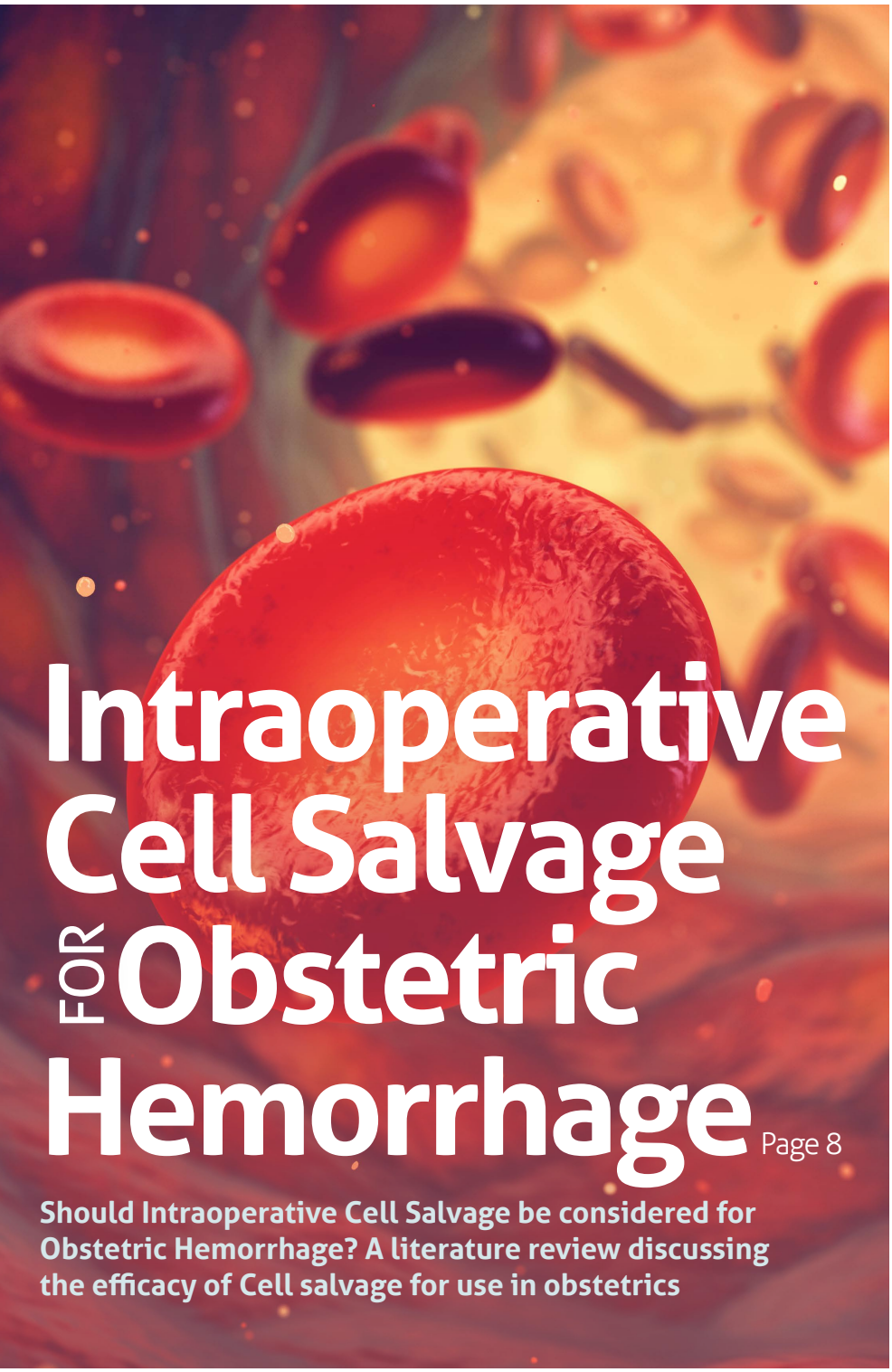
Fall 2021

The Sensor



Intraoperative Cell Salvage FOR Obstetric Hemorrhage

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Should Intraoperative Cell Salvage be considered for Obstetric Hemorrhage? A literature review discussing the efficacy of Cell salvage for use in obstetrics

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asatt

AMERICAN SOCIETY OF ANESTHESIA TECHNOLOGISTS AND TECHNICIANS

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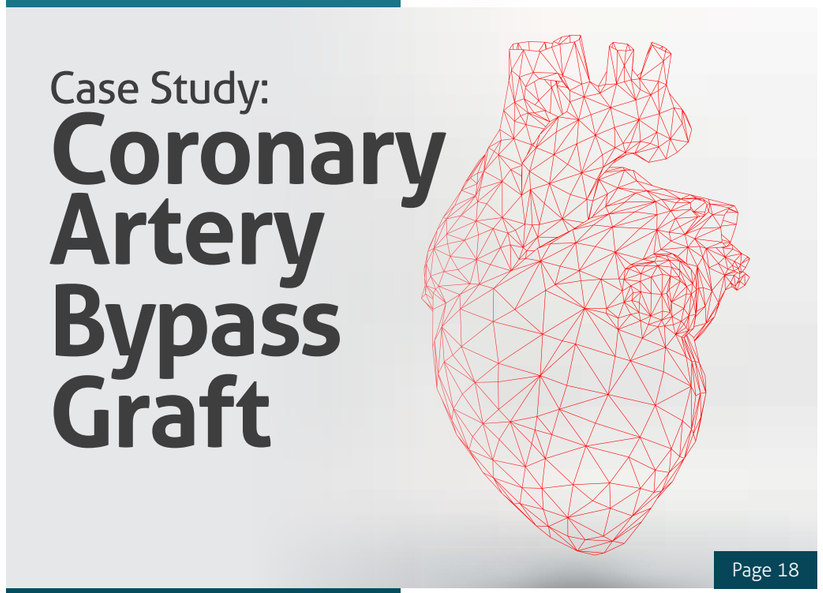

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Kate Feuling
k.feuling@asatt.org

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PRESIDENT'S LETTER

Greetings ASATT Members!

I hope that everyone is doing well and staying healthy in these times. Get rest, eat healthily, take your vitamins, keep hydrated and wash your hands.

As this Presidential term winds down, we have the ASATT National Educational Conference in the virtual realm once again. When we decided to do virtual last year, we did not expect a huge positive reaction to the turnout. We had hoped to have a return to in-person national education conference this year.

However, as the pandemic evolves and different regions are affected differently, we decided to have our national conference held virtually once again. Currently, we have "up to 14 or 15 CEUs offered". I know it is not the same amount as the previous year, but there are several reasons for this.

- 1. There is a shortage of willing presenters this year due to staffing at their facilities, resulting in uncertainty of availability.
- 2. Covid- many of the possible presenters, are flat out exhausted and not able to participate. So, we are incredibly grateful for the presenters that can participate this year.
- 3. The staff shortage is due to people leaving the industry. Some retired, some moved to pain clinics. And facilities are attempting to replace staff.

ASATT has been working to improve the society for membership. We have streamlined and corrected many issues that have been identified as being problematic for membership.

One thing we are working on is obtaining accreditation for ASATT. This is another step towards raising the profile of our profession. This is a long process but worth it.

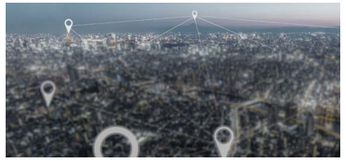
As we move towards a new membership model and provide all CEUs "in-house," the same rule we apply to our own offerings apply to third-party providers. These are independent businesses that ASATT has no investment in. There were numerous non-compliance issues that these groups/businesses refused to correct. ASATT cannot enforce rules for ASATT to follow and accept non-compliance from a third party. As far as the accusation that "ASATT shut them down" and "ASATT engaged in a Walmarting off" a business is false. Many third-party entities refused to be compliant with our standards. ASATT held the line for established policies and rules. Furthermore, as a result, these entities decided what was in their best interests.

These are normal growing pains as we continue to move from a club to a professional society. Moreover, I am sure there will be more in the future. Just keep in mind that these are made to improve ASATT and ensure that there will be growth in the future.

God Bless,
Greg Farmer, Cer.A.T.
ASATT Interim President

Highlights

SOCIETY NEWS



Regional Meetings

Region 7 – Hawaii hosted the most recent Regional Meeting for 2021, and it was a great success! The meeting was held via Zoom webinar. Thank you to all the attendees who registered for the meeting!

