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April 1998

THE ASATT SENSOR

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

PRESIDENT'S MESSAGE...

"SPRINGING" INTO ACTION

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

Spring, my favorite season, will soon be upon us. Everything begins anew, fresh and green. I liken this season of change to ASATT and its yearly goals. Throughout the past years of ASATT's history, my predecessors have all strived to accomplish goals in which they believed and felt were beneficial to ASATT, its growth and success. Perhaps it was negotiating the contract to begin the certification process, forming the committee to develop the first certification exam, or implementing the first certification exam available for Anesthesia Technicians in this country, or in the world! Each goal takes a great deal of work and commitment. Some of ASATT's goals cannot be completed in a single year's time; therefore we anticipate constant change and growth.

Setting goals and striving to meet them are directly relevant with my theme for this year: "Secure the Steps to Success." Each of our goals is a step toward growth and progress, both as individuals and as an organization. Certification is one of ASATT's primary support structures, and possibly the most important at this time to help secure our future. I believe we must remember that progress takes time, and we must be patient when it comes to the importance of certification and our future. It has been just less than two years since ASATT administered the first certification exam, and already technicians are dissatisfied and "throwing in the towel" on certification and maintaining it because they are not being recognized and/or receiving salary increases at their institutions. Yes, it is frustrating! I too am disappointed, and I continue to hear it every day from technicians across the country as they voice their concerns regarding the lack of support and recognition they receive toward their certification status. But "Rome was not built in a day!"

continued on page 17...

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ASATT TELEPHONE: 609-853-9382 (voice)
202-833-3843 (fax)
Office Hours: 9am-5pm M-F (EDT) http://www.asatt.org/

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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),510-475-8265(F)
650-299-3541 (W)
jackandchris@earthlink.com(E)

Secretary
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24101 Lakeshore Blvd, #314-A
Cleveland, OH
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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
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THE SENSOR: Quarterly Newsletter of the ASATT

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 May 15, 1998

Printed on recycled paper

MERCY HOSPITAL OF PITTSBURGH

by Vicki Carse, CerAT
President, PSATT

The Mercy Hospital of Pittsburgh, Pittsburgh's first hospital, and the first Mercy Hospital in the world, was opened on January 1, 1847 by seven Sisters of Mercy who came to Pittsburgh from Carlow, Ireland at the invitation of the city's first Roman Catholic Bishop, Michael O'Connor. When the Sisters arrived, the "Gateway to the West" was a bustling industrial center with a population of 40,000. In 1848, the hospital moved to its present site in the Uptown section of Pittsburgh. At that time, the new building could accommodate up to 60 patients.

To meet the expanded need of Mercy's facilities, doctors and Sisters served without pay. The Sisters attended to their patients' physical, emotional, and spiritual needs every waking hour. In addition to nursing, the Sisters performed all of the necessary cooking and cleaning. Dr. Gazzam was the first general practitioner to use ether as an anesthetic. His energy paved the way for other milestones to happen at Mercy Hospital.

In the last two decades of the 19th century, Pittsburgh's population nearly tripled in size, as did Mercy Hospital. Sister Magdalen Phelan opened the Mercy Hospital School of Nursing, the region's first diploma school of nursing, in 1889, and in the 1910's, Mercy increased its bed capacity to 670, installed electricity and a telephone service, and offered many new inpatient dispensary services.

In 1931, a time when one day in the hospital cost under four dollars, Mercy continued to offer its patients the latest advancements in medicine. A diabetic clinic, allergy clinic, and Western Pennsylvania's first bronchoscopy clinic were opened, as well as the formal organization of the Anesthesiology Department.

Dr. Frances Foldes came to Mercy in 1947, from Massachusetts General Hospital, to head the Anesthesia Department. The development of the Anesthesia Residency Training Program, research laboratory, and the first myasthenia gravis clinic in this part of the United States put Mercy Hospital on the anesthesiology map. Under Dr. Foldes' leadership, Mercy pioneered in clinical pharmacology—Narcan, the principal narcotic antagonist, was first administered to a human at Mercy. Succinylcholine, one of the standard muscle relaxants, was made popular by Dr. Foldes.

The present-day Department of Anesthesiology is responsible for patient care in 17 main OR's, as well as 6 operating suites and 1 block room in the Same Day Surgery Center, 2 cysto rooms, 2 labor and delivery rooms, and 2 obstetric suites. Anesthesia services are provided to patients requiring orthopedic, thoracic, open heart, vascular, neurologic, obstetric, and gynecologic procedures. Services are also provided for radiologic procedures performed outside of the department, to include x-ray, MRI, endoscopy, lithotripsy, and cardiac catheterization.

Mercy Hospital is the only Level 1 Trauma Center in Pittsburgh that is accredited to care for both adult and pediatric trauma patients. There are 2 rooms in the main OR specifically prepared for these patients– one for adults, and one for pediatrics.

The Anesthesia staff includes 37 attending anesthesiologists, 4 anesthesia residents, 18 CRNA's, and 12 anesthesia technicians.

The work schedule at Mercy remains somewhat consistent. There are days when the OR schedule seems as though it will never end. Coverage in the Anesthesia Workroom is provided by the anesthesia technicians. Three shifts are scheduled during the week to ensure that the OR is adequately staffed around-the-clock. Weekend coverage is provided by 2 technicians on call, 1 wears a beeper for emergency heart cases, and 1 covers call for the main OR. Weekend call is often quite busy; the chances of being called in are quite certain.

The anesthesia technicians that I work with have become my second family. After 18 years of spending 8 or more hours a day, 5 days a week with my co-workers, I have come to know them with a keener sense of respect. We have laughed and cried with each other during good and bad days, and have watched each other's families grow. We have learned to work side-by-side; arguments are short-lived, friendships are long-term. We all know that the patients are our number one priority.

continued on page 18....

Part of the "Dream Team" at Mercy Hospital: Roseann Locale, CerAT, Donna Patterson, CerAT, Barb Mudrany, CerAT, Mike Moore, AT, Chris Brougher, AT, Maureen Mulvihill, CerAT.

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 10th Annual Gala

Dallas, Texas

1999

Join the Excitement!

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 ldholley@aol.com [E].

ASATT Wants You!

1998 ASATT Annual Elections

If you can't run for office, at least cast your vote!

QUESTIONS & ANSWERS...

OPEN FORUM...

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

Dear OPEN FORUM:

If I attend the weekly educational inservices that are given for the anesthetists and anesthesiologists, will ASATT recognize these inservices for my continuing education credits?

Certified Anesthesia Tech
Virginia

Most hospitals have continuing education coordinators or representatives in each department. These coordinators comply with the national continuing education policies. If you attend inservices in your department or other departments that have inservices of relevance to anesthesia, you should obtain all records and documents that will verify your attendance. These documents should be submitted to ASATT for final acceptance. Please refer to page six (6) of the ASATT Continuing Education and Recertification Guidelines.

Wilma F. Frisco, CerAT
ASATT Secretary, Region 2 Director

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.

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].

