July 1999

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

#### PRESIDENT'S MESSAGE ....

#### EDUCATION IN THE FOREFRONT by E. Chris Patterson, CerAT



Kaiser Foundation Hospital, Redwood City, CA

Dear Colleagues: Cordial Regards to each of you and thanks for the support of your Board of Directors and me. My priority

message relates to the ASATT's Tenth Annual Meeting and Seminar to be held October 8-10, 1999, in Dallas, TX, at the Radisson Hotel Central Dallas. Our seminar corresponds with the annual meeting of the American Society of Anesthesiologists. The Tenth Anniversary get-together will be a great meeting. I look forward to seeing you all there. This newsletter contains a registration form for the meeting so please don't forget or delay your actions-complete the form now, mail it, and register early. We need your attendance at this very special conference. A registration form can also be found on the ASATT website at: <http:// www.asatt.org>. Ann Martin, CerAT, ASATT Region 5 Director, and Ruth Ochoa, CerAT, ASATT Treasurer, our meeting coordinators, have scheduled an excellent program for us. They, along with other Board members working on associated projects, have put forth much effort. Hours of preparation have gone into this project to ensure that the meeting is not only highly educational but one with fun-filled social events.

AANA Reminder: All ASATT members and nonmembers are invited to register and attend the 66th Annual Meeting sponsored by the American Association of Nurse Anesthetists. The meeting will be held August 7-12 at the Hynes Convention Center/Sheraton Hotel in Boston, MA. For the latest information, visit the AANA's web site at <http://www.aana.com>, telephone (847)-692-7050, or Fax them at (847)-692-3224. Our Region 1 Director, Ms. Joyce Freeman, CerAT, is hosting a regional seminar for all Region 1 members (others are welcome) at the same meeting location. The AANA has provided a conference room and other resources at no cost to ASATT. Their generosity is appreciated by all and again demonstrates the strong support they have continually extended to our continued on page 16 ....

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#### ADVERTISING RATES:

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

#### Rates:

Half-Page:	\$250	per inse	ertion		
Horizontal: Vertical:	7 <sup>1</sup> /4" 3 <sup>1</sup> /2"	wide wide	x x	5" 10"	deep deep
Quarter-Page:	\$125 3 <sup>1</sup> / <sub>2</sub> "	per inse wide	ertion 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 min 3<sup>1</sup>/2" wide [Times-Roman type, 12-pt, typeset by editors.]

For further information, contact the ASATT Office.

#### 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

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

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All submissions pertinent to the objectives of the ASATT will be considered for publication. Preferred format: 3-1/2" diskette, (PC or Mac), or email text file. Photographs, preferably black-&-white are also welcome and can be returned.

#### Deadline for the next issue is August 15, 1999

Printed on recycled paper

#### ARKANSAS CHILDREN'S HOSPITAL

Irene Mosely, CerAT

Arkansas Children's Hospital is the only pediatric medical center in the state and is one of the 10 largest children's hospitals in the country. It has 248 patient beds. ACH expanded its NICU in 1997 to 53 beds. It is one of the most advanced facilities in the region. The NICU specializes in the management of very premature infants. Currently babies weighing less than 1,000 grams have an almost 70% survival rate. In the 1980's, these babies had a 31% chance of survival. Recently, Arkansas Children's Hospital also expanded its pediatric cardiac care center. The center includes its own OR, a 12-bed CVICU, and a space for the extracorporeal membrane oxygenation (ECMO) unit that includes three beds. Arkansas Children's Hospital provides heart, kidney, and bone marrow transplantation services.

The operative suite consists of eight OR's and two treatment rooms, with plans to expand to 12 OR's and four treatment rooms. On average, approximately 750 surgical procedures are performed each month. ACH is a teaching affiliate of the University of Arkansas for Medical Sciences. Approximately five to six anesthesia residents rotate through the facility each month. There are typically two pediatric anesthesia fellows each year. The Division of Pediatric Anesthesia consists of 12 staff anesthesiologists, one Pediatric psychologist, 3 CRNA's, 5 full-time technicians, and one zero-base technician. In addition to the OR suites, the anesthesia staff also sedates patients for procedures in the cardiac catheterization lab, CT, MRI, Ultrasound, and the GI endos-

copy lab. Additionally, some sedations are performed on the patient floors for procedures such as dressing changes or lumbar punctures. Because ACH's patients are mostly children, the need for anesthesia is greater than in many adult facilities. The anesthesia department also maintains the Pediatric Pain Management Program at ACH, and a very active research program.

The anesthesia technician at ACH is strongly encouraged to increase his or her knowledge of anesthesia and anesthesia equipment. Weekly inservices are provided to improve and refresh the technicians' knowledge base and skills so that they will be better able to contribute to the anesthesia team. The technicians are fortunate to have support from all the anesthesia staff in their quest to stay up-to-date with the latest in anesthesia equipment and procedures. All of the technicians are members of ASATT. Two out of five are certified, and all of the technicians are encouraged to take the necessary steps to become certified. The hospital has been represented at most annual meetings of ASATT. Increased education, awareness, and skills are the best ways to assist in providing safe anesthesia care.



# **Essentials of Anesthesia Equipment**

#### for anesthesia equipment support personnel and end users

The Datex-Ohmeda Education Department is a CEU member of the International Association for Continuing Education and Training.

Upon successful completion of the course, students will receive 2.0 continuing education credits.

#### **Course Objectives**

After attending the Essentials of Anesthesia Equipment class, the attendees should gain:

- A better understanding of theory, pneumatics, design, operation of anesthesia machines, ventilators, and associated monitors.
- Hands-on experience performing preoperative checkout procedures to FDA recommendations.
- Familiarity with and understanding of technical terms for anesthesia equipment, troubleshooting, and applications.
- Basic troubleshooting knowledge and skills through theory and hands-on experience.
- Knowledge of manufacturer recommendations for anesthesia equipment cleaning and sterilizing.

#### Benefits

- Small class size allows for individualized instruction.
- Increase your effectiveness as a communication link between the clinician and the service provider.
- A reduction in service calls to the maintenance provider saves the clinician time and the institution money.
- The attendee should gain a comprehensive understanding of the anesthesia delivery system through theory and hands-on experience.
- Increased equipment uptime.

