**THE DIRECTOR’S CUT**

**Christine Donnelly, MD**

**Medical milestones: “America’s greatest gift to the art of healing”: the invention of surgical anesthesia—drinking the waters from the river Lethe**

Throughout recorded history, the quest to alleviate pain has been of paramount importance in medicine. For centuries, a panacea for pain-free surgery was sought and resulted in a variety of “anesthetic” compounds given to patients. These had incomplete and short-lived effects and thus limited surgical procedures into the mid-19th century to “simple” and “short” ones such as tooth extractions, removal of skin lesions or masses and gross amputations. For the patient and surgeon, as well, surgery was agony and a treatment of last resort and the most prized attribute for a surgeon to have was speed.

Various substances with soporific effects such as nitrous oxide or “laughing gas” and diethyl ether were known for decades. Until the mid-1800s, however, the main benefactors of these substances were wandering “lecturers” who held public “ether frollicks” and invited audience members to inhale nitrous oxide or diethyl ether to demonstrate its interesting mind altering effects to the audience’s general amusement and the “lecturer’s” financial benefit. In the audience of these shows, however, was an individual or two in whom an idea for other uses for these substances germinated. One such onlooker was Dr. William Morton, a Massachusetts dentist who was seeking an effective anesthetic for his patients who required tooth extractions. He proceeded to test the merits of diethyl ether on various animal members of his household, as well as himself and subsequently its efficacy in extracting a tooth, painlessly from a patient. After publication of this event in a local newspaper, the Boston Daily Journal on October 1, 1846 in which the pain relieving substance was described as Morton’s “preparation”, he was invited by Dr. Henry Bigelow at Massachusetts General Hospital “to administer to a patient who is then to be operated upon, the preparation which you have invented to diminish the sensibility to pain.” A tooth extraction taking less than 1 minute, however, was not surgery. With only 2 days notice, Morton worked feverishly to devise a method of measured administration of his preparation and arrived late at the surgical amphitheater on October 16, 1846 where a somewhat skeptical surgeon, Dr. John Collins Warren waited to remove a neck tumor from his equally apprehensive patient, Edward Abbott. Before a packed amphitheater filled with staff and students, Morton instructed Abbot to inhale his “preparation” through his newly fashioned apparatus. Within a few

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Meet Andrea Winner, our pediatric cardiology nurse extraordinaire, who has been with Atlantic Health System approaching 19 years. Andrea completed her BSN from the College of Saint Elizabeth in 2007 and later obtained a certification in Emergency Nursing in 2010.

Andrea came on staff with the Children’s Heart Center in 2014.

Andrea becomes animated when discussing the rewarding part of her work at the Children’s Heart Center. She especially loves building relationships with patients and families. Andrea feels “privileged to be able to care for patients, comfort families, and teach them about Congenital Heart Disease.” She finds the world of pediatric cardiology extremely challenging and reports to learn something new every day, especially from the physicians with whom she feels honored to work alongside.

When not at work, Andrea enjoys baking, hiking, kayaking, attending concerts and traveling. She is married to Bill for 30 years and has two children: Brian, age 26, an officer in the United States Army and Rachel, age 23, a student at The College of New Jersey (TCNJ). Andrea also enjoys the company of her 14-year-old dog, Blaze.

Welcome to Our New Staff! Agnes Dudzic

Agnes Dudzic joins our administrative staff from Madison Internal Medicine at Atlantic Health System. Agnes is seasoned and ready to work with our patients and families at The Children’s Heart Center. She will be celebrating her 4th year as a medical office associate at Atlantic Health.

Attention College Students!

Are you heading off to college and diagnosed with congenital heart disease? Do you have questions about dorm life, proper nutrition, time management, academic services, making healthy choices and where to go for care?

Are you a parent of a prospective college student with similar questions?

If you have answered YES to the above, join us on: Monday July 29, 2019 6:00 to 8:00 pm

55 Madison Ave Suite 1000 conference room

Free parking, pizza and soft drinks provided.

Please RSVP by July 22, 2019 to cathy.cerutti@atlantichealth.org

All college students and parents invited to attend.

Treasure Chest Fun!

Molly and Patrick Muller, five-year-old twins, donated their birthday gifts to the pediatric cardiology treasure chest. Molly remembers her appointments all too well with Dr. Donnelly and decided she and her brother wanted to bring joy to other children.

Molly and Patrick received a certificate of Good Citizenship for doing good deeds for others.

Congratulations Molly and Patrick!
NJ STREAMLINES TEMPORARY DISABILITY

Effective October 4, 2019 there will be a new process in applying for pregnancy related temporary disability benefits from the state and family leave benefits.

Under the current law, expectant mothers are eligible for up to 4 weeks of temporary disability before delivery and six weeks of family leave (eight weeks for C-section) after delivery.

A new feature to the law allows for the Department of Labor to automatically process an application for family leave insurance allowing for only ONE application to be submitted instead of two. The new law also allows for workers to submit claims 60 days prior to when they expect to begin their work leave. Workers should now be able to collect benefits sooner without delay.