MONITORING THE HEART

by Dianne Holley, CerAT
Seton Medical Center, Austin, TX

The importance of the heart to life is something learned at a very early age. Anesthesia uses various monitors to determine the health and functionality of the heart. It is important that anesthesia technicians understand at least the basic mechanisms by which these monitors function, as well as basic interpretations of the data provided. However, in order to understand the monitors, one must also understand that which is being monitored.....the heart.

The heart is located in the center of the chest. Slightly more of it lies to the left of midline than to the right. It occupies most of the space between the lungs called the mediastinum. The sternum (breastbone) borders this space in the front, and the spine lies behind.

The heart is surrounded by a closed, double-walled membranous sac called the pericardium. Between the two layers of the pericardium is the fluid-filled pericardial cavity. The inside of the heart is also lined by a membrane which is called the endocardium. The bulk of the heart is cardiac muscle or myocardium, which lies between the pericardium (epicardium) and the endocardium. Cardiac muscle shows some similarities to both smooth and skeletal muscle. It is striated like skeletal muscle, but it is involuntary like smooth muscle. It also contracts rhythmically, even when not influenced by outside nerve impulses.

The heart is a muscular, 4-chambered pump. *See Figure 1.* The left and right side of the heart are separated by a septum. Each side has an atrium which receives blood entering the heart, and a ventricle which pumps blood out of the heart. Four one-way valves keep the blood flowing in the correct direction. There are two valves per side. These are located between the atria and the ventricles, and at the point where the blood exits the ventricle. The right side receives and pumps venous blood to the lungs for oxygenation, and the left side receives and pumps this oxygenated blood to the rest of the body, including the heart muscle itself.

After delivering its oxygen to the body, blood returns to the heart via the inferior vena cava (from the body below the diaphragm) and the superior vena cava (from the upper body and head). Both these large veins enter the right atrium. When the atrium contracts (at the same time as the left atrium), the deoxygenated blood is forced through the tricuspid valve into the right ventricle. Once the right ventricle fills, it then contracts, forcing shut the tricuspid valve, and opening the pulmonic valve. The blood passes into the pulmonary artery. Although the pulmonary artery contains deoxygenated blood, as do veins, it is considered an artery since it carries blood away from the heart.

The pulmonary artery quickly divides into two trunks leading to the left and right lung. The left and right pulmonary arteries then further divide all the way down into the capillary bed that forms lung tissue. Oxygen/carbon dioxide exchange takes place in this capillary bed at the lungs' alveoli (tiny air sacs in the lungs). The reoxygenated blood then returns to the heart in the pulmonary veins. Here, again, the term vein refers to the direction the blood is flowing, rather than the oxygen content.

The left and right pulmonary veins enter the left atrium, bringing oxygen-saturated blood. When the left atrium contracts (along with the right atrium), this blood is forced through the mitral valve into the left ventricle. After filling, the left ventricle contracts, forcing the mitral valve to close, and pushing blood through the aortic valve into the aorta. This oxygenated blood then passes through the arteries into all the tissue of the body that require oxygen. These vessels subdivide down into capillaries small enough to allow red blood cells to pass only in "single file." This is where oxygen is provided to the individual cells in the body, and the carbon dioxide waste is removed. After leaving the capillaries, the blood then enters veins which join to form the inferior and superior vena cavae. The effort required by the left ventricle to pump blood with enough force to complete the journey through the body is evidenced by the increased muscle mass around the left ventricle.

One of the most important artery/vein complexes is that which supplies oxygen to the heart muscle (myocardium) itself. The blood within the heart does not come in direct contact with the myocardium, instead, the externally arising coronary arteries supply the necessary oxygen to the continuously and vigorously

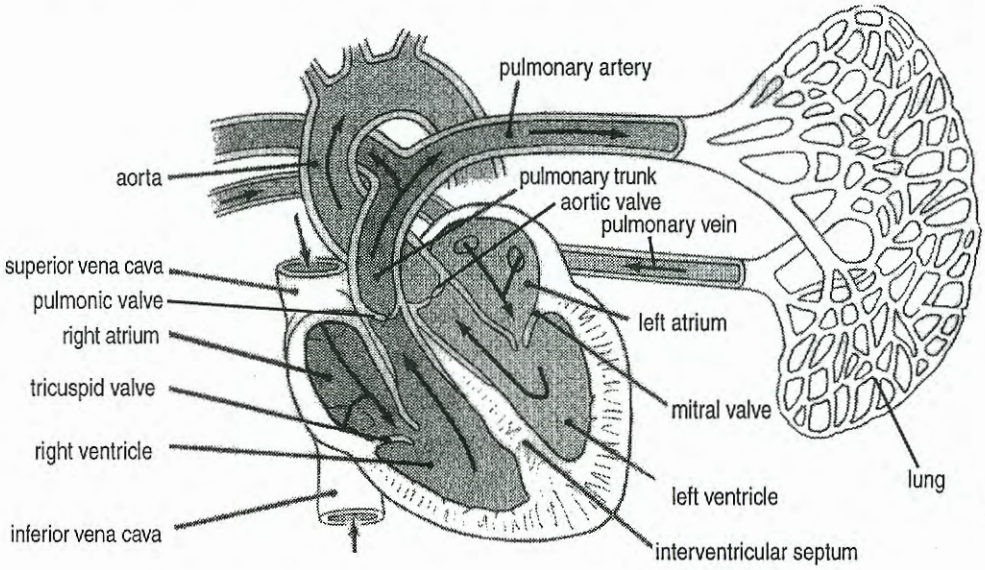
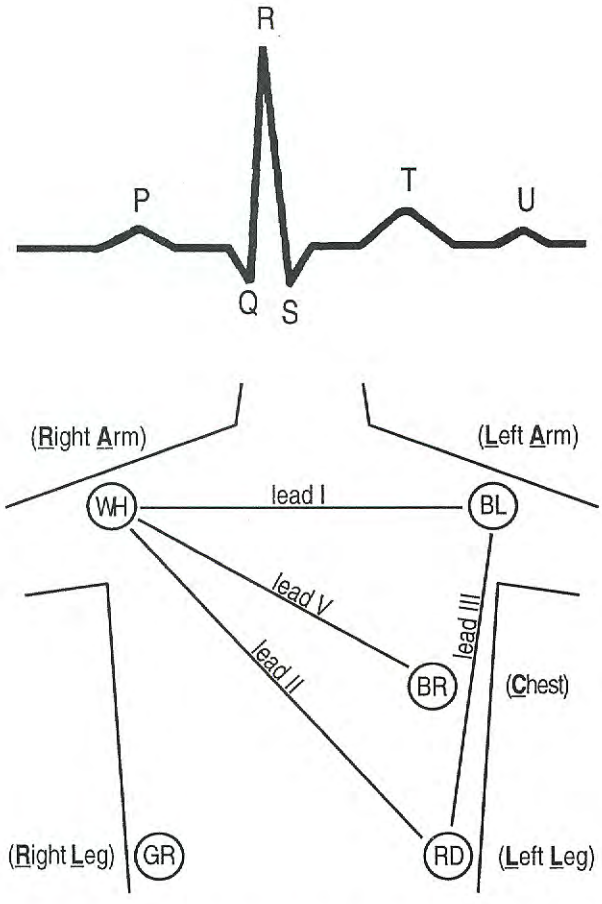


FIGURE 1: THE HEART

contracting heart muscle. Obviously, any problem with this blood supply can adversely affect the health of the heart.

