

The Beam



Mississippi Society of Radiologic Technologists

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Mississippi Society of Radiologic Technologists

Affiliated with the American Society of Radiologic Technologists

MSRT Members,

I want to thank each one of you for the opportunity to serve as president for this wonderful organization. I am looking forward to an exciting year working with each of you to strengthen our profession.

I also want to sincerely thank everyone involved in the success of the MSRT 78th Annual Conference. The annual conference is a bit like a duck swimming in a pond: to the outside participants, the ducks seem to glide easily on the surface; however, underneath the water there is a flurry of activity. Without the support of the Board of Directors, Conference Coordinator, and Conference Chair, the success of our annual conference would not be possible. I would also like to thank the speakers for their efforts in bringing excellent educational lectures to our students and technologists. Congratulations to those who participated in the manuscript competition, exhibit competition, and student prep bowl.

I am excited to again participate in the MSRT Capital Day and hope to see each one of you there. This has been an amazing event for the last two years, thanks to our legislative chairs and lobbyist. It is so encouraging and exciting to see students and technologists advocating for our profession. We need each of you in our future efforts to promote our profession and reduce encroachment from other health professions.

As I mentioned at conference, I encourage each of you to remain active in the MSRT and the ASRT. The future success of our society is dependent on students and new technologists stepping into leadership positions as they become available. There are always opportunities to volunteer and serve. Any member of the MSRT Board of Directors can help you find your place and voice in our organization.

Thank you again for the honor of allowing me to serve as president of the MSRT. I am excited to see what we can accomplish for our profession over the next year together.

Sincerely,

Asher Street Beam, DHA, R.T.(R)(MR), MRSO
MSRT President



Mississippi Society of Radiologic Technologists

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The **MSRT Business Meeting** for the 78th Annual Conference was held at The Magnolia Bluffs Hotel in Natchez, MS, on October 22 2019. Lee Brown, President of the MSRT, welcomed those present and thanked everyone for attending conference.

A quorum was established, and the meeting was called to order by the MSRT President, Lee Brown, at approximately 4:49 p.m.

The minutes from Conference 2018 were accepted as published in the BEAM.

The following reports were given:

1. Treasurer:

- a. Please refer to Appendix A for Annual Financial Report that was presented at the business meeting.

2. Vice President: Nothing to report.

3. Secretary: Nothing to report.

4. Editor of The Beam: Position is vacant at this time.

- a. The Summer 2019 Beam has been published.

S. Executive Secretary/Website Administrator: These positions are vacant at this time.

- a. Membership is up a little from this time last year.

- Active Members (RTs)- 130

- Associate Members- 2

- .. Honorary Members- 3

- Life Members- 10

- Student Members-239

- Total membership- 384

6. ASRT Affiliate Delegates: John Melvin and Dr. Shaz Edgerton represented the

MSRT as ASRT Affiliate Delegates at the June 2019 ASRT House of Delegates Meeting in Orlando, FL.

- They shared some of the valuable information gained while attending the House of Delegates Meeting.

- Retaining membership is really being encouraged and the ASRT is offering money.
- ARRT had a representative present to speak on CQR.
- Radiography chapter meeting- Discussion was held on retaining radiographers- Many continue education and training to advance to other modalities.

7. Operating budget:

- a. Dr. Mike Ketchum, Chairman of the Board, presented the proposed operating budget for 2019-2020 that was approved by the board. (See Appendix B)

8. President:

- a. Lee Brown spoke on attending the ASRT House of Delegates meeting.
 - CQR
 - Maintaining affiliate membership

9. Conference Coordinator/Conference Chair: Nothing to report.

10. Legislative

- a. Dr. Mark Gray presented on Capitol Day.
 - Capitol Day 2019 was a success.
 - Planning for Capitol Day 2020 is taking place.
- b. Rita Fraser announced that the Mississippi Department of Medical Licensure has now made the LXMO certification digital. They are to submit their own certificate online. If the certificate is not submitted on time, the individual will be shut out and not allowed to renew online.

11. Nominations

- a. President- Dr. Asher Beam
- b. Vice President- Mandy Pearson, Jessica Reid, Zack Gray, Will Lindsay
- c. Secretary- Brittany Weatherford
- d. ASRT Affiliate Delegate- Dr. Mike Ketchum and Will Lindsay
 - i. Mandy Pearson withdrew her name from the nominations for Secretary.
 - ii. Elections were held for Vice President and ASRT Affiliate Delegate.
 - Jessica Reid was elected Vice President.
 - Dr. Mike Ketchum was elected as ASRT Affiliate Delegate.

With no further business to be discussed, the meeting adjourned at approximately 5:35 p.m.

Respectfully submitted,

A handwritten signature in black ink that reads "Mandy Pearson". The signature is written in a cursive, flowing style.

Mandy Pearson, M.H.S., R. T. (R)



Mississippi Society of Radiologic Technologists

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The **MSRT Presidential Installation of Officers and Awards Ceremony** for the 78th Annual Conference was held at the Magnolia Bluffs Hotel in Natchez, MS, on October 24, 2019.

1. MSRT President, Lee Brown, presented the following awards:

a. Student Exhibits:

1. 1st Place: "Radioactive Household Items of The 1900's" by Cherish Canton, Scott Harvey, and Erin Coleman (Co-Lin)
- ii. 2nd Place: "Trauma" by Kelly Odom, Kristiona Williams, and Amber Moore (JC)
- iii. 3rd Place: "Vaping" by Alex Martin and Rebekah Roberson (UMMC)

b. Technologist Exhibits:

1. 1st Place: "MRI Safety" by Stephanie Smith, B.S., R.T.(R)
- ii. 2nd Place: "Doctor Death" by Alex Wilcher, B.S., R.T.(R), Aurlivia Bibbs, B.S., R.T.(R), Stephanie Smith, B.S., R.T.(R) and Isaiah Beemon, B.S., R.T.(R)

c. People's Choice Award:

- i. "Radioactive Household Items of The 1900's" by Cherish Canton, Scott Harvey, and Erin Coleman (Co-Lin)

d. Student Manuscripts:

- i. 1st Place: "The Radium Watch Dial Painters: Radium Out of Time" by Michelle Husbands (UMMC)

11. 2nd Place: "Thick Skin and an Elastic Heart: Tricuspid Atresia in Neonates and Infants" by Mekayla Rainey (UMMC)

111. 3rd Place: "Bronchiectasis: The Search for a Cure" by Hannah Stovall (UMMC)

e. Technologist Manuscripts:

i. 1st Place: "Magnetic Resonance Imaging Safety and Accidents" by Stephanie Smith, B.S., R.T.(R)

ii. 2nd Place: "The Deposition of Gadolinium-based Contrast Agents: Harmless or Hazardous?" by Aurlivia Bibbs, B.S., R.T.(R)

iii. 3rd Place: "Understanding Multiple Sclerosis" by Alex Wilcher, B.S., R.T.(R)

f. Student Prep Bowl:

i. 1st Place: Pearl River Community College (Colton Alvis, Madison Barrett, Abbie Cochran, Andrew Hutchins, and Jared Smith)

ii. 2nd Place: University of Mississippi Medical Center (Jennifer Pruden, Hannah Stovall, Julia Mansfield, Hope Metz, and Callie Shepherd)

iii. 3rd Place: Copiah-Lincoln Community College (Jessie Case, Erin Coleman, Daneshia Powell, and Cherish Canton)

g. MSRT Student Scholarships:

i. Co-Lin-Jessie Case

ii. Hinds-Taylor Ballard

iii. ICC- Brittany Shettles

iv. JCJC- Brett Bounds

- v. MS Delta-Jean Tackett
 - vi. PRCC- Jared Smith
 - vii. UMMC- Hannah Stovall
2. The MSRT Student Delegates for the upcoming year are Harley Smith from Co-Lin and Cassandra Wade from UMMC.
 3. "Technologist of the Year Award" was presented by John Melvin to Lee Brown.
 4. The "Past President's Plaque" was presented by Dr. Mike Ketchum to Lee Brown.
 5. Dr. Kristi Moore, Vice President of ASRT, officiated the installation of the following officers for 2019-2020:
 - a. President- Dr. Asher Street Beam
 - b. Vice President- Jessica Reid
 - c. Secretary- Brittany Weatherford Barron

