# Articles

## Improvements in Colorectal Cancer Treatments
By Marilyn McNeill Lysek, RN, BSN, Baptist College of Health Sciences
CE #31-301-16

## Macular Degeneration Treatment Summary
By Nicolas Castro-Pinzon
CE #31-302-16
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A Message from the
PRESIDENT

Taffy K. Durfee

Congratulations to our state award winners at the Galveston meeting. The Special Recognition award winner was Barbara Dazey, the Outstanding MT/MLT award winner was Yvonne Spade, the Outstanding RMA/RPT award winner was Viviana Pelton and the President’s Award winner was T. J. Weatherly.

We have a busy meeting planned for April in Temple, Texas. Our convention coordinator, Michelle Hege, will be hosting the conference and has put together an informative program. We will also be preparing a delegate list for the upcoming national conference in Memphis in July. Being a delegate to represent Texas at the national meeting is a great experience and I want to encourage our members to plan to attend. This year we are allotted a total of 75 member delegates and it would be great to get close to that number. There are requirements about state and national meeting attendance in order to be a delegate, so be sure to attend the Temple meeting if you want to be considered for the delegation. We will also be taking nominations for officers at the state Business Meeting in Temple. The positions that are open for nominations include secretary, treasurer, vice-president and president. If anyone is interested and would like to know the duties of each office, please see me at the conference and I will have a list of the requirements. Also, don’t forget our Friday night social and auction so bring something to auction off so we can keep our Ray Schiffer scholarship and writing award funds moving forward.

See everyone in Temple. ■
Taffy K. Durfee

UPDATE

With regret, we received Kim Meshell’s letter of resignation from the Texas State Society of the AMT board of directors. She has given much of her energy and dedication as editor and vice-president. Her contributions are many and she continues to build the lives of new AMT member every day. She will be greatly missed but we wish her happiness in her future. Michelle Jenkins as agreed to fill the position of vice-president for the remaining term through 2016, and the board will be working as editor until the position can be filled. ■

District Councillor’s Message

Randy Swopes

I greet you all from sunny Louisiana on this 21st day of January. The weather report this morning not favorable for OK, C-Plains, MO, or ARK but in TX, LA, and MS it is not so bad. That’s all for the Weather report.

On to better things…. Let’s talk about the convention that is to be held in Memphis, TN, on July 17th-22nd. I hope all who plan on attending have watched their emails or visited the AMT website and taken advantage of the reduced registration fees. Please make your reservations early at the Peabody Hotel. This is going to be an awesome opportunity to gather those valuable CEUs and get reacquainted with some super old friends. All the information about the convention is on the AMT website.

Another date that Central District States may want to take advantage of is the Magnolia Educational Treasurer’s Conference on the 28th and 29th of OCT 2016. It will be held in Gulfport, MS, you all will be receiving emails throughout the year about this meeting. The program will soon be sent to all Southern States.

Please don’t forget your State meetings and functions going on in your individual states. Turn out and support your State leaders, but more than that, get involved. Your State officers did not get to where they are just yesterday. No, it is a maturing process that occurs over time. They are there to mentor and help new young future leaders.

I encourage all members to watch their emails for information from your State and National leaders. I wish you all a blessed and prosperous year. See you soon. ■

Randy Swopes, MT
Central District Councillor

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Spring/Summer 2016 / TSSAMT
Colorectal cancer is one of the most common types of cancer in the United States. Most individuals will have a family member or a friend touched by this disease. Scientists are trying to learn more about what causes this disease and why it is so prevalent. The medical community is credited with increasing the colorectal cancer survival rate from less than 20 percent in the 1930s to nearly 50 percent today. These efforts continue now and hold promise for the future. Until a cure is found, improved treatments for colorectal cancer maintains a quality of life for patients.

An understanding of the colon and rectal process is a critical step in the return to a state of health for the patient. The colon and rectum play vital parts of the digestion in foods. Together, they form a long muscular tube called the large intestines or colon. According to Porth (1998), the colon is the upper 5 to 6 feet of the large intestines, and the rectum is the last 6 to 8 inches. Like all other organs of the body, the colon and rectum are made from many kinds of cells. Cells usually divide in an orderly manner to produce more cells only when the body needs them. If the cells keep dividing when new cells are not needed, a mass of tissue forms. This mass of tissue, called a growth or tumor, can be malignant or benign.

Tumors can develop anywhere in the colon or rectum. In addition, Belcher (1992) reported that if colorectal cancer cells spread outside the colon or rectum, they can invade nearby lymph nodes. The lymph nodes then provide a means of transportation for the cancer to spread to other parts of the body, such as the liver and lungs. This spread of the disease is called metastatic colorectal cancer. As with any health problem, the best response to treatment is when the cancer is found early and treatment is aggressive.

Colorectal cancer affects 1 person in 20 in the US and constitutes a major public health problem as the second most common cancer. In recent years there have been considerable advances in the understanding and treatment of the disease (Cohen, Minsky, & Schilsky, 1997). Researchers have discovered that colorectal cancer is seen more often in people who are over age 40. Although colorectal cancer usually happens after the 4th decade of life, it can strike anyone at any time. Colon tumors occur slightly more in women and rectal cancers are seen slightly more in men. The average age for these types of cancers is 60 to 65 in men and women (Diaz-Canton & Pazdur, 1995). The researchers have also found, that for some reasons not clearly understood, people who live in urban industrialized areas have a higher incidence (Cohen, et al., 1997).
Researchers have long suspected that colorectal cancer is caused or promoted by environmental factors. National studies have revealed a clear association of colorectal cancer with diets rich in meats and animal fats, and poor in fiber. To support this, the incidence of colorectal cancer is significantly lower in people who practice the Mormon or Seventh Day Adventist religions in the US. Members of these religions have diets that consist mainly of vegetables, fruits, and whole grain cereals while avoiding meats (Diaz-Canton & Pazdur, 1995). The dietary fats in meat increases the environment within the body to promote the production of tumors. According to Meropol (1998), diets rich in fat and cholesterol have been linked to an increased risk of tumors of the colon and rectum. The effects of animal fat appear independent of total calorie intake. A sedentary lifestyle and obesity, both linked with dietary fat, also correlate with the incidence of colorectal cancer. Dietary fat increases the endogenous production, bacteria degradation, and excretion of bile acids and neutral steroids, which are carcinogens, thereby promoting colic carcinogens. Excess lipids in the colon may lead to an increase in the concentration of secondary bile acids, which may stimulate protein kinase C (PKC), a major cellular communication pathway, resulting in the promotion of cancer. It is suggested that in colorectal cancer PKC may inhibit growth, while in normal mucosa it may stimulate growth through the action of bile acids. A diet high in fat could lead to a predominance of anaerobic bacteria in the intestinal micro flora, and the enzymes in such bacteria may activate carcinogens. Interestingly, a protective effect has been suggested for a diet containing fiber and yellow and green vegetables. However, some believe that cereal fiber, although beneficial, is not as important as fiber from fresh fruits and vegetables (pp. 45-46).

