Firmin RK. Extracorporeal membrane oxygenation [see comments]. *BMJ*. 1990;301:303-4.

15Rose SJ. Extracorporeal membrane oxygenation [letter; comment]. *BMJ*. 1990;301.

16Cumulative data from ASAIO 36th Annual Meeting, 1990.

17Montoya JP, Merz SI, Bartlett RH. A standardized system for describing flow/pressure relationships in vascular access devices. *ASAIO Transactions*. 1991;37:4-8.

18Durandy Y, Chevalier JY, Lecompte Y. Single-cannula venovenous bypass for respiratory membrane lung support. *Journal of Thoracic & Cardiovascular Surgery*. 1990;99:404-9.

19Vogler C, Sotelo, AC, Lagunoff D, Braun P, Schreifels JA, Weber T. Aluminum-containing emboli in infants treated with extracorporeal membrane oxygenation. *New England Journal of Medicine*. 1988;319:75-9.

TECHNICIAN R SSS Ŵ 10 R 13 11 12 15 16 17 18 19 20 21 23 33 24 26 25 27 28 29



SCIENCE AND TECHNOLOGY POST TEST: Infection Control, Extracorporeal Life Support

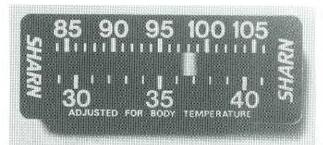
Use this crossword puzzle to test your knowledge on the "Open Forum" and "Science and Technology ..." articles on pages 5-8. Puzzle answers can be found on page 19 of <u>this</u> issue.

Across

- 1 A TB patient should cough into a ____ when possible.
- 3 ECMO can satisfy gas exchange and ____ output requirements.
- 7 Lung rest, as provided by ECMO, helps counteract pulmonary ___.
- 8 A bacterial _____ at the ETT or on the expiratory limb of the breathing circuit may prevent contamination of the ventilator with TB.
- 11 During ECMO, reliance upon the ____ is reduced.
- 12 ECLS stands for extracorporeal ____ support.
- 14 During ECMO, invasive procedures should be avoided to prevent excessive ___.
- 15 Venoarterial ECMO returns blood to an ___.
- 18 Cutting into TB-infected tissue is _____risky than being near a coughing TB patient.
- 19 Most patients using ECMO are ___.
- 22 An isolation room for TB-control includes negative __ pressure.
- 23 ECCOR stands for extracorporeal CO_2 ___.
- 25 _____ exchange takes place in an ECMO oxygenator.
- 26 HIV is not an ____ pathogen.
- 27 _____ is provided by heat exchangers.
- 28 Standard ECMO circuits employ a __ pump.
- 29 ECMO is similar to cardiopulmonary _____ such as is used in heart surgery.

Down

- 2 Circuit design for ECMO avoids areas of _____ such as venous reservoirs.
- 4 Anesthesia machines should not be routinely ____ as the results are meaningless.
- 5 During ECMO, blood is drained via a ____ placed in a vein.
- 6 ECMO is indicated when potentially reversible cardiopulmonary ___ has reached a severity where mortality is expected despite maximal conventional therapy.
- 7 Postpone ___ procedures until a TB patient is not infectious.
- 9 During ECMO, ____ delivery depends upon blood flow through the oxygenator.
- 10 A ____ membrane separates blood and gas phases in an ECMO oxygenator.
- 13 Abbreviation for extracorporeal membrane oxygenation.
- 14 HIV is a ____ pathogen.
- 16 Anesthesia machines are not thought to cause ____ infections.
- 17 An N-95 __ protects HCW's from TB.
- 20 Survival rates of neonates (using ECMO) reverse the predicted _____ rates associated with conventional treatment.
- 21 A common site for introducing ECMO cannulae is the right internal _____ vein.
- 24 ECMO is provided by draining <u>blood</u> and oxygenating it before returning it to the patient.



Clinically acceptable alternatives to more expensive electronic temperature monitors are now available at lower cost.

Crystaline[™] Temperature Indicators using analog liquid crystal technology can be used in place of more expensive devices in most cases, resulting in a savings of \$1-\$3 per surgical patient.

Crystaline sensors:

- are documented for use in anesthesia
 - provide continuous readings with no gaps between degrees
 - migrate with the patient
 - are non-invasive
 - create no biohazardous waste
 - require no maintenance or repair

Older types of encapsulated strips

- have not been documented for use in anesthesia
 - may not be accurate or reliable
 - are hard to read
 - may skip several degrees between readings

To learn more about achieving these cost savings for your facility, please call

1-800-325-3671



4801 George Road, Tampa. Florida 33634

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

any statistics or information printed on the number of members that are in the ASATT. Can you please provide this information?

New York, N.Y.

At the ASATT 8th Annual Meeting and Education Seminar that was held October 17-19, 1997, in San Diego, CA, the ASATT Executive Director reported to a gathering of state representatives that the ASATT membership as of October 8, 1997 consisted of the following paid and current members: 1,163 Total Members in the following categories; 1,040 Active; 52 Individual; 33 Institutional; 19 Corporate; 12 International; 7 Associate.

Dear OPEN FORUM:

I have received numerous telephone calls regarding the ASATT Continuing Education and Recertification Guidelines Booklet. Many of the comments have been critical of the instructions and many technicians seem to view the booklet as "hard to understand."