TECHNOLOGIST OF THE YEAR

LEE BROWN, MHIIM, R.T.(R)(N), CNMT, RHIA



CONFERENCE SPEAKERS

2019



Carmen George, MSRS,
R.T.(R)(ARRT) and
Kristi Moore, Ph.D.,
R.T.(R)(CT)



Cheryl Dubose, Ed.D.,
R.T.(R)(CT)(MR)(QM
) (ARRT)



Deborah Shell, M.Ed., R.T.(R)

CONFERENCE SPEAKERS

2019



Donna Cleveland, M.Ed.,
R.T.(R)(M); RDMS



Richard "Fuge" Fucillo, R.T.(R)(CT)



Hope Ladner



Mike Ketchum, Ed.D., R.T.(R)

Student Manuscripts

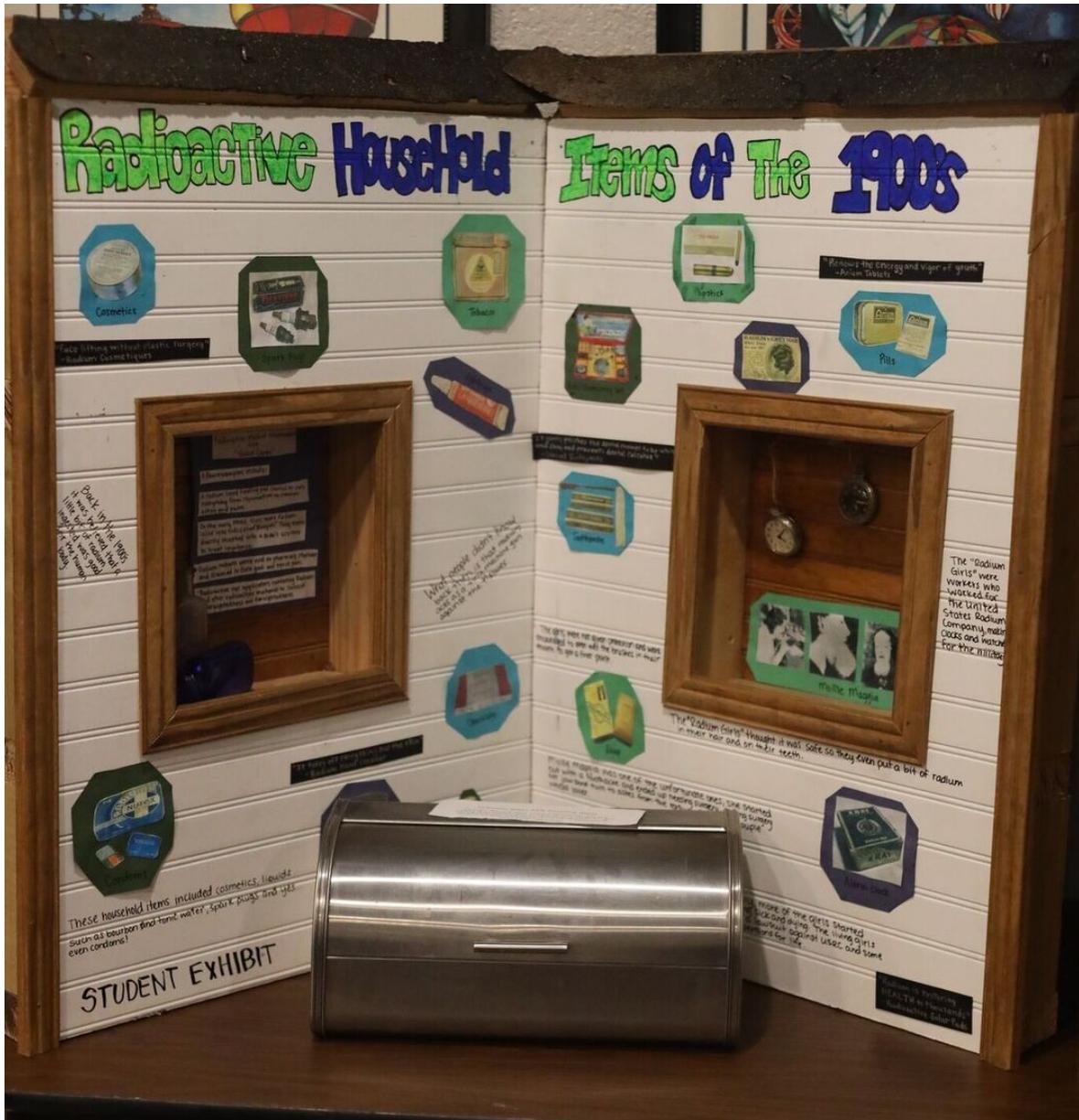
All student's papers were mailed to three (3) out of state judges for the student manuscript competition. Of those, six (6) are selected to present their topic at the annual conference. Listed below are the top six (6) who presented and the ones who placed top 3 based on their presentation.

- “The Radium Watch Dial Painters: Running Out of Time”
— Michele Husbands
1st Place
- “Thick Skin and an Elastic Heart: Tricuspid Atresia in Neonates and Infants”
— Mekayla Rainey
2nd Place
- “Bronchiectasis: The Search for a Cure”
— Hannah Stovall
3rd Place
- “VHL Syndrome: A Monster of Variable Severity”
— Chase Kennan
- “Atrial Septal Defect: A Hole in the Heart”
— Emily Griffin
- “HBOC Syndrome”
— Courtney Turner

STUDENT EXHIBITS

2019

1st Place and People's Choice Winner



“Radioactive Household Items of the 1900’s”