#### **1999 Class Schedule**

April 13-15 - Washington, DC April 27-29 - Philadelphia, PA May 4-6 - New York, NY May 18-20 - Boston, MA June 8-10 - Pittsburgh, PA June 15-17 - Cleveland, OH June 22-24 - Detroit, MI June 29-July1 - Indianapolis, IN July 13-15 - St. Louis, MO July 20-22 - Kansas City, MO July 27-29 - Denver, CO August 3-5 - Salt Lake City, UT August 17-19 - Seattle, WA August 31-Sept. 2 - Reno, NV September 21-23 - San Francisco, CA October 5-7 - Los Angeles, CA October 12-14 - San Diego, CA October 19-21 - Las Vegas, NV November 2-4 - El Paso, TX November 9-11 - San Antonio, TX November 16-18 - Houston, TX November 30-Dec. 2 - Dallas, TX December 7-9 - Oklahoma City, OK December 21-23 - Minneapolis, MN January 10-12, 2000 - Madison, WI

If you have questions or need additional course information please call Tessa Gillham Datex-Ohmeda, Inc. Technical Education Department at 1-800-345-2700, extension 3453.

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Highlights of the 10th Anniversay Gala	
October 9, 1999 "A Dream Co	me True"
6:00-7:00 Reception (Cash Bar)	
6:30-7:00 Banquet Seating	
7:00-10:00 Agenda:	
Music	
Dinner Entertainment	
Exhibitor Recognition	
President's Awards	
Grand Finale	1 📅
10:00-12:00 Dancing	Formal or Semi-formal attire
Gala Reservation – Cost is \$25.0 PLEASE PRINT	00 per person
Registrant's Name	Title
Address City	StateZip Code
Number of Guest(s) I prefe	er your vegetarian dish: 🛛
Name of Guest(s)	
	IT Foxridge Drive, Suite 115 on, Kansas 66202-2333
All reservations and payments must be received by October 1,	1999 first come-first serve basis.
For additional information call: Ann Martin, Chairperson – 303-372-6351	D . 11
Jacqueline Polak, Vice Chairperson – 718-283-7188 Bob Reno, Program Committee – 214-820-4613	Program sponsored by Glaxo-Wellcome
Wilma Frisco, Gala Journal – 216-261-0649	Chiao- wellcome
4 Ruth Ochoa, Program Committee – 503-390-0736	

#### **OPEN FORUM**

By Dave Mastalski, CerAT ASATT Director, Region 7 Chief Anesthesia Technician, VAMC, 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:

Recently, the hospital safety manager inquired about our departmental policy on monitoring ambient anesthetic gas levels. Come to find out, we do not have a policy and have never done this. Can you provide information on this?

#### Miami, FL

First of all, your safety manager is correct; there should be an in-house policy and procedure for monitoring ambient anesthetic gas levels. At the very minimum, ambient levels of nitrous oxide need to be monitored and documented. Both JCAHO and the FDA require this. There are several companies that specialize in this type of testing, but they tend to be very expensive. This is an excellent opportunity for anesthesia technicians to expand their perceived roles and add value to their positions by providing this service "in-house." It also makes economical sense. We found at my facility, for example, the cost of a contractor to come in quarterly to provide this service would pay for the actual piece of monitoring equipment after one year.

If you are interested in more information regarding how to set up your own "in-house" ambient gas monitoring program, feel free to contact me.

#### Dear OPEN FORUM:

I recently attended an ASATT Regional meeting and was surprised to hear that many anesthesia technicians are performing laboratory testing. How is this possible? Don't you need to be a licensed medical technologist to perform this testing?

#### Woodland, CA

With the rapid changes in technology, especially during the last 10 years or so, there have also been changes in the regulations and policies on performing laboratory testing, which was traditionally performed by licensed medical technologists. Many medical centers with large volume operating rooms have moved to a "STAT Lab" model for obtaining almost instant results which allows anesthesiology practitioners to make often life saving decisions based on the results. New technology in instrumenta-

#### To all:

The anniversary journal committee is still seeking ads & patrons. Send ads & payments to ASATT by 8/15. tion now make it possible for ancillary testing sites and properly trained healthcare workers, such as CerAT's, to obtain rapid results for blood gases, electrolytes, hematocrits, blood glucose, co-oximetry, activated clotting times and other analyses.

Please be aware there are many regulations and policies governing ancillary testing sites and personnel. A recent ASATT member survey indicates that over 45% of the respondents perform some laboratory testing as part of their daily practice as an anesthesia technician. Many hospitals are realizing the benefits, both to patient care and cost efficiency, in having CerAT's properly trained and authorized to perform this testing.

For more information on ancillary testing, you might try the College of American Pathologists (CAP) website : http:// wwww.cap.org or feel free to contact me.

ASATT SENSOR OPEN FORUM Attn: Dave Mastalski, CerAT 5800 Foxbridge Drive—Suite 115 Mission, KS 66202-2333

Email: nmastalski@aol.com

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

# **ASATT Region 1 Meeting**

#### Boston, MA

Sheraton Hotel, Downtown

#### August 7, 1999

held in conjunction with

# **AANA Annual Meeting**

**Hynes Convention Center** 

**Downtown Boston**, MA

August 7-11, 1999

For AANA meeting info: call 847-692-7050 x 3720 or email <meeting@AANA.com>

For ASATT Meeting info: call Joyce Freeman, CerAT, at (315) 464-2825[W]

# ASATT's 10<sup>th</sup> Anniversary Educational Conference October 7-10, 1999 - Radisson Hotel Central - Dallas, Texas

Wednesday -	October 6, 1999
2:00 - 6:00 p.m.	Board of Directors' Meeting

#### Thursday - October 7, 1999

8:00 - 12:00 Noon	Board of Directors' Meeting
2:00 - 7:00 p.m.	Exhibitors Setup
2:00 - 3:00 p.m.	Event Rehearsal (Current Board)
3:00 p.m.	State Representative's Meeting
5:00 - 7:00 p.m.	Early Registration

#### Friday - October 8, 1999

6:00 - 7:00 a.m.	Exhibitors Setup
7:00 a.m.	Registration & Continental Breakfast
8:00 a.m.	<b>Opening Ceremonies &amp; Welcome</b>
	Presentation of Colors by the
	468 Corp. Support Battalion
	Welcome by ASATT President
	Chris Patterson, Cer.A.T.
8:30 a.m.	Infection Control
	Christine Columbus, MD
9:30 a.m.	Break
	View Exhibits
10:00 a.m.	Fluid Balance & IV Complications
(Adult vs. Child)	
	Donald Prough, MD
11:00 a.m.	EKG Interpretation
	TBA
12:00 Noon	Luncheon
	TBA
	Sponsored by Abbott
1:00 p.m.	View Exhibits
1:30 p.m.	ACLS
	Neil Fleming, MD, Ph.D.
2:30 p.m.	Transplant Surgery
	Michael Ramsey, MD
3:30 p.m.	Break
	View Exhibits
4:00 p.m.	<b>Temperature Monitoring</b>
	Beth Godfrey, CRNA
5:00 p.m.	Adjourn for the Day
7:00 – 10:00 p.m.	Sdd's N <sup>p</sup> ansty

