

President's Message

Meighan Sharp, MLS(ASCP)^{CM}, ASCLS-Michigan President

Greetings to all and happy summer! With school not in session for most of us, I hope that you are all getting the chance to take a vacation, spend time with family, get that long-awaited project done, or simply relax. Summer also means that my term serving as your President is coming to a close. August 1st begins Kyle McCafferty's term as the President of ASCLS-Michigan.

I have truly enjoyed the past year serving as your President. It has been a great learning opportunity and has given me the chance to meet so many great people within the laboratory profession. This past year has taught me that Michigan has some of the most talented and dedicated laboratory students and professionals in the country (like I already didn't know). I am proud to be apart of an organization that takes pride in their work. ASCLS-Michigan has always been a strong presence at the national level. I saw that continue through my Presidency, and I hope it continues long after my term is over. The members and the Board of Directors of ASCLS-Michigan have been long standing advocates for the profession by having strong representation at the National Legislative Symposium, the Clinical Laboratory Educators Conference, ELMC2, and the National Joint Annual Meeting.

I will continue to be a fierce advocate for the laboratory profession long after my term as President has ended. My passion is making sure that future generations of laboratory scientists have been opportunities, better working conditions, better regulatory policies than the previous generation.

Thank you to all ASCLS-Michigan members for giving me the opportunity to serve as your President. It has been a pleasure and a privilege. Even though my title is no longer President of ASCLS-Michigan, I still plan on being involved greatly within the constituent society organization. I look forward to collaborating with you all in the future.

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LABVOCATE

ASCLS has a resource with position papers on a variety of topics important to our profession.

Check them out at:

<https://ascls.org/position-papers/>

Standardizing the Professional Title of Medical Laboratory Professionals

Addressing the Clinical Laboratory Workforce Shortage

Levels of Practice and Model Career Ladder

Laboratory Personnel Licensure

Value of Medical Laboratory Science Personnel and Clinical Laboratory Services in Healthcare

Advanced Practice: Doctorate in Clinical Laboratory Science (DCLS)

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Health Care Reform

Independent Practice

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Scope of Practice

Point of Care Testing

Expanding Geriatric Population

Bioterrorism Preparedness

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**American
Society for
Clinical
Laboratory
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Michigan**

ASCLS-Michigan *Newslinks*

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Editor: Paul Guthrie

1506 Bacon Avenue
Portage, MI 49002
pfgu3@aol.com

Clinical Laboratory Science

A focus on what is happening in our profession

Featuring articles from Scientific Assembly Chairs or Board Members.

Materials from all members are also welcomed. Submit to editor. See page 2 for details.

Renal Glucosuria or Gestational Hyperglycemia?

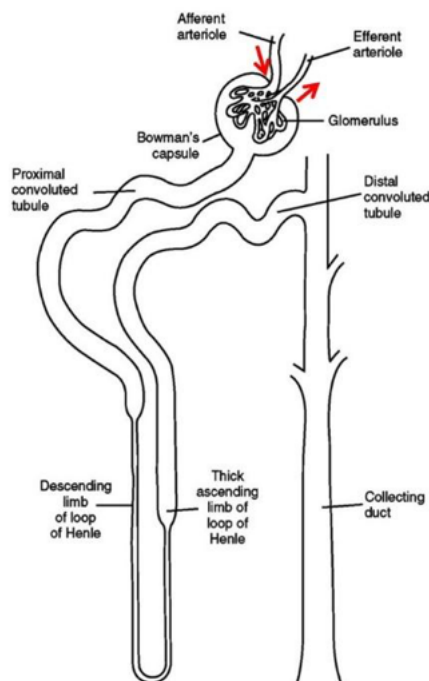
Yukari Nishizawa-Brennen PhD, MLS(ASCP)^{cm}, SC(ASCP)^{cm}, MT(Japan)

Chemistry Scientific Assembly

Introduction

Recently, I was fortunate to teach non-MLS students at a professional school. The class consisted of students with various backgrounds but none of them had a medical laboratory science background. Most students shouted, "gestational diabetes!" when I showed them a urinalysis result with glucose positive for a case study of a patient who is pregnant. I intentionally showed them the urinalysis result only without blood glucose information. I reviewed two reasons why glucose ends up in a patient's urine as well as why urine glucose is not useful for screening or follow-up of gestational diabetes. I thought it would be nice to have a short summary of this in *Newslinks* so you can share this with other healthcare professionals when they ask questions about this.