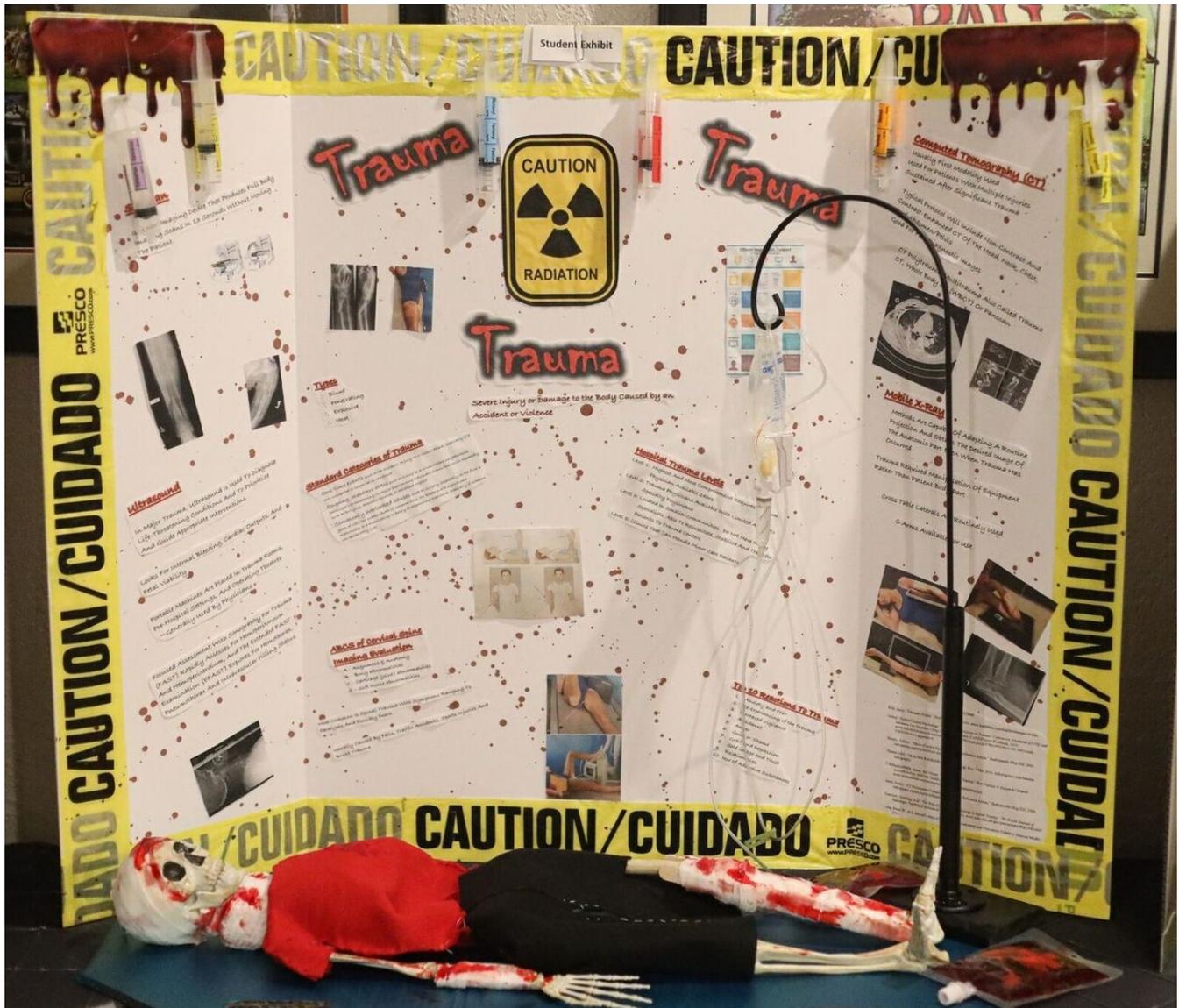
Co-Lin

Cherish Canton, Scott Harvey, and Erin Coleman

STUDENT EXHIBITS

2019

2nd Place



“Trauma”

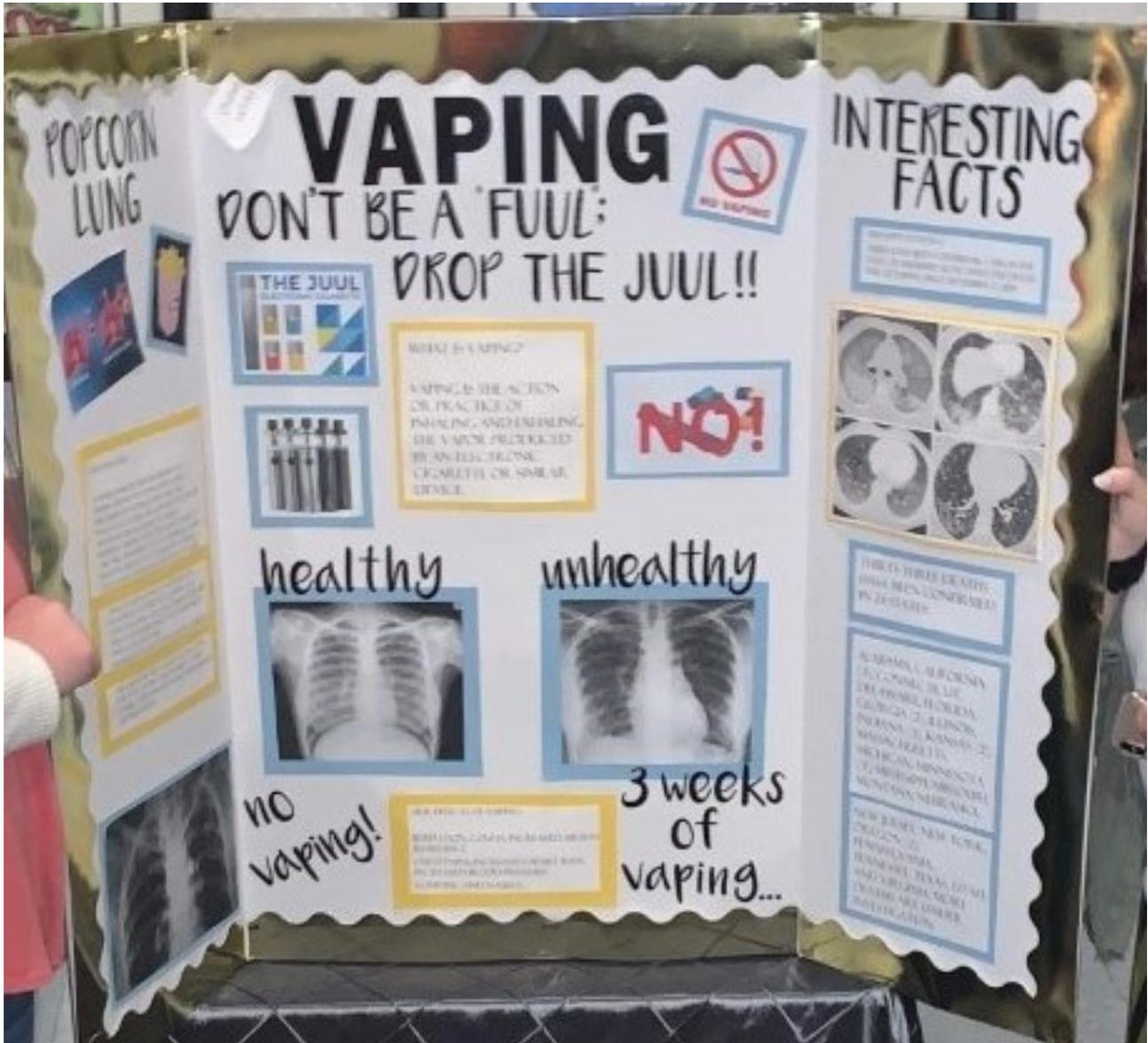
JCJC

Kelly Odom, Kristiona Williams, and Amber Moore

STUDENT EXHIBITS

2019

3rd Place



“Vaping”