#### Saturday - October 9, 1999

7:00 a.m.	Registration & Continental Breakfast
8:00 a.m.	Breakout Sessions
9:00 a.m.	Break
	View Exhibits
9:30 a.m.	Breakout Sessions
10:30 a.m.	Breakout Sessions
11:30 a.m.	Luncheon
	TBA
	Sponsored by Level One

12:30 p.m.	View Exhibits	
1:00 p.m.	Breakout Sessions	
2:00 p.m.	Break	
	View Exhibits	
2:30 p.m.	Adjourn & ASATT Exhibits Close	

#### **Breakout Sessions**

- A: Autotransfusion
- B: Advanced Airway Management
- C: Transesophageal Echocardiogram & Noninvasive Continuous Esophageal Doppler Monitor
- D: Monitoring Physiological & Gas Monitoring

Attendees will be divided into 4 groups and rotate through all 4 different Breakout Sessions. Breakout assignments will be given at time of registratuion.

#### 10<sup>th</sup> Anniversary Gala Saturday Evening

6:00 - 7:00 p.m.	Reception (No Host Bar)
6:30 - 7:00 p.m.	Banquet Seating
7:00 - 10:00 p.m.	Dinner & Gala
10:00 - 12:00 p.m.	Dancing

"A Dream Come True." This gala event promises to be "one to be remembered." The 10th Anniversary Committee has planned a colorful festive evening that will include: historical presentations, laser show, honors, awards, dining, dancing, entertainment and a dynamic ToastMaster.

#### Sunday - October 10, 1999

7:00 a.m.	Continental Breakfast
8:00 a.m.	Fire in the OR
	Clayton Petty, MD
9:00 a.m.	ASATT Business Meeting
	Chris Patterson, Cer.A.T President
10:30 a.m.	Break
10:45 a.m.	Meeting with Regional Directors
11:15 a.m.	Motivational Talk
	Speaker: Clayton Petty, MD
12:15 p.m.	Adjourn until October 13, 2000 at the
	Cathedral Hill Hotel in San Francisco
12:00 Noon	ASA Exhibit Hall Opens
	Bus will be provided by ASA from ASATT
	Hotel to their Exhibit Hall
2:00 - 6:00 p.m.	Board of Directors' Meeting

#### Monday - October 11, 1999

8:00 - 12:00 Noon Board of Directors' Meeting

# ASATT'S 10<sup>th</sup> Anniversary Educational Conference & Annual Business Meeting

# October 7-10, 1999 Radisson Hotel Central - Dallas, Texas

# **Air Transportation**

Dallas / Fort Worth International Airport is serviced by the following major airlines: American, American Eagle, Canadian, Continental, Delta, Midwest Express, Northwest, TWA, United, USAir and Vanguard Airlines. Shuttle service is available from this terminal.

Dallas Love Field Airport is serviced by the following major airlines: American, Continental and Southwest Airlines. Free shuttle to Hotel from Love Field.

# **Hotel Accommodations**

The official meeting hotel is the Radisson Hotel Central at 6060 North Central Expressway. It is a full service hotel, conveniently located four miles from downtown, just off the DART Rail line and within minutes of Greenville Avenue restaurants and nightlife.

Featuring a beautiful atrum surrounded by 288 guest rooms, indoor/outdoor pool, full restaurant, lounge, Jacuzzi and sauna.

#### Radisson Hotel Central Reservations

You can reach the hotel at 214 / 750-6060 The Conference rate is: \$104 single and \$114 double. When calling tell them your registering for the ASATT Meeting to receive these rates. Cut off for these rates is September 14, 1999, so act early to be part of the group.

#### ARTERIAL BLOOD GASES

by Gail Walker, CerAT, Anesthesia Technician Team Leader University of North Carolina, Chapel Hill (reprinted from The ASATT Sensor, Vol 7, No 1)

(Editor's note: Explanations of abbreviations used in this article can be found in the Sample Blood Gas Report on page 7. Please remember that protocols vary among institutions and specific instruments.) The definition of a "blood gas" is any element or compound that is a gas under normal circumstances and which is, to some extent, dissolved in the blood. Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), helium (He), krypton (Kr), nitrogen (N<sub>2</sub>), and oxygen (O<sub>2</sub>) all fall under this definition. Krypton, helium, and nitrogen are essentially inert gases and because they do not cause clinical problems, they are not included as part of an arterial blood gas (ABG). Nitrogen can cause the "bends" and other difficulties associated with underwater diving, but this is a specialized area of medicine.

Glucose, hemoglobin, and bicarbonate are not gases, but are typically included on all ABG's. For example, glucose is in a solid crystalline state when at room temperature, yet it quickly dissolves in blood. Hemoglobin is the molecular carrier of oxygen within the red blood cell. Bicarbonate is the anion of carbonic acid. Base excess is a calculation that reflects how much acid or base is needed to normalize the total buffer base in the blood. Carbon monoxide is a gas and is measured in its combined form with hemoglobin as a percent carboxy-hemoglobin (%COHb). Some blood gas labwork also includes measurement of electrolytes present in the blood including Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, and Cl<sup>-</sup>. In short, not all gases are measured, and some are not gases at all.

Arterial blood gases are run through one of two types of machines. The first type, a blood gas machine, will measure pH,  $pCO_2$ , and  $pO_2$ , and will allow for the calculation of base excess and bicarbonate. The second machine, a co-oximeter, measures SaO<sub>2</sub>, %COHb, %Methemoglobin, and hemoglobin content. CaO<sub>2</sub> can be calculated from this information.

Several factors must be taken into consideration when interpreting even normal values. Is the patient breathing room air, or is supplemental oxygen being administered? What were their previous ABG's, chest X-rays, or pulmonary function tests? What are the patient's vital signs, mental status, and state of tissue perfusion? Also, while most blood gases are arterial, some are mixed venous such as those drawn from a PA catheter. The reason for an ABG is to find out a patient's  $pO_2$ ,  $pCO_2$ , and pH. In conjunction with other lab and clinical information, we can assess three physiologic processes: alveolar ventilation, oxygenation, and acid-base balance.