Shout out to Region 7 Director, Delbert Macanas, for hosting a great meeting, and many thanks to the speakers and medical students from John A. Burns School of Medicine (JABSOM), Pacific Anesthesia Service, and Chemekata Community College for your time and wonderful presentations!

Continue to check the ASATT website for future Regional Meetings! With the meetings in a virtual setting, this is a great opportunity to obtain more CEUs and attend different Regional Meetings. All meetings are posted under **EVENTS, MEETINGS/EVENTS.**

2021 Elections

ASATT 2021 elections closed Friday, August 13th and our members have spoken. Thank you to everyone who participated in voting on this year's Board positions. We had an impressive group of talented and committed members to vote on for the 2021/2022 term.

Stay tuned for the 2021/2022 board's announcement at the Annual Education Conference September 23rd - 25th!

Membership Renewal

Starting this year, ASATT implemented a new membership model for its members. The benefits are extensive, including multi-tier options that members can choose. Don't forget to renew your membership for 2021! Visit the membership renewal form on the website under MEMBERSHIP before it expires to continue to enjoy these new member savings throughout the year, including:

- Discounted fees for the Annual Educational Conference and Regional Programs (Regional Meetings) offered throughout the year
- A subscription to the Sensor
- Sensor CEU Quizzes (8 per year)
- 1-2 webinars (4-8 CEUs)
- 50% OFF any in-person or webinar meetings
- 50% OFF of the ASATT National meeting
- Reduced recertification application fees
- Monthly ASATT Update e-newsletter
- And so much more!

Remember, ASATT membership is based on a calendar year membership term, which runs from August 1 – July 31 each year.

Annual National Educational Conference

Registration is now open for the onsite 2021 Annual Educational Conference! Believing in the power of networking and educational opportunity, the ASATT Board will continue to monitor the COVID-19 guidelines and adjust accordingly to ensure a safe and valuable experience for everyone. SAVE THE DATE and plan on joining us September 23-25, 2021 virtually!

Look at our Conference website for more information about the hotel, registration fees, and our 2021 conference prospectus.

Let's work to re-connect this year!

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Certification

Recertification is coming up! Starting November 1, you can complete the recertification process through December 31. Don't leave it to the last minute! Start getting your CEUs in order and make sure your membership is up to date with one of ASATT's new membership pricing options to receive your membership benefits. To learn more, visit the **recertification** section on the ASATT website, as we will update the instructions as the date nears. If you have questions about how many CEUs you have on file with ASATT, please reach out to customer care at customercare@asatt.org or by calling Nicole at 414-908-4942 ext. 116.

Join an ASATT Committee Today!

YOU should join a committee if:

- You enjoy being creative and brainstorming with others
- You often think, "ASATT" should do THIS...."
- You get a thrill out of seeing your work in action and getting to actually measure the results
- You enjoy being an active part in making a difference
- You want to genuinely impact on the future of ASATT
- You're looking to gain leadership experience
- You have a genuine passion for the Anesthesia Technologist profession

If this describes you, apply for a position on a committee today. A full committee list is below but their job description of responsibilities and the application
to join a committee is on our website.

- Bylaws Committee
- Code of Conduct and Ethics Committee
- Financial Committee
- Nominations Committee
- Strategic Planning Committee
- Item Writers
  - Accreditation Committee
  - Continuing Education Committee

Spotlight

MEMBER HIGHLIGHT

Quentin Letson, Cer. A.T.

What is your current job title?
Chief Anesthesia Tech
Atlanticare Regional Medical Center, in New Jersey

How many years have you been in the Anesthesia Technology profession?
16 years

What do you find most challenging about your job?
What I find challenging and rewarding is how quickly the technology, techniques and information we use to care for patients evolves. I love the challenge of learning the newest techniques and tools and teaching staff and students how to use them. It's exciting knowing that we are providing the most advanced care available and anticipating future advances. Additionally having the opportunity impact patients with a variety of needs, ranging from cardiac surgery, to orthopaedics, to stroke and to learn from my colleagues in these and other areas for more than 25 years has made me well-rounded.New Technology and how its always revolving to new and improved and showing staff, techs and students the ins and outs of working new equipment

How many years have you been an ASATT member?
Since 2006

What is your fondest memory of ASATT?
I still smile when I think of attending the 2012 Annual Conference in D.C. It was great meeting and learning from members. I thoroughly enjoyed the stories of the hotel being haunted and actually seeing the room that was noted to be haunted.

What has been your proudest accomplishment? (Personal life, professional life, or both.)
Professional: Organizing and hosting 2 ASATT Region 1 Meeting and Seminar with Jonnalee Burgress – which we held at AtlantiCare Regional Medical Center's Atlantic City Campus, has been one of the most special accomplishments of my career.

Personal: Being a dad and grandfather are my greatest personal joys. I also serve as a football coach for youth in Atlantic City. My children, their kids, and those I coach make me a better person.

What is your favorite food?
Chicken Broccoli Alfredo with Garlic Bread

People would be very surprised to know that...
I have an Imdb page for actors. I have been in some movies and tv shows. Imdb: Quenitn Letson

What do you enjoy doing in your spare time?
I enjoy relaxing watching a good movie, a good walk, reading a good book or cruising on my Harley or drag racing my Hayabusa drag bike at our local drag strip and most especially, spending time with family and friends

What is your favorite type of music?
I enjoy all types of music as long as they don't have profanity, violence and or anything derogatory in the lyrics

What is your favorite movie?
Hmm Good fellaz, No Casino, No Bronx Tales lol hard to choose

What would you like to get around to doing one of these days?
I want to spend even more time with my grandkids and do more outreach for the less fortunate, racing my drag bike and cruising my Harley.

"I am so privileged to work at AtlantiCare, which is committed to investing in the technology we need to care for patients, and also in the personal and professional growth of staff. Continuous learning is critical to the success of all of us and especially so in healthcare."

~ Quentin Letson ~

Happenings

ASATT AND RELATED EVENTS

Regional Meetings

The implementation of a virtual platform to hold the Regional Meetings has been a great success so far. Our attendance numbers have never been higher. Many of you have expressed appreciation of the virtual option for its easy accessibility to the regional meetings. The goal as always is to provide as many educational opportunities as possible each year.

Region 7 just hosted their most recent meeting August 8th which resulted in a large number of attendees from all over. Thank you to all our participants and speakers for making this meeting a success.

Your Regional Directors are continuing to plan for more regional meetings before the end of 2021. Meetings will continue to be posted to the website and announced via the eblasts and on social media. In the next year the regional meetings will change to a quarterly basis. Doing so will benefit all participants with,

- Meeting times that allow most anesthesia technologist and technicians across the country to attend meetings.
- By holding one virtual meeting per quarter, operations for members and Regional Directors are streamlined.
- Furthermore, holding one meeting per quarter allows members sufficient time to register. This strategy also aligns with the ASATT 'New Path Forward' Initiative.

2021 Annual Educational Conference

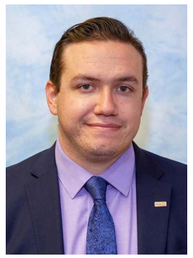
Registration is now open for the 2021 Annual Educational Conference. The conference will take place VIRTUALLY for our attendee's safety during these unpredictable times. ASATT has continued to monitor the COVID-19 rules for gathering to ensure the safety and well-being of our members, corporate partners and colleagues. The conference will take place from September 23-25, 2021. Please plan ahead. Take a look at the conference website for more details and registration information.

The ASATT Board of Directors would like to thank you for your patience and understanding during these unprecedented times and looks forward to your participation this year in the ASATT Annual Educational Conference!

Intraoperative Cell Salvage FOR Obstetric Hemorrhage

Should Intraoperative Cell Salvage be considered for Obstetric Hemorrhage?