UMMC

Alex Martin and Rebekah Roberson

STUDENT EXHIBITS

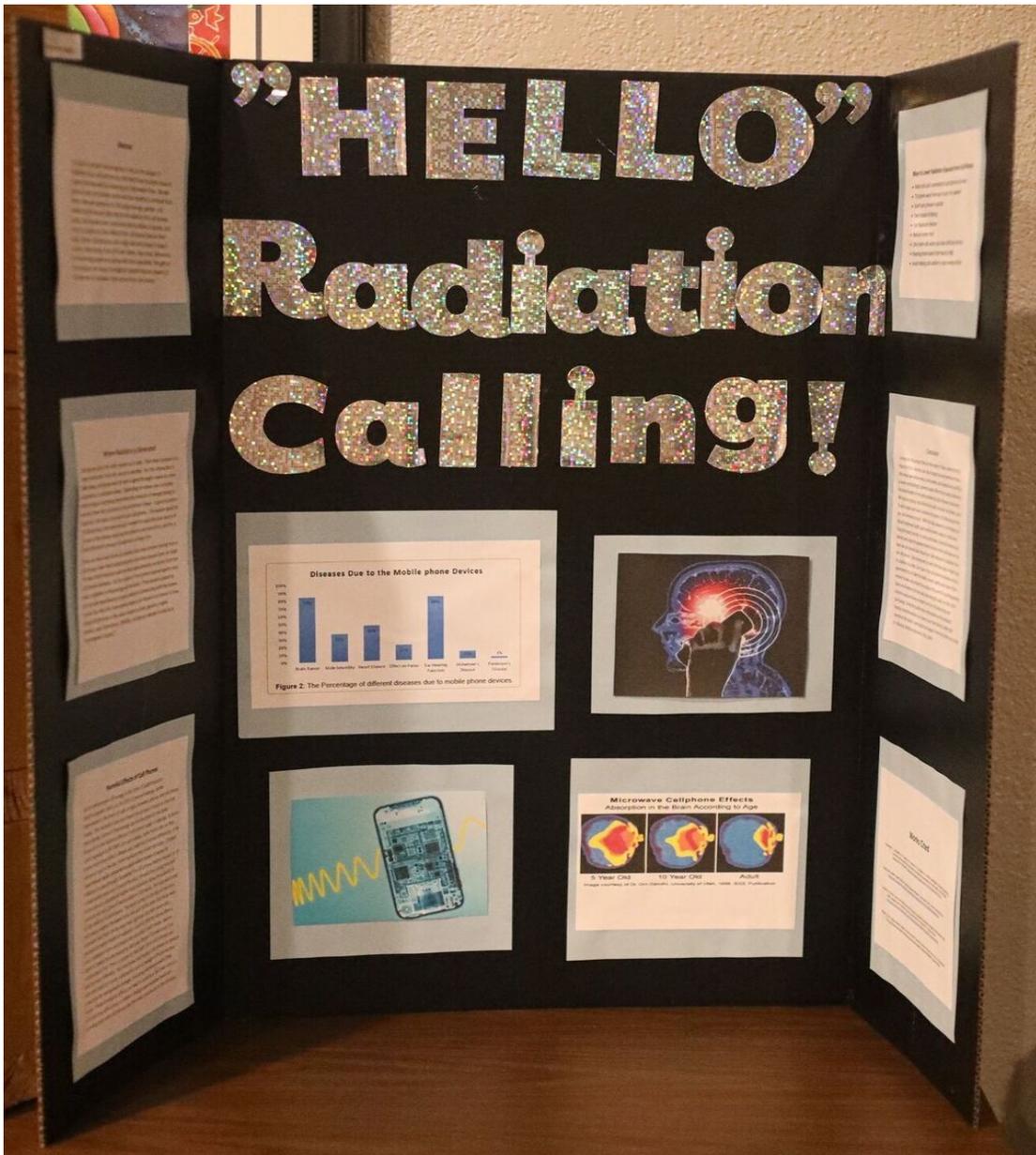
2019



Artificial Intelligence in Radiology

STUDENT EXHIBITS

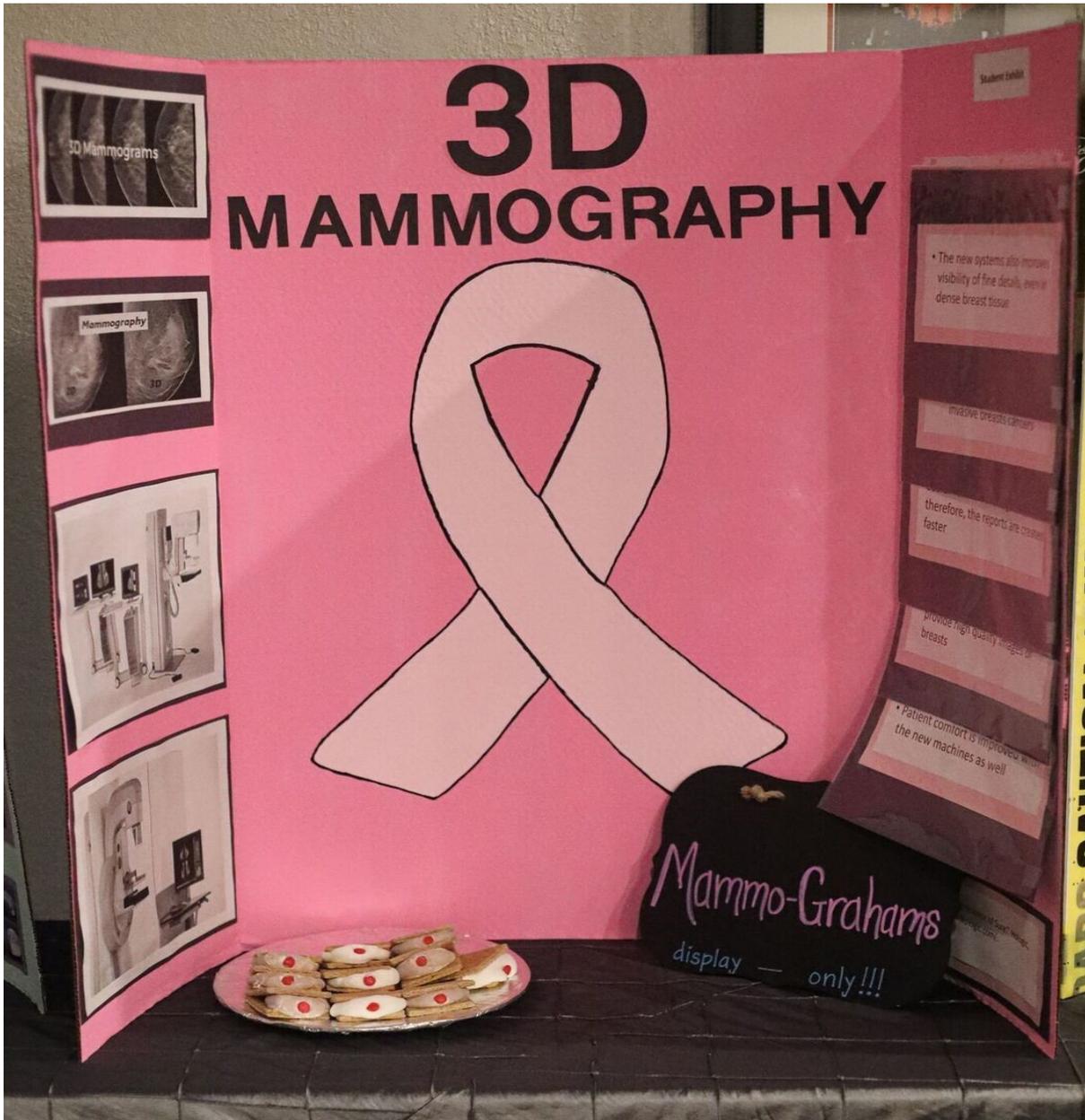
2019



“Hello, Radiation Calling!”