There are four basic equations used for interpreting ABG's. These equations are not so important for the numbers they produce, but for their qualitative relationship.

Equation	Physiological Process Assessed			
pCO <sub>2</sub>	Alveolar Ventilation			
Alveolar Gas Equation	Oxygenation			
Oxygen Content Equation	n Oxygenation			
Henderson-Hasselbalch E	Equation Acid-Base Balance			

Simply put, the  $pCO_2$  equation deals with a patient's respiration rate and breathing effort. The alveolar gas equation assesses if the lungs are properly transferring oxygen into the blood. The oxygen content equation is exactly what it sounds like, the oxygen content of the blood, whether it is arterial or venous blood. The Henderson-Hasselbalch equation relates pH to components of the bicarbonate buffer system.

While it is important for anesthesia technicians to have a basic understanding of arterial blood gases, it is just as important for us to have the knowledge of how to correctly handle these samples. We are often the ones drawing them and in some hospitals, actually run them in a blood gas machine that is set up in the OR.

Below is a list of common problems associated with arterial blood gases.

- Not an arterial sample: If blood pulsates into the syringe and the plunger rises by itself, the sample is most likely arterial. Peripheral vein pressure is almost always less than 40mmHg and often less than 30mmHg.
- Patient not in a "steady state": This can occur if a patient was recently connected to a ventilator or changed to a different FIO<sub>2</sub>. (A patient with healthy lungs will only take about three minutes while a patient with COPD can take up to thirty minutes to reach "steady state.")

#### SCIENCE AND TECHNOLOGY... (continued)

- Sample syringe contains too much heparin: This problem seems to occur most often when a gas is drawn through an indwelling arterial line. Because these lines are routinely flushed with heparinized saline, the first few cc's of blood should be discarded.
- Sample contains an air bubble: Air in the syringe can cause miscalculations of pO<sub>2</sub>, pCO<sub>2</sub>, and pH.
- Sample not placed in ice: Metabolizing blood cells alter blood gas values much more slowly when iced

than at room temperature.  $pO_2$  is the value most likely affected.

- Patient Temperature: Blood gases are always analyzed at normal body temperature (37°C). If a patient is febrile, the pO<sub>2</sub> and pCO<sub>2</sub> will be lower than the patient's. If the patient is hypothermic, the pO<sub>2</sub> and pCO<sub>2</sub> will read higher than it actually is.
- Verbal lab reports: Don't rely on your memory! Write it down!

Patient ID 12345		La	st Name	First Name John	Sex Male	Age 50
12040		DU		John	Ividie	50
Date		Tir	me	Date Drawn	Time Drawn	
01/01/97		00		12/21/96	2359	
		1.1				
Source		Ty	pe	Temp		
Arterial			bod	37.0°C		
					A. 17	
Sample Sit	te		02	Allens Test	Adjunct	
Line		.40	J	NA	Vent	
Blood Gas 3	7 090					
Parameter	Value	Units	Reference Range	Explanation		
pH	7.319		7.350 - 7.450	Measurement of acid	ity or alkalinity	
pCO,	47.9	mmHg	35.0 - 45.0	Partial pressure of ca		
$pO_2^2$	140.8	mmHg	75.0 - 100.0	Partial pressure (tens		
HCO <sub>3</sub> -act	24.1	mmol/L		Actual bicarbonate	, , , , , , , , , , , , , , , , , , , ,	
BEvt	-2.4	mmol/L			base needed to bring 1L of b	lood to normal pH
					•	
tCO <sub>2</sub>	25.5	mmol/L		Total carbon dioxide		
				Total carbon dioxide		
Oxygenation	n Parame	eters	Reference Bange	•,		
Oxygenation Parameter	n Parame Value	eters Units	Reference Range	Explanation		
Oxygenation Parameter tHb	n Parame Value 15.0	eters Units g/dL	Reference Range 12.0 - 18.0	Explanation Total hemoglobin	turation or total oxvgen conter	nt (SaO²)
Oxygenation Parameter tHb O <sub>2</sub> SAT(est)	n Parame Value 15.0 98.6	eters Units g/dL %	12.0 - 18.0	<b>Explanation</b> Total hemoglobin Estimated oxygen sa	turation or total oxygen conter ren-bound hemoglobin)	nt (SaO²)
Oxygenation Parameter tHb O <sub>2</sub> SAT(est) O <sub>2</sub> Hb	n Parame Value 15.0 98.6 95.1	eters Units g/dL % %	12.0 - 18.0 94.0 - 97.0	<b>Explanation</b> Total hemoglobin Estimated oxygen sa Oxyhemoglobin (oxyg	en-bound hemoglobin)	
Oxygenation Parameter tHb O <sub>2</sub> SAT(est) O <sub>2</sub> Hb COHb	<b>Parame</b> Value 15.0 98.6 95.1 NA	eters Units g/dL % % %	12.0 - 18.0	Explanation Total hemoglobin Estimated oxygen sa Oxyhemoglobin (oxyg Carboxyhemoglobin (unbi	jen-bound hemoglobin) carbon monoxide-bound hem ndable hemoglobin)	oglobin)
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# A Handbook for the Anesthesia Technologist Student

# authors:

# Sandra Sell, CRNA, MSN

Patricia Carlson, Cer.AT

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#### **CONTINUING EDUCATION....**

To test your knowledge on the Science and Technology Article printed on pages 8-9, complete the following multiple choice question and answer series. Choose the best answer for each question. Correct answers will be printed in the next Sensor. To obtain Continuing Education/Contact Hours, follow the instructions outlined below.

- 1. Which equation relates pH to components of the bicarbonate buffer system?
  - A. alveolar gas equation
  - B. oxygen content equation
  - C. Henderson-Hasselbalch Equation
  - D. Neils Bohr's Equation
- All of the following are gases which may be measured in an arterial blood gas, EXCEPT
  - A. CO<sub>2</sub>
  - B. HCO,
  - C. CO
  - D. 02

- 3. Which of the following is LEAST likely to affect pO, readings?
  - A. patient just ate a full meal
  - B. patient has a nasal cannula
  - C. patient has a fever
  - D. blood sample stored at room temperature
- 4. Blood drawn from the PA catheter should be interpreted as
  - A. greater than 95% oxygen saturated
  - B. mixed venous
  - C. arterial
  - D. both A & C
- 5. Which of the following is NOT an electrolyte?
  - A. calcium
  - B. potassium
  - C. sodium
  - D. glucose

3< (Clip here and return bottom section to ASATT along with \$5) S

#### To apply for Continuing Education/Contact Hours,

- 1. completely fill out the information on the left
- 2. fill in the appropriate circles on the right corresponding to the correct answers to the questions above

\*\*\*\*\*\*

3. send \$5 check or money order payable to ASATT and this completed form to: ASATT

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Name			А	в	С	D
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City		2	0	0	0	0
State	Zip	3	0	0	0	0
Phone						
Signature		4	0	0	0	0
Date		5	0	0	0	0
						11

#### **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 August 15, 1999 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:

Region 1 is hosting a history-making ASATT Meeting in Boston that is concurrent with the AANA. The one-day ASATT Meeting is at the Sheraton Hotel Downtown–Boston, August 7.