The symptoms of colorectal tumors vary depending on where in the colon or rectum they are located. Carnevali and Reiner (1990) report that during the early stages, a patient may not have any symptoms at all. Some patients may complain of vague abdominal pain and flatulence. The symptoms are often blamed on gallbladder or peptic ulcer disease. There may be minor changes in bowel movements with or without rectal bleeding. These symptoms are frequently ignored or attributed to hemorrhoids. If the cancer is growing on the left side of the colon, symptoms are (a) constipation alternating with diarrhea, (b) abdominal pain, (c) stools that are very thin, and (d) obstructive symptoms such as nausea and vomiting. Tumors on the right side of the colon may produce vague, colicky, abdominal aching. A palpable mass may also be present. Anemia, weakness, and weight loss may also accompany colon cancers on the right side. Patients with cancer of the rectum may have a change in bowl movements, rectal fullness, urgency, and bleeding. Pelvic pain is seen at later stages of the disease and usually indicates spread of the tumor to the pelvic nerves. Ninety-five percent of the colorectal tumors originate with the development of a benign polyp in the pelvic or colon. The benign polyp degenerates into a malignant tumor over a period of 5 years or longer. Colorectal cancer is a life-threatening disease. The symptoms can be so slight that half the patients being diagnosed with colorectal cancer will already have metastatic spread (Murphy 1997).

Langman (On-line, 1998) suggests that the prevention, screening, and early detection are the best strategies to conquer colorectal cancer. Prevention of colorectal cancer includes monitoring the diet. A diet low in animal fat and high in fiber is recommended by most researchers. While there is controversy regarding the impact of dietary fiber the incidence of colorectal cancer, some believe that cruciferous vegetables, such as Brussels sprouts, cauliflower, cabbage, kohlrabi, and broccoli reduce the risk of colorectal cancer (Murphy, 1997). Scientists do not know whether the absence of animal fats or the presence of vegetables is more important. Vegetables could be important in the diet because of their fiber content or because of the nutrients present in them. Recent evidence suggests that certain vegetables may have an ability to suppress cancer growth. Vitamins C, E, and carotene have shown to have a protective effect on the cells. Researchers believe those vitamins may have an ability to trap harmful oxygen-free radicals that can cause cancer. The fiber in vegetables allows the digested material to move quickly through the colon. This fast transient time in the colon prevents carcinogens in the feces from being in contact with the rectal tissue for long pe-
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stages of the disease for palliative care. The surgery can relieve pain, odor, or bleeding. More extensive surgery, such as removal of the bladder and rectum, may be required in cases of extensive metastatic disease (Murphy, 1997).

Approximately 75 percent of all patients with colorectal cancer will be diagnosed at an early stage when the entire tumor can be removed. Despite this high surgery rate, almost half of all patients with this cancer will die of metastatic disease because of residual disease that is not apparent at the time of surgery. In many situations, the healthcare provider will recommend chemotherapy even when the tumor has been completely removed and there is no sign of metastasis. This is done to prevent future reoccurrence of the disease by any cancer cells that may have had the opportunity to wander to a distant area of the body (Melville, 1998).

If the cancer is blocking the bowel, a procedure called a colostomy may be needed. For this surgery, the cancerous bowel is removed and the surgeon creates an opening in the abdomen called a stoma. The stoma is a passage for the waste products of the body to be removed while bypassing the colon and rectum. The stoma or colostomy may be temporary or permanent. A temporary colostomy is done to let the lower colon and rectum heal. When the area is healed, a second operation is done to close the stoma, and normal bowel function is regained. A permanent colostomy is needed when the entire rectum is removed. Modern surgical techniques make it possible to avoid colostomy in 99 out of 100 cases (Baum, 1992). After surgery for a colostomy, a special disposable bag called an appliance is attached to the stoma outside the body to collect the waste matter. The appliance does not show under most clothing; however, it takes time for the patient to adjust to the colostomy. To avoid embarrassing circumstances, some patients often learn their bowel patterns and some even learn to control bowel movements with the colostomy. Foods that cause rumbling gas can be avoided before any social engagement (Díaz-Canton & Pazdur, 1995).

The physician who wants to help the patient should not gloss over the fact that a colostomy is a disability, but it is one with which most patients learn to cope. The patient facing surgery is always forewarned of the need for a colostomy, and it is suggested to have another person who has lived with a colostomy visit the patient before the operation. Even the strongest of patients will go through a period of sadness and frustration after an operation where a stoma is necessary. About one quarter of these patients will have feelings of isolation and crippling depression. In most hospitals there are special therapists and nurses who are prepared to advise and support the patient who is learning to cope. Some patients take as long as one year to adjust to a colostomy and return to a normal life (Pullen, 1998).

If colorectal cancer is diagnosed in early stages, it is highly curable. The five year survival rate for patients have improved in recent years. This improvement may be because of (a) the wider surgical dissections performed, (b) modern anesthetic techniques, (c) supportive care, (d) improved pathological examination of resected specimens, (e) preoperative staging, and (f) abdominal exploration (Cohen, et al., 1997). The spread of colorectal cancer to distant organs has a direct impact on the prognosis and the patient's ultimate survival. Survival time for a patient with metastatic disease usually is less than one year. Age is also a factor in survival rate; persons under age 30 and over 70 are at decreased survival rates. The overall survival rate is 50 percent, but rates continue to change as treatments improve and early detection methods are developed (Spiro, 1993).

The degree of local invasion is the most important variable for determining patient prognosis. It is not uncommon for colon cancer to invade adjacent bowel, stomach, and abdominal wall without spreading to distant areas, so surgical cure is possible. However, metastatic spread can occur through the lymph system and bloodstream. Colorectal cancer tends to metastasize primarily to the liver, but can also spread to the lungs and bones (Steen, 1993). Only one half of all colorectal cancer patients survive five years, this reflects the late stage at which most cancers of the colon and rectum are found. The large differences in survival rate are according to the stage of the disease (Whelan, 1994).

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**Calendar of Events**

**MEETINGS OR CONVENTIONS**

**TXSSAMT SPRING CONFERENCE**
Temple, TX on April 22-23, 2016

**AMT EDUCATIONAL PROGRAM AND NATIONAL MEETING**
July 17-22, 2016
Memphis, TN at The Peabody
($200 early registration fee ends May 1, 2016)

**TXSSAMT FALL CONFERENCE**
Round Rock, TX TBD

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Spring/Summer 2016 / TxSSAMT
Chemotherapy is usually given after surgery to kill off cancer cells that might have spread through the body. Chemotherapy, or chemo as it is called, literally means chemical treatment. Highly toxic drugs are used in these treatments. Chemotherapy drugs are not able to distinguish between a normal cell and a cancerous cell; therefore chemo is given in a series of cycles, with rest periods in between treatments to allow the healthy cells to renew themselves. The first and most intensive course can last weeks or months and is designed to wipe out as many malignant cells as possible. The drug’s effectiveness will eventually decrease, and for the next round of treatment a new drug or a combination of drugs is often prescribed. In some cases maintenance therapy is recommended over a period of months or years to destroy any malignant stragglers (Winawer, et al., 1996).

The history of chemotherapy has shown that over 2,000 years ago, physicians used plant extracts to dissolve tumors. Since then, there have been more than 250,000 agents studied for their chemotherapeutic value. Only approximately 50 have been determined safe enough to give to patients. Some of these derivatives are from the plants used in old folk remedies. Chemotherapy is an integral part of cancer treatment, saving 50,000 lives annually. It no longer has the perception that it is only used in helpless cases.

Chemotherapy has many side effects such as vomiting, diarrhea, and hair loss. While this is unpleasant, most patients regard these temporary discomforts in return for a cure an acceptable exchange. Most patients getting chemotherapy are premedicated to prevent nausea and vomiting before the treatment is started. Patients are also sent home with prophylactic medications to ward off any nausea or vomiting (Weiss & Itzkowitz, 1995).