STUDENT EXHIBITS

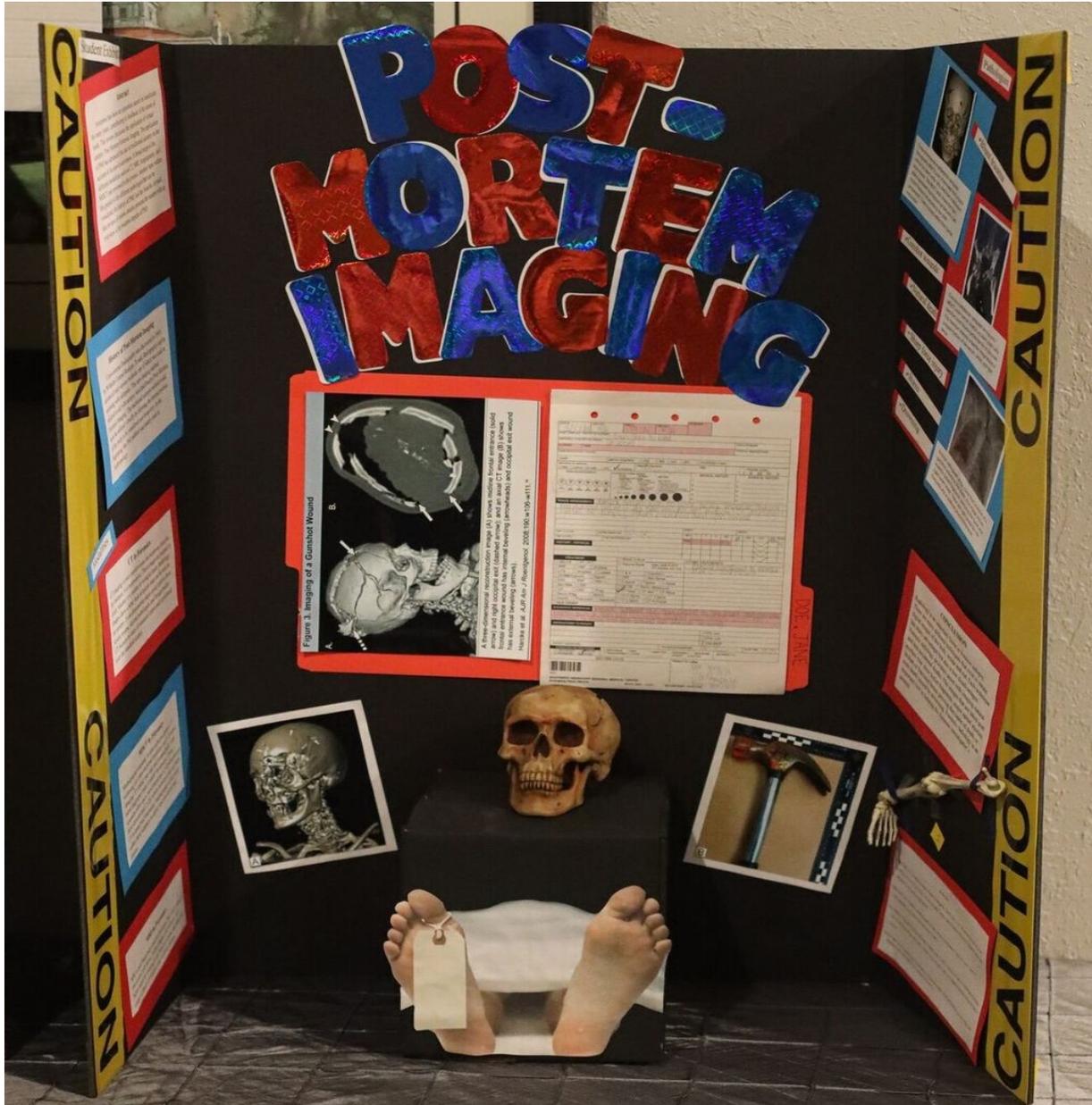
2019



“3D Mammography”

STUDENT EXHIBITS

2019



“Post Mortem Imaging”

Student Manuscript 1st Place Recipient

Michele Husbands

The Radium Watch Dial Painters: Running Out of Time

In the early 1900s the world was entranced with radium. Radium became a daily part of people's lives. For the young women who worked at the Radium Luminous Materials Corporation in Orange, New Jersey, radium literally became a part of them as they ingested radiolucent paint daily. These women were employed to paint watch dial faces, not knowing that they were surrounded by death. By the time they figured it out, it was too late, and they would leave behind a legacy that changed the way society viewed radium.

The Introduction of Radium

In 1898, brilliant scientists, Marie and Pierre Curie, extracted radium chloride from purified uranium ores (Anwar & Lowenstein, 2015; Cohen & Kim, 2017; Gunderman & Gonda, 2015). This radium chloride became widely known as radium. The product produced a faint blue glow (Anwar & Lowenstein, 2015; Cohen & Kim, 2017; Gunderman & Gonda, 2015). By the early 1900s, radium had become a household name and was viewed as the wonder drug. Radium had a price value of \$120,000 per gram, making the product the most valuable material on Earth (Anwar & Lowenstein, 2015). Gunderman and Gonda (2015) revealed,

Radium was added to a wide variety of products, including toothpaste, facial creams, and even food items. It was added to drinking water in products such as Radithor and Revigator. Radithor was actually referred to as "liquid sunshine" and touted as "nature's way to health." A number of quack medical products claimed to contain radium, including patent medicines and suppositories as well as the "Radiendocrinator," which men could wear like a jockstrap. (p. 314)

According to Anwar and Lowenstein (2015), the developer of Radithor claimed that it could cure stomach cancer, mental illness, and restore sexual vigor and vitality. The American

The Radium Watch Dial Painters

Medical Association authorized this and called it radium therapy. Scientists much later discovered that radium isotopes are highly radioactive, and thus toxic to humans. The most stable isotope of radium is radium 226. Scientists discovered that it has a half-life of approximately 1600 years, making it a lingering environmental poison (Gunderman & Gonda, 2015). Radium acts similarly to calcium and is easily absorbed into the bones, making life extremely unbearable for someone who ingested it (Moore, 2018).

The Radium Luminous Materials Corporation

The ever-expanding products containing radium eventually attracted the attention of the military during World War I. In 1917, the Radium Luminous Materials Corporation, which would later be changed to the United States Radium Corporation, opened a factory in Orange, New Jersey, that produced luminescent watches and clocks that were primarily sold to the military and eventually the rest of the public (Anwar & Lowenstein, 2015; Moore, 2018). Sabin von Sochocky, a Viennese physicist, physician, and founder of the Radium Luminous Materials Corporation, developed a cost efficient luminous paint comprised of radium 226, known as Undark. This secret formula eventually led to a larger market and by the end of his first year, he had sold 2,000 luminous watches (Moore, 2018; Rentezi, 2004).

The Watch Dial Painters

Painting watch dials required intricate detail, so applications were advertised towards artists. Anwar and Lowenstein (2015) stated that Radium Luminous Materials Corporation hired 70 women. They had a more delicate penmanship to paint the dials for military watches with radiolucent paint. This number greatly increased over a short period of time (Moore, 2018). The women worked with camel hair brushes to help sustain a fine point, but the bristles tended to

The Radium Watch Dial Painters

spread (Gunderman & Gonda, 2015; Moore, 2018). Eventually, a painting technique was developed that would be more cost effective on materials. Cohen and Kim (2015) noted, To maximize efficiency and precision, the “radium girls,” as they were eventually known, were instructed to place their brushes in their mouth to create a tapered point—“lip, dip, paint”—a routine performed hundreds of times per day, 6 to 7 days a week, and for some, for many years. (p. 801)

These radium dial painters placed the end of the brush in their mouths to create a fine tip. They then dipped their fine tipped brush into the luminous radium paint, and they painted the watch dials with the glowing paint (Cohen & Kim, 2017; Gunderman & Gonda, 2015; Moore, 2018; Rentetzi, 2004).