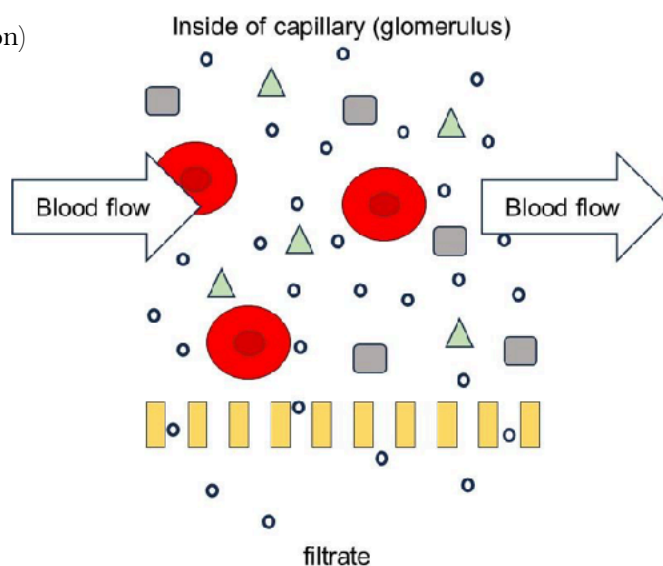
Glomerular Filtration



A functional unit in a kidney, the nephron consists of a renal capsule (Bowman's capsule) and renal tubules (figure 1). There are capillaries in the capsule, glomerulus. While the blood flow enters the glomerular capillary and goes out, plasma will be filtered through the pores in the capillary wall as tangential flow filtration (cross-flow filtration, Figure 2). This means that the main flow of plasma is still going along with the capillary, and only some of the components of plasma will be filtered at a time. The determination of what can pass the filtration are the size of pore and its charge vs the size and charge of compound.^{1,2}

Figure 1: Nephron (From *Clinical Chemistry: Theory, Analysis and Correlation*, 5th ed.; Kaplan, L.A., Pesce, A.J., Ed.; Mosby: St. Louis, page 569, Fig. 30-2, 2010.)

Figure 2: Tangential Flow Filtration (cross-flow filtration)



The photo below is the inner wall of capillary (glomerulus) with pores, and the outer layer of this wall is negatively charged. Therefore, even though the diameter of this pore is 50-100 nm, for a compound to pass through this pore easily, its radius must be less than 4 nm, and neutral or positively charged. A compound with radius larger than 8 nm cannot be filtered through. Typical examples of compounds that can be filtered are water, glucose, amino acids, conjugated bilirubin, small ions, myoglobin, hemoglobin. The radius of albumin is 3.6nm, which is close to the size limit, is net negatively charged in the plasma, and cannot pass through the filtration mechanism while the glomerulus is intact.^{1,2}