Flurourail (5-FU), the drug mainstay for colorectal cancer therapy, can be given orally or intravenous (IV). Patients with cancer prefer oral rather than IV, but are willing to sacrifice the convenience of oral administration for increased effectiveness with the IV route. When given orally, 5-FU can irritate the stomach lining, causing more gastrointestinal problems. Patients who have colorectal cancer also have varying degrees of absorption from the gastrointestinal tract, which causes erratic levels of the chemotherapy drugs. Since most patients with colorectal cancer are going to have some level of dysfunction in absorption because of the disease, the IV route is recommended. The 5-FU is usually given for one full year, once a week, in low doses over a long period (Meropol, 1998). The side effects of the 5-FU are typical of the chemotherapy drugs. The side effects, diarrhea, is of particular concern for the patient with a new stoma, because of the skin irritations that can develop around the stoma (Spiro, 1993).

Radiation therapy is another treatment for colorectal cancer. Radiation therapy is the use of high-energy rays to damage cancer cells and stop them from growing. Radiation can be given before, after, and during surgery. Radiation therapy given before surgery may kill malignant cells that could spread during surgery. Radiation therapy is used before surgery to shrink tumors so it is easier to remove them in surgery (Murphy, 1997). Intraoperative therapy is a new form of radiation that allows delivery of radiation to a large treatment area after the tumor is resected. Normal organs are moved from the pathway of the radiation, and a large, single fraction beam is directed onto the tumor site. Technical and financial difficulties that arise from this treatment include the ability to place expensive equipment with protective devices in an operating room. There is no ongoing research to predict the outcomes and complications of intraoperative radiation therapy (Whelan, 1994).

Postoperative radiation has been proven to be the most effective in prevention of disease recurrence in high risk patients. The radiation reduces the risk of local recurrence in 38 percent of the patients. In some cases radiation treatment is used for pain relief. Palliation may result from reducing the tumor size, thereby relieving pain, bleeding, and pressure. Radiation is usually initiated three to six weeks after surgery. It is given on an outpatient basis in the hospital or clinic five days a week for several weeks (Belcher, 1992).

Many patients with colorectal cancer are treated in treatment studies called clinical trials. A clinical trial studies the safety and effectiveness of certain treatments or diagnostic tests. Participants in the trial are generally assigned at random to the study group or the control group. The control group receives a placebo, while the study group receives the treatment or diagnostic test that is under investigation. At the end of the study, researchers analyze the outcome in the two groups to determine if the treatment was effective. Neither group nor the physician assessing the results knows which subjects are getting the placebo. At the end of the study, researchers analyze the participants’ medical record. Fewer premalignant or malignant lesions among the study group would support that the agent would be effective in fighting off the disease (Winawer, et al., 1996).

Fear of pain is a large part of any patient faced with cancer. Approximately 60 to 90 percent of patients with advanced cancer develop pain severe enough that they need pain-relieving management. Treating and controlling the pain is a primary concern for all members of the healthcare team. Ongoing assessment of the type of pain that may develop and change during the course of the cancer is essential to prescribing appropriate pain treatment. The goal of pain management is complete pain relief and comfort, but sometimes this goal may not be attainable. Pain can have a
terrible effect on the patient’s and their family’s life. Peacock (1987) describes in a poem the frustration of caring for a loved one in pain: “The tragedy of a face in pain is how little you can do for it...for the face is frozen by hurt and pain.” (p. 23). Pain has physical, emotional, and psychological components involved that can lead to depression, loss of appetite, irritability, withdrawal, anger, loss of sleep, and inability to cope. Fortunately, most pain can be controlled (Rosenbaum, Dollinger, & Friedman, 1994).

Advances in cancer treatment have improved survival among patients with colorectal cancer. As the patient lives longer, the need for effective pain control has increased. This is important for improving the patient's quality of life. Colon cancer pain is called somatic pain and is often described as sharp, dull, throbbing, or aching. Somatic pain usually responds to narcotic therapy. Cancer pain can be caused by the cancer itself, the drugs used to control or cure the cancer, surgical treatments, or radiation therapy. If the pain is from the cancer, it may be because of a blockage in the intestines. If the pain is from a surgical procedure, the surgery may have caused damage to nerves and may cause burning, shooting pains that do not respond to narcotics. In addition, chemotherapy drugs act like poisons to tumors and may act the same way on some vulnerable nerve endings. Radiation may cause skin reactions, breakdown of mucous membranes or even scarring of nerve fibers to cause severe pain. Pain is made worse by worry, fear, suffering, financial disability, or isolation caused from experiencing colorectal cancer. Each new pain may trigger fears about the spread of disease or of impending death. The medical community has become more aggressive in the treatment of cancer pain in the last decade. In the future, there will be better treatment of cancer pain as new physicians become aware of increased pain issues (Belcher, 1992).

Each year, more than 150,000 people in the US learn they have cancer of the colon or rectum. While this diagnosis is devastating to the patient, it is not a death sentence. Researchers are working diligently to find a cure, and they are also developing better treatment modalities to keep the disease under control. There are many options and combinations of treatments available for trying to conquer the various stages of the disease. The healthcare team has made great strides in controlling the side effects of cancer treatment. In the past, the side effects were just as bad as the effects of the cancer itself. New drugs are available to be given before treatment to avert the dreaded nausea, vomiting, and diarrhea that many of the patients experience. Effective management of treatment side effects and pain have improved the quality of life for the patients surviving colorectal cancer.

### References


1. Where is the rectum located in the large intestine?
   a. 24 inches from the cecum
   b. Last 6-8 inches of the large intestine
   c. After the transverse colon
   d. Before the hepatic flexure

2. What is it called when colon cancer spreads through the lymph nodes to other organs?
   a. Benign
   b. Malignant
   c. Metastatic
   d. Tumor

3. Research has found that cancer is more often seen in patients over what age?
   a. Forty years
   b. Thirty-five years
   c. Eighty years
   d. No one is immune

4. Left sided colon cancer symptoms can include:
   a. Constipation
   b. Diarrhea
   c. Abdominal pain
   d. All of the above

5. Patients with rectal cancers may experience
   a. Changes in bowel movements
   b. Bleeding
   c. Rectal fullness
   d. All of the above

6. A benign polyp degenerates into a malignant tumor over time.
   a. True
   b. False

7. The American Cancer Society recommends which colorectal screening techniques for patients over 40 years to 50 years?
   a. Annual digital rectal exam
   b. Annual Stool guaiac test
   c. Surgery
   d. Choice A & B

8. Digital rectal exams can detect lesions how far into the large bowel?
   a. 7cm from the anal verge
   b. 12cm from the anal verge
   c. 32 cm from the anal verge
   d. 40cm from the anal verge

9. The medical community aims to provide the patient adequate information and recommended treatments about their disease so they can make an informed decision.
   a. True
   b. False

10. Allowing the informed patient to make their own decisions allows them to feel:
    a. In control of their disease
    b. Overwhelmed
    c. Angry
    d. Side effects

11. What is it called when the cancerous portion of bowel is removed and the two healthy ends are joined together?
    a. Stoma
    b. Bowel Resection
    c. Lymph nodes
    d. Radiation

12. Why are some of the local lymph nodes near the surgical site removed at the time of surgery?
    a. Stop cancer
    b. Determine if cancer cells are present
    c. Margin evaluation
    d. Completeness

13. Even though the tumor is completely removed with no sign of metastases, a healthcare provider may recommend chemotherapy to prevent future recurrence.
    a. True
    b. False

14. What is it called when the cancerous portion of bowel is removed and the colon is attached to the abdomen?
    a. Stoma
    b. Bowel Resection
    c. Lymph nodes
    d. Radiation

15. When is a permanent colostomy needed?
    a. Never
    b. When the entire rectum is removed
    c. After the bowel heals
    d. Before surgery

16. The most important variable for determining patient prognosis is
    a. Survival
    b. Surgery
    c. chemotherapy
    d. Degree of local invasion

17. Why is chemotherapy given in cycles with rest between treatments?
    a. So the oncologist can decide the treatment
    b. Allow the patient to survive
    c. Allow healthy cells to renew
    d. Prevent surgery

18. When is radiation initiated?
    a. One year after surgery
    b. Six months after surgery
    c. Three to six weeks after surgery
    d. One week after surgery

19. Approximately how many patients with advanced cancer often need pain management?
    a. 100%
    b. 60-90%
    c. 30-50%
    d. 10%

20. What does radiation do that may cause severe pain?
    a. Skin reactions
    b. Breakdown of mucous membranes
    c. Scarring of nerve fibers
    d. All of the above

Please do not send money, these are free CEUs. Send a copy of your answers and the identification form below to:

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In Memoriam
Bonnie Mahannah

...a beloved member of the TxSSAMT family, she will be sorely missed.