According to Moore (2018), Thomas Edison warned the Radium Luminous Materials Corporation that everyone should handle the radium with care because, since radium was still so new, there was potential that it could produce calamitous results. Unfortunately, the company never heeded his warnings. The women worked without a care in the world painting without wearing lead aprons, using ivory tipped forceps, or having medical experts present unaware that they were working with lethal paint (Moore, 2018). Cohen and Kim (2017) stated,

Over time, one by one, the women began to fall ill. Their symptoms included jaw necrosis, nonhealing ulcers and abscesses, spontaneous fractures of the limbs or spine, aplastic anemia, and bone sarcomas. Many experienced a violent and agonizing death. While their range of afflictions puzzled physicians, a common thread appeared. All had been dial painters at one point in their lives. (p. 108)

The Radium Watch Dial Painters

Mollie Maggia

Mollie Maggia, along with two of her sisters, Quinta and Albina, worked at the Radium Luminous Materials Corporation painting dials (Moore, 2018). While working there, Mollie started to develop a toothache. After having the tooth extracted, the pain became worse. In October of 1921, based on a recommendation, Mollie went to see Dr. Joseph Kneff, a dentist who specialized in unusual diseases of the mouth. He noticed that even though it had been over one month since Mollie had her tooth extracted, the wound never healed. In fact, her gums were inflamed, and there were several loose teeth (Moore, 2018). As time passed, Dr. Kneff removed more of Mollie's teeth, but procedures only seemed to make things worse. Moore (2018) stated that as more teeth were extracted more agonizing ulcers would sprout up in their place. This became a vicious cycle for Mollie. Dr. Kneff eventually diagnosed Mollie with Phossy Jaw, or phosphorus poisoning in the jaw. He believed he had finally figured out what was causing her illness (Moore, 2018). This was mostly seen in factory workers working with phosphorus. Mollie did not respond to the treatment; she only got worse. There were abscesses all in her mouth and on the bones of her middle ears. Mollie was no longer in any condition to work; she could not even talk (Moore, 2018). Mollie went to visit Dr. Kneff again. Moore (2018) noted,

Kneff prodded delicately at the bone in her mouth. To his horror and shock, even though his touch had been gentle, her jawbone broke against his fingers. He then removed it, "not by an operation, but merely by putting his fingers in her mouth and lifting it out." (p. 38)

Mollie's jaw had literally fallen out of her mouth. Dr. Kneff, grasping at straws, decided to have her tested for syphilis; the results came back positive (Moore, 2018). Not wanting to concern Mollie, he decided to withhold the information. According to Moore (2018)

The Radium Watch Dial Painters

In September 1922, the peculiar infection that had plagued Mollie Maggia for less than a year spread to the tissues of her throat. The disease slowly ate its way through her jugular vein. On September 12, at five p.m., her mouth was flooded with blood as she hemorrhaged. (p. 39-)

Mollie died at the age of 24 years old. She went to her grave with people believing she died of syphilis. Years passed before scientists determined that Mollie died of radium poisoning and not syphilis (Moore, 2018).

Grace Fryer

Grace Fryer was the eldest daughter of her ten siblings (Moore, 2018). With a war underway and her two older brothers being called to the front, she wanted to do her part. Grace, age 18, went to the Radium Luminous Materials Corporation and joined the other many women painting dials (Anwar & Lowenstein, 2015; Gunderman & Gonda, 2017; Moore, 2018). Because the company would pay by the dial, it was in the girl's best interest to paint as many dials as possible. Grace became one of the fastest painters very quickly, and her production value was about 250 dials per day. She used the same technique that was taught to all the other girls: the lip, dip, and paint method (Moore, 2018). According to Gunderman and Gonda (2018) Grace worked at Radium Luminous Materials Corporation from 1917 to 1920.

By the time she had left for a better job at a bank, Grace started to develop the same jaw pain as Mollie Maggia; she also suffered from a throbbing back pain (Gunderman & Gonda, 2015; Moore, 2018). These were two totally different symptoms, and no doctor had thought to connect them until after the death of another dial painter, Sarah Maillefer. Moore (2018) revealed that pathologist, Dr. Martland, tested Sarah's body; he found that her body emitted

The Radium Watch Dial Painters

radioactivity, specifically from her bones. Dr. Martland applied the same tests to Grace and four other girls, and the results were the same. Moore (2018) noted the following:

“When I first found out what I had,” Grace remembered, “and learned that it was incurable...” She trailed off, but eventually continued: “I was horror-stricken... I would look at people I knew, and I would say to myself, ‘Well, I’ll never see you again.’” (p. 143)

The Fight

Grace was doomed to die, and it was the fault of the Radium Luminous Materials Corporation. But she and four other girls, Edna Hussman, Katherine Schaub, and sisters Quinta Maggia McDonald and Albina Maggia Larice, were not going down without a fight. Grace spent two years in search of a lawyer who would be willing to take their case. Raymond Berry agreed to take on the case to help the girls fight for compensation (Gunderman & Gonda, 2015; Moore, 2018). After a long, drawn out battle, Berry and the women convinced the Radium Luminous Materials Corporation to settle. On Monday, June 4, 1928, the company reached a settlement of \$10,000 for each woman, with a pension of \$600 per year for life. At today’s value that rate would be \$138,606 and \$8,316, respectively. The company also covered all medical expenses, past and future, of each woman (Gunderman & Gonda, 2015; Moore, 2018). This may have been a loss for the Radium Luminous Materials Corporation, but there was no way to give back all the time that was stolen from these young ladies.

Thanks to Marie and Pierre Curie, radium became a major part of the world’s society. Everyone was enchanted by the potential of radium. Unfortunately, because radium was so new, there was no way of knowing the catastrophic side effects. For the young women who worked at the Radium Luminous Materials Corporation, the rose-colored glasses over society’s eyes were lifted as they fought against the company that condemned them to die.

References

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Technologist Manuscripts

Radiologic technologists have the opportunity to participate in the RT category of both manuscript and exhibit also. All technologist's papers were mailed to three (3) out of state judges for the manuscript competition. Listed below are the four (4) that presented and the top three (3) based on their presentation.

- “Magnetic Resonance Imaging Safety and Accidents”
— Stephanie Smith, B.S., R.T.(R)
1st Place
- “The Deposition of Gadolinium-based Contrast Agents: Harmless or Hazardous?”
— Aurlivia Bibbs, B.S., R.T.(R)
2nd Place
- “Understanding Multiple Sclerosis”
— Alex Wilcher, B.S., R.T.(R)
3rd Place
- “Osteosarcoma”
— Isaiah Beemon, B.S., R.T.(R)