Within the heart, two nodes of modified cardiac muscle control and coordinate the contractions of the four chambers of the heart. The sino-atrial (S-A) node or "pacemaker" is located near the junction of the superior vena cava and the right atrium. When the S-A node "fires," it sends impulses concentrically through the heart muscle surrounding both atria. The atria, in turn, contract, forcing blood into the ventricles.

The impulse from the S-A node does not directly affect the ventricle muscle, instead, the impulse causes a second node, the atrioventricular node, to "fire." The atrioventricular (A-V) node lies in the wall between the right atrium and the right ventricle. When it "fires," the resulting impulse travels down two fiber bundles along the ventricular septum and around both ventricles. The fiber bundle pathways are called the left and right bundle branches and each controls the contraction of its respective ventricle.



Chest (V) electrodes can be placed in various positions from the V1 site to the V6 site. Most common is V5, which is at the 5th intercostal space/anterior axillary line.

The actual tracing on the monitor is determined by the electrode placement and the position its leadwire is occupying in the ECG cable. The leadwire color is only a helpful reference.

FIGURE 2: STANDARD 5-LEAD ECG

The rhythmic nature of cardiac muscle allows either node to "fire" rhythmically, independent of outside signals. However, the autonomic nervous system influences the heart rate by either increasing or decreasing the rate at which the S-A node "fires." Thus, the S-A node "fires" at a rate susceptible to change by the autonomic system. This contracts both atria and "fires" the A-V node. The A-V node impulse travels along the left and right bundle branch and contracts the ventricles.

Electrocardiogram (ECG) is a monitoring of the difference in electrical potentials produced by the heart beating (cardiac muscles contracting). Electrical voltage is a measurement of electrical potential between two points. Therefore, ECG is a measurement of voltage (millivolts or mv) between two points on either side of the heart. The points are electrodes, and the placement of the electrodes determines the "lead." Since the voltage changes are different according to which specific area of the heart is between the two electrodes, the placement of the electrodes is very important in diagnosing subtle problems in the heart. *See Figure 2.* The chest or V electrode, can be placed in any or all of 6 different locations. A twelve-lead ECG utilizes all 6 locations.

Each change in voltage causes a deflection on the ECG waveform, and these normal deflections are identified as letters "P" through "U." The smaller P wave represents the "firing" of the S-A node which results in the contraction of the atria. The QRS complex represents the firing of the A-V node and the subsequent travel of the impulse along the bundle branches causing the contraction of the ventricles. The T wave represents the repolarization of the heart muscle after it was depolarized during QRS. The S-T segment represents a "resting" phase of the heart, between the depolarization and repolarization of the heart. The S-T segment is ideally isoelectric, or level with the ECG's baseline.

Pulmonary artery (PA) catheterization is an invasive procedure most commonly performed on critically ill patients. The procedure usually involves introducing a multi-lumen catheter through a special internal jugular or subclavian catheter called an introducer. The PA catheter passes through the superior vena cava into the right atrium (RA) of the heart, then through the right ventricle (RV), and into the pulmonary artery (PA) where the narrowing of the vessel allows a balloon at the tip of the catheter to wedge the catheter in the vessel until the balloon is deflated. *See Figure 3.* Depending upon the specific components included in a PA catheter, several diagnostic measurements can be obtained. These include PA, CVP, and pulmonary artery wedge (PAW) pressures, measurement of cardiac output (CO) using thermodilution, and measurement of oxygen saturation in the venous blood present in the pulmonary artery (SvO_2). Some PA catheters even include electrodes for internal cardiac pacing.

Since Drs. HJ Swan and W Ganz were pioneers in this type of catheterization, the term Swan-Ganz is frequently used to refer to any PA catheter regardless of manufacturer.

As the catheter is advanced into the patient, changes in the pressure tracings on the monitor can help the clinician determine the

continued on page 8....

position of the catheter tip. When the catheter reaches the RA, the pressure trace shows some rhythm, but is still relatively flat—at this point, the balloon should be inflated. The catheter is then advanced through the tricuspid valve and into the RV—the pressure trace becomes a pronounced up and down wave pattern reflecting the contracting of the ventricle and the pressures it produces as it pumps blood in and out of the chamber. Once the catheter passes through the pulmonic valve and into the PA, the waveform tends to peak at the same level as the RV waveform, but not fall as low—this is due to the pulmonic valve shutting during diastole to prevent the blood from being sucked back into the RV by the lower pressures it produces to draw blood in from the RA. When the catheter has been advanced far enough into the PA that the balloon wedges it in the narrowing vessel, the waveform flattens out since the pressures produced by the RV cannot push past the wedged balloon. After the balloon is deflated, the PA waveform can once again be observed. Both the PA and PAW (or PCW for pulmonary capillary wedge) pressures provide important diagnostic information to the clinician.

SvO_2 monitoring gives important information concerning the patient's oxygen consumption. It is closely related to SpO_2 (SaO_2 or pulse oximetry) both diagnostically and technically. Both SvO_2 and SpO_2 measure oxygen saturation in the blood using visible and infrared light. SpO_2 measures oxygen saturation of arterial blood (after oxygenation in the lungs, but before the blood reaches the capillaries and tissues where the oxygen is consumed). SvO_2 measures the oxygen saturation of venous blood returning to the heart from the tissues, before it reaches the lungs via the pulmonary artery. If the two are compared (SpO_2 minus SvO_2 equals oxygen consumed by the body) knowledge about a patient's metabolism can be inferred. In the operating room, under general anesthesia, a patient's SvO_2 is usually higher than in the critical care units because anesthesia slows the metabolism and thus the oxygen consumption.

SvO_2 operates by reflection spectrophotometry, again similarly to SpO_2. The optical module emits three separate wavelengths of light which travel down one optical fiber to the tip of the catheter. There it is reflected or absorbed by the red blood cells, depending upon the wavelength and whether the blood is oxygenated or not (bright red vs. bluish red blood). The reflected light travels back up the PA catheter via a second optical fiber to the optical module. There the amounts and types of wavelengths reflected back are detected. This information is sent to the computer which determines the amount of oxygenated vs. unoxygenated blood. The light source and receptor, similar to that of a pulse oximeter probe, can be observed when the door of the optical module is opened.

Cardiac output (CO) determination by thermodilution is accomplished via the PA catheter. The cardiac output cable splits into two portions, one connecting to the PA catheter and the other connecting to a thermistor probe measuring the temperature of the injectate. The PA catheter connection runs distally to a thermistor near the tip of the catheter. The injectate system is connected to the CVP/proximal port of the catheter (where central venous pressure or CVP can also be measured by connecting to a pressure monitoring line). A colder-than-body-temperature fluid is quickly injected via the CVP port into the right atrium. As it moves through the heart and the pulmonary artery the thermistor at the end of the catheter records the changes in the blood temperature as it cools and rewarms. The CO computer uses these changes and how quickly they occur to calculate the cardiac output (amount of blood being pumped by the heart during a given amount of time).