Ida Bonita Mahannah (Bonnie), age 83, passed away on Saturday, March 5, 2016 in Denton, Texas. She was born February 16, 1933 to Don P. Crittenden and Maude E. (Hutchinson) Crittenden in Sumner County, South Haven Township Kansas. Ida was the 6th of 8 children. Ida was raised primarily in the Wellington, Kansas area, attending both grade schools and graduating from high school in 1951.

She married Wesley Lou Mahannah on June 1, 1951 and relocated to Corpus Christi in 1952 for his job with the U.S. Navy. Through their 62 years of marriage, they lived in Texas, Oklahoma, Kansas, and Missouri. Wesley preceded her in death on October 10, 2013.

After her marriage, Bonnie worked as a secretary/bookkeeper for several years while her husband, Wes, was in the Navy. Upon their return to Wellington, Bonnie completed night school to become a Certified Dental Assistant (ADA) while working as a dental assistant in Wellington and later in Lawton, Oklahoma. Upon their return to Kansas, Bonnie took a job in a medical office as bookkeeper/insurance clerk/assistant office manager. While employed there she was sought out and offered a job as a private school director in Tulsa, Oklahoma, which is where she began her association with the AMT group. First, her new school had to become accredited through the Accrediting Bureau of Health Education Schools (ABHES) which meant her medical assistants could sit for the RMA (AMT) exam. She also studied for and passed the RMA test in 1977, and has remained an active RMA member ever since.

During her tenure in Oklahoma, she became the first RMA president of the Oklahoma RMA group. She helped organize and then went on to be elected to and become the first National RMA president at the national meeting in Oklahoma in 1977.

After leaving Tulsa in 1979, she was chosen to serve as an ABHES commissioner for the AMT organization, on which board she served five years. Later continuing to serve on many accrediting visits of schools (that taught medical and dental assistants) as the education specialist for ABHES.

In 1985, she and her husband, Wes, began employment at yet another ABHES (AMT) accredited school, where they worked together for over 13 years. She was the executive school director and he was the financial aid director. They retired in late 1998.

Bonnie has always promoted AMT through the RMAs and was also involved in the re-structuring in 1990 and with the RDA program since it came into being. During the restructuring it was apparent that AMT would go on to certify other disciplines, which she had always believed in and promoted continuing education.

Bonnie has been blessed and has touched many lives through her commitment to AMT and hopes that many lives have been made brighter and richer through some kind word or deed that involved her.

Ida retired in 1998 from her Director position at the San Antonio College of Medical and Dental Assistants and moved with Wes to their ranch in Yancy, TX. They relocated in 2002 to Denton, TX.

Ida is the mother of four children, Wesley Lou II (who died as an infant), Morna Joy Trowbridge, Jana Lyn Mahannah, and Kevin Lee Mahannah.

She is preceded in death by her husband, Wesley, and her siblings, Veryl Crittenden, Raymond Crittenden, Velma (Crittenden) Countryman, Max Crittenden, Dorothy (Crittenden) Glick.

Ida is survived by her daughter, Morna Joy Trowbridge of Irving, TX; grandson Nathan Stone Trowbridge of Colorado; daughter Jana Lyn Mahannah and husband Dave VonTesmar of Manvel, TX; son Kevin Lee Mahannah and his wife Kelly Ann Mahannah of Denton, TX, and grandson John (Jack) Wesley Mahannah of College Station, TX and granddaughter Kacey Leigh Mahannah of Denton, TX; her sisters, Marlene Parret of Clearwater, KS, and Donna Browning of Arlington, TX; and many nieces, nephews, and other family and friends.

Funeral Services were held at the Frank Funeral Home on March 11, 2016. Pastor John Bliss officiated. Prairie Lawn Cemetery.

AWARDS & HONORS
Certified Dental Assistant (CDA with ADAA)-1959
Registered Medical Assistant (AMT) - 1977
First Oklahoma RMA President - 1977
First National RMA (AMT) President - 1977
Texas RMA President - 1988-1990
RMA (AMT) (TxSSAMT) Board Member 1990-2006
AMT National Special Award Recognition - Chicago 1989
AMT National Distinguished Achievement Award - 1991
Texas AMT President’s Award - 1991
AMT National (MOM) Medallion of Merit Award - 1998
AMT National Life Member
AMHES (AMT Commissioner - 1979-1984
Tulsa County, OK Dental Assistant President 1973-1975
Certified Dental Assistant Life Member 1959-1999
Certified Medical Radiologic Technician 1988-1998 (TX)
Executive Director of the Year
Educational Medical Schools - 1998
Multiple TxSSAMT Hall of Fame Awards
1. Enduring friendships are the best – Suzie Clement came all the way from South Carolina to surprise her BFF Sibyl Allenson!

2. Letisia Pedrosa and friend. We love to see the students attending!

3. Patty Reyes and her brother, Juan Reyes, one of our guest speakers. He is a forensic expert favorite for us!

4. Nikki Parkinson and friend enjoying the break between educational sessions

5. Darlene Alexander catching up during the break

6. Lesli Bynum and Debra Lansford posing pretty during a session break

7. ahhh...a day at Galveston Beach, a great location for the conference.

8. Vice-president Michelle Jenkins, MT, Hall of Fame award recipient

9. Arin Byler making new friends at the educational meeting
ARTICLE I. NAME AND PURPOSE

This organization shall be known as the TEXAS STATE SOCIETY of THE AMERICAN MEDICAL TECHNOLOGISTS (TxSSAMT). It shall be an unincorporated constituent State Society of the American Medical Technologists (AMT). Its purpose shall be to advance the principles and standards of AMT, and to promote educational and professional advantages for its members. It shall be operated as a non-profit organization.

ARTICLE II. MEMBERSHIP

All medical professionals who are members in good standing of the American Medical Technologists’ registry, residing in the state of Texas, shall be members of this State Society.