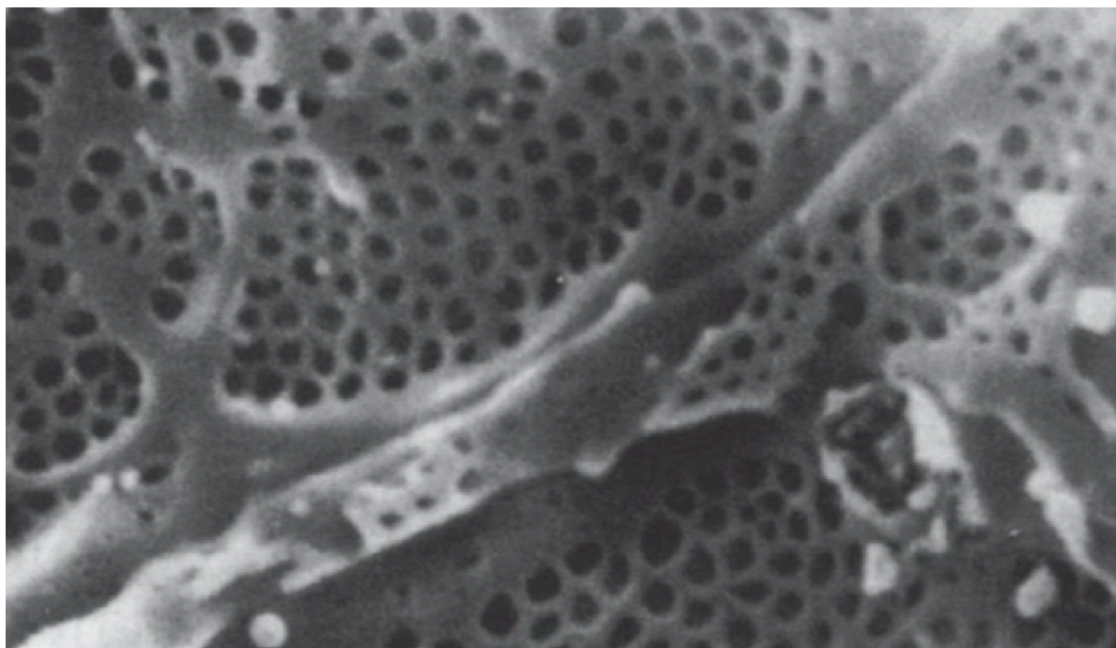


Figure 3: Glomerular Capillary Endothelium (From Brunzel, N. A.; Fundamentals of Urine & Body Fluid Analysis, 4th ed.,; Elsevier: St. Louis, page 35, FIG. 3.5, 2023.)

Reabsorption at Proximal Convolute Tubule (PCT)

Many components in the filtrate will be reabsorbed by the downstream tubules. Almost all the glucose will be reabsorbed at proximal convolute tubule (PCT). Although, the maximum amount of glucose PCT can reabsorb varies with body size and sex, it is averaging 350 mg/min.²

Glucosuria

There are three mechanisms that lead to glucosuria.

1. When blood glucose level exceeds 160-180 mg/dL, the glucose level in the filtrate would be beyond the limit of the PCT reabsorption.
2. Even though blood glucose level is within normal level, the glucose reabsorption function at PCT is reduced due to a congenital or acquired condition.
3. Even though blood glucose level is within normal level, glomerular filtration rate (GFR) is increased, therefore the flow rate of glucose per minute in filtrate is beyond the limit of the PCT reabsorption rate.

Pregnancy and GFR

There is a long list of physiological changes during pregnancy. One of them is kidney physiology due to the body water volume expansion (leading to increased renal plasma flow 1.8 times) and vasodilation that will increase GFR up to 1.5 times more than before pregnancy.³ This can result in glucose flow rate in the filtrate exceeding the limit of PCT glucose absorption rate even when the blood glucose is within normal. Also, glucose reabsorption function of PCT is reduced during pregnancy.⁴

Gestational Diabetes

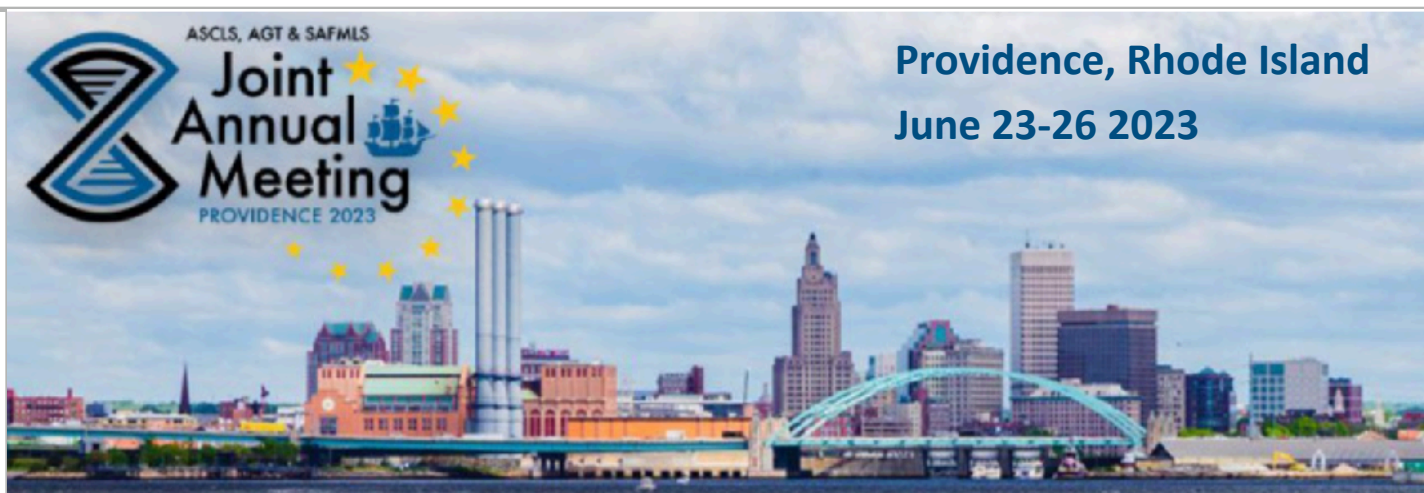
It is normal to see increased insulin resistance during pregnancy that is usually controlled by increased insulin secretion. Gestational diabetes occurs when it cannot be controlled by increasing insulin secretion. Approximately 7% of pregnant person become gestational diabetes in the United States, and the prevalence is growing with increased obesity.⁴

