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advances - cure

ALACHUA COUNTY MEDICAL SOCIETY HOUSE Colls SPRING 2017

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ACMS We Care Physician Referral Network

The We Care Physician Referral Network is a community-based initiative that coordinates volunteer physicians, dentists, hospitals, and ancillary providers to meet the medical and dental needs of uninsured and poor Alachua County residents. It is a partnership of public and private institutions, agencies, and individuals that responds to the health care needs of the community's under-served population. A health care board provides guidance to the program in response to community health issues and evaluates the efficacy of the agency's programs. The initiative started over twenty-five years ago in response to an overwhelming need for medical services for low income. uninsured residents of Alachua County.

Since 1990 the program has received over 25,000 requests for volunteer medical and dental care. More than half of those requests were met by volunteer professionals. The cumulative total of volunteer medical and dental services provided exceeds \$80,000,000 (value to December '15).

House Calls Scott Medley, MD, Executive Editor Jackie Owens, ACMS EVP, Managing Editor

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Dr. Charles T. Klodell is a cardiothoracic surgeon specializing in heart and lung surgical procedures including minimally invasive aortic and mitral valve repair or replacement, aortic aneurysm repair, transcatheter aortic valve replacement (TAVR) and open heart surgery. He has a special interest in minimally invasive procedures, valve repair, and innovative uses of technology and pharmacology to alleviate patient discomfort.



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Dr. Gregory T. Sherr is an accomplished Neurosurgeon who has special experience in building trauma, complex stroke, and vascular programs. With a background in technology and public health, he comes to North Florida Regional Medical Center as the Neurosurgery Medical Director. In this role, Dr. Sherr is responsible for recruiting physicians, surgeons, nurses, support staff, and patients to the Neurosciences and Stroke Center of Excellence.



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Dr. Scott Medley practiced family Medicine for 20 years before becoming the Chief Medical Officer at NFRMC. He served as President of the ACMS and of the Florida Academy of Family Physicians., and as Chair of the Gainesville Area Chamber of Commerce. He received the Gainesville Sun Community Service Award in 1987 and was chosen Florida Family Physician of the Year in 1992. He currently is retired and Volunteers at Haven Hospice. Dr. Medley has served as Executive Editor of House Calls for the past 19 years, and has authored over 80 editorials and articles for this publication.



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Originally trained in oncology clinical pharmacokinetics and analytical biochemistry, Dr. Riggs presently focuses on clinical and experimental therapeutics in head and neck, thoracic, and musculoskeletal malignancies. He is Vice-Chair of the University's IRB, and teaches biomedical ethics. He is Board-certified in Medical Oncology and Internal Medicine and eligible in Hematology and Clinical Pharmacology. He is a member of the American Society of Clinical Oncology, American College of Physicians, American Medical Association, and the Florida Medical Association, and Past President of the ACMS.

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From the President's Desk

David E. Winchester, MD, MS, FACP, FACC, ACMS President

Is The Customer (Patient) Always Right?



Many of us have worked in retail at some point. The most vivid memory was working in an outdoors goods store during the summer after my first year of high school. The environment was very relaxed; we played hackey-sack when the store was empty. My co-workers were friendly and the customers were always pleasant. In my experience, it was easy to envision that "the customer was always right".

Retailers, seeking to entice shoppers and to inspire their confidence, coined the phrase at the turn of the twentieth century. On its surface, it makes sense; if you take care of your customers they will keep you in business. Some customers, however, are clearly not right. Some game the system for returning items, some will shop in your store and then go buy online, some are rude or belligerent, and some have unrealistic expectations. Unchecked focus on the customer can make for resentful, unhappy, burned-out employees and could be bad for your business.

The converse of this wisdom could be "People, Service, Profit", a philosophy attributed to Fred Smith, founder and CEO of FedEx. The notion is that if you value your employees and empower them to do good things, they will and your company will prosper. Certainly, it is not hard to imagine that putting on a happy face for your customers is easy if you actually are happy. As another example, Zappos.com (an online shoe retailer) famously offers people a bonus to quit if they are not satisfied with their job.

In health care, physicians offer services to patients

and we function as a form of retail. Instead of "the customer is always right", we have "the secret of the care of the patient is in caring for the patient" (Dr. Francis Peabody, oft misattributed to Osler). The contemporary version of this being the Institute of Medicine identifying "patient-centered" as a measure of high quality health care. When I talk on rounds or in conferences about doing things in a patient-centered fashion, invariably someone rolls his eyes. The prevalence of this reaction has decreased over the years but the response can be observed in both burned-out, veteran physicians and jaded, cynical trainees. "Everything I do is patient-centered, I'm taking care of patients, aren't I?" is a common reply.