As a member of the Education/ Continuing Education Committee and a Certified Anesthesia Technician myself, I view the booklet as a thorough picture of these instructions and requirements which ASATT has outlined for the reporting of continuing education/ contact hours. Inclusive of this booklet is the outline for Sponsoring/ Providing (planning) continuing education seminars, inservices, etc.

In my research, I find that the ASATT Continuing Education and Recertification Guidelines Booklet follows the trend of most Allied Health Professional Organizations. As concerned professionals, let us remember that ASATT is our organization, and it is our desire to present ASATT as an organization that strives for professional competency and excellence.

> Wilma F. Frisco, CerAT Euclid, Ohio

DID YOU KNOW?

Web Sites of Interest:

The **new ASATT web site** is up and running. Look for it at http://www.asatt.org/

The AANA: http://www.aana.com

The ASA: http://www.asahq.org/

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

ASATT Region 2 Continuing Education One-Day Seminar/Workshop

Cell Saver/Haemonetics

Saturday, April 4 Radisson Hotel-Cleveland Southwest

Call 216-261-0649

CRASH 98 TECHNICIAN PROGRAM

FACULTY

Howard Miller, M.D.

Assistant Professor of Anesthesiology CRASH 98 Technician Course Director

> Cindy Ackerman, C.C.P. Clinical Profusionist

Richard Allen, M.D. Assistant Professor of Anesthesiology

Michael Ochs, D.O. Assistant Professor of Anesthesiology

John Sedgeley Marketing Representative, Olympus Ann Martin, Cer.A.T. CRASH 98 Technician Course Assistant Director

Robert Ackerman, M.D. Assistant Professor of Anesthesiology

Paul Baumgart Marketing Manager, Ohmeda

W. Clayton Petty, M.D. Professor & Chief, Madigan Army Med. Ctr.

Kenneth Swank, M.D. Senior Instructor of Anesthesiology

PROGRAM

SATURDAY - FEBRUARY 28, 1998 6:30-7:00 Registration 6:30-7:00 View Exhibits; Continental Breakfast 7:00-7:50 Induction of Anesthesia Michael Ochs, D.O. 7:50-8:40 Principles of Operations and Preventive Maintenance of Vaporizers W. Clayton Petty, M.D. 8:40-9:30 Anesthesia Equipment: Troubleshooting W. Clayton Petty, M.D. Paul Baumgart 9:30 View Exhibits; Recess 3:30-4:30 View Exhibits; Refreshments 4:30-5:45 WORKSHOPS A: Autotransfusion: Methods and Operation Robert Ackerman, M.D. Cindy Ackerman, C.C.P. B: Hemodynamic Monitoring Howard Miller, M.D. Kenneth Swank, M.D. 5:45-7:00 Repeat Workshops A and B **SUNDAY - MARCH 1, 1998** 6:30-7:00 View Exhibits; Continental Breakfast 7:00-7:50 Preventing Hypothermia Howard Miller, M.D. Vail, Colorado

February 28 - March 2

	7:50-8:40	Intravenous Fluids I: Crystalloids and Colloids
	8:40-9:30	Kenneth Swank, M.D. Intravenous Fluids II: Blood Products Robert Ackerman, M.D.
	9:30-10:00	ASATT Update Ann Martin, Cer.A.T.
	10:00	View Exhibits; Recess
	3:30-4:30	View Exhibits; Refreshments
	4:30-5:45	WORKSHOPS
		A: Fiberoptic Intubation Michael Ochs, D.O. Howard Miller, M.D. John Sedgeley
		B: Positioning for Surgery Richard Allen, M.D. Ann Martin, Cer.A.T.
	5:45-7:00	Repeat Workshops A and B
¥.		
	MONDAY	- MARCH 2, 1998
	6:30-7:00	View Exhibits; Continental Breakfast
	7:00-7:50	Basic Cardiovascular Physiology Richard Allen, M.D.
	7:50-8:40	Carbon Dioxide Absorption W. Clayton Petty, M.D.
	8:40-9:30	Sample Questions and Answers Howard Miller, M.D. Richard Allen, M.D.
	9:30	Adjourn until February 27, 1999

Contact Phyllis Tuller - Course Coordinator - 303-372-6301

TECHNICIAN SURVEY.....

1998 ANESTHESIA TECHNICIAN SURVEY

(ASATT has appointed a committee to review the practice of the anesthesia technician. In as much as there is a diversity of practice, it is most imperative that ASATT establishes "A Standard of Practice for the Anesthesia Technician/Technologist." As a practicing anesthesia technician, you can participate in this endeavor by completing this survey.)

Mail completed survey by February 15, 1998 to:

Wilma F. Frisco, CerAT 24101 Lakeshore Blvd., Suite 314A Euclid, Ohio, 44123

In what region of the United States do you reside?
(eg. north, southwest, east, or west)
If you reside outside of the United States, list the country
In what type of facility are you employed?
(eg. university, surgery center, medical center, community hospital, pain clinic)
How many OR suites are in your facility?
How many anesthetics are administered in a year?
Do you work in other areas of the hospital?
(eg. MRI, Xray, OB, ER)
How many technical personnel are employed in your department?
Are there technicians employed at different levels?
Explain:
Are you a Certified Anesthesia Technician? Yes, No
If "no," will you take the National Certification Examination? Yes, No
Where did you receive your technical training? Military, On-the-Job, Vocational Program, College
Please list the name of the formal program
Do you have a license in any medical field? Yes, No
Please list all credentials and dates received
What is your salary? Are the salaries of the other technical personnel higher the same or lower
Are you employed by a hospital or anesthesia group?
Who supervises the technical personnel in your department?
Do certified registered nurse anesthetists work at your institution? Yes How many on a given day?, No
How many anesthesiologists are employed at your institution?
Does your institution treat pediatric patients? Yes, No
Is your facility located in a major city (population greater than 500, 000)? Yes_, No_
Does the technical staff participate in educational programs at your facility? Yes, No
Does your department or institution provide funds for educational meetings? Yes, No
Does your department or institution provide funds to anesthesia techs for educational meetings? Yes, No
12