Conclusion

Going back to my introduction, why I decided to write this article. If glucosuria is observed in a pregnant person, it could be gestational diabetes or a kidney physiological change from pregnancy. This is why urine glucose results cannot be used for screening or follow-up of gestational diabetes. Currently, the oral glucose tolerance test is widely used as the screening test or follow-up for gestational diabetes in many countries.⁴

Reference

1. Delaney, M.P.; Lamb, E.J. *Tietz Textbook of Laboratory Medicine*, 7th ed.; Rifai, N.; Chiu, R.W.K.; Young, I.; Burnham, C-A. D.; Wittwer, C. T., Ed.; Elsevier: St. Louis, P603-675, 2023.
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4. Sacks, D.B. *Tietz Textbook of Laboratory Medicine*, 7th ed.; Rifai, N.; Chiu, R.W.K.; Young, I.; Burnham, C-A. D.; Wittwer, C. T., Ed.; Elsevier: St. Louis, P502-543, 2023



Recap of the ASCLS Joint Annual Meeting

Kyle McCafferty

Every year, the nation's most engaged and influential laboratory professionals congregate in a large convention center to attend stunning presentations, engage with industry partners, network with colleagues, and see old friends. This year's ASCLS JAM was no exception. Together with our partners at the Association of Genetic Technologists (AGT) and the Society of American Federal Medical Laboratory Scientists (SAFMLS), over seven hundred registrants gathered at the Omni Hotel in downtown Providence, Rhode Island. I was fortunate to be one of those attendees.



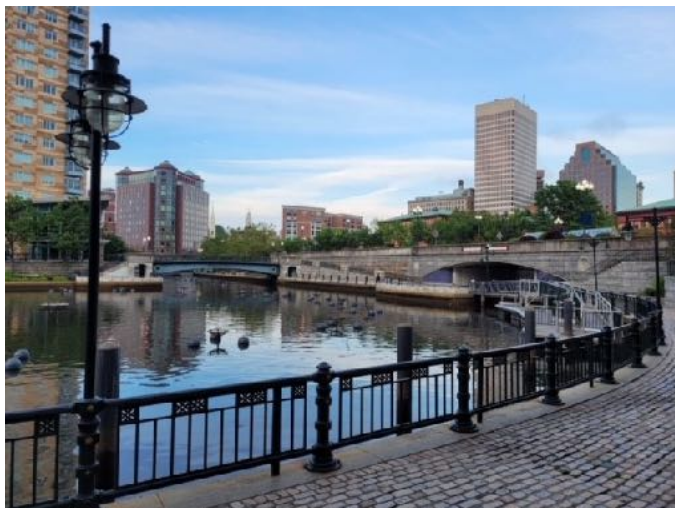
Michigan Delegates at JAM

There were nearly sixty hours of CE offered packed into the five-day event, so I will only touch on a few that stood out most to me...