ARTICLE III. OFFICERS

1. The officers of this organization shall consist of a President, Vice-President, Secretary, and Treasurer.
2. Duties of the Officers shall be such as usually attached to such offices, and, in addition thereto, such further duties as may be designated from time to time by the Board of Directors. Officers shall be familiar with state and national bylaws and the State Officers Manual.
3. President
   - Shall be responsible for all State Society functions.
   - Shall appoint Chairpersons of all committees, subject to Board approval.
   - Shall serve as an ex-Officio member of all committees except the Nominating Committee.
4. Vice President
   - Shall preside at all meetings in the absence of the President.
   - Shall exercise executive supervision over all state committees except the Membership Committee.
5. Secretary
   - Shall maintain complete records of all activities of the State Society in an orderly manner.
   - Shall be accountable to the President for all state or national property in their possession.
   - Shall duly notify all members of the time and place of meetings at least 30 days in advance of meeting, furnishing notices to AMT Executive Councillor, District Councillor, State President, and Publications Editor.
   - Shall prepare and sign copies of all meeting minutes and send a copy to the State Society President, for designated distribution within 14 days following the meeting.
   - Shall, in the absence or incapacity of the Vice-President, administer the duties of that office.
6. Treasurer
   - Shall be accountable for all funds and financial records of the State Society, and shall prepare a financial statement(s) to be submitted with the minutes of each meeting.
   - Shall receive, properly document, and deposit all funds belonging to the State Society; maintain the proper accounts of the State Society; and file cancelled checks and vouchers covering all disbursements.
   - Shall prepare such financial statement(s) and register(s) of the accounting as directed by the State Society President or the Chairperson of the Board.
   - Shall submit an itemized financial report (income and expense) of each State Society meeting which shall be entered in the minutes.
ARTICLE IV. ELECTION OF OFFICERS

1. Nominating Committee: Chairperson shall be appointed by the President, with the approval of the State Society Board of Directors. The committee shall consist of at least three (3) members selected by the Chairperson and not currently a member of the State Society Board of Directors. They will determine the candidates best qualified to fill the various State Society offices and present a slate of officers at the meeting preceding the last meeting of the election year.

2. Qualified candidates may be nominated from the floor at the Business Meeting.

3. Election: Officers shall be elected for a period of two (2) years with the election being held on even years.

4. Terms: No elected officer shall serve more than (2) consecutive terms in any one office.

5. Ballots: Shall be mailed to participating members prior to the last meeting of the year for the election of officers. Ballots shall be returned to the Chairperson of the State Society Board postmarked no later than 30 days prior to the last meeting of the election year. In the event the Chairperson of the State Society is running for office, the ballots shall be returned to the Nominating Committee chairperson. A majority of the returned ballots is required for election.

6. Qualifications: All Officers, at the time of their election or appointment, must have been a member in good standing of the Registry for two (2) consecutive years immediately prior to their election or appointment.

7. Vacancy: Any vacancy occurring of an elected office may be filled by appointment by the State Society President with the approval of the State Society Board of Directors, until the next election.

ARTICLE V. MEETINGS

1. There shall be at least one (1) business meeting with a scientific program, and two (2) Board meetings held each calendar year at a place and time determined by the State Society Board of Directors.

2. Notice of meetings shall be mailed or emailed to all members at least 30 days in advance of the meeting.

3. Special meetings may be called at the discretion of the President or the Board of Directors by any member in good standing at any time with the approval of the State Society Board of Directors. At least fourteen (14) days electronic mail or written notice shall be given to all State Society members, listing the purpose and location. All members in good standing of the State Society are eligible to attend the business meeting and are entitled to one vote.

4. State societies may schedule business and board meetings out of state in conjunction with a joint meeting or regional meeting. All such meetings are subject to the required notification criteria.

5. State societies may conduct official business by way of electronic communication which may include, but is not limited to, telephone conferencing, electronic mail, web meetings via the internet, or any other reliable method of electronic communication. The Board of Directors will determine the manner in which meetings will be conducted, which may include both in-person and electronic participation simultaneously. All such meetings are subject to the required notification criteria.

6. State societies that conduct meetings by electronic means (either exclusively or in conjunction with an in-person meeting) shall establish a system to account for participants who attend via electronic means. The system shall allow for official business to be conducted including attendance verification, presentation and discussion of resolution, voting, and other items of business.

ARTICLE VI. BOARD OF DIRECTORS

1. The management of the State Society shall be vested in the State Society Board of Directors consisting of

   - The Elected Officers (4)
   - The Publications Editor (1)
   - One Immediate Past-President (1)
   - One State Society Board member-at-large from the MT/MLT discipline certified by AMT.
   - One State Society Board member-at-large from the RMA discipline certified by AMT.
   - Optionally, a State Society Board member-at-large from each additional discipline certified by AMT.

2. State Society Board members-at-large shall be appointed by the State Society President, with approval of the State Society Board of Directors. Approval shall consist of two-thirds majority vote of the State Society Board of Directors.

3. Chairperson of the State Society Board of Directors shall be a member of the State Society Board of Directors and elected by the State Society Board of Directors.

4. A majority of the State Society Board of Directors may constitute a quorum for the transactions of business at any meeting of the State Society Board of Directors.

5. Any vacancy occurring on the State Society Board of Directors may be filled by appointment by the State Society President with the approval of the State Society Board of Directors, until the next election.
ARTICLE VII. COMMITTEES
1. Standing Committees shall be as follows:
   a. Proctoring – shall conduct the examinations necessary to admit qualified personnel, as identified by the AMT Board of Directors, to membership.
   b. Legislative – shall remain aware of on-going legislative activities which may affect the membership and report to the members through the State Society publications and business meetings.
   c. Membership – shall work to encourage members to be active in the State Society and recruit new members.
   d. Awards – shall recommend and select qualified members for national and state awards.
   e. Nominating – shall determine the declared candidates best qualified to fill the various State Society offices and present a slate of officers at the business meeting preceding the last meeting in the election year.
   f. Placement – shall be a resource to State Society members for employment available within the State of Texas.
   g. Convention/Scientific – shall research and select locations for meetings, coordinate with the hotel/meeting location, plan programs with qualified speakers/presenters/vendors, as appropriate, for educational meetings, and report to the State Society Board of Directors.
   h. Publications – shall oversee the publication of all State Society journals. This committee is chaired by the Publications Editor.
   i. Auditing – shall meet annually, prior to the State Society Board of Directors meeting at which the budget is submitted, review the fiscal records of the State Society, and report its activities to the membership at the business meeting.
   j. Bylaw – shall review the State Society bylaws and recommend to the State Society Board of Directors changes in the bylaws this committee may deem beneficial.
   k. Other Committees – may be established by the State Society President or Board of Directors as may be deemed necessary for the proper orderly functioning of the State Society.
2. The State Society President shall appoint chairpersons of all standing and special committees, with the approval of the State Society Board of Directors at the first board meeting of the year following the election of officers.

ARTICLE VIII. PUBLICATIONS
1. The official publication of the State Society shall be THE NEW TEXAN.
2. The State Society publication shall be timely published a minimum of two (2) times annually and sent to all members, AMT and the AMT Officers, Executive Councillor, Publication Councillor, District Councillor, and all State Society Editors.
3. Communications such as Newsletters, if and when needed, shall be sent to all members of the State Society.

ARTICLE IX. PARLIAMENTARY AUTHORITY
1. The rules contained in a current edition of the ROBERTS’ RULES OF ORDER, Revised (current edition), shall govern the State Society in all cases to which they are applicable as long as they are consistent with these Bylaws and any special rules or order which the State Society may adopt.
2. The State Society shall in all things be governed by the Bylaws, policies and directives of AMT.