A literature review discussing the efficacy of Cell salvage for use in obstetrics



BRYAN FULTON, BAA, CER.A.T.T.
ANESTHESIA TECHNOLOGY PROGRAM DIRECTOR
OKLAHOMA CITY COMMUNITY COLLEGE

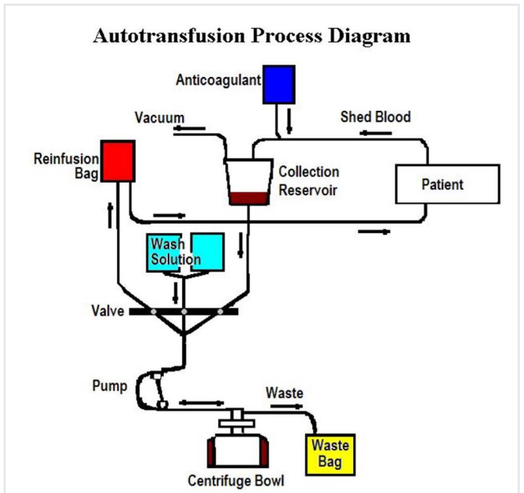
Autologous Cell salvage is an intraoperative blood management modality used in various forms for 203-years with its roots in the gynecological suites of London [1]. Over the years, various protocols, indications, contraindications, and considerations arose based on the technology and research of the day. Unfortunately, as technology developed, enhancing the efficacy of cell salvage, specific procedures were still considered too dangerous to perform using intraoperative cell salvage, despite research indicating its safe use. One such procedure is that of obstetrics and the use of cell saver for treatment of hemorrhage. The purpose of this literature review is to provide an expository understanding of autotransfusion and synthesis of the contemporary research being done on cell saver for obstetric medicine.

A Brief History of Autologous Cell Salvage

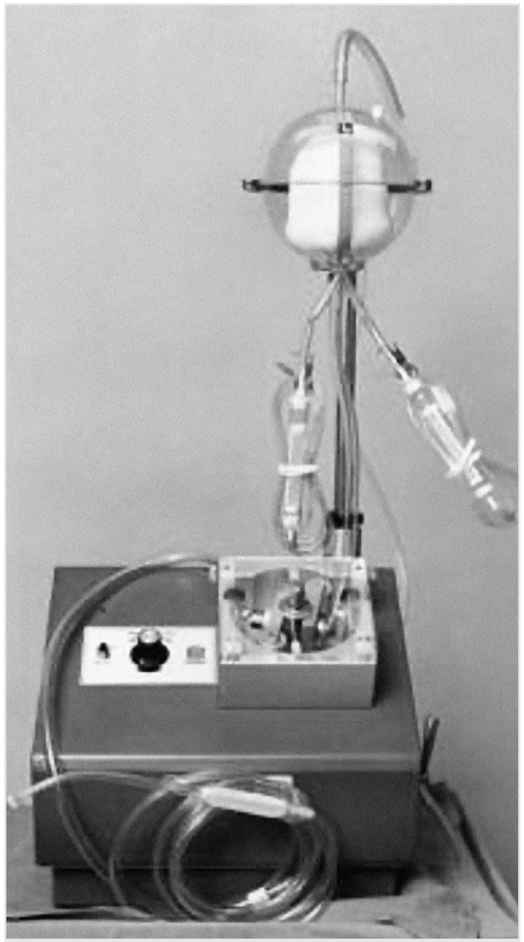
Cell Salvage's beginnings in medicine started in 1818 with Dr. James Blundell, a Gynecologist practicing in London [1]. Unlike the complex centrifuge-based systems used today to process erythrocytes, Blundell's methodology relied on

the rudimentary application of the base three domains of cell saver. Collection, washing, and reinfusion. Collection relied on gathering blood-soaked gauze mixed with a saline solution and placed in a container devoid of oxygen. The primary reason for the saline and lack of oxygen was to prevent coagulation of the cells. Then, through his patented *Impellor* device and *Gravitator*, he would rapidly insert the processed blood into a syringe and inject it back into the patient [2].

By 1943, additional experimentation into transfusion medicine and the preservation of a patient's own blood advanced into what is agreed upon as the first use of contemporary call saver technology [1]. Griswold's system relied on suction, a container, and a method for cleaving the red blood cells from particulate debris and other large molecules. Unlike the centrifuge systems used today, Griswold relied on cheesecloth to process the collected cells [3]. The use of a centrifuge and crystalloid solutions for processing would not occur until 1968 with the work of Wilson and Taswell. The work of Wilson and Taswell resulted in biomedical technology companies investing resources in developing specific systems for autotransfusion, relying on the groundwork laid from the 1940s to the 1960s [4].



The first manufactured cell saver would be developed in 1968 by Klebanoff [5]. The *Bentley Autotransfusion System* was a breakthrough in transfusion medicine occurring contemporaneously with the development of cardiopulmonary bypass devices. The device introduced advancements such as a cardiotomy, a pressure-relief valve, a 125-micron filter, and a DeBakey roller clamp. However, despite the considerable improvement, the *Bentley Autotransfusion System* was highly prone to introducing fatal air embolisms [3].



The Bentley Autotransfusion System

As micro-processing technology would advance globally, The advancement in computer technology would be utilized in Cell Saver systems [3]. Despite the increased demand for cell saver in the perioperative environment by 1975, the last significant advancements in cell saver would come with the introduction of the Latham bowl, Sorenson cardiotomy, and the standardized practice of using heparin—the primary anticoagulant for cell salvage [3].

Despite the increasing use of cell saver in the later 20th century, primarily for cardiovascular surgery, autotransfusion was avoided in obstetrics medicine despite cell savers roots being firmly planted in the postpartum hemorrhage work of Dr. James Blundell in the 19th century.

Explaining the lack of Cell Saver Services in Obstetric Medicine

The limited use of cell saver in obstetric medicine, particularly in that of cesarean section and postpartum hemorrhage, is based on the premise that amniotic fluid (AF) could potentially pass through the processing phase of the cell saver and be introduced to the patient resulting in catastrophic events like Amniotic Fluid Embolism (AFE) and Disseminated Intravascular Coagulopathy (DIC) [3]. Unfortunately, this supposition has remained primarily a theoretical fear, despite numerous clinical studies indicating amniotic fluid is removed entirely, along with all other fluid components like fetal debris, Alpha Fetal Protein (AFP), trophoblasts, and lanugo hair, among other items [6].

Early research into the Efficacy of Cell Saver and the presence of Amniotic Fluid

Thornhill et al. - 1991 - An in-vitro assessment of amniotic fluid removal from human blood through cell saver processing

Research into the efficacy of autotransfusion for cesarean section and postpartum hemorrhage dates back to 1991[3]. Thornhill et al. published an In-vitro study in *Anesthesiology* of six sterile amniotic fluid samples processed in mixed blood samples through a *Shiley Dideco 795 P Cell Saver*. The fluid was collected from ASA I and II patients and was subsequently divided into 12 smaller samples. First, six samples were mixed with expired red blood cells from the blood bank with a 20% amniotic fluid to 80% erythrocytes ratio. The second set of six sterile amniotic fluid samples was mixed with fresh blood derived from hemochromatosis patients. Hemochromatosis is a blood disorder that causes an overload of iron to build within the bloodstream. The amniotic fluid to fresh hemochromatosis whole blood was mixed in a 20%-33% amniotic fluid ratio to 67%-80% whole fresh hemochromatosis blood[6].

> **"[no] increased risk of complications in patients receiving autologous blood collection autotransfusion during cesarean section"**
> *~ Rebarber, 1998 ~*

The study results indicated no amniotic fluid or AFP could be detected in the post-wash sample and no gross particulates in all twelve samples. Despite the low *n-value*, the study revealed that technology from the late 1980s and early 1990s could produce cell saver products with no containments that would induce AFE or DIC. The authors did not make any declarative statements on the study, and the resulting conclusions did not change the supposition that cell saver was dangerous for cesarean section and postpartum hemorrhage.

Rebarber et al. - 1998 - The safety of intraoperative autologous blood collection and autotransfusion during cesarean section.

In 1998, clinicians and researchers at Yale University School of Medicine conducted a study evaluating the safety of cell saver with 139 participants [3]. Of the 139, 52 patients underwent cesarean section with the use of intraoperative cell salvage (ICS), with the remaining 87 undergoing cesarean sections receiving allogeneic blood transfusions (ABT) only [7]. There were other studies into the efficacy of cell savers for obstetric medicine between 1991 and 1998; however, this study was the most significant and most conclusive to date.

For this study, cell saver services were performed at three medical centers affiliated with Yale University School of Medicine, Yale-New Haven Hospital, Good Samaritan Hospital, and Hinsdale Hospital. The experimental group processing volumes had wide ranges of return volumes across the three facilities, with a total processing range of 125-4750mL [7]. Results from the three facilities were insignificant, and when compared to the control group, the authors could not indicate any "*increased risk of complications in patients receiving autologous blood collection autotransfusion during cesarean section* (Rebarber, 1998)."