The Opening Keynote: From Lab to Leadership, presented by Chief Master Sergeant Tanya Y. Johnson was a stellar was to kick off the meeting. She was loud and energetic, which was her way of telling us introverts that we must break out of our shell to lead. She kept saying "go to where they are," meaning that if you increase your visibility, you will become more approachable. I could think of many situations where all I wanted to do was show up, get my work done, and go home. Her session challenged me to do better.

Government at Work?: A Federal Affairs Update, led by our ASCLS Executive Vice President Jim Flanigan and Legislative Consultant Patrick Cooney, touched on how the U.S. Government functions, and how we as an organization can affect legislation. They explained the current climate in Washington, and what legislators are in support for health-related bills. In order to be effective Labvocates, laboratory professionals need a strong understanding of the issues. Go to [ASCLS.org](https://www.ascls.org) and click on the ADVOCACY-ISSUES tab to stay current with the legislation that impacts the clinical laboratory and your profession!

High Reliability Safety in the Laboratory by Jason Nagy and Dan “The Lab Safety Man” Scungio was a hilariously eye-opening session about avoiding a catastrophe in the lab. I learned that to be considered a highly reliable lab, you must manage the unexpected. Like when an audience member said they once saw toenail clippings on one of their benches... Gross! It is the laboratory professional's job to utilize their critical thinking to have system resilience. Do you know if you work in a highly reliable lab? Visit www.danthelabsafety-man.com to sign up for his monthly newsletter full of helpful information!



ASCLS-Michigan Members exploring and enjoying the JAM host city of Providence, Rhode Island

Beyond the educational program, the city had plenty to offer in terms of food and nightlife. Some people, including myself, were bold enough to try raw clams and oysters. Yum! Thank you to ASCLS for another successful meeting. I shall be back to New England for more fun in the future.



ASCLS-Michigan Award Winners Recognized at Joint Annual Meeting in Providence



Meighan Sharp, President-ASCLS-Michigan



Several ASCLS-Michigan members were recognized at the 91st ASCLS Awards Ceremony at the Joint Annual Meeting in Providence, Rhode Island.

- **Talina Black** for receiving the Alpha Mu Tau Fraternity Undergraduate Scholarship
- Poster Winner: *Significance of Staphylococcus epidermidis in Urine Cultures at Michigan Medicine*, **Mitchell Magliocco**, MLS(ASCP) and **Paul Lephart**, PhD
- **John Landis** recognized for 50 years of ASCLS membership

Continued on next page



Kyle McCafferty (left) for being recognized as one of ASCLS Voices Under 40

Roslyn McQueen (below) recognized for 50 years of ASCLS membership



Katelyn Farrar receiving the Developing Professional Leadership Award & The ASCLS Board Appreciation Award

Kathy Doig for being nominated for ASCLS Lifetime Achievement Award & Recognized for 50 years of ASCLS membership





“Race to JAM” and more

My experiences at this year’s national conference

Katelyn Farrar, Developing Professional Director & Forum Chair

The ASCLS Joint Annual Meeting (JAM) in collaboration with the Association of Genetic Technologists (AGT) and the Society of American Federal Medical Laboratory Scientists (SAFMLS) is a national conference filled with educational programs, scientific abstract/poster presentations, industry exhibitions, and numerous networking events. This year’s event was held in Providence, Rhode Island where numerous ASCLS-MI members like myself, attended the wonderful event. Even as a student or new professional there are numerous ways to experience JAM! As a relatively new member, recent graduate, and new laboratory professional member I outlined my experience at this year’s Joint Annual Meeting in hope of inspiring students and professionals to attend this rewarding event! This year I had the pleasure of serving ASCLS as the Developing Professional Director on the national Board of Directors and ASCLS Developing Professional Forum Chair.