Of course, there are plenty of ways that health care is not patient-centered. Patients can become ill 24/7, but the only service available to most patients around the clock is the emergency room. For that matter, good luck getting a same-day appointment at most physician offices. Hardly anyone knows the cost of care before agreeing to "buy" it. When was the last time you saw a price tag on an elective coronary angiogram? The information we have about the quality of our product is crude and unreliable; due to medical errors, health care is among the leading causes of death.

On the "human capital" side of the equation, the health care industry achieves terrible results. Medscape reported this January that between 42-59% of physicians report being burned out, depending on the specialty. Not surprisingly, some of the top rea-

Continued from Page 6

sons included: feeling like a cog, lack of professional fulfillment, and dealing with difficult patients. Even in solo private practice where the physician has control over many variables, it is difficult to escape burnout triggers such as bureaucratic tasks, maintenance of certification, and dealing with insurance hassles.

In the end, it would be myopic to focus on only the physician or the patient. After all, there are two parts to the patient-physician relationship - without one, the other has no reason to exist. Looking to the business and retail world for examples to follow, Ritz-Carlton maintains both excellent customer service and staff satisfaction. Their motto is "We are Ladies and Gentlemen Serving Ladies and Gentlemen". They foster teamwork and communication to achieve a unified customer-centered culture. Ritz-Carlton has high expectations while empowering their employees to resolve any guest complaint immediately. Ritz-Carlton inspired a hospital at Indiana University to adopt patient-centered planning meetings; that hospital now has a 30-day readmission rate that is seven-fold lower than the national average.

Most Floridians are familiar with the superb customer service provided by Disney, where even the custodial workers are referred to as "cast members". Capitalizing on their success, the Disney Institute offers training to businesses on how to transform their cultures. Of the two dozen case studies provided on their website, seven describe success in healthcare companies. On October of 2015, the Geisinger Health System started offering a "money back guarantee". The program has provided them with unparalleled insight to areas for improvement.

Can health care embrace both "the customer is always right" and "people, service, profit"? The evidence suggests so, but at what cost? Many people cannot afford to vacation at a Ritz-Carlton just as many physician practices likely cannot afford consultants from Disney. Medical costs are the largest single cause of personal bankruptcy in the United States. Some point to concierge medicine, or "direct care", as a solution. Unfortunately, at an average cost of \$1,600 per person, in a country of 319 million people, the total cost to provide just primary care through this model is \$510 billion. In 2015, the same amount of money was spent on all physician services. On the opposite end of the spectrum, single-payer health care is envisioned as health care provided with customer service similar to the Department of Motor Vehicles; such systems inherently limit access to high-cost care. In terms of customer satisfaction, 29% of Americans feel that the health-care system needs to be completely rebuilt compared to 5% of Canadians. Only 23% of American physicians feel the system works well, compared to 33% in Canada.

The solutions are not clear, but the need for change is readily apparent. We achieve suboptimal outcomes through a system that dissatisfies customers (patients) and burns out employees (physicians)*. Until the day comes when a handsome prince delivers the ideal health care system like a pair of glass slippers, we must continue to make our patients' dreams come true.

*Footnote: Due to space restraints, my comments are limited to physicians, but we clearly could not do our jobs without the incredible help of so many wonderful allies: nurses, pharmacists, technologists, administrative staff, and more.

> The We Care Physician Referral Network can be reached at 224 SE 24th Street Gainesville, Florida 32641 (352) 334-7926



From the Desk of the EVP

Innovations in Medicine Jackie Owens, ACMS Executive Vice President

Throughout history, science and technology have transformed the field of medicine - from the inception of rational medicine in 420 BC when Hippocrates put forth the Hippocratic Oath, to recent applications to harness the microbiome in the human gut.¹ Physicians and scientists build upon existing technologies, furthering our ability to solve many of mankind's greatest afflictions.