Continuous cardiac output determination uses a similar mechanism, however, the PA catheter is wrapped in a metal coil which produces a very tiny, very frequent warming of the blood. A thermister distal to the "warming coil" measures the changes over time to give a more-or-less continuous reading.

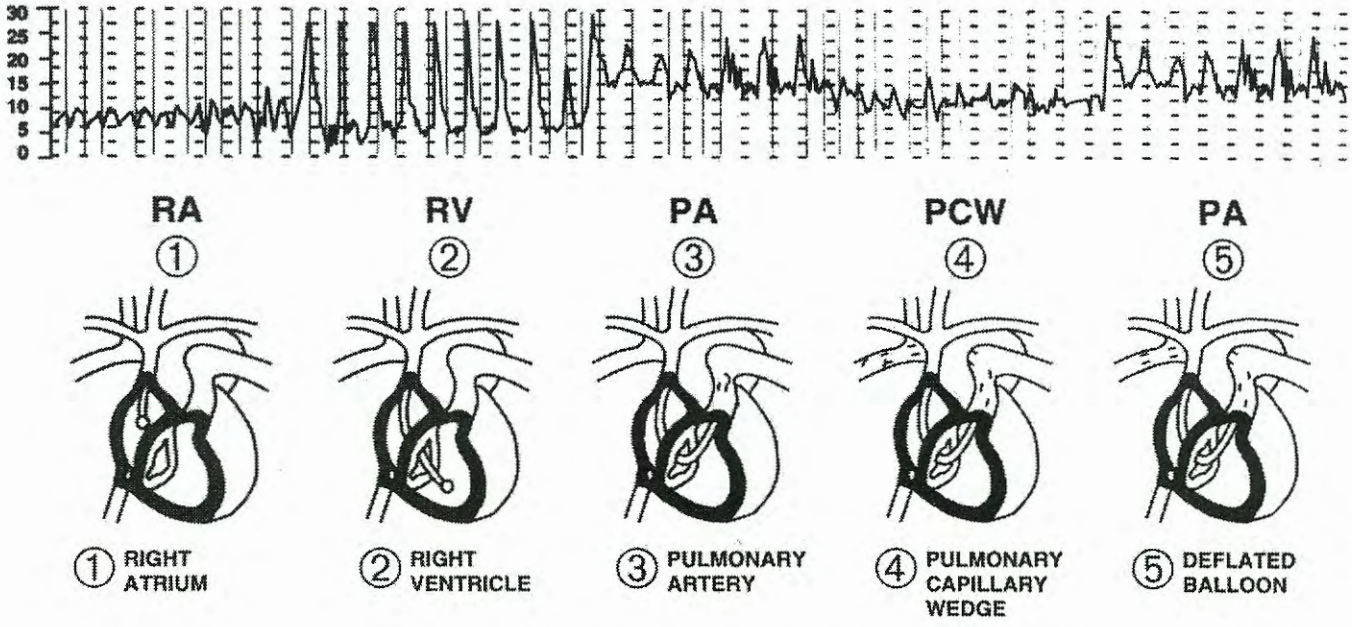
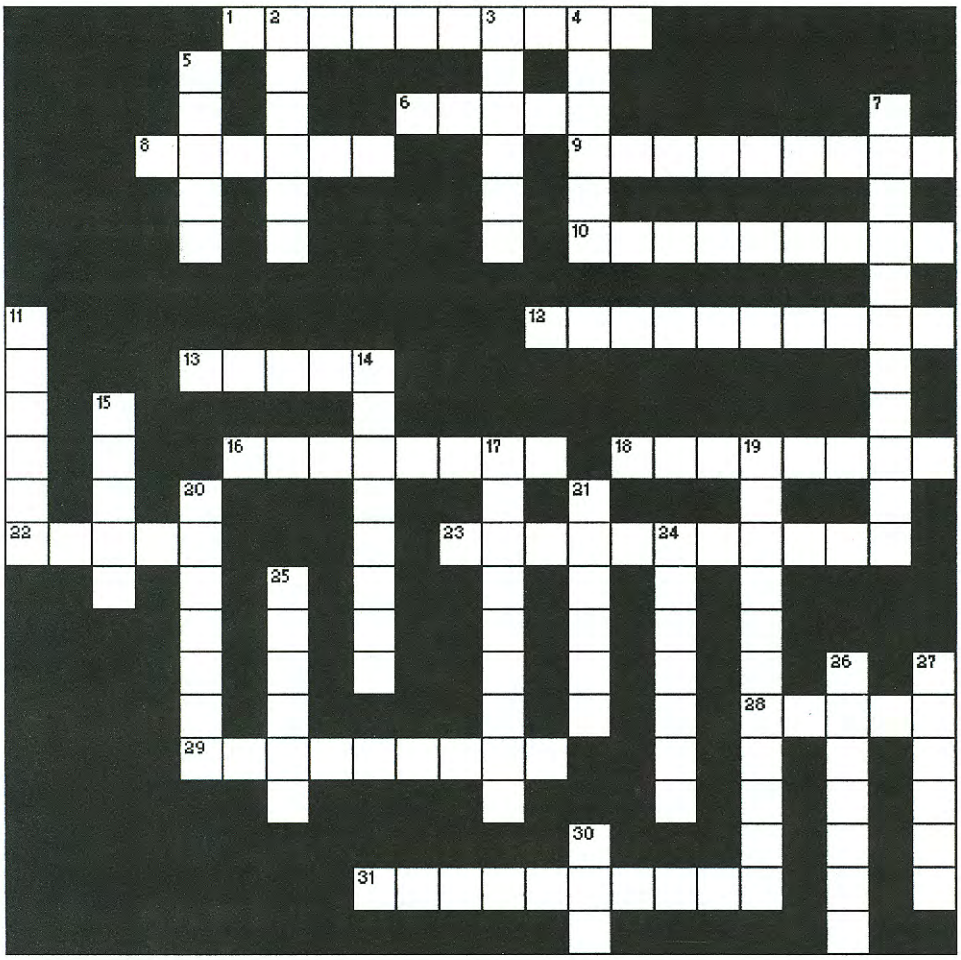


FIGURE 3: PULMONARY ARTERY CATHETERIZATION

TECHNICIAN

CROSSWORD



SCIENCE AND TECHNOLOGY POST TEST: Monitoring the Heart

Use this crossword puzzle to test your knowledge on the "Science and Technology ..." article on pages 6-8. Puzzle answers can be found on page 18 of this issue.

Across

1 SpO_2 measures oxygen __.
6 The __ electrodes can be placed in 6 different locations.
8 Some PA catheters include electrodes for internal __.
9 Another name for the S-A node.
10 Valve between the RA and RV.
12 The S-A node.
13 The pulmonary __ return oxygenated blood to the heart.
16 The superior __ runs into the right atrium.
18 Valve between the RV and PA.
22 SvO_2 and SpO_2 measurements use visible and infrared __.
23 Membrane lining the inside of the heart.
28 The __ in an ECG represents the repolarization of the myocardium.
29 Unit of measurement of the voltage created by the heart.
31 Cardiac muscle.