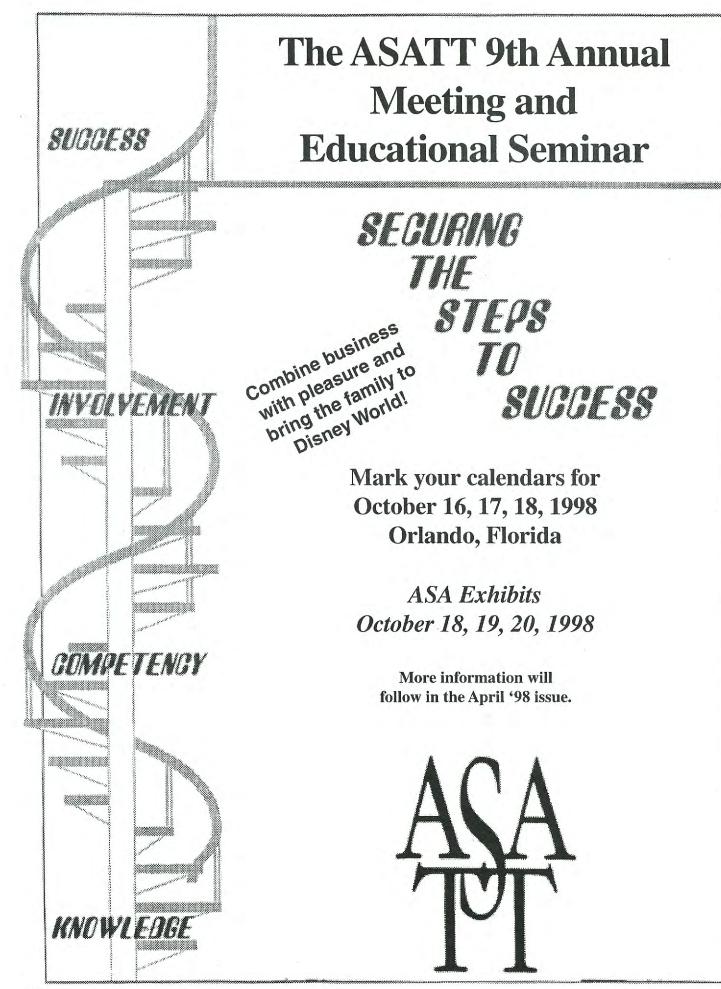
TECHNICIAN SURVEY.....

Technical Duties: Please check the box which most accurately describes how often you perform each duty.

Technical Duties	Never	Sometimes	Routinely	Unsure	Technical Duties	Never	Sometimes	Routinely	Unsure
1. Clean machines and other equipment					29. Order supplies/vendors				
2. Stocking supplies					30. Review equipment for purchase				
3. Preparing I.V. setups					31. Propose capital budgets				
4. Assisting with I.V. placement					32. Order bulk drugs				
5. Starting I.V. Lines					33. Order narcotics				
6. Prepare/clean transducers					34. Monitor controlled drugs				
7. Calibrate transducers					35. Repair anesthesia gas machines				
8. Assist with arterial line placement					36. Troubleshoot monitoring equipment				
9. Start arterial lines					37. Set up/sterilize special procedures trays				
10. Assist with CVP line placement					38. Assist with difficult intubations				
11. Start CVP lines					39. Maintain fiber-optic equipment				
12. Assist with PA catheter placements					40. Design special procedure carts/tables				
13. Calibrate monitor for PA Catheter					41. Review patient charts				
14. Assist with regional anesthesia					42. Attach monitors to patients				
15. Mix drugs/Connect drugs to pumps					43. Assist with hemodilutions				
16. Set up rapid infusion devices					44. Assist with trauma patients				
17. Operate blood recovery system					45. Monitor and record vital signs				
18. Operate intra aortic balloon pump					46. Orient other anesthesia technicians				
19. Operate TEE unit					47. Orient other personnel				
20. Teach inservices					48. Work with student anesthetists				
21. Perform administrative duties					49. Work with anesthesia residents				
List the duties:					50. Assist on cardiac arrest team				
H. H.					51. Assist with transplant patients				
					52. Obtain/store blood from the blood bank				
					53. Assist in the administration of blood				
22. Assist with intubations					54. Serve on hospital committees				
23.Perform intubations.					55. Supervise other personnel				
24. Assist in the pain clinic					56. Write performance evaluations				
25.Perform blood gas analyses					57. Commute from one hospital to another				
26. Perform other lab studies	-				58. Transport patients to the OR				
27. Draw samples from arterial line					59. Transport patients to the PACU				•
28. Order supplies/in-house					60. Transport patients to the SICU				

Are you employed full-time____ or part-time____

How long have you been employed at this institution?_____



OFFICIAL NOTICES.....