"Innovations in medicine" are created by the integration of technology and medical need. They are



defined as the introduction of new concepts, ideas, services, processes, or products aimed at improving treatment, diagnosis, education, outreach, prevention and research; with the long-term goal of improving quality, safety, outcomes, efficiency and costs of medical care.²

1800	Anesthetic properties of nitrous oxide discovered	1909	First intrauterine device described	1943	First dialysis machine built
1816	Stethoscope invented	1910	First laparoscopy on humans	1944	Disposable catheter
1818	First successful human	1913	Measuring the speed of blood	1946	Chemotherapy
	transfusion		coagulation developed		
1842	First surgical operation using anesthesia with ether	1921	Insulin discovered	1947	Defibrillator
1845	Leukemia listed as a blood disorder	1921	Epidural anesthesia pioneered	1948	Acetaminophen
1846	First painless surgery with general anesthetic	1923	First vaccine for diphtheria	1949	First implant of intraocular lens
1849	First woman to gain a medical degree in the United States	1926	First vaccine for pertussis	1949	Mechanical assistor for anesthesia
1867	Antiseptic Surgery	1927	First vaccine for tuberculosis	1952	First polio vaccine (available in 1955)
1870	Germ theory of disease	1927	First vaccine for tetanus	1952	Cloning
1874	Brain waves discovered	1928	Penicillin discovered	1953	Heart-Lung Machine
1879	First vaccine for cholera	1929	Human electroencephalography discovered	1953	Medical Ultrasonography
1881	Anthrax vaccine	1932	Chemotherapeutic cure for streptococcus discovered	1954	First human kidney transplant (on identical twins)
1882	Rabies vaccine	1933	Insulin shock therapy discovered	1955	Tetracycline
1890	Antitoxins used to develop tetanus and diphtheria vaccines	1935	Metrazol shock therapy discovered	1957	Brain EEG topography (toposcope)
1895	Medical use of X-rays in medical imagery	1935	First vaccine for yellow fever	1958	Pacemaker extending the life of a patient two months
1901	Existence of different human blood types	1936	Prefrontal lobotomy for treating mental diseases	1959	In vitro fertilization
1901	First case of what becomes known as Alzheimer's disease	1936	Self-retaining thoracic retractor developed	1960	Invention of cardiopulmonary resuscitation (CPR)
1903	Electrocardiography (ECG/EKG) invented	1936	Pacemaker invented	1960	First combined oral contraceptive approved by the FDA
1906	Vitamins documented. Linked to scurvy and rickets	1938	Electroconvulsive therapy discovered	1962	First Hip replacement
1908	The stereotactic method invented	1940	Useable form of penicillin developed	1962	Beta blocker developed

History of Medical Innovations^{3,4,5,6,7,8,9}

HOUSE CALLS 9

INNOVATIONS IN MEDICINE

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History of Medical Innovations - continued

1962	First oral polio vaccine	1973	Laser eye surgery (LASIK)	1989	DNA microarray
1963	Artificial heart	1976	First commercial PET scanner	1992	DNA sequencing
1963	First human liver transplant	1977	First Practical DNA Sequencing	1992	First vaccine for hepatitis A
					available
1963	First human lung transplant	1979	Antiviral drugs	1996	Dolly the Sheep cloned
1964	Reconstructive microsurgery	1980	First commercial MRI scanner	1998	Stem cell therapy
1964	First vaccine for measles	1980	First vaccine for hepatitis B	2000	The Human Genome Project
					draft was completed
1965	First portable defibrillator	1981	Artificial skin	2001	The first telesurgery performed
1965	First commercial ultrasound	1981	First human heart-lung combined	2003	Threat of the SARS virus,
			transplant		triggering effective response to
					epidemic
1966	First human pancreas transplant	1982	Human insulin	2005	First partial face transplant
1966	Rubella Vaccine	1982	Interferon cloning	2006	First HPV vaccine approved
1967	First vaccine for mumps	1985	Automated DNA sequencer	2006	The second rotavirus vaccine
					approved (first was withdrawn)
1967	First human heart transplant	1985	Polymerase chain reaction	2007	The visual prosthetic (bionic eye)
			(PCR)		
1968	Powered prosthesis	1985	Surgical robot	2008	First full face transplant
1969	Cochlear implant	1985	DNA fingerprinting	2009	Robotic laparoscopic surgery
1970	Cyclosporine introduced in organ	1985	Capsule endoscopy	2013	The first kidney was grown in
	transplant practice				vitro in the U.S.
1971	Genetically modified organisms	1987	Tissue engineering	2013	The first human liver was grown
					from stem cells in Japan
1971	Magnetic resonance imaging	1988	Intravascular stent	2016	Use of the microbiome to
	(MRI)				prevent, treat and diagnose
					disease
1971	Computed tomography (CT or	1988	Laser cataract surgery	2016	Bioabsorbable stents
	CAT Scan)				
1972	Insulin pump	1989	Pre-implantation genetic	2017	Liquid biopsy implementation
			diagnosis (PGD)		

The adjacent chart, derived largely from the New England Journal of Medicine, is a condensed list of innovations in medicine over the last 200+ years.