Down

2 An __ is a chamber that receives blood into the heart.
3 Cardiac output determination uses __ -dilution techniques.
4 Cardiac __ measures the volume of blood through the heart.
5 The __ on the ECG represents the S-A node firing.
7 Sac surrounding the heart.
11 Valve between the left atrium and ventricle.
14 Name-brand of PA catheter, that refers to early pioneers in the field.
15 PAW stand for pulmonary artery __.
17 A __ is a chamber that pumps blood out of the heart.
19 The space between the lungs.
20 The breastbone.
21 Valve between the left ventricle and aorta.
24 Tiny air sacs in the lungs.
25 Fiber pathways that cause ventricular contraction are the left and right __ branches.
26 __ muscle contracts rhythmically.
27 Wall between the left and right heart.
30 The __ complex on an ECG represents the A-V node firing and the resulting impulse traveling around the ventricles.

1998 ANESTHESIA TECHNICIAN SURVEY RESULTS

(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." ASATT conducted a survey of anesthesia technicians in January and February 1998. The results follow.)

250 surveys were returned to ASATT of an 1150 mailing. The mailing took place in January 1998 and completed surveys were to be returned by February 15, 1998. The following answers are figured as percentages of those 250 returned surveys.

In what region of the United States do you reside?	*North: 7.2%* *South: 7.2%* *East: 20.4%* *West: 20%* *Northeast: 18%* *Southeast: 8%* *Northwest: 6%* *Southwest: 8.4%* *Midwest: 4.8%* *Outside of US: 1.2%*
In what type of facility are you employed?	*University: 24%* *Surgery Center: 4.8%* *Medical Center: 46%* *Pain Clinic: 2.4%* *Community Hospital: 22%*
How many OR suites are in your facility?	*Average: 13*
How many anesthetics are administered in a year?	*Average: 10,000*
Do you work in other areas of the hospital?	*MRI: 20%* *X-ray: 28%* *OB: 26%* *ER: 12%* *Cath Lab: 8%* *CU: 8%* *GI: 8%* *Cardio Lab: 5%* *Bio Med: 8%*
How many technical personnel are employed in your department?	*Average: 4.7*
Are there technicians employed at different levels?	*20% answered "Yes"*
Are you a Certified Anesthesia Technician?	*64% answered "Yes"*
If "no," will you take the National Certification Examination?	*25% answered "Yes"*
Where did you receive your technical training?	*Military: 15%* *On-the-Job: 56%* *Vocational Program: 11.2%* *College: 22%*
Do you have a license in any medical field?	*LPN: 4.8%* *EMT: 20%* *RN: 8%* *Bio Med: 4.8%* *RRT: 4%*
What is your salary?	*Average: $38,000 per year, $18.26 per hour*
Are you employed by a hospital or anesthesia group?	*80% by hospital*
Who supervises the technical personnel in your department?	*Anesthesiologist: 10%* *CRNA: 12%* *OR Sup: 8%* *Nurse Manager: 3.6%* *Chief Tech: 12.8%* *Bio Med Tech: 1.8%* *RRT: 1.2%*
How many certified registered nurse anesthetists work at your institution?	*Average: 8 on a given day*
How many anesthesiologists are employed at your institution?	*Average: 12 on a given day*
Does your institution treat pediatric patients?	*72% answered "Yes"*
Is your facility located in a major city (population greater than 500, 000)	*52% answered "Yes"*
Does the technical staff participate in educational programs at your facility?	*60% answered "Yes"*
Does your department or institution provide funds for educational meetings?	*85% answered "Yes"*
Does your department or institution provide funds to anesthesia techs for educational meetings?	*65% answered "Yes"*

TECHNICIAN SURVEY RESULTS.....

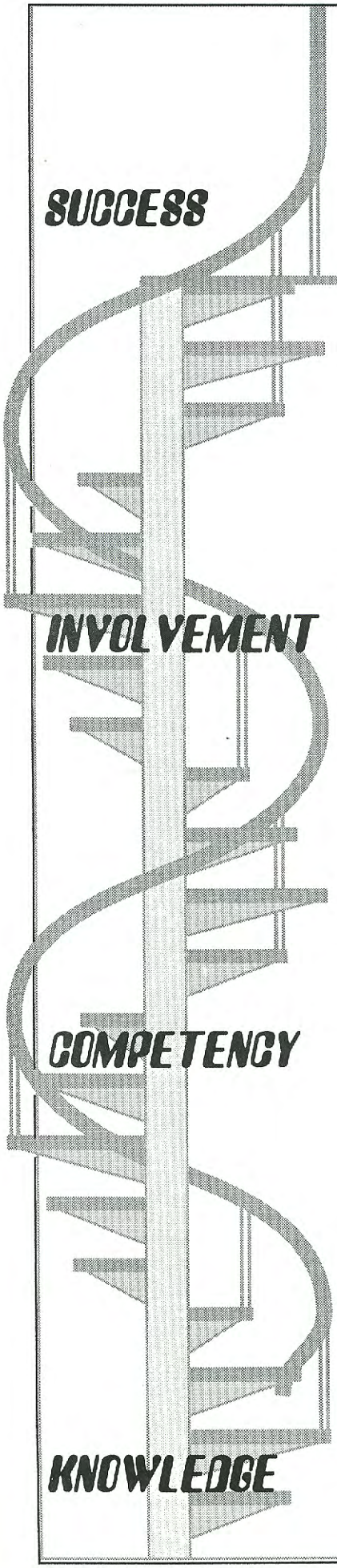
Technical Duties: The percentages of technicians reporting a duty as performed "routinely" are shown below.

Technical Duties	*Performed Routinely*
1. Clean machines and other equipment	*63%*
2. Stocking supplies	*59%*
3. Preparing I.V. setups	*51%*
4. Assisting with I.V. placement	*47%*
5. Starting I.V. Lines	*40%*
6. Prepare/clean transducers	*57%*
7. Calibrate transducers	*59%*
8. Assist with arterial line placement	*54%*
9. Start arterial lines	*29%*
10. Assist with CVP line placement	*40%*
11. Start CVP lines	*36%*
12. Assist with PA catheter placements	*59%*
13. Calibrate monitor for PA Catheter	*66%*
14. Assist with regional anesthesia	*47%*
15. Mix drugs/Connect drugs to pumps	*52.8%*
16. Set up rapid infusion devices	*52%*
17. Operate blood recovery system	*23.2%*
18. Operate intra- aortic balloon pump	*14.%*
19. Operate TEE unit	*15.6%*
20. Teach inservices	*22%*
21. Perform administrative duties	*60%*
List the duties:	
Budgets, Payroll, Schedules, Evaluations	
22. Assist with intubations	*52.%*
23. Perform intubations.	*2.4%*
24. Assist in the pain clinic	*22.8%*
25. Perform blood gas analyses	*30%*
26. Perform other lab studies	*34%*
27. Draw samples from arterial line	*52%*
28. Order supplies/in-house	*64%*