Despite the growing body of evidence during the 1990s, the use of cell saver was still contraindicated, as evidenced by the AABB in their 1997 *AABB Guidelines for Blood*

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Recovery and Reinfusion in Surgery. The guidelines asserted by the AABB indicated that aspiration in the presence of amniotic fluid should be avoided as it "*Contains proteolytic enzymes that may activate clotting* (AABB, 1997)[8]." In addition, the AABB considers the use of cell saver a relative contraindication if the services are provided after the fetus is delivered and confirmation that all amniotic fluid has been removed via "*...copious irrigation with 0.9% sodium chloride solution to an alternate suction source* (AABB, 1997) [8]." While this paper's goals are not to question the 1997 guidelines directly, it seeks to highlight almost decades' worth of research indicating the centrifuges' ability to remove AF and AFE in the wash cycle producing a safe cell saver product.

Turn of the Century Research into the Efficacy of Cell Saver for Obstetric Medicine

Waters et al. - 2000 - Amniotic Fluid Removal during Cell Salvage in the Cesarean Section Patient

Despite guidelines suggesting the safe use of cell saver during cesarean section and that the risks of fatal coagulopathies and embolisms were low, research continued to provide more validation for using cell saver in obstetrics. Finally, in 2000, a study was published which directly contradicted the aforementioned theoretical catastrophes [3]. Principal researcher Waters and his team at Cleveland Clinic Foundation decided to undertake an exhaustive investigation to evaluate—at the cellular level—what occurs in the Latham bowl when amniotic fluid is present. Measurements included quantification of "*...squamous cell concentration, lamellar body count, quantitative bacterial colonization, potassium level, and fetal hemoglobin* (Waters et al., 2000) [9]." What made this study so important rested on the methods used. Previous studies into the efficacy of cell saver relied on a two-step process to evaluate effectiveness. The study sampling would be sequential, taking four samples from fifteen patients at different intraoperative periods. The first sample was "*unwashed blood from the surgical field.*" The second sample was derived from the washed product, and the third sample was derived during post-filtration before patient administration. The final sample drawn was a venous ABG drawn from a femoral catheter.

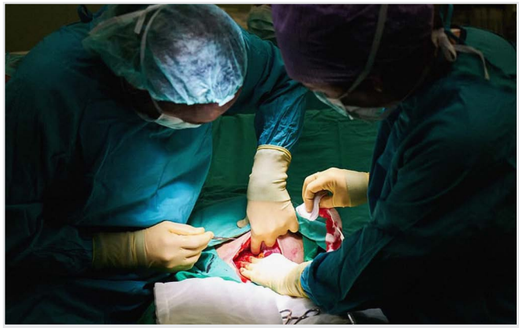
"It is rational to assert that the study provided validation for using cell saver during cesarean section and hemorrhage."

The methods used by the team at the Cleveland Clinic Foundation revealed progressive and significant reductions of squamous cell concentration, lamellar body count, quantitative bacterial colonization, potassium level, and fetal hemoglobin. In addition, the authors concluded that the blood produced from the cell saver post-filtration almost matched the patient's venous ABG samples. Thus, the study indicates cell saver as a viable option for obstetrics patients during the cesarean section. It is important to note that while amniotic fluid was not a significant threat of DIC or embolism, the researchers did indicate that the exact cause of amniotic fluid embolism (AFE) is still unknown, a fact that remains in effect today [10].

At the time of the study, the authors indicated 390 case reports of intraoperative cell salvage being used in cesarean section with postpartum hemorrhage without filtration, a standard used in this study. In the 390 case studies, there were no incidences of AFE. This is important because Waters et al. sampled the processed blood post-filtration (the product which would be reinfused in the patient) and found no squamous cells present in addition to the absence of leukocytes and potassium. Why is this important? Amniotic fluid is primarily an electrolyte-based solution surrounding the fetus, and then in later pregnancy, squamous cells populate primarily from lung development. Based on this understanding of maternal and fetal physiology, it is rational to assert that the study provided validation for using cell saver during cesarean section and hemorrhage.

Malik et al. - 2010 – Cell saver use in obstetrics

As the technology advanced into the 21st century, so did research into autotransfusions efficacy in obstetrics. In 2010, physicians scientists from the Leicester General Hospital in Leicester, United Kingdom, conducted a retrospective study on 147 patients. Participants were selected on two factors, those who had confirmed Placenta Previa and individuals who self-disclosed as Jehovah's Witness. Of the 147 patients identified for the study, intraoperative cell salvage (ICS) was used in 52% of cases [11]. The importance of this study is multifaceted. One, it did not identify any adverse events for those who received ICS. Two, there was no marked recovery difference between those who received ICS and those who relied on homologous transfusion alone. Three, it identified



process issues with the adoption of efficient cell saver use in the operating suite.

The study noted that while cell saver proved effective without any adverse events occurring, the study did note that processing volumes varied widely with a reprocessing range between 0 and 1,800mL and a mean volume of 95.5mL per case [11]. During the discussion, the researchers noted that the vast range was attributed to the avoidance of cell saver in high volume bleeds. The reason for this avoidance harkens back to the theoretical concern of amniotic fluid embolism, a risk that is anomalous with research indicating incidences between "1 in 8000 and 1 in 80000 deliveries [12]". Secondary reasons for the low processing volumes include lack of enough equipment and properly trained and credentialed staff needed to improve efficiency in processing and performing procedures [11].

Closing Thoughts With Considerations From Contemorary Research

With research into the use of cell salvage dating back more than three decades, it would seem that there is a cause for the inclusion of cell salvage into the obstetric operating suite as a standard practice. The most significant barrier to inclusion is the theoretical fear of an AME and a belief that a large enough study has not been conducted to validate its use [14]. Arguably, yes, n=values in studies conducted over the years have been low. However, it is essential to note that AME is an already rare event. With its unknown mechanism of action, researchers may likely never allocate a large enough sample size. Despite the barriers to overcome, the use of cell salvage in the cesarean section is gaining momentum. In 2017, the most extensive randomized controlled study was conducted on the efficacy of cell salvage in cesarean section and postpartum hemorrhage, with 1,498 patients receiving cell salvage during the cesarean section. The research noted that fetal blood mixing was occurring but noted that amniotic fluid embolism should not be treated as a barrier to use.

Additionally, they noted that due to leukocyte depletion, filters should be avoided [13]. In the end, the only significant conclusions that can be drawn are the fact that the AFE is a theoretical fear but that more research needs to be conducted into fetal blood interactions and leukocyte depletion. While these results cannot prove the use of cell salvage in the cesarean section, and policymakers will ultimately decide its use in operating rooms, the continued research into cell salvage for cesarean section and hemorrhage is pointing toward a future where it could be regularly used for emergency events.

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Take the QUIZ

Click here for a copy of the quiz.

Outlook

PROGRAM DIRECTOR INSIGHTS

MICHAEL PHELPS, MD
ASSISTANT PROFESSOR OF ANESTHESIOLOGY AND CRITICAL CARE MEDICINE

The pandemic cancelled the graduation ceremony for our 2020 class of anesthesia technologist students. This is one of my most significant COVID-19–related losses. (My wedding also got pushed back a year; I'd be remiss if I didn't at least mention this.) Therefore, it is appropriate to reflect on how a few individuals from Johns Hopkins built an educational program from scratch that would eventually become the most rewarding project I've been involved with.

The Johns Hopkins / Community College of Baltimore County (CCBC) Anesthesia Technology program owes its inception to our program director, Kim Allen. Kim was an excellent anesthesia technician at Johns Hopkins who self-studied and passed the exam to become a Certified Anesthesia Technologist. Kim wanted to address the lack of formal education available at that time, as only two schools existed nationwide. She approached the administration in the Department of Anesthesiology with the idea and it was well-received.

We partnered with CCBC because it had an impressive track record with allied health education. The partnership proved to be a wonderful match, and to this day I look forward to our meetings with the CCBC staff. The CCBC staff attend to much of the administrative overhead, while Johns Hopkins supplies the educational faculty. We also received significant assistance from the school affiliated with Kaiser in Pasadena, CA; staff there were very helpful in assisting us with navigating this new (to us) landscape.