Stephanie Mabry, Katelyn Farrar and Caitlyn Madden having a “Whale of a Time” at JAM

The Joint Annual Meeting opened Monday with the ASCLS Board of Directors Meeting (BOD), where the board discusses what ASCLS is doing to address issues of importance to medical laboratory professionals. important discussion for this year revolved around how ASCLS can better their diversity, equity, and inclusivity efforts. Another topic of discussion was the workforce shortage and how our society can fight against the declining numbers of laboratory professionals and enrollments in academic programs. Working to improve the workforce shortage is a great way for any member of the society to get involved, regardless of their experience. ASCLS-MI is currently working to increase professional visibility by actively attending career fairs and educational conferences, such as the Michigan Science Teachers Association Annual Conference, Lake Fenton College and Career Day, and MICareerQuest in Grand Rapids. As members we are always looking to better our field for the newest generation of laboratory professionals, this is a great opportunity to give back to the career you fell in love with. At the national level, being involved on the BOD is another avenue for change. Here is where you can voice your concerns for all members of ASCLS and bring ideas from your state society to the table with a broader range of members. For any member who is interested in getting more involved with ASCLS-MI, please feel free to reach out to me.



Stephanie Mabry & Katelyn Farrar “Race to JAM”

As the ASCLS Developing Professional Chair for the 2022-23 membership year, I had the honor of spearheading and presenting at this year’s annual conference. This year the DPF held its inaugural trivia game known as, “Race to JAM”. This event was created to encourage students to review their classroom knowledge and apply it in a friendly competition as they prepare to sit for their national board certification exam. Our first year brought numerous students and professionals from across the country to come together to build lasting relationships as they navigate the annual conference. This year’s event saw four of our ASCLS-MI members volunteer in various capacities, **Stephanie Mabry**, ASCLS-MI Executive Secretary, **Christina Lim**, ASCLS-MI Nominations Chair and **Kyle McCafferty**, ASCLS-MI incoming President as judges and **Caitlyn Madden**, ASCLS-MI District Director/Membership Chair as our technology help for both our preliminary and final rounds. As the DPF chair this was one of the highlights of my past few years on ASCLS; an organization that allows

our students to be put at the forefront of our society. This role allowed me to see weak areas that needed to be addressed and make my ideas into a reality. As Chair, I also presented at the annual DPF business meeting, outlining accomplishments the forum has made for students of the society. This year we not only introduced a new event for ASCLS, but also held numerous webinars known as Ask Me Anything (AMAs) in partnership with the Ascending Professional Forum. These AMAs are a great way for students or new professionals to find answers to questions they have been searching for as they navigate the professional world. Topics for this year include: a day in the life of a laboratory professional, ideas to celebrate lab week, all things JAM, legislative symposium: perspectives from capitol hill. DPF members also contributed to ASCLS Today, our national newsletter in regards to various matters such as professional visibility, patient safety and ethics, as well as community. I highly encourage any member with the passion for having their voice heard, to submit to ASCLS Today!



Katelyn Farrar receiving award from ASCLS President Kim Von Ahsen

Other experiences at JAM this year include the awards ceremony and industry exhibitions. The award ceremony highlighted outstanding members to be recognized for their contributions to the society. This year I had the honor of receiving an award alongside another ASCLS-MI member. I was selected for both the Developing Professional Leadership award and the Board Award. ASCLS-MI President-Elect, Kyle McCafferty won the ASCLS Voices under 40 award. This event is remarkable in how we as a society encourage each other to find ways to better ourselves each year, not only as an individual but as a society, profession, and as friends. Another great event at JAM each year, is having the opportunity to network with other professionals, as well as the numerous industry exhibitors. Each year hallways are filled with the newest and most advanced technology for the laboratory profession; you have the ability to expand your knowledge on various techniques, but also you can bring back valuable information no matter your profession. As an educator, you bring back material to introduce into the classroom; as a student, you bring new ideas to light as you enter the workforce; as a professional, you bring a new approach to the table to encourage better laboratory practices. This is the heart of our profession, helping each other to build a better future for the laboratory field.

Lastly, my experience this year ended with getting to build meaningful relationships with my colleagues, co-workers and friends from across the society. The Joint Annual Meeting is a great opportunity to get involved with our profession and organization! I highly recommend this event to all of our ASCLS-MI members and would be happy to help anyone who is interested in next year's JAM held in Pittsburgh, PA!



Katelyn (center) with Demetra "Toula" Castillo (ASCLS-IL) and Jeremiah Oh (ASCLS-GA)

American Society for
Clinical Laboratory Science



Paul Guthrie
ASCLS-MI *Newslinks* Editor
1506 Bacon Avenue
Portage, MI 49002-7166