ARTICLE X. AMENDMENTS
These Bylaws shall be amended by two-thirds vote of participating members present at a Business Meeting of the State Society, provided the changes have been introduced at a prior Board meeting, the changes have been reviewed by the AMT Judiciary Councillor, and published in the State Society Publication at least sixty (60) days before the Business Meeting.
Age-related macular degeneration (AMD) is one of the leading causes of vision loss among people ages 50 and older (Schwartz et al., 2012, p. 713). Patients with AMD can experience wet macular degeneration or dry macular degeneration. Wet macular degeneration occurs when abnormal blood vessels leak blood or fluid into the center of the retina, which is called the macula (“Facts About Age-Related Macular Degeneration”). Dry macular degeneration is marked by the deterioration of the macula. Common symptoms include blurred vision, partial vision loss, difficulty seeing in low light, seeing spots, development of abnormal blood vessels, and dry eyes (“Facts About Age-Related Macular Degeneration”). The development of AMD and speed of its progression (loss of vision) can vary depending on the patient. This means that nurses and physicians must properly diagnose the disease, as well as its severity, in order to provide the patient with the most appropriate methods of treatment.

There are currently several clinical treatment methods for patients with AMD, such as ranibizumab and bevacizumab. Ranibizumab and bevacizumab are both anti-angiogenic, meaning that it prevents the growth of abnormal blood vessels in the eye. The difference between the two is that bevacizumab costs slightly less making it an attractive alternative (Zou et al., 2011, p. 2). In the past several years, the use of human embryonic stem cells (hESCs) have been considered and even tested for their ability to treat patients with AMD. This clinical guideline paper will compare three research articles that study several methods of dry AMD treatment, including the use of hESC, and were written within the past five years.

CLINICAL RESEARCH QUESTION

This evidence-based research paper is constructed on the following research question: In patients with dry macular degeneration, does stem cell therapy improve eyesight over conventional therapies as measured by vision test results, within a one year period? With recent advances in stem cell research and therapies, it may be possible to reverse the effects of this degenerative disease as opposed to the current therapies, ranibizumab and bevacizumab that improve the patient’s condition. The goal of this paper is to determine if there has been any current research that can show improved and sustained visual improvements when compared to previous treatment methods.

THREE RESEARCH STUDIES SUMMARIZED

Article one written by Schwartz, et al., studied the use of human embryonic stem cells (hESCs) in the treatment of macular degeneration (Schwartz et al., 2012, p. 713). The two types of MD discussed in this article are Stargardt’s macular dystrophy, which is known as the most familiar pediatric form, and dry age-related MD. This preliminary report utilized the quantitative study design due to the amount of data collection and analysis throughout the experiment, including visual acuity charts, such as Early Treatment diabetic Retinopathy Study (ETDRS) and the Best Corrected Visual Acuity (BCVA) exam administered on the Snellen chart (Schwartz et al., 2012, p. 713). Researchers used within-groups design as evidenced by multiple vision examinations done before and after ophthalmic surgery. In addition, due to the lack of randomization, this study can also be considered as a Quasi-experimental design. The study was conducted on two patients: one with dry age-related MD and the other with Stargardt’s macular dystrophy. Patients were screened for conditions that placed them at greater risk while participating in the study. Screening was done to ensure patients had a cancer-free medical history, are currently cancer free, have no contraindications to immunosuppression, and are able to tolerate anesthesia (Schwartz et al., 2012, p. 714). Also, in order to participate in the study, patients were asked to give written informed consent along with approval from the institutional review board at University of California (Schwartz et al., 2012, p. 714). Surgery was done by removing the posterior section of vitreous humor in order to inject the hESCs into the pericentral macula. After the surgery, the results showed remarkable clinical changes, which suggested the cells could possibly be transplanted safely into human patients with no apparent harm and promising results in treating both dry age-related MD and Stargardt’s MD on humans. Neither patient suffered from inflammation or hESC-RPE proliferation outside the subretinal space after having several lab screenings using Optical Coherence Tomography (OCT), fluorescein angiography, and autofluorescence imaging (Schwartz et al., 2012, p. 716). Both patients had normal minimal conjunctival hemorrhage and hyperemia in the
first week after surgery (Schwartz et al., 2012, p. 717). Less than six weeks post-surgery, both patients experienced improvements in their vision when tested with either the BCVA scale or on the ETDRS (Schwartz et al., 2012, p. 717). The baseline results of the visual acuity tests performed went from 21 ETDRS letters (20/500) in week 2 to 28 ETDRS letters (20/320) by week 6 (Schwartz et al., 2012, p. 717). This preliminary report’s limitation is the lack of representing the whole population since there are only two samples selected. Although there were only two patients in this study, it was the first of its kind; results were evident that those suffering from these diseases have the potential to recover with the cell transplant.

“Treatment Outcomes After 3 Years in Neovascular Age-related Macular Degeneration Using a Treat-and-Extend Regimen” by Rayess, Houston, Gupta, Ho, & Regillo (2014), is a quantitative retrospective study using a quasi-experimental time series design. The study tested the effectiveness of a treat-and-extend regimen for either ranibizumab or bevacizumab, two drugs currently being used to treat AMD. It is more extensive than previous, similar studies in the sense that it reviews patient records for up to three years to determine the long term effects of this treatment regimen. Treat-and-extend is a method that individualizes the patients’ follow ups to an as needed basis and reduces the overall number of both doctor visits and injections during the course of treatment. The sample was 212 treated eyes from 189 people. There were almost twice as many women studied than men, 123 and 66, respectively, with no explanation if this was intentional or simply the data that were available (Rayess et al., 2014, p. 4). The patients ranged in age from 54 to 99, with an average age of 82, which is representative of the population of people with this disease, as it develops later in life. This study reviewed the BCVA at 1, 2, and 3 years from beginning treatment to assess how the patient’s eyesight had changed. Patients’ visual acuity was measured using the Snellen eye chart and the ETDRS. The data was then analyzed using GraphPad software to determine metrics such as mean, standard deviation, and a paired 2 tailed t-test. The researchers determined that the treat-and-extend method is effective for improving and maintaining improved visual acuity for up to 3 years from the initial treatment. The results show that patients would require less follow up and injections but still have improvements in their eyesight, which was more cost effective for the patients and reduced the amount of time needed from the doctor (Rayess et al., 2014, p. 7). The mean BCVA at baseline was 20/136, improved to 20/79 (P < 0.001) by year one. The mean BCVA improved to 20/69 (P < 0.001) for year two and 20/64 (P < 0.001) for year three. (Rayess et al., 2014, pp. 4-5). The strength of this study is the length of time under review. Previous studies had only analyzed up to two years of data and this review shows that the improvements to sight could be maintained for up to three years. Several flaws in the study are presented by the sample size at the second and third years. The first flaw is that some patients selected had only been receiving treatment for one year, so there was no data available for their second or third years. The threat of mortality greatly affected this study. It is stated that some patients discontinued treatment because it was ineffective for them but researchers do not distinguish between the patients who ceased treatment and the patients who died during the time under review (Rayess et al., 2014, p. 7). The number of respondents is almost cut in half from year one to year two, and halved again from year two to year three. The researchers acknowledged that this would skew the results of this analysis to make the treatment look more effective than it is in reality, as patients with poorer BCVAs over time would discontinue the treatment and not have their information documented.