TECHNOLOGIST EXHIBITS

2019

1st Place

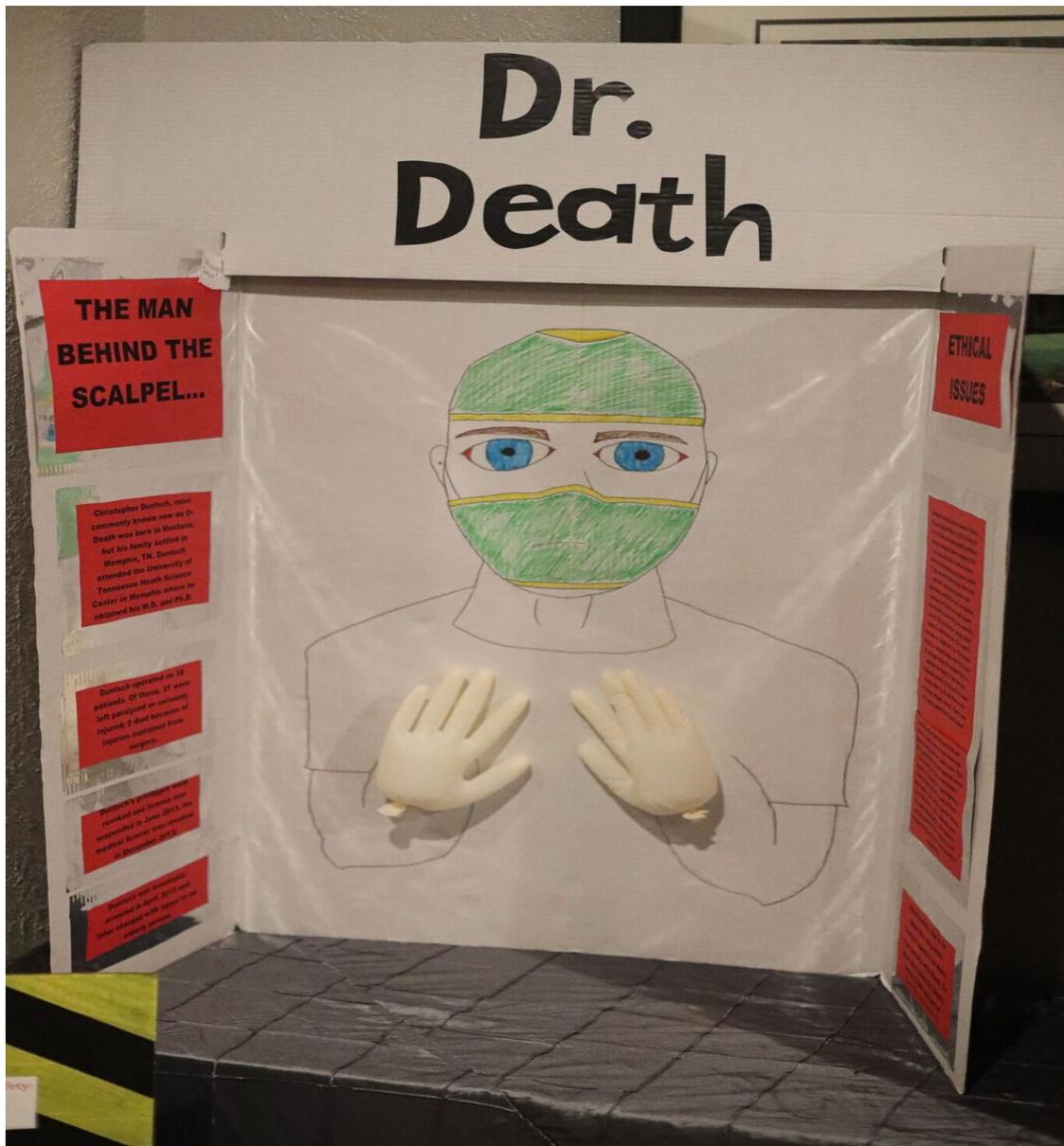


“MRI Safety”
Stephanie Smith, B.S., R.T.(R)

TECHNOLOGIST EXHIBITS

2019

2nd Place



“Dr. Death”

Alex Wilcher, B.S., R.T.(R), Aurlivia Bibbs, B.S., R.T.(R), Stephanie Smith, B.S., R.T.(R), and Isaiah Beemon, B.S., R.T.(R)

Magnetic Resonance Imaging Safety and Accidents

Magnetic Resonance Imaging (MRI) is an imaging modality that has exceptional soft-tissue contrast compared to other imaging alternatives. There is also no use of radiation in MRI, which makes it even more appealing to patients. The popularity of MRI has led to the installation of almost 30,000 scanners worldwide; therefore, patients and personnel need to be well informed about safety precautions around MRI scanners (Sammet, 2016).

General Safety

On one hand, MRI seems to be a relatively safe choice for imaging the body for several reasons, such as those mentioned above. On the other, MRI can also be extremely dangerous to patients and personnel if they are not aware of the general rules of the scanner. MRI uses a powerful magnetic field and radio waves to produce detailed images of organs and tissues of the body to find disease processes or any other abnormal condition. Since a powerful magnetic field is used, it is unsafe to bring any ferromagnetic objects into the scan room. If a ferromagnetic object is brought into the MRI suite, it can quickly become airborne and attach to the scanner's bore. This phenomenon is called the projectile effect and can cause serious injuries, including death (Patient Safety Authority, 2009). Some examples of ferromagnetic objects that could potentially be dangerous if brought into an MRI scanner include, but are not limited to, oxygen tanks, wheelchairs, pacemakers, stimulators, aneurysm clips, hairpins, jewelry, and bullets. There is also the potential risk of burns during an MRI scan. Burns can occur from objects that produce heat during the MRI process, including wires from internal or external leads, surgical staples, or from the patient's body touching the inside walls of the magnet. The use of screening forms and verbal communication between patients and technologists are in place to reduce the chances of a patient being harmed inside the MRI scanner (The Joint Commission, 2008). In

addition to screening the patient, having them change into a gown and remove all jewelry and hair accessories can increase MRI safety.

Zoning

The American College of Radiology (ACR) guidelines recommend a four-zone system for MR suites. These guidelines state that there must be proper use of signage in all areas of the MRI department. Zone I includes all areas that are freely accessible to the public. This area is usually outside the MR department itself, and includes places such as the registration desk. Zone II is the area between Zone I, an uncontrolled area, and Zone III and IV, controlled areas. Zone II is typically where screening the patient takes place. Screening the patient includes verbally asking the questions on the form and obtaining a brief medical history of the patient. The MR control panel is located in Zone III. This area should be clearly labeled with warning signs that inform people about the potential dangers of the static magnetic field. Restrictive doors should be placed between Zone III and IV for safety. Zone IV is the room that contains the magnet. Posted signage at the entrance of Zone IV stating that the magnet is always on should be present to ensure that patients and unfamiliar personnel are aware of the possible dangers of the static magnetic field. Only trained personnel and screened patients accompanied by trained personnel should be allowed in Zones III and IV (Kanal et al., 2013).

All equipment located in Zones III and IV should be labeled MR safe, MR conditional, or MR unsafe. These labels should be visible to anyone present in these zones. A green square label is used to show that the object is MR safe, meaning there is no hazard when this object is placed in any MR condition. A yellow, triangular label is used to show that an object is only considered safe in an MRI under specific conditions. These conditions include the following: the static field strength, special gradient, time rate of change of the magnetic field, radiofrequency

fields, and specific absorption rate (SAR). A round red label with a diagonal line through the center is indicative of MR unsafe objects. These objects are hazardous and are known to cause harm in any and all MR conditions (Beam et al., 2019).

MRI Emergencies

Emergencies in MRI do not happen often, but when they do, it is important to know what steps to take to ensure the safety of the patient and anyone else trying to alleviate the situation. In the event of a Code Blue, it is never safe to bring outside equipment into Zone IV. For safety reasons, the patient must be moved from Zone IV to a predetermined, magnetically safe location (i.e. Zone III). If the patient requires immediate life-saving intervention, a trained and certified MR personnel should immediately initiate basic life support of CPR while the patient is being removed from Zone IV. If a fire were to occur in the MR scan room, the responsibility of MR personnel is to remove the patient from the magnet, pull the fire alarm, press the “Emergency Power OFF” button, and then evacuate. The most drastic measure to be taken during an MR emergency is a quench. A quench is the release of the helium needed to cool the superconducting magnet. It is only permissible to perform a quench when there is an injury to the patient or injury risk. Examples of this include a subject being “pinned” within or against the magnet, or a fire within the gantry that cannot be extinguished. A quench results in several days of downtime and a significant financial burden. Insufficient knowledge of MR safety protocols in emergencies has resulted in injuries, and in some cases, death. These accidents are 100 percent preventable with proper training and execution of emergent situations (Kanal et al., 2013).