The AANA Annual Meeting takes place at the Hynes Convention Center, Downtown Boston, August 7-11. Call 847-692-7050 x 3720 or email <meeting@AANA.com> for further details and registration.

For further information: Joyce Freeman at (315) 464-2825[W].

#### **New Jersey**

Anyone interest in forming a state society? Contact: Alberto Abraham at 609-581-7432[H] or 609-497-4000 x 6256[W].

#### New York

For information on future events: Angel Martinez at (973) 365-5129 or (973) 365-6022.

#### ASATT Region 2:

See article in next Sensor on the June Meeting. For further information: Vicki Carse at (412) 232-5807

#### Ohio

The Anesthesia Dept. of the University Hospitals of Cleveland will host the Saturday, August 28th noon meeting of the OSATT. Educational topic is "BIS Monitoring System" by Carol Rypinski, RN. For information on future events: Charlene Smith (303) 296-7697, or Wilma F. Frisco at 216-261-0649.

#### Pennsylvania

For information on future events: Vicki Carse at (412) 232-5807.

#### Virginia

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

#### ASATT Region 3:

See article on page 14. For information on future events: Sharon Baskette at (615) 322-4000[W] or (615) 646-1599[H].

#### Florida

For information on future events: Ed Vasquez: 407-897-1529[W] 407-275-2630[H]



#### **REGIONAL ACTIVITIES....**

#### North Carolina

For information on future events: Pat Sturdivant or Lucille Ward at (919) 966-5136.

#### Tennessee

For information on future events: Joe Brock at 615-833-1453[H] or 615-936-2800[W] or joe.brock@mcmail.vanderbilt.edu[E]

#### ASATT Region 4:

See Article on page 14. For further information: Sheila White at 319-356-1616[W],319-466-0907[H], or pelah40@aol.com[E].

#### Illinois

For information about future events: Kevin J. Mines at (312) 226-9936 or (312) 942-5000 x 50412.

#### Iowa

For information on future events: Sheila White at 319-356-1616[W],319-466-0907[H].

#### ASATT Region 5:

See article on page 15. For information on future events: Ann Martin at (303) 372-6300 [W] or (303) 987-3907 [H].

#### Arkansas

For information contact: Bill Peery at Bpeery8254@aol.com[E] or 501-320-1330 Irene Mosely at 501-320-1330.

#### Colorado

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

#### Mississippi

For information on future events: Luellen Carter Jr. at (601)-378-2301[H] or (601)-334-2090[W].

#### Texas

See articles on page 14.

Texas is excited to host to the 10th Annual ASATT Meeting in Dallas in October! In lieu of a separate fall meeting for TSAT, plans are being finalized to hold a small business meeting during the weekend of the ASATT meeting. All TSAT members are encouraged to make plans now to be in Dallas, October 8-10.

For regional meetings–D/FW: David Smith at 817-788-2410. Houston: August 7: Cell Saving, CV Anesthesia, Business Meeting: Gerardo Trejo( see below). Austin: Dianne Holley at 512-451-7457. San Antonio: Raul Sanchez at 210-675-1564. For further information: Gerardo Trejo at (713) 793-2898.

#### ASATT Region 6:

See article on page 15. For information: Dean Rux at (480) 821-3279[W] or (480) 497-9709 [H].

#### Arizona

For information on future meetings: Dean Rux at (480) 821-3279[W] or (480) 497-9709 [H].

#### California

For information on future meetings: Grainne Senier at (408) 735-1346.

#### ASATT Region 7:

See article on page 15. Special Region 7 Meeting & Seminar on Sunday, August 1, at the Ala Moana Hotel in Honolulu, HI. We have assembled an outstanding program and up to 6.0 CE/CH will be available. For further information: Dave Mastalski at (503) 642-1537, or nmastalski@aol.com[E]

#### Hawaii

See Region 7. For information on future events: Delbert Macanas (808) 547-9872

#### Oregon

The OAATT presented a well-attended meeting and seminar on June 26 at Providence St. Vincent Medical Center in Portland. For information on future events: Richard White at (360)887-4988 Email:rwhitea@pacifier.com

#### Washington

The NSAT presented a well-attended meeting and seminar on May 22 at Stevens Memorial Hospital. For information about future events: Ann Marie Cates (425) 640-4157[W]



PENNSYLVANIA SOCIETY OF ANESTHESIA TECHNOLOGISTS AND TECHNICIANS The Mercy Hospital of Pittsburgh 1400 Locust Street Pittsburgh, PA 15219 (412) 232-5807

Participation is a very important factor in making your Society a valuable force for the Anesthesia Technician.

Contact your representative and join today. We need you!

#### **REGION 4 MEETS IN MADISON**

#### by Sheila White, CerAT Director, Region 4; President, ISATT

Saturday, May 22, 1999 was the date for an excellent ASATT Region 4 meeting held at the Crowne Plaza Hotel in Madison, WI. The response was fantastic with 28 techs travelling from many of the states within the Region 4 area. The techs enjoyed the 6 different topics covering subjects like breathing circuits, TEE, EKG, and more—delivered by 6 very interesting and experienced speakers in their field.

Special thanks also to the vendors who offered financial support for this meeting: Jan Hedrick with Richard's Medical Equipment Inc.; Karen Campbell, Datex-Ohmeda; Dennis Irlbeck and John Mede, King Systems; Richard Harbaugh with Medwave, Inc.; and Steve Lavold with Baxter Anesthesia.

Those able to make it were given a tour of the Datex-Ohmeda production line on Friday afternoon, May 21. It was very interesting to see how our Excel and other anesthesia machines are assembled piece by piece while being checked, double-checked, and even triple-checked for accuracy and integrity. It really opened our eyes as to why the ETA is several weeks once the order is placed. If any of you have the opportunity to visit any of our vendors' plants, I would highly recommend it.