“Predictors of 1-year visual outcome in neovascular age-related macular degeneration following Intravitreal ranibizumab treatment” by Bloch, Cour, Sander, Hansen, Fuchs, Lun-Anderson, and Larsen (2013) is a quantitative study using a retrospective design which looks back in time to determine possible causative factors (Schmidt & Brown, 2015, p. 166). This study involved treatment with repeated Intravitreal injections of ranibizumab 0.5mg in routine clinical practice, beginning with three initial injections at 4-week intervals followed by individualized retreatment for the subsequent 9 months (Bloch et al., 2013, p. 45). Then afterwards the study looked at ETDRS letters throughout periods of 3,6 and 12 months (Bloch et al., 2013, p. 42). The purpose of the study was to predict visual outcomes by using ranibizumab which helps by blocking a chemical called vascular endothelial growth factor which creates abnormal blood vessels in your eye. This study used 279 participants and included all eligible patients who began treatment with Intravitreal ranibizumab. The participants of the study composed of 65% women and 35% male (Bloch et al., 2013, p. 44). In order to test if visual outcome using the ranibizumab injection treatment increases visual acuity in patients a two-partial t-test was used to determine statistical significance and was set at p ≤ 0.05. Past studies showed the use of verteporfin-photodynamic therapy to treat age-related macular degeneration (AMD). Some limitations to the study included limitations of follow-up within the first three injections, and the use of guidelines rather than protocols to define standards of care. Overall this retrospective design found significant improvement of visual outcome for patients with neovascular age-related macular degeneration.

**EVIDENCE HIERARCHY**

The first article reviewed, written by Schwartz, et al. (2012), falls into level 2 of the evidence hierarchy, because it is a controlled trial without randomization (Schmidt & Brown, 2015, p. 424). A non-randomized control trial is an experimental study in which people are assigned to different interventions using methods that are not random (Schmidt &
Brown, 2015, p. 181). The researchers used a within-groups design, which was useful for this situation because they needed to compare the results from the same patients at different times (Schmidt & Brown, 2015, p.156). The study was only performed on two patients, one with dry-age related macular degeneration, and one with Stargardt’s macular dystrophy, making the sample too small to represent the population. This study was useful because it yielded the first results of hESC-derived cells being transplanted into human subjects (Schwartz et al., 2012, p.717). Data collection was achieved as patients were given multiple vision tests before and after the surgery to compare results.

The second article reviewed, written by Rayess, Houston, Gupta, Ho, & Regillo (2014), falls into level 4 of the evidence hierarchy, because it was a retrospective cohort study which involved quantitative data that attempted to follow up with the patients for three years (Rayess et al., 2014, p. 3). A retrospective cohort study identifies subjects from past records describing the interventions received and follows them from the time of those records (Schmidt & Brown, 2015, p. 166). Subjects were chosen based a variety of factors, which included treatment-naive AMD along with a minimum of a 1 year follow up with the treat-and-extend regimen using the medications of either bevacizumab or ranibizumab, and then results were reviewed after a 3 year period to determine outcomes (Rayess et al., 2014, p. 4).

The third article reviewed, written by Bloch, et al. (2013), falls into level 4 of the evidence hierarchy, because it is a retrospective cohort study that looked back in time after treatment of ranibizumab treatment for neovascular AMD. The sample size was large and consisted of 279 patients with choroidal neovascularization in age-related macular degeneration (Bloch et al., 2013, p. 43). The patient’s vision was tested at baseline of the study, as well as at three, six, and 12 months after treatment began and performed by ophthalmologists or physicians in ophthalmology training (Bloch et al., 2013, p. 43). The researchers presented their data with five tables and two graphs, which gave detailed results of the procedure starting at baseline and continuing throughout and after the treatment (Bloch et al., 2013, p. 43).

CONCLUSION
This paper discussed the treatments of hESCs, Treat-and-Extend using ranibizumab and bevacizumab, and how to successfully predict visual acuity long term. Researchers have found that utilizing hESC can improve visual acuity in patients with AMD using only one initial injection as opposed to both monthly and treat-and-extend regimes. However, there is currently not a large enough sample to determine if the hESC therapy is a viable replacement for standard treatments. In this paper it was determined that current methods of treating dry AMD improve vision more effectively than hESC therapy. Based on these three articles, the best evidence based practice for treating dry AMD would be to use a treat-and-extend regimen with either ranibizumab or bevacizumab. Until there are further studies done using hESC, it is difficult to determine if there is potential use for stem cells as a viable replacement therapy. As studies continue on both current and hESC therapies, researchers will be able to determine if there is an added benefit to long term use.

About The Author
I am 22 years old and was born in Bogota, Colombia but living in Katy, Texas.

I am Public Health Major at Sam Houston State University, and expected to graduate in December of 2016. Some of my extracurricular activities in school include: Phi Sigma Pi National honor Fraternity, Sam Houston Elite.

I am a licensed Certified Nursing Aide as well as a Registered Phlebotomy technician. I work as a CNA at Cornerstone Hospital in Conroe, Texas as well as a Teaching Assistant for the Biology Department at Sam Houston. I enjoy playing sports, cooking, enjoying spending time with my family as well as friends.

References
1. According to the text what types of treatment medications have been used for the trials?
   a. AMD
   b. Ranibizumab and Bevacizumab
   c. BCVA
   d. Immunosuppressive medications

2. Which types of exam were used to study ETDRS and BCVA?
   a. Snellen Chart
   b. OCT
   c. Fluorescein angiograph
   d. All of the above

3. What is the purpose of the research?
   a. The accuracy of stem cell research on AMD
   b. Is there current research that shows improvement and sustained visual improvements when compared to previous treatment methods
   c. Ways of improving vision
   d. None of the above

4. What kind of statistical data can you collect from this article?
   a. Qualitative data
   b. Quantitative data
   c. Quasi-experimental
   d. Retrospective
   e. B, C and D

5. What was the purpose of using Ranibizumab?
   a. Immunosuppression
   b. Blocking of a chemical called VEGF
   c. Inflammation
   d. Used as a Dye

6. What are ophthalmologists?
   a. Physicians that specialize in diagnosing and prescribing treatment for defects, injuries, and diseases of the eye.
   b. Physicians that specialize in diagnosing and prescribing treatment for defects, injuries, and diseases of the heart.
   c. Physicians that specialize in diagnosing and prescribing treatment for defects, injuries, and diseases of the lungs.
   d. Physicians that specialize in diagnosing and prescribing treatment for defects, injuries, and diseases of the skin.

7. What is AMD, and how does it affect a person?
   a. It is an autoimmune disease that attacks the optic nerve of the eye
   b. Abnormal cysts in the choroid layer of the eye that affects the vision
   c. Bacterial infection of the conjunctiva which causes inflammation of the eye.
   d. Abnormal growth of blood vessels that leak blood into the center of the retina

8. What is the purpose of having a large population size when conducting statistical research?
   a. Competition
   b. Accurate representation of the population
   c. Being able to eliminate outliers
   d. None of the above

9. What is the purpose of a two-sample T-test?
   a. Compares the mean of k groups based on one independent variable
   b. Compares the distributions of two dependent variables
   c. Determines a variable is less than, greater than, or equal to a specific value. Usually, the known value is a population mean

10. What is the conclusion of the research?
    a. Using a treat-and-extend regimen with either ranibizumab or bevacizumab
    b. There is no significance evidence that the treatments will have long lasting effects
    c. Using treat-and-extend regimen of hESC
    d. Using Snellen Charts to determine visual acuity
## SCHEDULE

