AmSEC***TOMORROW***

THE NEWSROOM

Working abroad in New Zealand: A Q & A with Courtney Peterson, MS, CCP

BY CHRISTINE TOONE, UTAH



CT: What led you to perfusion?

CP: I stumbled into perfusion by chance. I was a junior in college with no real direction. My mom, a cardiac nurse, heard of a healthcare showcase at UNMC and pushed me to attend. I remember seeing a balloon pump inflating and deflating during the perfusion session and decided to shadow a few cases after that. Despite initial skepticism, I took a leap of faith and found it to be a rewarding career.

CT: How did you discover international opportunities in perfusion?

CP: Attending conferences and actively networking played a significant role. I met a perfusionist from New Zealand at a conference, igniting my curiosity about professional international opportunities. Taking the initiative, I reached out to the Chief Perfusionist in Auckland and, after some time, received an opportunity to work abroad. My takeaway is to get out there and network! You never know what doors it might open for you down the road.

C**T: Can you describe the licensure process in New Zealand.**

CP: Surprisingly, the process for U.S.-trained perfusionists is relatively straightforward compared to other healthcare professions. If you received your CCP from the ABCP, you have very few roadblocks when it comes to practicing internationally, especially if you speak other languages. Securing a job, obtaining a work visa, and integrating into the healthcare system were the primary steps. Unlike nursing, which often involves extensive paperwork and regulatory hurdles, perfusion licensure in New Zealand is more streamlined for internationally trained professionals.

In this Issue:

CT: What differences did you notice in New Zealand's perfusion practices compared to the U.S.?

CP: Beyond the typical challenges of adjusting to accents, the differences in measurement units and protocols required adaptation. It took a bit of time getting used to seeing a PO2 of 33 kPa, Hgb of 121 g/L, and Glucose of 6 mmol/L – but nothing a calculator can’t fix. However, the quality of equipment and practices in New Zealand was top-notch, which facilitated the transition. The experience broadened my perspective and enhanced my skills in clear communication and adaptability.

“While confidence and experience played a role, the supportive environment was pivotal for success.”

CT: How was integration into an international team?

CP: Integration into the international team was remarkably positive. I had a very warm welcome and at the time I first came to New Zealand in 2018, I was over 5 years into my career and had come from large University programs. While confidence and experience played a role, the supportive environment was pivotal for success. Collaborating with professionals from diverse backgrounds enriched the experience and fostered personal and professional growth.

CT: What were the most challenging and rewarding aspects of working abroad?

CP: The logistical challenges of relocating, including leaving behind my beloved dogs and adapting to a new environment, were undoubtedly demanding. This is my second time leaving the States for NZ, this time my partner and I did bring our dog with us and my wife was 19 weeks pregnant on the flight over.

Newsroom contintued...

So needless to say, it was quite an adventure! Between packing, visa requirements, managing expectations and setbacks, booking shipping companies, pet relocation, selling all belongings, and reassuring loved ones, and staying sane throughout the process. However, the experience provided invaluable perspective and personal growth opportunities. No easy task, but if you want to try something badly enough, you will make it happen.

CT: What was one thing you wished you knew before working internationally?

CP: I wish I knew how difficult it would make returning to the US! Opening myself up to new cultures and new ways of life has had a lifelong impact on how I make decisions and where I devote my time. There are places that will align with your core values or dreams in life and that often evolves with each new season, but moving internationally has only heightened my awareness of this.

CT: How was the transition back to perfusion in the US?

CP: Fast and furious. I joined a team in Colorado as the Chief in one of our accounts and over the course of 1.5 years worked up to Regional Director for teams across the Rocky Mountain region. Not to mention the pandemic hitting just 8 months after arriving back in the US and our hospitals being Covid ECMO sites. To this day, I am still blown away at what our small teams were able to withstand during what I hope is the most difficult period of my career. But, I was surprised at how quickly I fell back into a very blurred work/life balance after getting pretty good at setting boundaries in NZ. Regardless, I have always felt enormous responsibility towards my colleagues, patients and clients and am so proud of the teams I had the privilege of working with and the 3.5 years I spent in the US from 2019-2022.

CT: Any advice for those looking to pursue international perfusion opportunities?

CP: Do it! But don’t do yourself the disservice of thinking it will be easy. It is stressful, expensive, sad, exciting, terrifying and at times you’ll wonder if it is the right choice as you say goodbye to your family and sell all your belongings. But look, if you make a decision that doesn’t end up being the right one, just make the next best decision and keep growing!

ANNOUNCEMENTS

The 62nd AmSECT International Conference was a great success! See the PUMP UP THE VOLUME section on page 3 for photos of the student council in action.

The current AmSECT Student Council has choosen new student officers for the 2024-2025 school year. Congratulations to the new student leaders!

President: Ian Villavicencio
Vice President: Zach Roberts

Officer Positions:
Communications:Anna Cromer
Newsletter: Erin Tobin
Perfusion Bowl: Elizabeth Gibb
Fundraising: Holly Lacey
Events: Aubrey Olson
Pre-Perfusion: Zach Zappa

Special shout out to our 2023-2024 student leaders, this year was amazing! Good luck in your new roles as Perfusionists this year!