Thanks again to all the techs that took the time from your busy lives to spend the day with all of us in Madison. It was great having the opportunity to meet all of you and finally put faces to the names. I hope to see many, if not all, of you in Dallas, TX this October. If not in Texas, then perhaps next spring/summer for our next Region 4 Educational Seminar.

Thanks again to everyone.

#### **EXPERIENCE IN ATLANTA**

by Gail Walker, CerAT Vice President/President-Elect

Thirty-five anesthesia technicians gathered at Emory University Conference Center on March 20 and 21 for a unique experience in obtaining 10 CE/CH.

Sharon Baskette, ASATT Region 3 Director and Program Coordinator, and Dr. William Paulsen, Course Director, presented a lecture and hands-on workshop to help prepare technicians for the certification exam in May of 1999. Certified Anesthesia Technicians attended to secure credits for future recertification.

The program was opened by Sharon Baskette. Dr. William King, ASA Liaison, and Chris Patterson, ASATT President also welcomed the technicians.

The attendees and vendor representatives alike commented favorably on the entire event. Dr. Paulsen is an experienced educator of anesthesia technicians. He is also a member of the Technician Test Writing Committee

#### SPRING MEETING IN TEXAS

by Dianne Holley Mountain, CerAT Editor, The ASATT Sensor; TSAT Treasurer

A gorgeously green Spring day greeted 35 anesthesia techs who gathered in Austin, Texas for the TSAT Spring Meeting '99. Seton Medical Center hosted the March 13th Seminar which drew techs from hundreds of miles away. William H. King, MD, University of Texas Medical Branch, ASA/ASATT Liaison, honored us with his presence and addressed the group during a lunchtime open forum. A distinguished faculty enlightened the group with six full hours of educational revelations.

Gerardo Trejo, CerAT, TSAT President, opened the meeting by welcoming TSAT members and thanking the faculty. Topics/ speakers included Intra-aortic Balloon Pumps by Haven Young, LP, CCP, RN, Regional Director, Capital Area Perfusionists; Airway Anatomy and Physiology by Harold Read, CST, BS, Instructor, Austin Community College; L.M.A.'s and Difficult Intubations by Linda Rather, Senior Medical Representative, LMA North America; Anesthesia Considerations in Cardio-Vascular Surgery by Tom Vanover, BSN, RN, Staff Nurse, Seton Medical Center; TB Precautions in the OR by Cathy Gross, MD, Anesthesiologist, Capitol Anesthesiology Association, TSA/ TSAT Liaison; and The FDA's Anesthesia Apparatus Checkout by Eric Gonzales, CRNA, Nurse Anesthetist, Capitol Anesthesiology Association.

Many thanks go to the speakers for donating their time and expertise. Also, much appreciation goes to Seton Medical Center for hosting the meeting and the breaks; and Howard Laster of King Systems for cosponsoring (with TSAT) our Lasagna Luncheon. Finally, much gratitude goes to the anesthesia techs of Seton Medical Center and Capitol Anesthesiology Association who assisted with the coordination and execution of this superbly successful seminar.

#### SAN ANTONIO MEETING

#### by Raul Sanchez, SASAT President Wilford Hall Medical Center, Lackland AFB

The San Antonio Society of Anesthesia Technology presented its 2nd Annual Continuing Education Seminar on Saturday, March 27 at the Learning Center, 2nd floor, Wilford Hall Medical Center in San Antonio, Texas. Our Society had the highest honor and privilege to have as keynote speaker, Ms. Chris Patterson, 1999 National President of ASATT. Ms. Patterson's presentation was very educational and informative, which included the main theme of her administration. Ms. Patterson focused on the trademarks and impact her administration will instill in the "Getting Back to the Basics" principles of our National Society, which are membership, education, and economics. Ms. Patterson finalized her outstanding presentation with sharing our National Society's Mission, Vision, and Value Assessment.

#### LETTER TO REGION 5 TECHS

Ann Martin, CerAT Region 5 Director

On behalf of Region 5, I would like to welcome Texas to our Region. I am looking forward to meeting and getting to know as many of you as possible.

As Director, I encourage everyone involved in the field of anesthesia to join the local and national chapters. Together we can promote our cause, and ensure the continuity of our profession.

I also invite every member to participate in the 10th Anniversary Educational Seminar in Dallas, Texas, October 8-10, 1999. Participation is what makes education beneficial, socially enjoyable, and the key to reaping the rewards.

Please email me with any comments or suggestions to be presented to the Board in October. ASATT is an open Society and we welcome your input.

See you in Texas!

#### **REGION 7 TECHS ARE THE BEST!**

#### By Dave Mastalski, CerAT Director, Region 7

On one of the most beautiful Spring days in the Pacific Northwest this year, over 40 dedicated anesthesia technicians were gathered at the Radisson Hotel in Seattle, listening to outstanding speakers lecturing on excellent topics for the 7th Annual Region 7 Meeting and Seminar. Many thanks to all who attended, and welcome to the 10 new ASATT members who joined us at the meeting. All in attendance passed the post test and qualified for 6.0 CE/ contact hours from ASATT.

There were many door prizes handed-out through the day with the Grand Prize, a \$100 American Express Gift Check, donated by Kathy Teikotter of B. Braun/McGaw, going to Monica Knutson, CerAT.

Thanks to Nora Tiffany, CerAT, Program Co-coordinator, and our wonderful faculty: Sammye Harris, ST, CCA, Duane Mariotti, BSEE, Dennis McMahon, CBET, and Sam Shook. Additionally, I would also like to thank our vendor/ sponsors who made the program possible: Abbott Laboratories; AES, Inc;

#### **MAY DAY! GET THE BASICS**

by Dean Rux, CerAT Director, Region 6

Dedication for education was shown this day by technicians from far parts of CA, NM and AZ. Included with the 6 CE/ CH's was the opportunity for techs to socialize, discuss concerns, and gather information on new medical devices, equipment, and monitors during the exhibit viewing. The lectures focused on success in assisting the anesthesia provider with recognition of proper oxygen sensing, NPO status and the need for cricoid, information for employee safety with the nuclear patient, evaluating normal verses abnormal EKG, and the ability to troubleshoot a situation. Insight was given with arterial



Dean Rux, CerAT, Director, Region 6, at the podium

insertions—from setup to complications and the means to identify a situation for successful troubleshooting. Protection of the patient is important, but the safety of the employee is also, as was viewed during the lecture on hepatitis. We don't see it often, but what to do in an OR fire was the focal point for anesthesia tech awareness.