Technical Duties	*Performed Routinely*
29. Order supplies/vendors	*62%*
30. Review equipment for purchase	*54%*
31. Propose capital budgets	*40%*
32. Order bulk drugs	*63.2%*
33. Order narcotics	*30%*
34. Monitor controlled drugs	*14%*
35. Repair anesthesia gas machines	*67.2%*
36. Troubleshoot monitoring equipment	*88%*
37. Set up/sterilize special procedures trays	*58%*
38. Assist with difficult intubations	*44.8%*
39. Maintain fiber-optic equipment	*80%*
40. Design special procedure carts/tables	*40%*
41. Review patient charts	*30%*
42. Attach monitors to patients	*52%*
43. Assist with hemodilutions	*30%*
44. Assist with trauma patients	*44%*
45. Monitor and record vital signs	*30%*
46. Orient other anesthesia technicians	*72%*
47. Orient other personnel	*60%*
48. Work with student anesthetists	*36%*
49. Work with anesthesia residents	*40%*
50. Assist on cardiac arrest team	*36%*
51. Assist with transplant patients	*31.2%*
52. Obtain/store blood from the blood bank	*60%*
53. Assist in the administration of blood	*26%*
54. Serve on hospital committees	*32%*
55. Supervise other personnel	*55%*
56. Write performance evaluations	*55%*
57. Commute from one hospital to another	*27%*
58. Transport patients to the OR	*12%*
59. Transport patients to the PACU	*24%*
60. Transport patients to the SICU	*24%*

Are you employed full-time? 88% answered "Yes" How long have you been employed at this institution? Average: 18.5 years

The ASATT 9th Annual Meeting and Educational Seminar



SECURING THE STEPS TO SUCCESS

Combine business with pleasure and bring the family to Disney World!

Mark your calendars for
October 16, 17, 18, 1998
Orlando, Florida

ASA Exhibits
October 18, 19, 20, 1998
Visit us there at the ASATT Booth!

More information will follow at a later date.

ASA ATT

ASATT 9th Annual Meeting and Educational Seminar

SECURING THE STEPS TO SUCCESS

October 16, 17, 18, 1998

Radisson Plaza Hotel

60 S. Ivanhoe Blvd.

Orlando, Florida

(407) 425-4455 (Tel) or (407) 843-0262 (Fax)

ASA Exhibits: October 18, 19, 20, 1998, Orlando Convention Center
Visit us there at the ASATT Booth!

PROPOSED AGENDA:

Wednesday, October 14
Board of Director's Meeting

Thursday, October 15
Board of Director's Meeting
State President's Meeting with the Board (1500-1700)
Early Registration (1700-2000)

Friday, October 16
Registration and Continental Breakfast (0630-0745)
Welcome, Sheila White, ASATT President (0745-0800)
Educational Program (0800-1230)
Lunch with your Regional Director (1230-1400)
Anesthesia Machine Hands-On Workshop (1400-1600)
Reception (1730-1900)

Saturday, October 17
Registration and Continental Breakfast (0615-0700)
Educational Program (0700-1130)
Lunch (1130-1300)
Shuttle to Disney World (1315) [$5/person]
Shuttle from Disney World to Hotel (at close of Park)

Sunday, October 18
Continental Breakfast (0700-0800)
Educational Program (0800-1130)
ASATT Business Meeting (1130-1215)
1998-99 Board of Director's Meeting(1515-1700)
ASA Exhibit Hall Opens (1200)

Monday, October 19
ASA Exhibit Hall

Tuesday, October 20
ASA Exhibit Hall (Closes at 1200)

PROPOSED SPEAKERS AND TOPICS

Earl Ransom, MD	Invasive Lines: Setup, Placement and Anatomical Pathways
Fred Spielman, MD	Art of Anesthesia: An Illustrated History of Pain Control
Julie Lowery, CRNA	Pharmacology
Kathy Edwards, RN	The Role of the Anesthesia Technician in Dealing with a Trauma Patient
Sunil Dogra, MD	Difficult Intubations
Lisa Fornicoia, CerAT, MT(ASCP)	Monitoring Hemostasis
Speaker TBA	Stress Management
Speaker TBA	Anesthesia Patient Safety Foundation (APSF)
Speaker TBA	Starting IV's, Complications and Fluid Management
Ohmeda Representative	Hands-On Workshop
Dräger Representative	Hands-On Workshop

Registration Fees:	ASATT Members	$200
	Nonmembers	$250
Late Registration Fees:	ASATT Members	$250
	Nonmembers	$300
One-Day Attendance Only:		$100

Note: The above is only a proposed agenda. All is subject to change. Final agenda will be announced in July.
For further information, contact coordinators:

Chris E. Patterson, CerAT, Vice President/President-Elect, (510) 471-9327[H] or jackandchris@earthlink.com[E]
Gail Walker, CerAT, Region 3 Director, (336) 376-0327[H]

REGIONAL SOCIETY ACTIVITIES...

Let us announce what's happening in your area. Send a brief report of recent or future activities for the next issue by May- 15, 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:

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

New York

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

ASATT Region 2:

OSATT and ASATT Region 2 are co-hosting "An Educational Adventure" at the Children's Medical Center of Dayton on Saturday, May 2.
For more information:
Wilma Frisco at (216) 261-0649.

Ohio

Please make plans to attend the following meetings:

- 5/2 - One-day seminar, Dayton (See Region 2)
- 6/6 - OSATT goes to Pittsburgh, PA
- July- Vacation Month
- 8/22 - Monthly educational meeting in Ravenna
- Sept - All-day workshop, Zanesville
- 10/24 - Monthly educational meeting, Akron

All monthly meetings award at least one (1) CE/CH.
For further information:
Barbara Powell at (614) 454-4224 or
Charlene Smith (303) 677-3292 or
Wilma 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:

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

Florida

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

Georgia

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

North Carolina

On September 20, 1997, the North Carolina Society held its annual meeting in Ashville, NC. New Board Members were appointed. They are: Jackie Jackson, CerAT, President; Billy Jones, CerAT, Vice President; Patt Sturdivant, CerAT, Secretary; and Lucille Ward, CerAT, Treasurer.
For further information:
Jack Jackson at (910)-424-2868[H] or (919) 966-5136[W].

Tennessee

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

ASATT Region 4:

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

Illinois

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

Iowa

Do you feel like you're "out of the loop"? It's been a long time since we have all been together. How about meeting Saturday, June 6, 1998 in Des Moines, Iowa for a fun-filled, relaxing day of informative educational topics, vendor exhibits, camaraderie, and good food!
Details are still being finalized, so watch your mail for details. If you don't receive a flyer in the mail from me by mid-April, please contact me so you aren't left out! If you're interested in helping me organize this meeting (it would be greatly appreciated!) Please call me! REMEMBER TO MARK YOUR CALENDARS!!! Saturday June 6, 1998
I'm looking forward to seeing everyone again!
For further information:
Sheila White at (319) 589-8665[W] or (319) 556-8234[H].

ASATT Region 5:

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 6th Annual Region 7
Meeting and Seminar

Certification Review and Prep

Saturday May 2, 1998
7:30 - 5:00
Doubletree Hotel Downtown
Portland, Oregon

Contact: Dave Mastalski, Cer.A.T.
(503) 642-1537
email: nmastalski@aol.com
for registration information

ASATT Region 6:
Region 6 Annual Education Program will be May 2, at Chandler Regional Hospital, Morrison Building, Chandler, AZ. Topics in include: Breathing Filters, Vaporizers, MH Crises, Local Anesthestics, and Cutting Supply Costs. The all-day program offers 6 CE/CH.
For information:
Dean Rux at (602) 821-3279[W] or (602) 497-9709 [H].