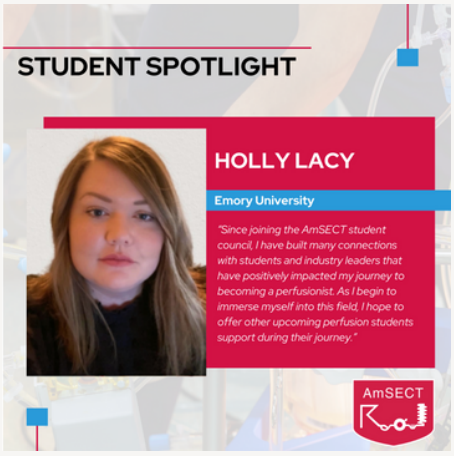
Trivia Question: Which blood product should not be put in the pump?

Answer on bottom of page 3.

PUMP UP THE VOLUME

AmSECT Student Council members at the 62nd AmSECT International Conference in New Orleans, LA. *Photo credit: Susana Stripling*

Above: Congratulations to RUSH University for taking 1st in the perfusion bowl this year! P*hoto credit: Charlotte Clonts*



@amsectperfusion

Above: LTU Team spirit was at an all time high during this year's perfusion bowl. *Photo credit: Charlotte Clonts*

Perfusion Week is May 5-11th 2024! Celebrate by posting a picture with collages on socials with the hashtag #perfusionweek

Congratulations to the perfusion students who graduated December 2023 and those graduating in May 2024! Share your photos with everyone by using #amsectperfusion

JOIN US!

Exciting things are happening in the AmSECT Student Council. Come Join in on the fun!

https://docs.google.com/forms/d/e/1FAIpQLSci_Q1lf-f4PjJnD1kEddjEJRz_qSC1_62LgAZgTSI0FB61eg/viewform

Answer: Platelets

BACK TO THE STACKS

BY ERIN TOBIN, MUSC

The ROSS Procedure

What Is the Ross Procedure?

This procedure is used to repair a diseased aortic valve. The patient's aortic valve is removed, and the native pulmonic valve is inserted into the aortic valve position. Then a pulmonary homograft is put in to replace the excised native pulmonic valve.

Indications For the Ross Procedure?

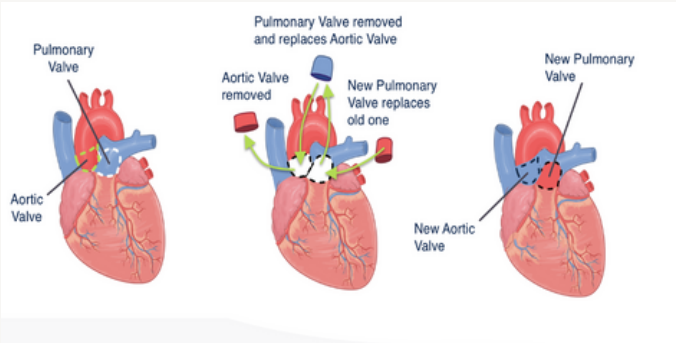
The Ross is very commonly performed for pediatric patients with congenital aortic stenosis. Some other possible indications include: aortic valve endocarditis, aortic valve regurgitation, severe aortic valve disease that is not able to be repaired, thus, a replacement is deemed necessary, and some forms of left ventricular outflow tract obstructions.

Pros And Cons

Since this procedure is largely used in the pediatric population, one of the marked benefits is that a prosthetic valve is not required during the repair. This alleviates the need for lifelong anticoagulation medications and reduces the risk of a child growing out of the prosthetic valve and developing outflow complications. With that said, one of the downfalls of this procedure is that the pulmonary homograft has the tendency over time to become stenotic or develop regurgitation that must be surgically corrected.

When Would This Procedure Not Be Beneficial?

Some contraindications of the Ross Procedure are pulmonary valve disease, Marfan syndrome, and significant mitral valve disease, as these conditions are indicative of higher risk of autograft failure. Lastly, some autoimmune disorders (i.e. Lupus) are contraindicated for fear of acquired cusp disease.



For More Information:

Brown KN, Kanmanthareddy A. Ross Procedure for Aortic Valve Replacement. [Updated 2023 Feb 13]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK537249/

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Barbara, D. W., Mauermann, W. J., Neal, J. R., Abel, M. D., Schaff, H. V., & Winters, J. L. (2013). Cold agglutinins in patients undergoing cardiac surgery requiring cardiopulmonary bypass. The Journal of Thoracic and Cardiovascular Surgery, 146(3), 668–680. https://doi.org/10.1016/j.jtcvs.2013.03.009

Hage A, Hage F, Valdis M, Guo L, Chu MWA. The Ross procedure is the optimal solution for young adults with unrepairable aortic valve disease. Ann Cardiothorac Surg. 2021 Jul;10(4):454-462. doi: 10.21037/acs-2021-rp-26. PMID: 34422557; PMCID: PMC8339615.