Chris Patterson, CerAT, ASATT President, assisted Dean Rux in conducting an open forum. Topics covered: the need to notify a Director or ASATT when a member has not received newsletters, updated his address, or received proper information. Chris explained the new membership dues protocol and the certification/ recertification process. Emphasis was on the need for membership involvement for ASATT to continue to be successful.

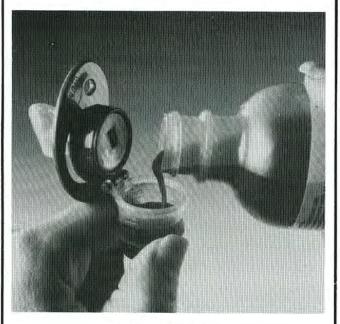
Thank you for the support given by Chandler Regional Hospital and sponsors of the program: Maxtec (formerly Ceramatec), SpaceLabs, Hudson-RCI, Medireps, Mallinckrodt and Roche. There was excellent support from many other vendors who presented their products in the Anesthesia market.

Aspect Medical; B. Braun/ McGaw; COBE Cardiovascular; CoMedical; Datex-Ohmeda; Kendall; King Systems, Medtronic, Medwave, Inc; Olympic Medical; Radiometer America; Ms. Sherri Reed, RN, Zeneca Pharmaceuticals.

I would like to invite all to a special Region 7 Meeting and Seminar on Sunday, August 1, 1999 at the Ala Moana Hotel in Honolulu, Hawaii. We have assembled an outstanding program and up to 6.0 CE/ contact hours will be available.

Additionally, please mark your calendars for Saturday, September 25th, and watch your mail for a very special event: ASATT Region 7 and the University of Washington are presenting a full-day hands-on seminar featuring the U of W Anesthesia Patient Simulator. This is a unique opportunity for anesthesia technicians to directly interact with a patient in simulated circumstances. Also there will be 5 other hands-on workshops offered throughout the day including difficult airway, starting IV's, fiberoptic intubation, frontline troubleshooting, and trauma anesthesia. ASATT CE/ contact hours will be available.

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#### PRESIDENT'S MESSAGE.... (cont. from pg 1)

Society since its origination. Details of Joyce's Region 1 meeting with the AANA are listed in this newsletter.

ASATT Bylaws: At our Board of Directors' meeting in Orlando, FL, last October, I appointed a special Bylaws Task Force. It was approved by the Board and the committee was charged with the responsibility of analyzing our current Bylaws and looking for any needed improvements. During our annual business meeting this year in Dallas, Sunday, October 10, this topic will be high on the agenda. Our Bylaws Task Force members Dennis McMahon, CBET, ASATT Past President; William H. King, MD, ASA/ASATT Liaison; and Frank Bistrom, CAE, ASATT Executive Director, have spent hours of work conducting a comprehensive review of our Bylaws. Recently, I was given a preliminary progress report from them. Their work is impressive. I consider it highly professional, insightful, and of real value to our Society. Please make sure you attend the business meeting. Bylaws are the cornerstone and "bible" of our Society and I am confident that you will be pleased with the results of their work.

**Certification:** On May 15th, we had 335 anesthesia technicians sit the ASATT Anesthesia Technician Certification Examination administered by Applied Measurement Professional, Inc., Lenexa, Kansas. The overall response from those who sat the test was very good. Surveys will be sent in the near future to all, asking for their opinions on various elements of the testing and test site. We are constantly seeking to improve the administration of the test and its content.

Education: Since the first of the year, it has been my great pleasure to travel and attend several important ASATT educational meetings and seminars. Also, I was able to take a short sidetrack from my vacation overseas and represent ASATT at The 54th Annual Conference of The Association of Operating Department Assistants (AODP) held in Eastbourne, England, May 4-7, 1999. A news article about this seminar will appear later in the October issue of our newsletter. I acknowledge Mr. Bill Kilvington, FIOT, AODP Chairman, and thank him for the warm welcome and friendly hospitality.

Your regional directors have been hard at work. Educational meetings and seminars were conducted at the following locations:

Region 1, April 24-25, Syracuse, NY, hosted by Joyce Freeman, CerAT

Region 2, June 5-6, Pittsburgh, PA, hosted by Vicki Carse, CerAT

Region 3, March 20-21, Atlanta, GA, hosted by Sharon Baskette, CerAT

Region 4, May 22, Madison, WI, hosted by Sheila White, CerAT

Region 5, February 27-March 1, Vail, CO, hosted by Ann Martin, CerAT

Region 6, April 1, Chandler, AZ, hosted by Dean Rux, CerAT

Region 7, April 24, Seattle, WA, hosted by Dave Mastalski, CerAT, and I might add, he is making arrangements to possibly plan a 2nd and even a 3rd meeting this year.

My personal thanks to the many members who attended these meetings and supported our educational goals. It was rewarding for me to meet with our many colleagues and friends at

#### PRESIDENT'S MESSAGE.... (continued)

Syracuse, Pittsburgh, Atlanta, and Chandler. We have had a sizable number of physicians, nurse anesthetists and educators participating in these meetings; a true showing on their part of support for your Society and a willingness to help us all improve our knowledge and expertise. Every time I attend a seminar at a different location, a separate and unique area of learning in anesthesia technological support opens up for me. I enjoy the learning experience and know you share my feelings. The professionals with whom we are associated are devoted to education. We thank them for their sacrifices in time by volunteering to impart their knowledge to us.

Our associates in state societies held educational seminars in Little Rock, Arkansas; in Texas, the TSAT met in Austin, with regional chapter meetings in Dallas/Fort Worth, in Houston, and in San Antonio; the OAATT met in Portland, Oregon; in Pennsylvania, PSATT met at Pittsburgh; and Ohio State Society members also met. Good luck to technicians in South Carolina—I recently learned that they are in process of establishing a state society. We applaud your endeavors and support you and know it will be a success story.

**New Appointment:** Ms. Lisa Fornicoia, MT (ASCP), CerAT, has been appointed as Chair of The ASATT Certification/Recertification Committee. Lisa has been a friend and supporter of ASATT for years and is well known in the medical community. To state only a few of her accomplishments: she has written ar-

ticles in journals, lectured, conducted educational seminars, and served on the ASATT Anesthesia Technician Examination Committee. When I read her resume and saw the list of her achievements in the field of education alone, I was very impressed. She as Chair of this important committee brings an independent outlook along with extensive knowledge and experience to meet the challenges awaiting her and the committee in the future. ASATT's certification and recertification process is relatively new (a few years old) and will continually need refinement and improvements in the future as technology advances; certification is an ever-changing process linked to education.