In this issue of House Calls, we feature several innovations in medicine including: Advances in Cardiac Surgery (Charles Klodell, MD.), Liquid Biopsy (Charles Riggs, MD.), Neurosurgery (Gregory Sherr, MD. and Asif Khan, MD.) and Cardiac Rehabilitation (David Winchester, MD.). From the first stethoscope to the most recent Bioabsorbable stents, such innovations in medicine span hundreds of years and are truly astounding. Through science, research and creativity, these insights have been turned into actions that help save lives every day.



References available upon request.

Contribute to the Robb House Endowment Fund



ROBB HOUSE MEDICAL MUSEUM

This Victorian cottage built in 1878 became the home and medical office of doctors Sarah Lucretia and Robert Robb. Sarah Lucretia was the first woman physician in Alachua County. She practiced medicine from 1884 to 1917. The Robb House was the home and medical clinic of Dr. Sarah Lucretia Robb and her husband, Dr. Robert Robb, from 1884 until the 1920's. The house was moved from its original location (East University Avenue) to 235 SW 2nd Ave in 1981 and restored in 1983 as the ACMS offices. The moving costs were approximately \$20,000 and restoration costs were \$80,000. The Alliance helped raise funds through various fund-raising efforts and established a Medical Museum with original artifacts from the Robbs.

Over the years, many objects have been donated by local physicians. The museum has been carefully tended by our museum curator, Ms. Florence Van Arnam, for more than twenty years. The Robb House is the only historic house in Florida which has been restored as a County Medical Society. It was also the first recognized Medical Museum in the state.

We have created an endowment through the ACMS Foundation to maintain this precious jewel. Our goal is a \$100,000 endowment. The tentative plan is to draw a sum on an annual basis for maintenance purposes (e.g. paint, roof repairs, restoration projects, appliances).

Thank you to all who have contributed!

Robb House Endowment Donors

A Special Thank You to our Generous Donors below!

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CARDIOVASCULAR & THORACIC SURGERY

TRANSCATHETER AORTIC VALVE REPLACEMENT (TAVR):

EVOLUTIONARY OR REVOLUTIONARY, AND WHAT DOES THE FUTURE HOLD?

Charles T Klodell MD., Professor of Surgery, University of Central Florida, Medical Director of Cardiovascular Surgical Service Line, North Florida Regional Medical Center, Gainesville, Florida



Background

Aortic stenosis in adults can have diverse etiologies. Approximately 1 in 250 live births is known to have a congenitally bicuspid aortic valve. Bicuspid valves have abnormal flow dynamics and can lead to either stenosis or regurgitation earlier in life than in patients who are born with 3 leaflet valves. Additionally, rheumatic fever is a more common cause of aortic valve pathology. Although less common now than it once was in the United States, it is still recognized as an etiology in those presenting with stenotic aortic valves. These valves develop very thickened and with furled edges of the leaflets causing early valve failure. However, most commonly we see age-related calcific aortic stenosis as the eti-





ology in patients referred for treatment. In reality, we all deposit calcium on our valve leaflets, based on the flow dynamics of the aortic valve secondary to the acceleration of blood flow as it passes through the left ventricular outflow tract and through the leaflets. Over time, this calcium deposition leads to formation of thickened stiff leaflets and significant gradients across the valve, yielding progressively worsening aortic valve stenosis.

Calcific aortic stenosis results from mainly solid calcium deposits within the valve cusps. The risk factors are similar to that for coronary artery disease, resulting in a high coincidence of coronary artery disease and aortic stenosis in the same patient. These patients most commonly present in the 6th,7th and 8th decades of life.

There are currently over 40 million people in the United States over the age of 65 years. Aortic stenosis is estimated to be prevalent in up to 7% of the population over age 65. However, the population at risk for aortic stenosis is increasing, as is the average age of the population of the United States. As such, the percent of the total population or absolute number of patients that are elderly is increasing over time (Figure 1).

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Patients with aortic stenosis may develop shortness of breath, angina or chest pain, fatigue, syncope or presyncope, or irregular heartbeats and palpitations as symptoms of aortic valve disease. Unfortunately, these symptoms are commonly misunderstood by patients as normal signs of aging. Many patients initially appear asymptomatic, but on closer examination up to 37% will exhibit symptoms when placed under stress.