ASATT NATIONAL CERTIFICATION EXAMINATION

Saturday, May 16, 1998, Applied Measurement Professionals, Inc, will administer the 4th ASATT National Certification Examination for Anesthesia Technicians. Six major cities have been chosen as test locations. They are:

> Pittsburgh, PA Charlotte, NC St. Louis, MO Dallas, TX Sacramento, CA Honolulu, HI

ASATT seeks a volunteer: David Mastalski, CerAT, Director, Region 7 and Associate Editor of the society newsletter, *The ASATT Sensor*, has devoted his expertise in journalism to the newsletter. For several years, David has unselfishly written, edited, and solicited articles that have appeared each quarter.

Because of additional commitments to ASATT, David has resigned as Associate Editor. As much as ASATT regrets that David resigned, ASATT does accept his resignation and realizes that the Editor, Dianne Holley, CerAT, needs an Associate Editor.

If you possess writing, editing, and computer skills and have a desire to share your journalism talents with ASATT, please contact Dianne Holley at 512-451-7457[H], 512-324-1104[F], or Idholley@aol.com [email].

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.

Remember,

The new ASATT address & phone number is:

ASATT 2000 L. St., NW, Suite 200 Washington, DC 20036 (609) 853-9382

1998 ASATT NATIONAL CERTIFICATION

EXAMINATION APPLICATION DEADLINE:

March 15, 1998

All applications must be sent by Certified Mail to:

ASATT Certification Attn: Debi Maines 6900 Grove Rd Thorofare, NJ 08086

If you have not received your application for the May 16, 1998 American Society of Anesthesia Technologists and Technicians Certification Examination return the form below to:

ASATT Certification 6900 Grove Road Thorofare, NJ 08086-9447 fax 609-848-5274

One request per application. Duplicate form as needed. Request forms must be postmarked no later than January 28, 1998.

ASATT National Certification Examination Request for Application

-

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 February 15, 1998 to your ASATT Regional Director or to Dianne Holley (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:

A Region 1 Meeting is being planned for March 14-15 at the Radisson Hotel, in Syracuse, and is being conducted through the SUNY Health Science Center Continuing Education Dept. For further information: Joyce Freeman at (315) 464-2825[W].

New York

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

ASATT Region 2:

An all-day continuing education seminar is being conducted in Dayton, OH on April 25, in conjunction with the OSATT--contact Charlene Smith (see Ohio, below). In May, Region 2 is cohosting a 1-day seminar in Pittsburgh, PA-contact Vicki Carse (see Pennsylvania, below).

For more information:

Wilma Frisco at (216) 261-0649.

Ohio

Please make plans to attend the following meetings:

- 1/24 and 2/28, 1998 Calculations and Formulas in Anesthesia - Mt. Sinai Medical Center
- 3/28 Stress Management
- 4/4 Blood Recovery/Haemonetics (1-day seminar)

• 4/25 - Region 2/Statewide, 1-day meeting in Dayton

The OSATT welcomes Lesa Cooper, CerAT, from Children's Hospital in Dayton, OH as OSATT Western Division Director. For further information:

Barbara Powell at (614) 454-4224 or Charlene Smith (303) 677-3292 or Wilma Frisco at (216) 261-0649.

Pennsylvania

For further information: Vicki Carse at (412) 232-5807.

Virginia

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

ASATT Region 3:

For information on future events: Gail Walker at (919) 966-5136[W] or (910) 376-0327[H].

Florida

For further information: Linda Cotton at (904) 351-7343 or (904) 347-8118.

Georgia

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

North Carolina

For information on future events: Jack Jackson at (910)-424-2868[H]

Tennessee

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

ASATT Region 4:

For further information: Sam Ortiz at (312) 772-7830(H) or (312) 567-2190(W)

Illinois

For information about future events: Pat Zueck (217) 788-3780.

Iowa

Anyone interested in getting together for a meeting in April '98? Let's put our heads and hands together and organize a "Reunion" meeting! It's been a long time! Give me a call or write: Sheila White, CerAT, 284 Quince St., Dubuque, IA 52003-7539.

For further information:

Sheila White at (319) 589-8665[W] or (319) 556-8234[H].

ASATT Region 5:

See "Crash '98" ad on page 11. For information about future events: 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:

Region 6 Annual Education Program will be May 2 at Chandler Regional Hospital, Morrison Building, Chandler, AZ. For information: Dean Rux at (602) 821-3279[W] or (602) 497-9709 [H].

Arizona

With the assistance of Kimberly Jones, CerAT, LPN, arrangements have been made with the Arizona LPN Association for Anesthesia Technologists/Technicians to attend their monthly meetings to fulfill the required 10 CE/CH. These meetings will be held from 7 - 8:30 PM the THIRD Thursday of EACH MONTH at Carl T. Hayden VA Medical Center, Phoenix, AZ. All topics given by RN/CRNA --- Cost--FREE!!! November 20 - Psychiatric Issues, Dec.18-Technical Networking, Jan.15-Therapy Feb. 19-Nursing In Desert Storm, Mar.15-TBA, April 16-Antidepressants For further information: Dean Rux at (602) 821-3279[W] or (602) 497-9709 [H].

California

For further 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

DALLAS/FORT WORTH-mtg held 2nd week of Jan. All other upcoming mtg information contact Bob Reno-214-327-2066 or E-mail--cbyBOB@Aol.com. HOUSTON-Nov. 1, 1997: Malignant Hypothermia Part I, Blood Gas Analysis. Feb. 7, 1998 @ St. Joseph Hospital: Malignant Hypothermia Part II. 1998 schedule of meetings are Apr. 4, May 2, Aug. 1 & Nov. 7- Topics & workshops at these meetings will be in conjunction with training guidelines. Mtg info contact Essie Davis or Emily Jones 713-738-2811.