Nominations/Elections: Nomination requests were recently mailed to you concerning elections for the ASATT offices of Vice President/President-Elect and ASATT Regional Directorships for regions 1, 3, 5, and 7. We are pleased over the number of nomination responses and hope that you all took advantage of your democratic right to vote. The results of the elections will be published in the October newsletter.

**Once Again:** I know I am guilty of repetitious language but I will say it again: Please Register Now and Join Us in Dallas. Don't miss this event, it's a good one.

On behalf of the ASATT Board of Directors, we thank you for supporting us. We need your participation. You have opportunities available and a right to help determine ASATT's future course. Take an interest and step forward.

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

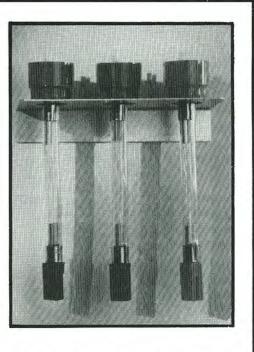
#### Vapofil solves the air-lock problem.

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.

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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!

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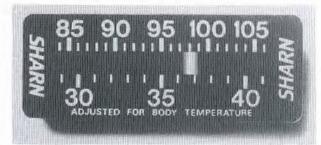




For further information, call Sharn, Inc. at 1-800-325-3671

4801 George Rd., Tampa, FL 33634

# Crystaline™ Goes Where Your Patient Goes



<u>Consistent Monitoring</u>. Crystaline Temperature Trend Indicators easily migrate with your patient throughout surgery and recovery, there are no interruptions in monitoring. You can be sure that comparative readings reflect changes in the patient, not in the monitor.

<u>Precise Readings</u>. Crystaline uses an advanced form of liquid crystal technology which displays temperature with a concise gold line on a continuous scale. Readings require no color interpretation.

<u>Cost Savings.</u> Crystaline can be used in place of more expensive devices in most cases, resulting in a savings of \$1-\$3 per surgical patient. Non- Invasive Crystaline has the documented reliability of electroinc probes without the cost.

As standardization occurs, Crystaline is the ideal choice to replace many of the temperature devices typically stocked in anesthesia.

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#### PEOPLE ....

## WHO'S WHO IN REGION 2

contributed by Vicki Carse, CerAT Director, Region 2, President, PSATT

Name: Connie Elizabeth Williams

Current Position: Anesthesia Technician at Bon Secours Hospital in Baltimore, Maryland

Number of Years in Anesthesia Field: 9

What Secret Vice can you confess about? After a long day, I like to sit back with a glass of white wine and a good JAZZ CD playing in the background.

If a magic genie could grant you one wish, what would it be? To take my mother out of the nursing home and take care of her myself. What is your favorite food? Steamed Mussels, and Linguini and Clam Sauce.

People would be very surprised to know that I: have a business. You have just won your dream vacation! Where would you go? Alaska in August.

What has been your proudest accomplishment so far in your life? Allnet Services, Inc-my business which is an internet company. Feel free to check us out at www.allnetservices.net.

It is your day off; what do you enjoy doing with your free time? Visiting my mother and playing cards or dining out and a good jazz show.

What is your favorite type of music? Can't you guess? JAZZ! What is your favorite movie? I have 2.... Cabin in the Sky and Penny Pitching Blues

What would you like to get around to doing one of these days? Traveling

#### EMPLOYMENT OPPORTUNITIES....

ANESTHESIA TECHNOLOGIST/TECHNI-CIAN: Fax Resume to: C.W. Healthcare Inc. 510-636-9030. Call Russ/Tess +AEA- 1-800-200-0061. San Francisco, California Assignment.

## UNC JOB "HOTLINE"

The Department of Anesthesiology at the University of North Carolina at Chapel Hill provides website access for the National Job Hotline for Anesthesia Technicians. Employers are invited to list their open positions at no charge. These ads will be posted for up to 6 weeks.

Please provide the following information: Name of hospital, location, contact person, and phone number. This information can be emailed to:

gwalker@aims.unc.edu

or faxed to Gail Walker at 919/966-4873.

For current job postings, please visit our webpage at: http://www.aims.unc.edu/dept/links/NCSAT/NCSAT.html American Society of Anesthesia Technologists and Technicians 5800 Foxridge Dr., St 115; Mission, KS 66202-2333

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	(Please print clearly	v or type)		
Last Name	First Name	Initial	Degree	
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Home Phone ()	May ASAT	T release your name to other constituer	nts? YesNo	
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Please check your member	rship category listed below and send the	e correct amount of membership due	s in U.S. Currency	
Active: \$50	where his/her duties are comparable assistant or aide. This individual's or an individual who has been given Active membership is also extende of active membership as described	This category shall be extended to anyone who is employed in a health care or research facility where his/her duties are comparable or equal to the duties of an anesthesia technician, technologist, assistant or aide. This individual's duties must be supervised by an anesthesiologist, anesthetist or an individual who has been given supervisory responsibilities of anesthesia technical personnel. Active membership is also extended to any retiree who has previously fulfilled the requirements of active membership as described above. This individual must continue to show an interest in, give support to, and actively participate in continuing education in the field of anesthesia technology.		
*Associate: \$60	This category shall extend to Ane:	This category shall extend to Anesthesiologists, C.R.N.A.'s, and Anesthetists.		
*Individual: \$60	This category is open to anyone w	This category is open to anyone with an interest in the field of anesthesia technology.		
*Institutional: \$100		This category is limited to academic, medical, hospital, philanthropic, science, governmenta and nonprofit organizations that express an interest in anesthesiology.		
*International: \$70		This category is limited to any individual who is a member of an International Society of Anesthesia Technology. \$10 of this fee is designated to cover additional postage.		
*Student: \$35	This category is open to students or recognized by the ASATT.	en to students enrolled in anesthesia technology training programs that are ASATT.		
*Corporate: \$100		This category is limited to businesses and other profit orientated organizations that manufacture distribute, provide services or otherwise have an interest in anesthesia technology.		
Change of Address:	Membership Number:	(No charge)		
Applicant's signature here to ASATT reserves the right t	all rights and privileges of active members be valido verify employment and/or affiliations ap assessed for returned checks.	Date of application		
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