Michael Colombini

Deaths in MRI are few and far between, but they do happen. Unfortunately, lack of communication and proper safety training caused six-year-old Michael Colombini to lose his life. In the summer of 2001, at Westchester Medical Center in New York, Michael Colombini was killed while being prepared for an MRI exam. After being sedated and positioned in the scanner, Michael's oxygen saturation levels began to drop quickly. When the anesthesiologist attempted to use the piped-in oxygen system in the scanner room, it did not work, so the anesthesiologist called for oxygen from outside the room. A nurse, who was not part of the MRI department staff, brought a steel tank of oxygen to the scanner room door for the anesthesiologist. When the anesthesiologist grabbed the oxygen and hurried toward the child, the profound magnetic strength of the MRI scanner pulled the tank out of their hands and into the scanner, striking and killing the young boy. This accident was completely preventable, and could have easily been avoided had the anesthesiologist taken the boy out of Zone IV and into a magnetically safe area to be given life-saving care. Because of this tragedy, a lawsuit against the hospital was filed, and a family lost their young son (McGinley, 2011).

Betty Cummings

Another safety incident in an MR department occurred in November 2014 at the Children's Hospital Oakland. Betty Cummings was 17 years old when she came to the hospital from unexplained stomach pain. After a series of tests were run, including an EKG, technologists placed Cummings into the scanner, failing to remove the EKG leads from her chest and abdomen. Cummings said that she felt a lot of burning and she knew something was wrong, but despite her cries for help, no one came to her aid for over 40 minutes. A nurse in the department said that she ran across Betty, and smoke was coming out of the MRI machine. They

removed her from the scanner, and she suffered radiofrequency burns from the leads being left on her body during the scan. Cummings has since been diagnosed with Post Traumatic Stress Disorder (PTSD) since the accident occurred (“2 investigates”, 2015).

Reducing MRI Related Accidents

Tobias Gilk, a member of the American Board of MR Safety, estimates that there are now more than 7,000 MRI accidents in the United States every year, an increase of 500 percent since 2000, according to federal data. Although that is a relatively small number compared to the estimated 30 million MRI scans performed each year, a greater focus on safety is needed across the industry to reduce the number of accidents. According to research from Gilk, he stated, “We found that 85 percent of the MRI injury accidents would have been prevented if people had just followed the existing best practice guidance”. It is clear that the number of safety injuries and deaths can be drastically reduced if technologists and other MR personnel would follow the ACR guidelines (i.e. zoning, emergency situations) and be more precise in their patient screening efforts (“2 investigates”, 2015).

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Student Prep Bowl



1st Place

Pearl River Community College

Bottom L-R: Andrew Hutchins, Colton Alvis, and
Madison Barrett

Top L-R: Jared Smith and Abbie Cochran

Student Prep Bowl



2nd Place

University of Mississippi Medical Center

Bottom L-R: Hannah Stovall, Callie Shephard, and
Jennifer Pruden

Top L-R: Hope Metz and Julia Mansfield

Student Prep Bowl



3rd Place

Copiah Lincoln Community College

Bottom L-R: Cherish Canton, Madison Coleman, and Erin Coleman

Top L-R: Daneshia Powell and Jessie Case

Student Prep Bowl



Itawamba Community College
L-R: Brittani Shettles, Malory Hughes,
Maddie Chunn, and Taylor Johnson

Student Prep Bowl



Jones County Junior College

Bottom L-R: Brett Bounds, Taylor Bryant, and
Sara Sadler

Top L-R: Shelby Barrett and Kelly Odom

Student Prep Bowl



Hinds Community College

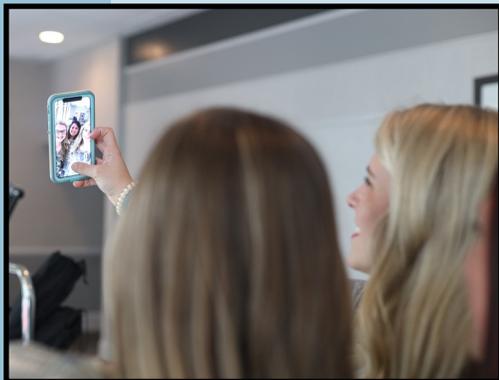
Bottom L-R: Brennen Boteler, Grace Berry, and
Brady Smith

Top L-R: Millicent Warren and Alexis Frederick

Student Prep Bowl



Mississippi Delta Community College
Bottom L-R: Jean Tackett, Ana Grimaldo, and
Mamie Hollenhead
Top L-R: Katelyn Ross and Avery Thornton





MSRT Scholarship Recipients

Each of these students have demonstrated outstanding academic and clinical performance throughout their education. The MSRT Board of Directors salutes them and wishes them well in their future endeavors.

“ THE
roots of
EDUCATION
are bitter,
BUT THE
fruit
IS SWEET.”



WHEN YOU
FEEL LIKE
QUITTING
REMEMBER
WHY YOU
STARTED



Congratulations



Jessie Case
Co-Lin



Hannah Stovall
UMMC



Brittani Shettles
Itawamba



Taylor Ballard
Hinds



Jared Smith
Pearl River



Jean Marie Tackett
MS Delta



Brett Bounds
Jones

Awards and Recognition

Congratulations!



(Above) Past President's Plaque presented to Lee Brown by Mike Ketchum.



(Above) 1st Place Technologist Manuscript: "Magnetic Resonance Imaging Safety and Accidents" and 1st Place Technologist Exhibit: "MRI Safety"
Stephanie Smith and Lee Brown



(Left) 2nd Place Technologist Exhibit: "Doctor Death"
L-R: Isaiah Beemon, Stephanie Smith, Lee Brown, Aurlivia Bibbs, and Alex Wilcher



(Left) 2nd Place Student Manuscript: “Thick Skin and an Elastic Heart: Tricuspid Atresia in Neonates and Infants — Mekayla Rainey with Lee Brown

(Right) 3rd Place Student Exhibit: “Vaping” — Alex Martin and Rebekah Roberson with Lee Brown



(Left) 2nd Place Technologist Manuscript: “The Deposition of Gadolinium-based Contrast Agents: Harmless or Hazard?” — Aurlivia Bibbs with Lee Brown





(Above) Newly installed MSRT officers L-R:
President Dr. Asher Street Beam, Secretary
Brittany Barron, and Vice President Jessica Reid



Newly elected
student delegates:
(Left) Harley Smith
from Co-Lin and
(Right) Cassandra
Wade from UMMC.



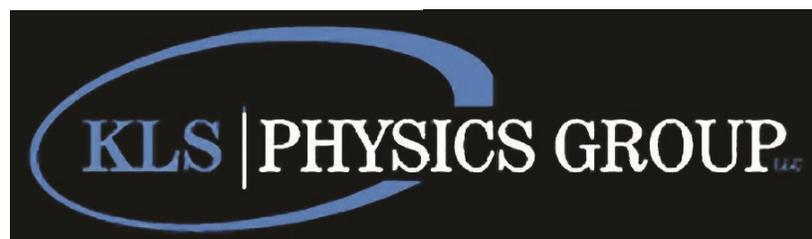
Thank you to our wonderful
vendors!



GE Healthcare



Experts and Investors in Healthcare Technology





MSRT Costume Party











Letter from the Editor

Hello all! I guess this would be a good time to introduce myself for those that don't know me. I am the new Editor of the Beam and I am so excited. I've been involved with the MSRT since my first year of school. I was student delegate until I graduated last May and I'm so thankful and appreciative of the opportunity to stay involved with an organization that means so much to me.

Thank you to everyone that helped make the 78th Annual Conference of the MSRT in Natchez, MS a huge success. It takes many people doing many things to make it what it is and we couldn't do it without everyone's help and support. Speaking of help and support, the MSRT is always looking for volunteers and people willing to advocate for their profession. Watch our Facebook page for information about Capitol Day this spring and any other announcements. We're excited to be back in Biloxi, MS for the 79th Annual Conference this October. I can't wait for an amazing year and hope to see everyone in October!

Adrian Brewer, R.T.(R)