Navigating the state and educational certification authority bureaucracies proved slower and more challenging than we had anticipated, but eventually everything was in place to start educating the next generation of anesthesia support staff. Early in the process I was appointed medical director of the school. It's not a position I asked for; I found out about it in a department-wide announcement. I was surprised to hear the announcement but had no problem with it. When I was an undergraduate student, I worked in the department as an anesthesia technician while studying engineering; therefore, my unique background was appropriate for this role. In hindsight, this was the best appointment I have ever been assigned to.

Initially, I anticipated my position to be one of high-level advising. "Seeing the big picture." Early on, however, I was asked to teach at the school. One of our CRNAs (Shannon Yorkman) and I were effectively teaching all of the didactic parts of the educational program. Because I teach the Monday classes, I spent many late Sunday nights working on course material for the next day. I was regularly teaching every week by the spring semester of our first class of five students.

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The first couple of years represented an even steeper learning curve for the instructors than for the students. It was difficult to develop content and exam questions based on nothing more than a vague topic outline and our personal opinions of what a competent anesthesia technologist should know. Shannon and I had little to go on initially; neither of us had ever taken an anesthesia technologist exam. This was a time of rapid evolution for our teaching topics, exam questions, and teaching methods. We depended on our graduating students to provide feedback on which topics they felt well-prepared for and which topics they felt weaker in.

Course topics were re-ordered to optimize student understanding and to prepare them for various experiences during the year, such as the start of clinical rotations or Advanced Cardiac Life Support (ACLS) certification classes. Additionally, we modified the emphasis and time devoted to various course topics depending on how well our prior year students had absorbed the material.

Of course the didactic component of the program was only part of the picture. We initially used Johns Hopkins' simulation labs for some of the teaching. Subsequently we were able to build our own simulation lab at one of the CCBC campuses. Our approach continues to evolve as we endeavor to provide a more ideal balance between breadth and depth of experience.

Several years ago I never would have envisioned the time and effort it would take to develop educational content and exam questions. And, naturally, we continue to modify the content. So far I've personally written over a thousand exam questions for the courses I teach. It remains one of the most difficult aspects of the job.

It is exciting to see how far we've come and project how this program may continue to evolve. I envision a future that includes enhanced hands-on training (more diverse clinical rotations and "lab sessions" than we currently have in place), as well as simulation and multidisciplinary training. Teamwork will be emphasized, and institutional cultures will adapt to accommodate this evolving paradigm in anesthesia care teams. Of course it's one thing to have a vision and quite another to achieve it. Many barriers must be overcome, and challenges are posed by the very nature of the anesthesia technologist certification.

For instance, the required prerequisite college courses are a challenge for recruiting good students to our program. Our prerequisites are nearly identical to those for nursing school. Many highly qualified individuals choose nursing instead of anesthesia technology, as it is a much better developed field with stronger salaries and more advancement potential. On the other hand, many exceptional and experienced anesthesia technicians who are trained on the job find taking multiple college classes just to satisfy the program's prerequisites to be a poor use of their time, money, and energy. Despite these challenges, the Johns Hopkins / CCBC Anesthesia Technology program just started its fifth year in June with its largest class yet.

It is energizing to be associated with such a terrific national community. The ASATT has been a good organization to work with, and I'm confident that together we will continue to improve the quality of anesthesia support staff. My goal is to contribute to the continued development of the tightly knit national community for anesthesia technologist education. I also sincerely hope to be able to attend the graduation ceremony of our current class next year; it would bring me great satisfaction and confirmation of return to normalcy.

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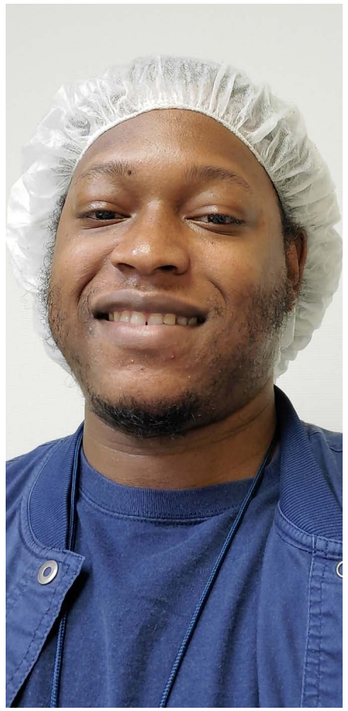
STUDENT CORNER



CHANCE BROWN
COMMUNITY COLLEGE OF BALTIMORE COUNTY

April 2020, my life, like that of many others, changed due to the pandemic. I found myself facing reduced employment and trying to find a career while anticipating my first child. A family friend encouraged me to look into the anesthesia technologist program at Community College of Baltimore County. I did some research, talked to a retired anesthesia technician, and applied. I was unsure where this path would lead, but I was confident that it was a step in the right direction.

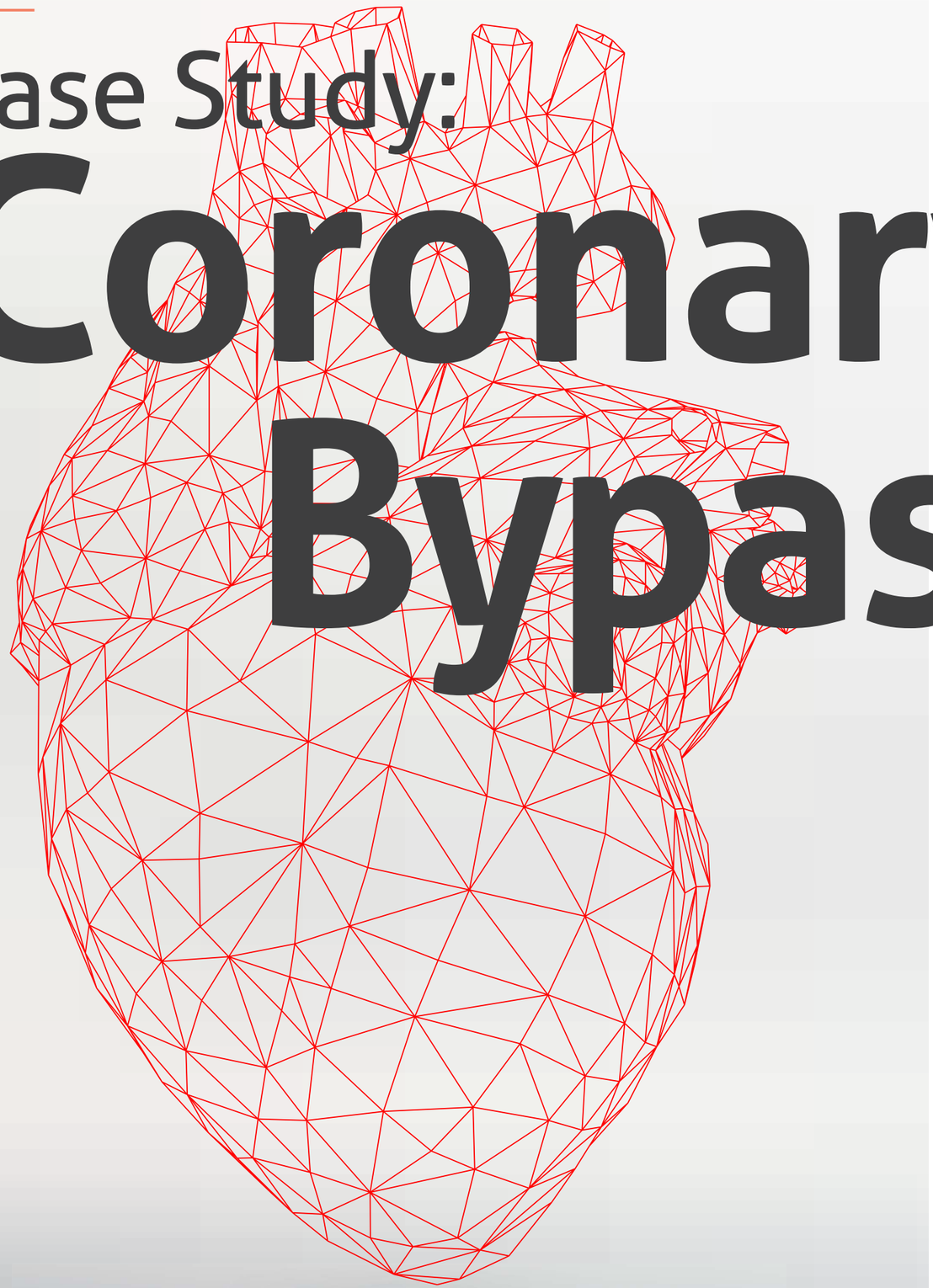
My first challenge was adjusting to a virtual teaching environment. Fortunately, the program was approved to resume in person with COVID-19 health screens and appropriate social distancing. Meeting my instructors, Dr. Michael Phelps and CRNP Shannon Yorkman, I felt supported, but I was nervous because they both emphasized how fast the program moves and the amount of material that would be covered in each semester.