For further information: Gerardo Trejo at (713) 793-2898. Utah

For further information: Kirk Hanson (801) 625-2700

ASATT Region 7:

Plans are being made for Regional recertification educational workshops/ meetings in Seattle and/or Portland in February and April, 1998 For further information: Dave Mastalski at (503) 642-1537 or (503) 273-5389 Hawaii

For further information: Delbert Macanas(808) 547-9872

Oregon

The Oregon Association of Anesthesia Technologists and Technicians presented a Saturday, October 11, 9:00am -1:00pm meeting at Providence St. Vincents Hospital in Portland.

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

For information about future events: Nora Tiffany at (360) 427-9562.

Finally, a Keyed Agent Adapter that really works, first drop to last.

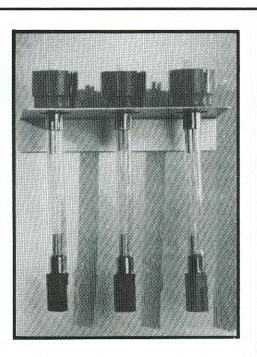
Vapofil solves the air-lock problem.

Vapofil's unique design uses a soft, flexible outer sleeve housing two flexible inner tubes - one does the filling and one releases the air back into the bottle. No more drip, drip, drip. Simply better.

Vapofil saves money.

Vapofil has been tested and proven to drain 2 to 3 more ml. of agent from every bottle. This doesn't sound like much until you mulitiply the cost of 2.5ml.of agent times the number of agent bottles used in a year. The savings can be considerable!

NOW AVAILABLE FOR SEVOFLURANE





For further information, call Sharn, Inc. at 1-800-325-3671 4801 George Rd., Tampa, FL 33634

AUTUMN LEAVES OF EDUCATION

by Wilma F. Frisco, CerAT Secretary and Director, Region 2, ASATT Director, OSATT

The Ohio Society of Anesthesia Technicians and Technologists held its Annual Southeastern Educational Seminar on Saturday,



Charlene Smith, OSATT President, (right) greets Gene Kieffer, Abbott Representative

September 27, 1997. The beautifully remodeled Holiday Inn and Conference Center, Zanesville, Ohio, was the location for this day of educational bliss.

The technicians who attended this meeting travelled from Pennsylvania, Michigan, West Virginia, and various cities throughout Ohio.

Barbara E. Powell, CerAT, Supervisor, Anesthesia/Surgical Processing, at Bethesda Hospital, Zanesville, Ohio, and Wilma F. Frisco, CerAT, coordinated this great educational experience.

The OSATT extends its thanks and appreciation to the speakers, the coordinators, the attendees, and the vendors. Because of the continued support of the vendors and speakers in the Ohio area, OSATT has a positive attitude and direction that will lead



John Gigliotti, Circon Representative, demonstrates intubation techniques to Harriet Milbry

the organization to the "Depths of the Educational Sphere."

As the OSATT Director and ASATT Director, Region #2, I commend all of your efforts and endeavors as you pursue "The Educational Horizon." Look behind you, one day....you will see many footsteps.

Caring For A Sick Baby Just Got Easier.[™]



NUMI® MED Medication Dispenser

NUMIMED provides a soothing way to deliver oral medications to babies. With NUMIMED the liquid medicine is delivered to the back of the tongue where there are fewer taste buds. The medicine is enclosed in a clear cup that let's you see exactly how much the baby swallowed so you know the complete dose is taken.

NUMIMED can be used perioperativly to premedicate infants before surgery, and to give analgesics post surgery. NUMIMED is latex-free.

For further information please call us at 1-800-325-3671.



4801 George Road, Tampa FL 33634

ANNUAL MEETING

ASATT would like to thank the following distinguished faculty at the 1997 Annual Meeting in San Diego:

Phillip O. Bridenbaugh, MD American Society of Anesthesiologists, President University of Cincinnati Medical Center Cincinnati, OH

Denise Martin-Sheridan, CRNA, EdD American Association of Nurse Anesthetists Albany Medical College Albany, NY

Paul Baumgart, B.A., M.B.A. Director of Marketing N. America System Division Ohmeda, Inc. Medical Systems Division Madison, WI

Mindy Bradley, CRTT, Cer.A.T. Stanford Health Service Stanford, CA

Harley S. Geller, MD Attending Cardiac Anesthesiologist Cedars-Sinai Medical Center Los Angeles, CA

Sammye Harris, ST, CCA Manager, Clinical Education Department Cobe Cardiovascular, Inc. Arvada, CO

Rosemary Johnson, MD Script Green Hospital San Diego, CA

James Marx, RN, MS, CIC Infection Control and Epidemiology Consultant Specializing in Long-Term Care Infection Control San Diego, CA

William Clayton Petty, MD Capt. MC, USN Professor and Chairman, Department of Anesthesiology Madigan Army Medical Center Tacoma, WA

H.J.C. Swan, MD, M.A.C.P. Professor of Medicine (Emeritus) Pasadena, CA

Susheela Sangwan, MD Associate Clinical Professor of Anesthesiology Director of Cardiac Anesthesia Cedars-Sinai Medical Center Los Angeles, CA

Wava Truscott, PhD Vice President, Scientific Affairs Safeskin Corporation San Diego, CA

Andrea M. Williams, Cer.A.T. Director, Anesthesia Technologists Program Western School of Health and Business Careers Pittsburgh, PA On behalf of Dean Rux and myself, I would like to publically say THANK YOU to the following companies who supported the ASATT 8th Annual Meeting and Educational Seminar, October 17-19 in San Diego. It was a fantastic meeting. The continued support you provide ASATT is deeply appreciated.