Arizona
For information on future meetings:
Dean Rux at (602) 821-3279[W] or (602) 497-9709 [H].

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

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

Texas
TSAT in conjunction with SASAT will host a one-day seminar at Wilford Hall in San Antonio. Topics include: Airway Management, The Anesthesia Machine, Infection Control, Monitors and Ancillary Devices, IV Therapy, Pharmacology, and Anatomy and Physiology. 7 CE/CH are offered. DALLAS/FORT WORTH– contact Bob Reno–214-327-2066 or E-mail--cbyBOB@Aol.com. HOUSTON– On April 4, a 1/2-day meeting will be held, offering 3 CE/CH. Topics include The Anesthesia Machine, Obstetric Anesthesia, and Latex Allergy. Other 1998 meetings are May 2, Aug. 1 & Nov. 7 Contact Essie Davis or Emily Jones 713-738-2811. AUSTIN: Monthly inservices offering CE/CH are being held at Seton on the 1st Thursday of each month. April 2 topic is Latex Allergy. May will be an Open Forum discussion in preparation for the ASATT Certification Exam. Contact Dianne Holley at 512-451-7457.
For further information:
Gerardo Trejo at (713) 793-2898.

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

ASATT Region 7:
See ad on page 14.
For further information:
Dave Mastalski at (503) 642-1537 or (503) 273-5389

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

Oregon
For information on future events:
Linda Bewley at (503) 291-2151
Richard White at (503) 273-5389

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

SKI HOLIDAY

by Ruth A Ochoa, LPNII, CerAT
Immediate Past President, Treasurer, ASATT

The University of Colorado Department (U of C) of Anesthesia held its 9th Annual Colorado Review of Anesthesia and Ski Holiday (CRASH) program for the Anesthesia Technicians (AT's) on February 28 through March 2, 1998 at the Marriott's Mountain Resort in Vail, Colorado. The Anesthesia Tech program was in conjunction with the CRASH program for the Anesthesiologists. There was a wide variety of topics and hands-on workshops. I understand the skiing was great, also.

Twenty-seven anesthesia techs were in attendance from all over the United States and Australia. It was the first CRASH for sixteen of the attending anesthesia techs. Sonya Scott was awarded with a CRASH 98 jacket for having attended all nine of the meetings. Tyrone Jacobs was also awarded a CRASH 98 jacket for having attended for the last five years.

Thanks to Ann Martin, CerAT, ASATT Region 5 Director, Chief Tech at the U of C and Howard Miller, MD, Assistant Professor of Anesthesiology of Denver Medical Center, for putting together an excellent meeting. I would encourage you all to try to attend this annual event. It would be well worth your time.

EMPLOYMENT OPPORTUNITIES....

The Portland, Oregon VA Medical Center has an immediate opening for a Certified Anesthesia Technician (Cer.A.T.) Salary: $26K - $35K D.O.E. + up to $15K in overtime/on-call compensation. Full benefits package included. Interested applicants should contact: Dave Mastalski, Cer.A.T., Chief Anesthesia Technician, (503) 220-8262 X 6832, FAX (503) 721-7859.

Anesthesia Technician: Stanford Hospital and Clinics, part of UCSF Stanford Health Care, is currently seeking an individual to join our perioperative team in providing support to ensure the safe delivery of anesthetic patient care. This evening shift position requires rotation to other shifts as needed.

Requires 1+ years recent experience as an Anesthesia Tech or 2 years recent experience as an Anesthesia Assistant in a high volume, highly technical OR setting.

We offer competitive compensation & benefits packages and a state-of-the-art OR Learning Resource Center. Please apply in person or mail/fax resume to: J. Bishop, Employment & Recruitment, Stanford Hospital & Clinics, 300 Pasteur Dr., Room HG005, Stanford, CA 94305. Fax (650) 723-7205.

TECHNICIAN PROFILE

by Vicki Carse, CerAT
President, PSATT

Name: Andrea M. Williams, CerAT

Current Position: Program Director

First Job You Ever Had: Cashier, Brown's Grocery (My husband's grandparent's store, which he now owns.)

Number of Years in Anesthesia Field: 8

How did you become interested in anesthesia? Initially, I wanted to become an anesthesiologist. After having two surgeries as a child, (appendectomy and adhesion removal), I was fascinated as to how I "went to sleep" and did not remember anything. Then I began to pursue my degree in biology. I met a girl in phlebotomy who offered me a job. From there, I saw the posting for an anesthesia technician and went for it. After three interviews and a long night waiting, I was offered the job.

What do you find the most challenging about your job? The variety of students is both challenging and refreshing at times. Bringing the world of anesthesia to those students can be difficult, with the many levels of students that we receive. Anesthesia is constantly evolving and I find it challenging to keep up with all the new equipment and techniques available, to bring the best and newest to my students.

If a magic genie could grant you one wish, what would it be? Personally, a kidney match for my husband.

What is your favorite food? Crab legs and pumpkin pie ice cream from Dave and Andy's in Oakland!

People would be very surprised to know that I: Make a great sweet potato pie.

You have just won your dream vacation! Where would you go? Aruba!! 21 days!

What has been your proudest accomplishment so far in your life? To watch my students learn and work in anesthesia departments. I had the pleasure of watching one of my shy students evolve into an outgoing, assertive anesthesia technologist. The day that I saw this transition, I knew that I was doing something right.

It is your day off; what do you enjoy doing with your free time? My husband and I enjoy sharing time every Friday night at the movies! My daughters, Shari and Alaura, and I often spend Sunday afternoons at the Carnegie Library.

What is your favorite type of music? Gospel: Fred Hammond, Witness, Helen Baylor. Secular: R&B-Moriah Carey-Honey!

What is your favorite book? "Ephesians 6," the *Holy Bible*.

What is your favorite movie? *The Princess Bride*.

What would you like to get around to doing one of these days? Mission work in South Africa (or going back to school!).

What bit of important advice would you offer other anesthesia technicians across the country? Idea → Dream → Plan → Work → Achieve! It does not matter how ridiculous your idea may sound to others, if you allow your idea to become a dream, then plan your work, and achieve your goal, you'll succeed! It's not easy, but it's worth it!

THE ANESTHESIA TECHNICIAN

by Julie Jackson, RN

You report to work, your day has begun. Calibrating machines, setting up arterial lines, stocking and ordering drugs, ordering supplies, talking with representatives, dealing with purchasing, assisting the doctors and nurse anesthetists with IV's, intubations, setting up blood warmers and so many other things that are too numerous to mention. A lot of the times you go unnoticed - praise due, never given, and yet you continue to give your all, making yourself indispensable.

You take your job seriously and feel you are an invaluable asset to your chosen career. Long hours and extremely busy days are all too familiar to you. Your job is not left at the door when you leave every day. You carry it with you. You are always thinking of new ways to improve your position, to promote a better understanding of what you do. You stay in constant watch for new equipment and techniques that will benefit your department, your job, and make things a little better for the doctors and nurse anesthetists.