Interested in writing an article for the AmSECT Tomorrow Newsletter?

Join the student council and meet with Erin Tobin during the student council meeting every 2nd tuesday of the month @ 7pm CST!

THE VITALS

BY AMBER HELMS, LIPSCOMB

I recently observed an aortic valve replacement (AVR) and intracardiac cryoMAZE on a morbidly obese adult patient with diabetes mellitus type two, atrial fibrillation, hypertension, and hyperlipidemia. The 34/46 F venous cannula and 24 F EOPA arterial cannulas were used to provide the best drainage for a bloodless field. Excessive blood volume was anticipated due to patient size and increased left ventricle end diastolic pressure (LVEDP) from aortic valve insufficiency. Preparation for this excessive volume included having an extra empty crystalloid bag so that the crystalloid prime volume could be sent to the empty bag and discarded during retrograde autologous prime (RAP). After RAP and upon initiation of cardiopulmonary bypass (CPB), more of the patient's blood volume was sent to a different empty crystalloid bag so the reservoir did not overfill. After reaching a steady state where the volume leveled out, the blood that was sent to the crystalloid bag was dropped into the reservoir. A hemoconcentrator was added into the circuit prior to the procedure so that during CPB volume could be managed when Del Nido cardioplegia was given. Another challenge that was faced during this procedure was maintaining high flow for a cardiac index of 2.4 due to the high body surface area (BSA) of 3.1.

One thing that was taken into consideration is that adipose tissue is not perfused during CPB so the perfusionist did not necessarily need to flow at a cardiac index of 2.4. We decreased oxygen demand by cooling the patient and anesthetic gas was increased to maintain a bispectral index monitoring system (BIS) less than 50. The FiO2 was maintained at 100% the entire case and the PaO2 was monitored frequently in case we needed to add an extra oxygenator to increase supply during rewarming. The arterial blood gasses (ABG), venous saturation, and hematocrit stayed within normal limits throughout the entire case. After the procedure and rewarming was complete, pacing wires were needed as the heart recovered but once the Del Nido cardioplegia wore off they were no longer needed. CPB was weaned slowly and successfully. Being prepared for this amount of volume by displacing prime volume, displacing blood volume, and the use of a hemoconcentrator made it much easier during the case and did not disrupt the flow of the surgeon. Closed looped communication was used throughout the entire procedure if the perfusionist did need extra time or help from anesthesia during displacement of volume. I learned many useful skills during this procedure and hope it helps someone else as well.

GOOFS & BLUNDERS

SUBMISSIONS BY STUDENT COUNCIL MEMBERS

First time priming in the hospital and I went to take out the pre bypass filter, but I didn't clamp the venous line enough. So when I broke the connection the clamp busted off and prime started spraying out. Didn't feel like I made a great first impression.

I have a bad habit of saying "yeah" or "ok" instead of repeating commands...don't be like me!

I was so nervous during my first case on rotations that I froze when my preceptor asked me a simple question. Confidence will come with time! Good luck to those starting rotations!

Told the surgeon cardioplegia time about an hour after the cross clamp was already off.

Tried deairing the cardioplegia and over-pressurized the myotherm and the vent line popped off.

New rotation site and the ECMO circuit was wrapped in plastic sleeves that you have to hand off in a sterile manner. I contaiminated it first try but luckily the surgeon was nice about it.

Additional Resources:

The AmSECT website has a helpful page with information about different charitable organizations that provide cardiac care: https://www.amsect.org/About/Awards-Designations-Scholarships/Cardiac-Missions/Charitable-Organizations

THE RESERVOIR

AmSECT Student Membership

Student membership is now FREE! Register now and become an official part of the perfusion community. https://www.amsect.org/Members/Student-Corner

Have a Perfusion blunder you want to share?

Please email charlotte.clonts@utah.edu to have your blunder included in the next issue!

Before you go...

The AmSECT Student Council exists to promote student involvement within AmSECT. While our current members hail from over 14 different programs, our goal is to have **every** perfusion program in the country represented on the council. Our major projects include an annual fundraising event, the perfusion bowl, and this very newsletter, with multiple opportunities for student leadership!

Our current officer team consists of a president/chief student liaison, vice president, fundraising project lead, communications coordinator, and newsletter editor, pre-perfusion coordinator, events, and perfusion bowl coordinator. The Student Council meets monthly via Zoom for one hour, so the time commitment is designed to be manageable! Don't forget to sign up to come to the annual AmSECT Conference in the spring! It's a great way to network and see the student council in action.

INTERESTED IN JOINING THE STUDENT COUNCIL?

PLEASE EMAIL AMSECTSTUDENTHQ@GMAIL.COM AND BE SURE TO INCLUDE YOUR CONTACT INFORMATION. SHARE YOUR VOICE, DEVELOP YOUR NETWORKING AND LEADERSHIP SKILLS, AND BECOME INVESTED IN THE PROFESSIONAL DEVELOPMENT OF OUR FIELD! WE LOOK FORWARD TO SEEING YOU JOIN OUR TEAM.