Sincere thanks,

Sheila White, President 97 Program Co-Chairperson Dean Rux, Director, Region 6 97 Program Co-Chairperson

Corporate Sponsors

Ohmeda, Inc. Datex-Engstrom, Inc. Glaxo-Wellcome, Inc. B. Braun/McGaw, Co. B-D (Becton-Dickinson and Company) King Systems Corp. Ceramatec, Inc.

Exhibiting Vendors/Sponsors Anesthesiology News Anew, Inc. B-D (Becton-Dickinson and Company) B. Braun/McGaw Co. California Society of Anesthesia Technologists and Technicians Cardinal Medical Specialties, Inc/AIME, Inc. Carlow College Ceramatec, Inc. Cobe Cardiovascular, Inc. Datex-Engstrom, Inc Fisher & Paykel Healthcare Gensia Automedics, Inc. Hudson Respiratory Care, Inc. Intersurgical, Inc. King Systems Corp. Med Wave Medical Parameters Medireps, Inc. MSA (Mine Safety Appliances Company) North American Dräger Olympic Medical Corp. Organon, Inc. Rusch Sharn, Inc. SIMS Level 1 Medical Systems, Inc. Trademark Medical Western School

Answers to Puzzle:

(From page 9)



ANNUAL MEETING....

THE EDUCATION HORIZON IS YOURS AT ASATT 8TH ANNUAL MEETING IN SAN DIEGO

by Dean Rux, CerAT, Director, Region 6

As the sun set off the shore of San Diego, over the Pacific Ocean, it gave thought to the 1997 theme "The Education Horizon is Yours." October 17, at the Radisson Hotel Mission Valley/San Diego, anesthesia techs started reaching out to the "horizon of education" at the 8th Annual Meeting and Education Seminar. Since the national meeting in Atlanta, 533 anesthesia techs have gone for the gold. That gold is certification.

Precision by the San Diego Naval Color Guard greeted 253 technologists and technicians from the US, England, Australia, Canada, and Japan. The welcome by Ruth Ochoa, LPNII, CerAT, 1996-97 ASATT President, reflected on the "waste of knowledge"—if people do not conquer the "mountain" to certificatio and continue the learning base to challenge another "mountain" to obtain CE/CH's.

News came from Dr. Swan, that he had a minor stroke. His physician requested he cancel all speaking engagements. ASATT sends best wishes to Dr. Swan for a speedy recovery.

The lectures to follow were full of educational value for the rookie or seasoned technologist or technician. Support from AANA was recognized as Denise Martin-Sheridan, CRNA, EdD, commended ASATT for achievements with the certification process and commitment to education, continuing education, and desire to provide quality anesthesia technologist and technician services. Besides the outstanding lectures presented during the 2-1/2-day program, anesthesia techs were given time to interact with 28 vendors. These vendors not only gave financial support toward making this 1997 meeting a success, they showed advances in anesthesia supply and technology.

Thank you goes to Datex-Engstrom and B. Braun/McGaw for sponsoring in part the lunches. Relaxing evening wine and cheese reception Friday was sponsored by Ohmeda. Saturday night "Pool Party" was enjoyed by many who "let their hair down" and danced to the music under the stars. This was sponsored by Glaxo-Wellcome and King Systems, Inc.

Before parting as President, Ruth presented special awards. A warm smile and eagerness prevailed as Sheila White, CerAT graciously took the position as President. Sheila, along with Katrina Crist, ASATT Executive Director, answered numerous questions regarding the maintenance of contact hours for recertification. With the process new to all, many concerns and questions were sorted for reassurance. Sheila White stressed the need to learn in order to show competency. She emphasized that for individuals, as well as ASATT, to be successful, they should become involved nationally or with regional and state societies. She encouraged all to "secure the steps to success" for the future.



Newton Palmer, CerAT, Torrance Memorial M.C., CA; and Dave Mastalski, CerAT, Director, Region 7, Associate Editor, The ASATT Sensor, discuss the day's topics



Samuel Ortiz, CerAT, Director, Region 4 at his laptop, behind the scenes

Andrea M Williams, CerAT, Director, Anesthesia Technology Program, Western School of Health and Business Careers prepares her booth at the ASATT Exhibit Hall





Denise Martin-Sheridan, CRNA, EdD, AANA Liaison, addresses the ASATT membership

Enjoying the cookout by the pool (clockwise from left): Bob Reno, CerAT, Baylor, Dallas (in cap); Dave Martin and Ann Martin, CerAT, Director, Region 5; Ruth Ochoa, CerAT, President, 1996-97; Katrina Crist, Executive Director



ANNUAL MEETING....

VICKI CARSE RECEIVES JAMI BLUE AWARD

by Dean Rux, CerAT, Director, Region 6

Jami was one of the founders of ASATT. She had a dream for national certification for the profession she was dedicated to -Anesthesia Technologists and Technicians. Her dream is reality. In memory of this dedicated technician, this year's Jami Blue Lecture Series and Award presentation went to Vicki Carse, CerAT, President PSATT, for her continuing contribution and dedication in the field of anesthesia technology. Vicki works at

Mercy Hospital of Pittsburgh. She has supported members with outstanding education programs that have advanced our profession and the knowledge of anesthesia technicians across the country.