You are a very important part of the anesthesia care team. You are the eyes and ears for your department - You are an Anesthesia Technician.

Originally written in November, 1993.

We must stand united and strong. Many of you have been waiting years for certification to emerge, and now that it is achievable, are you going to give up on everything you've been working so hard and so long for? If our desire is to promote ourselves as professional, indispensable members of the anesthesia team, we must exercise a discipline to stand strong and leap these hurdles, because I can guarantee you, this is just one of the many that will face us in the years to come. Each of us has to decide if a career as a Certified Anesthesia Technician is our goal. If it is, and we want to succeed in becoming recognized for our skills, determination, and all that comes with this position, it is up to us to make it happen! Anyone can sit on the sidelines and holler because he doesn't like what he sees happening in front of him, but the winner will be the team player that gets involved and uses that voice in a positive manner to make things happen. Remember: "NO PAIN, NO GAIN."

To date, ASATT has 533 Anesthesia Technicians who have achieved Certified Anesthesia Technician status. That is an impressive number with just three (3) exam administrations. Each and every one of you who have successfully obtained this certified status should be very proud of your determination and accomplishments. It is accomplishments like this that will demonstrate our perseverance and assert our presence as professionals among the medical community.

Continuing Education is a new concept for many of us to master. We have all attended various educational meetings or lectures, but never before did we have to think about collecting and reporting continuing education hours. This became very obvious in November, 1997 as the deadline approached for the submission of Continuing Education/Contact Hours (CE/CH) from the Certified Anesthesia Technicians who passed the May, 1996 and October, 1996 certification exams. Response was less than anticipated and the ASATT Continuing Education Committee members and Board of Directors are perplexed and distressed with the submission numbers.

ASATT, as any other young organization, has growing pains. The latest of which involves contracting services for professional management from TEAM Management, a division of SLACK, Inc. There were difficulties with the transfer of data and other historical ASATT information from our previous management company. A great deal of time and energy has been spent by many board members and TEAM personnel to recreate and verify that all the data is current and accurate. This could be a major contributing factor as to why the first response for submission of CE/CH has been relatively low.

This brings me to one of several goals that I would like to work on this year.

To get the ASATT membership enthused about, and feeling like you belong to an organization that really does make a difference!!! I touched briefly on this in the January *Sensor*. How does an organization draw its members in and encourage them so they want to be involved?

We need every member help with this project and I think the first basic step is that ASATT needs to know YOU are out there! Please review your membership status.

1. Do you consider yourself a current member? (membership dues paid in full, and a current membership card in your possession)

2. Are you receiving any correspondence from ASATT? (newsletters, certification information, election ballots, annual meeting information)

3. If you have moved or changed names did you inform the ASATT home office of this change so your database file could be updated?

4. Is all the information on your mailing label correct? (spelling, titles, etc.)

5. Did you successfully complete the May, 1996 or October, 1996 certification exam? If so, have you submitted your hours and the appropriate paperwork and fees?*

* If you answered YES to question #5, have you received verification from the ASATT home office acknowledging receipt and proper completion of your submission?

If you have answered NO to any of these questions, and you consider yourself a member of ASATT, then you must get in contact with the home office or your Regional Director IMMEDIATELY so we can get your information updated and place your name and file back in an active status. Please share this information and request with other Anesthesia Technicians with whom you may be in contact.

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

The ASATT Education/Continuing Education guidelines for retaining your certified status state: you must submit a minimum of 10 CE/CH each year (total of 20 CE/CH in two (2) years). Failure to do so may result in the loss of your certified status and you would be required to retake the certification exam.

Please take a moment now to look at your ASATT status, verify that your certification criteria has been met (you should have received a letter from the ASATT home office verifying that the submission of your CE/CH was received) and ensure your membership information is CURRENT. Please take care of this today.

I believe the majority of Anesthesia Technicians in their positions today do not receive the recognition or support they deserve from their institutions and/or anesthesia providers. This is always a difficult statement for me to make, because when I say we deserve recognition, that doesn't have to mean praise and monetary reward. I feel many institutions don't fully understand the role of an Anesthesia Technician because it is a

continued on page 18....

PRESIDENT'S MESSAGE (cont. from pg 17....)

new field. It is up to each of us to take the initiative and write our own job descriptions, performance evaluations, policy and procedures, and other pertinent official paperwork that should be on file with the other job descriptions of the operating room staff. This ensures proper documentation and supporting evidence as to your daily job performance. I personally feel Anesthesia Technicians are an "untapped resource," and we must be the ones to demonstrate our potential to our supervisors and anesthesia providers.

With proper on-the-job training and working collaboratively with our nursing staff and anesthesia providers, we can be that extra set of experienced hands that is invaluable most days in operating rooms, surgi-centers, pain clinics, or wherever Anesthesia Technicians are utilized. We must promote ourselves and demonstrate our competency every day. This will happen by taking an interest in what's going on around us, taking on more responsibility, seeking diversified training, and continually educating ourselves. We can take steps to build our positions into roles that are interesting, exciting, and valuable if we only . . . take the initiative.

THE VIEW FROM (cont. from pg 3....)

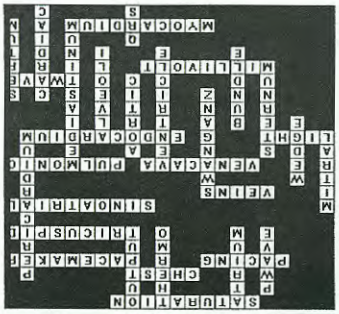
Under the supervision and support of William D. Hetrick, MD, Chairman and Program Director, and Mrs. Linda Larson, CRNA, MSHRM, Manager of Nurse Anesthesia Services, my fellow co-workers and I have surpassed the role of being the "housekeepers" of the Department, and have risen to the position of the people who respond to the often heard request from an anesthesiologist or CRNA, "Can you please fix the problem with my EKG monitor?"

Our "Dream Team" of anesthesia technicians are Doris Bennett, Christine Brougher, Carol Holman, Roseann Locante, Michele Long, Michael Moore, Barbara Mudrany, Maureen Mulvihill, Donna Patterson, Jeff Speicher, Trish Webb, and myself. We are all very proud of our accomplishments, whether big or small. I am very proud to say that I am a Certified Anesthesia Technician from The Mercy Hospital of Pittsburgh!

Go Steelers! Go Penguins! Go Pirates! Love that Black and Gold!

ANSWERS TO PUZZLE:

(From page 9)



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 ASATT release your name to other constituents? Yes_____ No___

Employer/Affiliate_____ Dept._____ Title_____

Address_____ Email address_____

City_____ State(Province)_____ Zip (Mail Code)_____

Business phone (_____)_____ ext. _____ pager #_____ Fax # (_____)_____

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

Active:	$50	_____	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 Anesthesiologists, C.R.N.A.'s, and Anesthetists.
***Individual:**	$60	_____	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, governmental and non-profit 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 enrolled in anesthesia technology training programs that are recognized by the 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.

**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 affiliations appropriate to the membership category requested.

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

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