In the summer session we were introduced to anesthesia; physiology of the heart, lungs, and nervous system and standard ASATT monitoring. In the fall we learned about pharmacology, pathophysiology, and anesthesia equipment. Winter semester consisted of Advanced Cardiac Life Support certification, EKG reading, and medication dosing. By spring we discussed the role of anesthesia in specific cases, what outcomes to anticipate, and how to respond. Personally, my obstacles consisted of time and self-care management. My son was born during the fall semester, and my family had to make big adjustments. I got little sleep, but I managed to balance his schedule with my school and work responsibilities.

Clinical rotations in the fall and spring were very beneficial because they connected concepts that I had difficulty understanding. COVID restrictions did limit some hands-on skills we would have learned, like IV insertions, assisting in intubation, and the patient preoperative process. However, I learned how the anesthesia machines work and how to use them. Experience is a great teacher, and the variety of cases I saw helped solidify my understanding of classroom lessons. The more I observed and asked questions, the more I was able to experience. Hopkins is a teaching hospital, and the anesthesia team was ready to answer questions.

I made the best of my experience by having an open mindset and adjusting to all the changes and challenges each semester brought. I was recently hired by Johns Hopkins Hospital as an anesthesia technician, and I strongly believe that my six months of clinical rotation helped me during my training period. I am also fine tuning my skills as I prepare to take the ASATT national credentialing exam. I welcomed the challenges and grit of pandemic-related adjustments, but I know that my clinical journey through anesthesia is just beginning.

Case Study: Coronary Artery Bypass Graft



GRACE CLANIN
OKLAHOMA CITY COMMUNITY COLLEGE

Coronary artery disease is a serious and life-threatening disease. This paper will discuss a case of a 76-year- old undergoing a Coronary Artery Bypass Graft procedure. This brief includes patient parameters, pathophysiology, cardiac physiology, anesthesia's role, and cardiac bypass. The patient was in the operating room at 07:00 with anesthesia induction beginning at 07:52 and completed by 08:25. The procedure ended at 16:31 without incident, and the patient was transferred to the ICU at 16:45.

Patient Parameters

A 76-year-old female was presented to the operating room for a cardiopulmonary bypass graft. The patient's admitting weight was 63.5 kilograms with a registered height of 62.0 inches and was designated by the Anesthesia care team as an ASA IV. The patient is allergic to morphine, which is a common anesthetic medication used preoperatively for patients needing a CABG (Jannati, 2019). Prior surgical history includes multiple PCI's that have since become stenotic and a hysterectomy. The patient's medical history includes multiple concomitant pathologies, including hypotension, unstable coronary artery disease, IBS- C, renal failure resulting from acute kidney injury; type AKI, Cr 1.3, hypothyroidism, and rheumatoid arthritis. Due to the patient's medical history, it is important to note medications taken the day of surgery and PRN, which are: Temazepam PRN (30 mg), Tofacitinib BID (5mg), levothyroxine 50 mcg, prasugrel (10mg), Atrovastin (40mg) Imdur (120 mg), lisinopril (10 mg), nitroglycerin 0.3 PRN, Aspirin (.81 mg), Metoprolol succinate (25 mg).

Cardiac physiology

The coronary arteries are arguably one of the most important anatomical structures in the circulatory system. Mechanically for the body to function, the heart must supply oxygen-rich hemoglobin to itself before the rest of the body, which is accomplished via the location of the coronary arteries emerging from the aortic sinus just superior to the aortic leaflets. Given the importance of the coronary arteries and increasing incidences of coronary artery disease, the anesthesia technologist needs to have a functional understanding of coronary artery disease. *Morgan and Mikhail's Clinical Anesthesiology* 6th Edition (2018) states "*the overall incidence of CAD in surgical patients is estimated between 5% and 10%* (Butterworth, 2018, p. 395)." There are two types of coronary artery disease. The first is arteriosclerosis, whose etiology is the result of natural aging. The coronary arteries become fibrotic and narrowed, increasing the resistance to eject blood through the vessels. Atherosclerosis, the most common form of coronary artery disease, is the result of plaque buildup inside the arteries due to a high cholesterol diet. Risk factors for CAD include hyperlipidemia, hypertension, diabetes, cigarette smoking, and increasing age. (Butterworth, 2018, p. 395). Plaque buildup in the coronary arteries, if left untreated, can result in morbidity and mortality. The disease process for atherosclerosis begins with plaque formation on the arterial walls, increasing the resistance necessary to eject oxygen-rich blood to the myocardium. It is important to note that the pathological issues surrounding myocardial perfusion do not stop with coronary artery disease. Plaque buildup can lead to a complete blockage causing clot formation, leading to a myocardial infarction (MI), which can be described as tissue death to a specific area of the heart (libretexts, 2020).

"The two connection sites link the heart to the machine; the right atrium, where deoxygenated blood enters the heart, and the aorta responsible for ejection and perfusion."

A coronary artery bypass graft is used to treat coronary artery disease. This procedure involves the removal of another vessel from the circulatory system to bypass the damaged vessel. Common vessels used include great saphenous veins, internal mammary arteries, and radial arteries (NHS). The procedure relies on the surgical team forming an anastomosis around the diseased area. The anastomosis can be done surgically or naturally via the body redirecting blood flow around the blockage to prevent ischemia and to maintain homeostasis.

Cardiac Physiology Relating to Cardiac Bypass

The bypass machine is an essential piece of equipment in the cardiac room as it replaces the circulatory and perfusion responsibilities of the heart while the surgical team corrects the damaged vessels. By replacing the mechanical and perfusion workload of the heart, the bypass machine allows for motionless access to the heart during surgical intervention. The mechanism of action for the bypass works via cardioplegia that is "*delivered either antegrade into the aortic root or retrograde into the coronary sinus or both* (Sarkar, 2019). The two connection sites link the heart to the machine; the right atrium, where deoxygenated blood enters the heart, and the aorta responsible for ejection and perfusion. The connection site in the right atrium allows the machine to take the deoxygenated blood from the atrium pumping it into an oxygenator reservoir outside of the body (*A Heart Surgery Overview*, 2020). Under normal physiological conditions, deoxygenated blood enters the right atrium from the superior and inferior vena cava. This blood is ejected from the right ventricle into the pulmonary system through the pulmonary arteries.

Blood flow throughout the entire body relies on millions of vascular capillary beds. it is at the vascular capillary beds are where oxygen enters the tissue. This is referred to as capillary action, where oxygen-poor blood can shift superiorly without the reliance on gravity. Once oxygen transfer is complete, the venous system moves the deoxygenated blood sending it back to the right atrium through the IVC or SVC. Eventually, it is sent to the lungs, where that same oxygen-poor blood is now re-oxygenated. Thus, completing the pulmonary system. (Libretexts, 2020)

This oxygen-rich blood is then sent out of the lungs and into the left atrium through the pulmonary veins (these are the only veins that carry oxygenated blood). It goes through the bicuspid valve into the left ventricle and into the left ventricle, feeding the coronary arteries. This is where the "heart feeds itself first" concept comes into play, sending blood through the coronary arteries to oxygenate the myocardium. The rest of the oxygen-rich blood is sent out to the tissues and organs, completing the systemic system.

With the groundwork laid for understanding the circulatory system established, the importance of the bypass machine can be fully grasped. As stated above, there are two connection sites in the heart, one at the right atrium, and the other at the aorta

"The aorta is done first after heparinization because of the hemodynamic problems associated with venous canulation and to allow convenient and rapid transfusion from the pump oxygenator"

~ Butterworth, 2018 ~

The right atrium connection port takes the blood out of the right atrium and replaces the function of the lungs through external blood oxygenation. This oxygenated blood is sent to the connection port on the aorta, where it can be pumped to the rest of the body. Because of the change in how the blood is moved into the bypass machine, the development of coagulopathy is possible. Due to the increased chance of coagulopathy, the blood must be treated with an anticoagulant. Heparin is the primary anticoagulant used for this procedure. Heparin works by enhancing the inactivation rate of antithrombin III reversing the activated clotting factors, essentially halting the binding of factor X and prothrombin (Ofosu et al., 1982). According to Butterworth (2018), "*...the accuracy of anticoagulation agent is confirmed by measuring ACT, a longer ACT time of 400-480 s is accurate*" (Butterworth, 2018, p. 462). For this procedure, the patient was given 25,000 units of Heparin to initiate the antithrombic state. Once the patient was off-bypass, the anesthesia team, in coordination with the perfusionist, administered 250mg of protamine. Protamine is the primary reversal agent of Heparin and is used to restore hemostasis after high-dose heparin administration.