As stated in her award acceptance (a quote in likeness to JFK's) "ask what you can do for ASATT, not what ASATT can do for you." With technicians such as Vicki,



Vicki Carse, CerAT, proudly displays the plaque naming her the 1997 Annual Jami Blue Award winner

our society will continue to grow. Thank you for your dedication, hard work and a job well done. Our warmest congratulations!

AIME AWARDS \$1,000

by Vilma Young, President, AIME, Inc

AIME, Inc, presented its Award for Outstanding Personal Achievement to Joseph Jaslo, CerAT, of Westchester County Medical Center, Valhalla, NY, at the ASATT Annual Meeting in San Diego. The \$1,000 award was given to the person achieving the highest test score on the AIME Preparatory Exam at a Focus Certification Seminar, 1997 Series.

Joseph is a very quiet family man. He performs his duties on more of a technologist level, but feels he is not always recognized at his facility. He hopes that the plaque will change things when he hangs it in his workroom. His wife says he studied until 3am every night, but that he wasn't aware of the award. She says he just wanted to work very diligently to pass both the AIME Exam, and later the ASATT Certification Exam.

AUGUSTINE MEDICAL HONORS WAYNE GRIFFITH

by Dean Rux, CerAT, Director, Region 6

Wayne Griffith, CerAT, OR Support Service Supervisor at Athens Regional Hospital in GA, was the 1997 recipient of the Annual Augustine Medical/ASATT Clinical Excellence Award. Ruth Ochoa, CerAT, President ASATT, presented the award at the annual ASATT meeting in San Diego. An all-expense-paid (up to \$1,500) trip to the 1998 ASATT Annual Meeting in Orlando, FL accompanied the award, which recognizes excellence in research and writing in the anesthesia technology field. Wayne's article in the April 1997 edition of *The ASATT Sensor*, "Providing Anesthesia in Remote Areas" was chosen from among that year's technical articles appearing in *The Sensor*.

Wayne came up through the ranks: he was first a pharmacy tech in the Air Force. In '84, he went to Duke University where he received his anesthesia tech training. In '90 he became Research Coordinator of the Anesthesia Dept. at Oschner Medical Institution, New Orleans, where he later became Chief Anesthesia Tech. He moved to his present position in GA in Oct. 1997.



Wayne Griffith, CerAT, recieves his Augustine Medical Award and a congratulatory handshake from Ruth Ochoa, CerAT, 1996-97 ASATT President



Vilma Young, President, AIME, Inc. (Alliance in Medical Education) announces this year's winner of AIME's Award for Outstanding Personal Achievement, Joseph Jaslo, CerAT

Talking to total strangers, but having that common bond of being an anesthesia technician, was so incredible. I found myself instantly "involved." There was so much to be done (and there still is) that the momentum just grabbed me, and the years have slipped by so quickly.

Now, focusing on the upcoming year and my role as President, and the commitment and motivation it will require of me, my message to each and everyone of you is: SECURE YOUR STEPS TO SUCCESS.

Secure your professional role as a qualified, competent anesthesia technician by increasing your knowledge base. Education is vital to our success as an organization and in reaching your personal goals. With national certification present among us, continuing education will be mandatory. But whether you choose to become certified or not, education should be something you want to pursue for YOU!

The next step, I believe, goes hand-in-hand with knowledge. Competency is what you display every minute of every day to your co-workers, the anesthesia providers, your employer, and the other numerous people with whom you come in contact. If you don't constantly strive to increase your knowledge, your competency skills will fail to progress as well. Remember, education is vital to our success.

The final step, and the one about which I feel most passionate, is involvement. There are so many levels in which a person can become involved. The favorite catchall phrase is "I'm too busy." Well, that's probably a very true statement, but so am I, as are the other nine members of the Board of Directors. We all volunteer our time and energies for a cause in which we believe and feel vehemently. I see my involvement as a means to secure my future. Are you really so busy that you are willing to ignore your future?

We, anesthesia technicians, are in an opportune position. Certification is here and JCAHO recognizes us and the role we perform in the OR's across the country. JCAHO is asking: where are your anesthesia technicians and where are their job descriptions and skills performance rosters?

So, involvement could be as simple as paying your membership dues on time, or becoming involved with one of the many committees already established. Consider offering to write an article for the ASATT Sensor, helping your Regional Director or getting more involved with your state society. The list goes on and on. ASATT is YOUR organization! All of us standing united and strong will make known our presence in the OR/ Anesthesia environment. It cannot be a one-person show. WE NEED EACH OTHER!!

I was lucky enough to witness this bond so many times during my stay in San Diego, CA. Dean Rux and I had a goal in mind when we started planning for the 8th Annual Educational meeting 14 months ago. It was threefold:

1) Present top quality speakers who would deliver interesting, informative, and essential topics to our audience.

2) Feed the masses delicious filling meals and sweet scrumptious desserts!

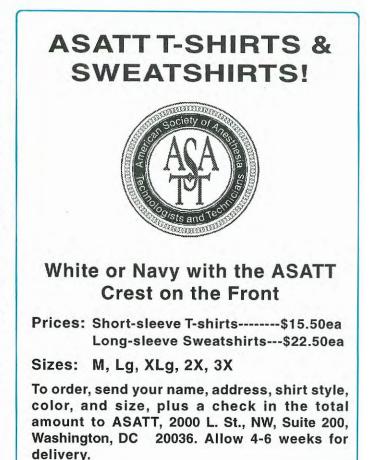
3) Arrange several opportunities for the people attending to "let their guard down" and meet a great group of colleagues.