CONGRATULATIONS DR. CHRISTINE DONNELLY

Division Chief at The Children’s Heart Center, in recognition of thirty five years of distinguished service to the Hospital and to the community it serves.

FAMILY CONNECTION

Nine-year-old Jayden Apolinaro, a student at Byram Lakes Elementary School, loves raising awareness and funds to help others with cardiac health issues. In February 2016, when he was only a 6-year-old kindergarten student, Jayden learned his school was participating in the American Heart Association’s Jump Rope for Heart. He was very excited to bring home the registration paperwork and begin raising money online. He pushed his mom to help him set up an online account, post pictures and videos on Facebook and email all his friends and family. He set his fund-raising goal at $1,000 and was determined to reach it. He even went door to door in the neighborhood to ask for support. Through a lot of hard work, he reached $1,025 within two weeks.

Since then, Jayden has participated in the event every year at school, raising another $1,245 in 2017, $2,025 in 2018 and $2,425 in 2019. His dedication to the fund-raising effort hasn’t subsided.

When asked why he participates every year and works so hard, he says, “I just want to help other kids like me.”

Jayden was born with a single ventricle and has undergone three open-heart surgeries. His last surgery in May 2013 required a five-week hospital stay at Children’s Hospital of Philadelphia. He tells other students at his school about his journey and encourages them to participate, too. Because of his fund-raising efforts, Jayden’s school nominated him for an award with the American Heart Association, called the Young Heart Leadership Award. He was given this award in December 2018 during an assembly at his school. He was the only student in the entire country who was given this award in 2018.

From left are, Principal Edward Abato, Jayden Apolinaro, Physical Education and Health Teacher Mike Kulesa and Assistant Principal Patrick O’Donnell.

As part of the Jump Rope for Heart event at the school, students rotate through various stations at the school to learn about heart health, exercise, and nutrition. The event also involves the students jumping rope at the school together.
minutes, Abbott asleep, Morton advised Warren “Sir, you patient is ready.” The procedure went flawlessly, essentially pain free and was over in 25 minutes after which the patient awoke and when asked if he had experienced pain stated only that he thought “his neck had been scratched.” The staid Dr. Warren turned to the packed amphitheater and announced in the typical slang of the day: “Gentlemen, this is no humbug.” The awed audience was silent in the realization of the momentous achievement that they had just witnessed. Surgery without pain! The quest was over! The news of this event spread like wildfire as well as the desire for disclosure of the miracle preparation. Morton refused to disclose the nature of the substance and was criticized for seeking to obtain a patent and profit from his discovery. He named his “preparation” Letheon after the river Lethe in Greek mythology which conferred relief from pain as well as forgetfulness for all those who drank from it. It was soon discovered, however, that Morton’s Letheon for which he did receive a patent was actually ether which began a lifelong controversy involving several other players who had used ether as an anesthetic agent prior to Morton and were thus claiming to share in fame and profit. Despite the rancor thus produced, however, news of Morton’s pivotal achievement very shortly resulted in pain free operations using this anesthetic across Europe as well as the U.S. in a matter of months. Although efficacy of ether as an anesthetic agent had been demonstrated prior to Morton, particularly by Dr. Crawford Long for removal of a neck cyst in 1842, he did not publish his results until after Morton. Despite the acrimony in the medical world at that time surrounding Morton and perhaps his own desire for fame and fortune, it cannot be denied that it was he who publicly risked ridicule had his demonstration failed. Being the first with an idea and publicly proving your idea are not equivalent. Moreover, Morton developed a measuring device to deliver the anesthetic in a safe manner and freely allowed unrestricted use at hospitals and charitable facilities. In addition, he joined the Army of the Potomac in 1852 as a volunteer and administered Letheon or ether as it was now known to be to more than 2000 wounded soldiers during the Civil War.

2019 marks the 200th anniversary of William Morton’s birth. For all his faults, he was a true pioneer and the field of surgery was forever changed on that October day. On his tombstone, an appropriate tribute is inscribed:

Before whom, In all Time, Surgery was Agony
By whom, pain in surgery was averted
Since whom, science has control over pain

Two momentous achievements in 19th century surgery were the conquering of pain and the conquering of infection. The former was accomplished with Morton’s demonstration on that historic October night in 1846 but the latter would require a few more decades with the efforts of Joseph Lister and publication of his antiseptic techniques (see The Heart Beat, vol 9, issue2, Summer, 2017)

A fabulous time was had by our patients and families at the 10th annual Valentine event held on Sunday, February 10, 2019. The sun was shining for over 200 patients, families, staff, and volunteers who joined us in a day filled with dancing by DJ Nick, Joey’s Warriors cupcake decorating, cotton candy, dress up/photo fun, spin art, ring toss, crafts, a balloon artist, therapy dogs, as well as 4 generous baskets filled with toys and games raffled off to lucky winners!

Representatives from CHD Coalition and Adult Congenital Heart were present for information and guidance. The most important part of the day is to provide a chance for families to meet and socialize with others who understand the experience with CHD. Thanks to all those who participated. See you next year!

Mark your calendars for the February 16th 2020 Valentine CHD event!