Anesthesia Induction and Maintenance

Induction for the patient was uneventful, using propofol, fentanyl, and rocuronium. It is important to note that typical induction of anesthesia for cardiovascular surgery relies on etomidate, as propofol acts as a cardiovascular depressant lowering blood pressure. Based on the preoperative evaluation, the provider decided that the patient could withstand the effects of propofol. Before the case started, the ACT prepared a Macintosh 3 blade and a 7.5mm endotracheal tube. As members of the Anesthesia Care Team, the certified anesthesia technologist must verify the laryngoscope light is functioning and that brightness is adequate. Additionally, it is essential to check the ETT cuff and ensure it maintains pressure. The airway evaluations were uneventful, indicating a standard direct laryngoscopy with no need for airway manipulation or the initiation of the ASA difficult airway algorithm.

For the duration of the procedure, PCV-VG was utilized until bypass started at 11:30; at the conclusion of bypass, the ventilation mode returned to PCV-VG. Once the patient is removed from cardiopulmonary bypass, it is important to take precautionary lung-protective management techniques to preserve pulmonary function in the postoperative area. For this procedure, the anesthesia care team utilizes continuous positive airway pressure (CPAP) to protect pulmonary function. Additionally, it is acceptable to utilize low tidal volumes to preserve pulmonary function (Echeverria-Villalobos, 2019). General anesthesia was maintained using a 1.2% delivery of Isoflurane with the mechanical ventilator being set on a 1:2 I:E ratio. PEEP levels were set to 7cm/H2O with a respiration rate of 13.

Patient Monitors

Prior to induction, all ASA monitors were placed, ECG, SpO2, noninvasive blood pressure monitoring, temperature monitoring. Additionally, the anesthesia care team placed an arterial line, central line catheter, Swan-Ganz catheter, and utilized a transesophageal echocardiogram. *The Anesthesiologist's Manual of Surgical Procedures* (2019) confirms the importance of having all standard monitors and the addition of an arterial line, CVP, and PA catheter (Jaffe, 2019, p. 358). For cardiovascular surgeries, the strategic placement of monitors is essential so that accurate data can be collected without violating the integrity of the surgical area. ECG pads should be placed along the midaxillary line and on the scapula. Furthermore, due to the placement of these monitors away from the chest, it is necessary to place Tegaderms or some other form of adhesive over the ECG pads to maintain adequate skin contact. The only major complication regarding hemodynamic monitoring concerned the placement of the arterial line. The procedure required four radial artery punctures with successful cannulation

occurring after utilization of a linear ultrasound probe. The primary complication regarding arterial cannulation was the development of hematomas.

Anesthesia Care Team's Role

The ACTs' role during bypass encompasses several vital tasks. First, a timed sequence for ABGs which were administered every 30-minutes. Two, temperature management and monitoring were accomplished via an underbody cardiac warmer. Three, urine monitoring is done more regularly; to ensure renal function is not impaired from the CPB. During this procedure, we noted a total urine output of 1000mL; this volume was replaced with 1000mL of 0.9% NaCl crystalloid solution.

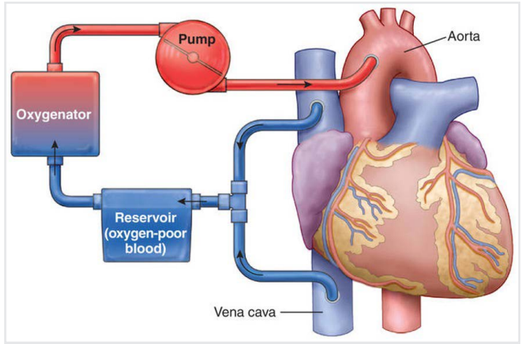
During bypass, medication delivery is reduced and primarily administered through the bypass; however, *Morgan and Mikhail's Clinical Anesthesiology* (2018) make an important statement "*failure to give anesthetic agents, may result in awareness and recall...small amounts of volatile anesthetics are given via the oxygenator*". Additionally, Butterworth (2018) indicates administering multiple pharmacological agents through the CBP to prevent awareness such as, benzodiazepines, propofol, opioids, or ketamine (Butterworth, 2018, p. 467).

Arterial Blood Gas Results.

Arterial blood gas samples were taken periodically throughout the case. Blood gases are essential during a cardiovascular procedure as they indicate the patient's pH, hemoglobin, and potassium levels, among other valuable information. The first blood gas was done at 08:30 results are as follows: pH of 7.34, pCO2 of 49, pO2 of 499, BEecf of 1, HCO3 27, % sat 100, Na 139, K 4, Calcium ionized 1.2, Glucose 111, Hct 27and Hgb 9.2, indicating a relatively normal patient status. During the procedure, the third arterial blood gas indicated lower hemoglobin levels. To compensate for the drop, the ACT administered one unit of pRBC, which under normal circumstances will yield a 1g/dL increase in hemoglobin.

Conclusion

Emergence of the patient was uneventful with the care team transporting the patient to the ICU for recovery. Coronary artery disease is a complex and dangerous disease that can result in a myocardial infarction. For this procedure, a positive outcome was attained from proper anesthetic monitoring via the use of complex hemodynamic monitors, vigilance during monitoring and the success communication of all members of the anesthesia care team and surgical team.



Medical Dictionary, © 2009 Farlex and Partners

Citation: Ehrahn, (May 7, 2015) Wikipedia.org

Value	Arterial blood	Mixed venous
pH	7.40 (7.35-7.45)	7.36 (7.31-7.41)
paO_2	80-100 mmHg	35-40 mmHg
O_2 saturation	95%	70-75%
$PaCO_2$	35-45 mmHg	41-51 mmHg
HCO^{3-}	22-26 $mEqL^{-1}$	22-26 $mEqL^{-1}$
BE	−2 to +2	−2 to +2

(Table adapted from[31]); O_2: Oxygen, paO_2: Partial pressure of oxygen in arterial blood, pH: Acidity/alkalinity, $PaCO_2$: Partial pressure of oxygen in arterial blood, HCO^{3-}: Bicarbonate in blood, BE: Base excess

Blood gas analysis for bedside diagnosis - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Arterial-versus-venous-blood-gas_tbl1_261069986 *[accessed 29 Jul, 2021]*

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Partners

ASA

The most important message to covey to my anesthesia technologist friends is that we are moving back slowly to business as usual, and I hope it continues. Operating rooms are back to normal patient flow through and the anesthesia care team remains intact. We never wavered even during the height of the pandemic. I hope and pray that we will not see the likes of it again, but if we do, we will be ready. I, as the voice of the ASA to the ASATT, want to thank all of our anesthesia technologists for their hard work and dedication. Our patients greatly benefited.

Joseph F. Answine, MD, FASA
Liaison to ASATT

Notes

REGIONAL UPDATE

REGION 1

Happy Summer Everyone!!

Hot weather will again fill that air with fireworks, swimming, cookouts, concerts, and spending fun and quality time with our loved ones. I hope you all have enjoyed it, before you know it, we will have that lovely white stuff. Stay safe and make sure you keep your eyes open for Meetings on the website.

Josh Villar in NYC is working with the PGA on holding a meeting in December. Please keep checking the ASATT Website under meetings for more details. We are going to try and get this approved through ASATT so we can use the CEU's. We have a Virtual Regional Meeting on August 8th that you can always, check it out. Great way to get some CEU's.

I am sure that some of you are shocked with the price of the New Membership, however if you put it down on paper and put the dollar amounts to what you are getting, it really is a great deal. The Bi-Annual option is the best you do not have to pay to recertify, you get 24 CEU's for free. And finally, you get 25%off from any in-person or webinar meeting and 25% off from the ASATT National Meeting.

"Always end the day with a positive thought, no matter how hard things were, tomorrow's a fresh opportunity to make it better" author unknown.