After tallying the comment sheets, it appears we were successful in achieving all our goals. We were overjoyed with all the positive comments we received throughout the weekend. We accomplished what we set out to do. Thanks to all of you who participated. It was a tremendous undertaking, and we take pride in the success of the meeting. But, we did not do this to gain recognition or to boast, we did this for you! Knowing how much everyone enjoyed themselves throughout the weekend, especially Friday and Saturday evenings, is heart-warming for both of us. On behalf of the entire ASATT Board of Directors, Dean and I thank you for attending, participating, and taking that first step toward new and lasting friendships and professional involvement.

In closing, I look forward to this year, serving as your President, and visiting with many of you as our paths cross. Remember, my door is always open! I know we have a great deal of work to do, but remember many hands make light the work!!

I hope you had a safe and wonderful holiday season.

Peace and joy!



American Society of Anesthesia Technologists and Technicians 2000 L. St., NW, Suite 200, Washington, DC 20036

Membership Application

(Please print clearly or type)

Last Name	First Name	Initial	Degree
Home address			
City	State(Province)	Zip (Mail Code)	
Home Phone ()	May ASAT	T release your name to other constituen	ts? YesNo
Employer/Affiliate	Dept	Title	
Address		Email address	
City	State(Province)	Zip (Mail Code)	
Business phone ()	ext pager #	Fax # ()	
Please check your memb	where his/her duties are compar- technologist, assistant or aide. This anesthetist or an individual who technical personnel. Active mem fulfilled the requirements of acti	anyone who is employed in a health car rable or equal to the duties of an an sindividual's duties must be supervised by has been given supervisory responsib ibership is also extended to any retiree ve membership as described above. The support to, and actively participate in o	e or research facility esthesia technician, y an anesthesiologist, pilities of anesthesia who has previously Chis individual must
*Associate: \$60 _		sthesiologists, C.R.N.A.'s, and Anesthet	tists.
*Individual: \$60 _	This category is open to anyone w	with an interest in the field of anesthesia	technology.
*Institutional: \$100 _		nic, medical, hospital, philanthropic, sc express an interest in anesthesiology.	ience, governmental
*International: \$70 _	• • •	ndividual who is a member of an Inte is fee is designated to cover additional p	
*Student: \$35 _	This category is open to students recognized by the ASATT.	enrolled in anesthesia technology training	ng programs that are
*Corporate: \$100 _		ses and other profit orientated organization erwise have an interest in anesthesia tec	

*These categories provide all rights and privileges of active membership except holding office, chairing a committee and voting.

Applicant's signature	here to be valid	Date of application	
ASATT reserves the	right to verify employment and/or a	ffiliations appropriate to the membership category requested.	

There will be a \$20.00 fee assessed for returned checks.

(for official use only)		
Date application rec'd	, Region () Membership #	
Check #	Amount: \$	
Comments:		

CERTIFICATION FUND SPONSORS....

GOLD STAR SPONSORS (\$5000 and up)....

- **American Society of Anesthesiology**
- Ohmeda Medical Systems, Madison, WI
- Glaxo Wellcome, Research Triangle Park, NC

BRONZE STAR SPONSORS (\$1000 to \$2500)....

- * Augustine Medical, Inc., Eden Prairie, MN
- FL Soc. of Anes. Technicians & Technologists *
- GA Soc. of Anes. Technologists & Technicians *
- Haemonetics Corporation, Braintree, MA *
- Marquette Electronics, Inc., Milwaukee, WI *
- * Organon, Inc., New Jersey

- ★ SIMS Medical Systems, R.S.P., Inc., NH
- * Level One Technologies, Rockland, MA
- * Baxter Healthcare Corp., Chicago, IL
- COBE Cardiovascular, Arvada, CO *
- B. Braun Medical, Bethlehem, PA
- Mallinckrodt, St. Louis, MO

STAR SPONSORS (\$500)....

King Systems, Noblesville, IN NW Soc. of Anes. Technology

OR Soc. of Anes. Technologists & Technicians

Gensia, Inc, Vallejo, CA

CORPORATE MEMBERS....

ANESTHESIA EQUIPMENT SUPPLY, INC. Black Diamond, WA ARC MEDICAL, INC. Scottdale, GA CENTRAL GEORGIA ANESTHESIA SVC. Macon, GA DATEX MEDICAL Tewksbury, MA GENSIA, INC. Vallejo, CA **GRAPHIC CONTROLS** Denver, CO HAEMONETICS CORP. Braintree, MA

HUDSON, RCI Temecula, CA JOHNSON & JOHNSON MED, INC. Arlington, TX KING SYSTEMS CORP. Noblesville, IN MEDIREPS, INC. Glendale, AZ NORTH AMERICAN DRAGER Telford, PA

NOVACON CORP. St. Paul, MN **OHMEDA**

New York, NY

RED LION MEDICAL SAFETY, INC. Newark, DE

SHARN, INC. Tampa, FL

SIMS/LEVEL ONE, INC. Rockland, MA

SPECTRUM ANESTHESIA SERVICE Louisville, KY

STOUGES ANESTH. SPECIALTIES, INC. Middleburg, OH

SUMMIT MEDICAL EQUIPMENT Bend, OR

TRADEMARK MEDICAL Fenton, MO