Perhaps most concerning is severe aortic stenosis (AS), a slowly progressive disease process that ultimately can become life-threatening. Often AS has a prolonged latent period during which there is increasing obstruction and myocardial overload without symptoms. In many, the initial presenting symptom may be angina, syncope, or heart failure. After the onset of symptoms patients with severe aortic stenosis have a survival rate as low as 50% at 2 years and 20% at 5 years without aortic valve replacement. In a recent trial (PARTNER trial, Edwards Lifesciences, Irvine, CA) that randomized high risk patients to optimal medical management versus TAVR valve replacement there was found to be a 50% one-year mortality in the non-operated patient arm. A sobering perspective for inoperable patients is that patients with severe aortic stenosis with symptoms that do not undergo aortic valve replacement have 5 - year survival rates as poor as many stage IV metastatic cancers, including breast, lung, colon, prostate, or ovarian cancers.

Prior to the advent of TAVR technology it is estimated by multiple studies that perhaps at least 40% of severe aortic stenosis patients were not treated with aortic valve replacement. However, the advent of TAVR changes how physicians and patients approach the treatment of severe aortic stenosis in those at high risk of mortality or major morbidity for open surgical aortic valve replacement.

The First TAVR Implantation

The first transcatheter aortic valve replacement was performed in 2002 by Alain Cribier. Although his initial pioneering efforts were in developing balloon aortic valvuloplasty, this procedure was quickly met with midterm outcomes that were less than satisfactory. Many reasons were initially given by the medical community as to why transcatheter heart valve implantation for severe aortic stenosis could not, or should not, be attempted. These reasons included bulky leaflet calcification predisposing to coronary artery obstruction, or liberating a lethal dose of cerebral embolic debris; noncompliant leaflets and annulus promoting irregular valve expansion with poor leaflet coaptation; and asymmetric calcium deposits exacerbating perivalvular leakage. However, Dr. Alain Cribier in Rouen, France, performed the first successful TAVR on April 16, 2002 in a 57-year-old man with severe calcific aortic stenosis who was judged not a surgical candidate because of a very poor ejection fraction and an exceptionally high risk for open conventional aortic valve replacement. The valve stent utilized was a 3-leaflet bovine pericardial valve mounted on a balloon expandable stainless steel frame and was the archetype of what has now become the Edwards' Sapien transcatheter heart valve. This initial procedure was performed via a percutaneous antegrade transseptal approach through the right femoral vein and yielded a good result. Approximately 2 years later a series was published of 6 patients treated in similar fashion with successful implantation in 5 out of the 6, becoming the springboard for our modern clinical trials and TAVR programs.

Clinical trials and how did we get here?

A series of clinical trials have led to the approval of transcatheter heart valve technology for both intermediate and high-risk patients with severe aortic stenosis. In the first high-risk trial performed by Edwards Lifesciences (Irvine, CA) it was found that the implantation of a transcatheter heart valve led to a 24.7% absolute reduction of mortality when compared with expert care in standard medical therapy in ultra high-risk or preclusive surgical candidates. Per the ACC and AHA guidelines, TAVR is now a reasonable alternative to surgical AVR in a patient who meets indications for aortic valve replacement and is felt to be at high risk for surgical AVR.

Several additional trials by both Edwards Lifesciences and Medtronic (Fridley, MN) have led to approval of both valves for multiple indications including higher-risk patients for surgical AVR, intermediate-risk patients for surgical AVR, and now for failing bioprosthetic valves by placing the TAVR valve inside the failed bioprosthetic valve.

The risk categories are stratified based on the STS risk Continued on Page 13

CARDIOVASCULAR & THORACIC SURGERY

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predictor score. In general patients are thought to be a high-risk if they exceed an 8% risk of mortality. Intermediate-risk is generally categorized as being between 4% and 8% mortality. Low-risk is generally defined as being under 4% mortality risk of surgical AVR after considering all comorbidities. Over time the profiles of the device and the technologies of the different TAVR valves have improved. This development has led to smaller device profiles – making vascular complications less common and the spectrum of patients that can be treated by percutaneous femoral access much higher. The progress of the valve technology has led to more aggressive trials targeting patients at even lower risk profiles where not only the absolute mortality,

Table 1

but the risk of even minor complications will become even more critical.