Respectfully Submitted and Happy Summer,
Jonnalee Geddis, Cer.A.T.

REGION 2

Hello to our members,

I hope everyone is doing well. With summer approaching and the state laws are lifting for COVID-19 will be able to plan some vacations or family time since many of us couldn't visit them during the pandemic.

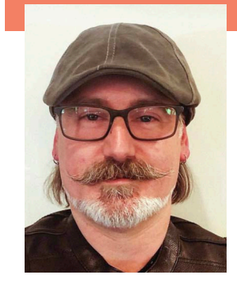
I had to change some dates and I will be holding a Region 2 Zoom Meeting in November 2021(4CE's). Remember the nice thing about Zoom meetings is that you can attend any of the Regional Meetings virtually.

Don't forget that membership for ASATT will be coming up. Be on the lookout for an email with details. Please make sure ASATT has an updated email address for you on file. The calendar year is August 1st - July 31. You can find more details on the ASATT website in Member Center/ 2021 Membership Updates.

Have you ever thought about being more active in our society for ASATT well members you may want to consider writing an article for the Sensor? ASATT is always looking for members to contribute and this could be a great way for you to get more involved.

Karen Patrick, Cer.A.T.

REGION 4



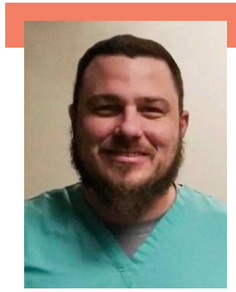
Greetings from the Midwest & Region 4!

First off, I hope everyone is having a happy and healthy start to the summer!

After a very successful combined Region 4/5 webinar (Thank you to everyone that attended!) I'm pleased to announce that we are planning another webinar for late November/early December. I'm asking everyone for speaker/topic ideas that interest you or things you want to learn about. Please reach out to me with any ideas.

Stay safe and have a wonderful summer,
Matthew Chandler, Cer.A.T.T.

REGION 5

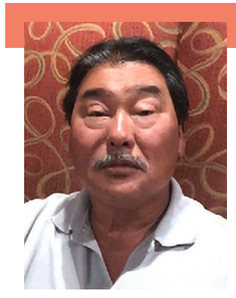


Hello from Region 5.

I hope everyone is staying safe and staying healthy. As the world is changing and evolving so is the way we are starting to do regional meetings. Until it is clear to have in person meetings we will be holding multiple virtual meeting every year to help all technician and technologists get the needed CEUs. We are keeping everyone safe and still being able to provide for everyone. The new membership has rolled out and with each tier; you will get some free virtual meetings as well as discounts for others. There is a discount on the national meeting as well. As we have changed the national meeting this year to another virtual meeting, we are still trying to get 2022 as a face-to-face meeting. This will make this year's meeting more feasible for more technicians to be able to get their meeting this year, with the new variant we are running into a wall with large meetings. As ASATT evolves into making this profession expand the capabilities of Anesthesia Technician and Technologist, we are bringing in more school to help teach programs.

Stay safe,
Jason Menchey, Cer.A.T.

REGION 7



Howzit Region 7!!!

I hope everyone is enjoying your summer, which is an enjoyable time of the year. I lover summer because I'm a big baseball person. I can watch baseball or highlights of baseball every day. Although at times it's hot, we need to sit back enjoy life and count our blessings.

We don't know what or where normal will be like as we move forward. But we must take everything in stride and move forward. Please continue to stay vigilant; "Situational Awareness". Don't let your guard down and stay alert. Be wary of the Delta Variant.

Continues on next page . . .

NOTES

"Enjoy every moment. All of them will be precious later."
~ Unknown ~

As we reflect on what 2020 taught us or brought us... Virtual meetings. I have been attending ASATT BOD's conference calls for many years, but they are now virtual meetings. We also have virtual CE meetings. The 2020 ASATT Hawaii Meeting was the first virtual meeting ASATT held and we just accomplished out second virtual Hawaii meeting with another attendance with >100 attendees. This was the 23rd Anniversary of the Hawaii Meeting.

In ASATT's new path forward members will be able to attend ASATT's second virtual Annual meeting at deeply discounted registration fees. Unfortunately, ASATT has had to revamp our plans to have a live or face to face meeting. The ASATT Virtual Annual Meeting will be held September 23 – 25th. More details to follow... Please check the ASATT website.

"You're always one decision from a totally different life."
~ Unknown ~

I'll say it again and again... ASATT is the society that will help our profession grow and move forward into the future. I know ASATT's plan WILL NOT make everyone happy, but you must look at the overall direction that our profession is headed. Give our leaders the benefit of the doubt they are not out to short change you. There will be some hard decisions to be made and they are making these decisions without careful consideration to improve our profession. I have been around for a LONG time and we have grown and improved more than many of you know. There's only a small percentage of our peers that have been in this profession >30 years like I have. I was around when we NOTHING and look at where we stand now. As I have said before... We are laying the foundation for future generations of Anesthesia Technicians & Technologist and we MUST build this together.

"Coming together is the beginning, Staying together is progress, And working together is success."
~ Henry Ford ~

Please be careful with Covid-19, it's nothing to take lightly. Take precautions and follow all of the CDC bulletins and guidelines, but don't let it overwhelm your life.

PLEASE BE SAFE AND PROTECT YOURSELVES...

Aloha,
Delbert Macanas, Sr., Cer.A.T.T.

Academy Vitals

ASATT ACADEMY

ASATT Virtual and Live Education Opportunities

ASATT has embraced the virtual realm and constantly works to bring you time-saving and cost-effective educational opportunities that work with your schedule. ASATT is excited to announce that Regional meetings will continue to be held virtually along with our Annual Conference! We look forward to everyone joining us again for this great education opportunity! Please **visit our conference website** for further details.

NEW! Virtual Meeting Realignment

The ASATT Board is excited to announce the implementation of a new virtual meeting realignment structure that will offer consistent Regional meetings every quarter. The new model will combine two to three regions each quarter to provide our members with an option to attend a regional meeting nearly every other month throughout the year. This structure will allow our members to plan ahead and register for Regional meetings months in advance. Check your email for specific details!

NEW! Earn CEUs for SENSOR Publications!

We want to hear from you! Have you recently written an article on Anesthesia Technology or a subject related to the Anesthesia Technology field? If so, this is the perfect opportunity to showcase your publication in the SENSOR and earn up to 5 CEUs! ASATT is always seeking Feature Articles from you to share with our membership. More information to come; keep your eyes open for more details!

INDUSTRY NEWS

Staying Connected During COVID-19

Since some of the COVID-19 restrictions on our day-to-day lives have begun to lift, ASATT, along with many other healthcare professionals, have continued to monitor the case numbers and any other updates from health advisories like the CDC to ensure the safety and well-being of their members and partners. With the various mutations and a push for people to vaccinate, some of the gathering restrictions remain or have been re-established for large groups. The constant changes to these restrictions made ASATT consider what is best for its members in relation to the Annual Educational Conference, which has since been moved to a virtual setting for its second year in a row.

Once again considering the well-being of our members, partners, sponsors, and exhibitors, ASATT confirmed that hosting the conference virtually would be the best move, at least for 2021. One of ASATT's professional partners, the American Society of Anesthesiologists (ASA) has decided to go the in-person route, while another of their partners, the American Association of Nurse Anesthetists (AANA), has transitioned to a virtual meeting / conference platform once again this year.

ASATT realizes that maintaining professional growth, development and education is important for moving the profession forward. While ASATT integrates virtual learning opportunities into their education and training portfolio this year, they have no intention of moving away from planning an in-person collaborative meeting experience long-term. For this year, virtual education and training is an important and necessary alternative to meeting in-person due to COVID-19 and its variants, and ASATT appreciates that the technology exists to provide ways to continue serving its members and supporting their professional development and certification goals through the provision of high-quality educational content to earn continuing education credits (CEUs).

While we may not know what conditions will look like in the coming months as COVID-19 remains a factor to consider for planning events and activities, ASATT is committed to re-introducing those in-person opportunities – once it is safe and prudent to do so – and always under conditions that will ensure the health and welfare of our members and colleagues.

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- Code of Conduct and Ethics Committee
- Financial Committee
- Nominations Committee
- Strategic Planning Committee
- Item Writers
  - Accreditation Committee
  - Continuing Education Committee

asatt

AMERICAN SOCIETY OF ANESTHESIA TECHNOLOGISTS AND TECHNICIANS

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