### Friday, April 22, 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00-4:00</td>
<td>Meeting Registration/Sign-in</td>
</tr>
<tr>
<td>7:50-8:00</td>
<td>Welcome/Announcements – Taffy Durfee, MT (AMT), President</td>
</tr>
<tr>
<td>8:00-9:00</td>
<td>“Managing Preanalytical Variables in Specimen Collection, It’s All about Patient Outcomes”, Shirta Smith, MS, MT (ASCP), Global Technical Services Manager, BD Life Sciences – Preanalytical Solutions</td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>“Safety in the Lab &amp; the New SDS Changes” Patty Ortiz MT, Safety Officer, VA Medical Center</td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>“Evaluation of Rapid ESBL Screen Kit to Confirm ESBL” Dr. Huber PhDs Microbiology &amp; Elienid (Ellie) Medina MLS (ASCP) (CM)</td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>“Zika Fever – 70 years Summarized” Dr. Karen Brust, Medical Director, Infection Control and Prevention BSWHealth</td>
</tr>
<tr>
<td>12:00-1:00</td>
<td>Lunch on your own/TxSSAMT Board Meeting</td>
</tr>
<tr>
<td>1:00-2:00</td>
<td>“Clinical Utility of Immature Cell Indices: Beyond the Routine CBC” Rob Oleksy BSN, RN Senior Clinical Specialist Sysmex America, Inc.</td>
</tr>
<tr>
<td>2:00-3:00</td>
<td>“Changes in Home Health Care” Trevor Cheatham, Area Manager, Encompass Home Health</td>
</tr>
<tr>
<td>3:00-4:00</td>
<td>“The History of EMS” Jay Lohman, Fire Rescue Officer/Paramedic, Killeen Fire Dept.</td>
</tr>
<tr>
<td>4:00-5:00</td>
<td>“Mass Casualty Incidents” Jay Lohman, Fire Rescue Officer/Paramedic, Killeen Fire Dept.</td>
</tr>
<tr>
<td>6:30-9:00</td>
<td>Come and join us for a sit down dinner with your family and the TxSSAMT World Famous Auction (Included with paid registration)</td>
</tr>
</tbody>
</table>

### Saturday, April 23, 2016

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:00-4:00</td>
<td>Meeting Registration/Sign-in</td>
</tr>
<tr>
<td>7:50-8:00</td>
<td>Welcome/Announcements – Michelle Jenkins MT (AMT), Vice-President</td>
</tr>
<tr>
<td>8:00-9:00</td>
<td>“Gold Standards in Laboratory Testing”, T. J. Weatherly, MT (AMT), St. Joseph Regional Health Center, Bryan, Texas</td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>“Platelet Clumpers – Working up the Sample for Proper Results” Michell Lowe, MLT - Hematology, Baylor Scott &amp; White Memorial Hospital</td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>“Anticoagulation in the Clinical Environment” Penny Hopper, RN, Anti- Coag Clinic Baylor Scott &amp; White Taylor, TX</td>
</tr>
<tr>
<td>11:00-1:00</td>
<td>TxSSAMT Semi-Annual Business Meeting All members are encouraged to attend and lunch is provided!</td>
</tr>
<tr>
<td>1:00-2:00</td>
<td>“C. Difficil, The New MRSA”, Taffy K. Durfee, MS, MT (AMT). Sam Houston State University, Huntsville, Texas</td>
</tr>
<tr>
<td>2:00-3:00</td>
<td>“Transfusion Reactions” Dr. Eric Rachut, Chief of Blood Bank, VA Medical Center Temple</td>
</tr>
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<td>3:00-4:00</td>
<td>“Changing Biomarker Landscape in Heart Failure and Acute Kidney Injury” Robert Elverson, (Awaiting Confirmation)</td>
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<tr>
<td>4:00-5:00</td>
<td>“Your Spine and How it Affects Your Health” Dr. Chris Price DC, Anthony Medical &amp; Chiropractic (Awaiting Confirmation)</td>
</tr>
</tbody>
</table>

**Thanks for your attendance!**

*Please travel home safely.*

Visit us online at
Visit us online at [http://www.americanmedtech.org/AboutUs/StateSocieties/Texas.aspx](http://www.americanmedtech.org/AboutUs/StateSocieties/Texas.aspx)

Note: Schedule is subject to change
Dates: April 22-23, 2016 – Temple, Texas

Pre-Registration Form

Registration

1749 Scott Blvd
Temple, TX  76504
254-773-0200

Reference TxSSAMT Fall Educational Program
Price is $99.00 + Tax

Deadline for reservations - April 11, 2016

General Registration (All Seminars) Friday & Saturday (One Day Only) Friday or Saturday

<table>
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<tr>
<th>Category</th>
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<th>Fee (Before/At Door)</th>
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<td>AMT Members</td>
<td>$75.00 ($85.00)</td>
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<td>*$10.00 ($10.00)</td>
<td>*$10.00 ($10.00)</td>
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Registration Total $ ______

☐ RSVP if you are attending the Friday night social. No. Attending _____

Make checks payable to TxSSAMT and send registration to:
Michelle Hege • 979-574-0350
5404 Trailview Drive • Temple, Texas 76502

(NOTE: Your receipt will be in your registration packet. No confirmations will be mailed.)

Hilton Garden Inn

Registration

1749 Scott Blvd
Temple, TX  76504
254-773-0200

Reference TxSSAMT Fall Educational Program
Price is $99.00 + Tax

Program will provide 12 hours of Continuing Education with a variety of subjects to be announced. Please plan to attend our TxSSAMT Auction on Friday evening benefitting the Ray Schiffer scholarship and writing awards. Bring your auction items and your checkbook!
Whether you are looking for a Great Career Opportunity or a Great Candidate In the Allied Healthcare Field, begin your Search at AMT Career Connection.

AMT Career Connection is the new interactive online employment center at www.amt1.com provided by American Medical Technologists and powered by Top Echelon, Inc., one of the world's most successful networks of recruiting firms.

JOB SEEKERS:
- Search for jobs in your local market or across the country
- FREE - no charge to the job seeker
- Fast, easy and convenient
- System is available 24 hours a day/7 days a week
- Create a job criteria search to run automatically
- Create your online resume and profile for companies to view
- Privacy - control your level of privacy
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- View company profile information
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EMPLOYERS:
- Cost Effective - reduce recruiting costs while increasing exposure
- Place an ad for only $50
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- Quick access to a pool of candidates
- Easy to use - system provides step-by-step guidance
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- Job postings appear immediately
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- Flexible - offers many levels of services and pricing for small to large companies
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To find out more about posting a job or posting your resume, please visit www.amt1.com and click on the link for AMT Career Connection.

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David Finch, MT - MT Board Member
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Printer: Branch Media Pro

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The New Texan, Journal of Medical Technology, a publication of TSSAMT, is published 2 times a year in one index Volume per year. Published under the direction of the editor and appointed associates, the Journal is devoted to the publication of original articles (and review articles) as well as observations in the fields of interest to medical allied professionals.

The New Texan, has not only an aim, but a goal which is to serve both our members and our advertisers through the Journal. We have over six thousand members in our Texas organization who receive this publication. Thus it serves as a constant reminder of the products or articles advertised therein.

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Publisher: A publication of the Texas State Society of American Medical Technologists
Type of Publication: Journal (8½” x 11”)
Issues: First and Second

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<th>One Insertion</th>
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<td>Inside Front Cover</td>
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<tr>
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| Business Card | $20.00 an issue |

MECHANICAL REQUIREMENTS

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</table>

Circulation: (a) Controlled circulation of 6,000 third class mail permit. Press run 6,000. (b) Circulation to all members of the Texas State Society of American Medical Technologists. (c) Single column width. ¾”; double column width. 7¾”. (d) Depth of column - 10”. (e) Columns per page - 2. (f) Column inches per page - 20.

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If I can be of assistance to you or your organization, please contact me.
Norma "Taffy" Durfee, MT • P.O. Box 432 • Iola, Texas 77861
Work (936) 661-5140 • nkd003@shsu.edu

Spring/Summer 2016 / TxSSAMT

The New Texan
Come join us in Temple, TX for the 2016 TxSSAMT Spring Conference!
April 22-23, 2016
See inside for registration information.

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http://www.bellcountymuseum.org/