Who should be considered for TAVR?

There are many characteristics that make a patient wellaligned for TAVR. First, the patient must have severe symptomatic native aortic valve stenosis or a failing bioprosthetic valve. Most patients will have an STS risk score of 4% or greater. However many may have additional contributing factors that may make the risk higher than the calculated STS risk score. A patient can also be determined to be at high risk as estimated by 2 surgeons (irrespective of STS risk score) and these factors can include patients

	Low Operative Risk (Must Meet ALL Criteria in This Column)	Intermediate Operative Risk (Any 1 Criterion in This Column)	High Operative Risk (Any 1 Criterion in This Column)	Prohibitive Operative Risk (Any 1 Criterion in This Column)	
STS Mortality Risk	< 4% AND	4% to 8% OR	> 8% OR	Prohibited risk with surgery of death or major morbidity (all-cause) > 50% at 1 year OR	
Frailty	None AND	1 Index (mild) OR	≥2 Indices (moderate to severe) OR	Prohibited risk with surgery of death or major morbidity (all-cause) > 50% at 1 year OR ≥ 3 organ systems OR	
Major organ system compromise not to be improved postoperatively ³	None AND	1 Organ system OR	No more than 2 organ systems OR		
Procedure specific impediment ⁴	None	Possible procedure- specific impediment	Possible procedure- specific impediment	Severe procedure- specific impediment	

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with advanced age, prior history of stroke, reduced ejection fraction, prior sternal entries (making reentry difficult), prior chest radiation, heavily calcified aorta, or frailty. Additional considerations such as advanced lung or kidney disease are also included (Table 1).

Perhaps most importantly to properly evaluate these potential TAVR patients requires that a collaborative structural heart team concept be fully implemented and embraced. This multidisciplinary approach ensures patient-centric care and a thorough assessment by a team of specialists, resulting in a collaborative treatment decision (Figure 2).

This collaborative approach ensures that some of the more subtle measures of risk are included in the decision process. These factors include extensively calcified aorta, chest wall deformities, oxygen -dependent respiratory insufficiency, and frailty. The assessment of frailty requires multiple modalities including a frailty index assessment that may en-

Figure 2.





CARDIOVASCULAR & THORACIC SURGERY

Continued from Page 14

compass a 6 m walk test, grip strength testing with a grip dynamometer, and measurement of independence in daily life based on the Katz inventory.

Once appropriate patients are selected, the workup - including a cardiac gated CT scan and echocardiography - ensures that the appropriate valve size and delivery approach for implantation are custom-tailored for each patient. Most commonly this procedure is going to involve percutaneous access to the common femoral artery with retrograde advancement of the valve across the native aortic valve, allowing for expansion and replacement of the aortic valve with a new TAVR valve by pinning the native valve to an open position. However, in cases of severe peripheral vascular disease there are alternate routes of valve delivery (Figure 3).

In many cases TAVR can be performed with just moderate sedation of the patient. In complex cases requiring general anesthesia the patient is most frequently able to be removed from the ventilator immediately following the conclusion of the procedure. The patients often spend only one evening in the hospital and are able to be discharged the next morning in the majority of cases

Types of Valves:



CoreValve Evolut R – Nitinol frame, Supraannular valve, Porcine

spanning more than 60 countries.

As of the time of this writing there have been more than 80,000 TAVR implants globally, since it was first introduced commercially in 2007. In the United States the valves have been implanted since 2011, and there've been now four different large US trials spanning both of the commercially available manufactured devices that have demonstrated ongoing noninferiority, and in some cases superiority, to the conventional operations.

Conclusion

The advent of TAVR valve technology is one of those rare opportunities that we have during our medical careers to see an intervention that changes the spectrum of treatment for a disease process. While we all see many treatments throughout our careers that are evolutionary ways of dealing with a specific disease process, TAVR valve technology is truly revolutionary in its approach. This technology allows us to treat patients that were previously not able to be treated, and at the same time treat them better with shorter lengths of stay and reduced morbidity and mortality compared to the open surgical alternatives. TAVR has allowed an entire cohort of patients who previously would not have been offered intervention to undergo potentially curative procedures.



Edwards Sapien3 – Cobalt Chromium Frame, Intra annular valve, bovine pericardium.

LIQUID BIOPSY:

THE NEXT GENERATION OF NEXTGEN SEQUENCING

Charles E. Riggs, Jr., MD, FACP Staff Physician, Malcom Randall VHS Medical Center Clinical Professor, University of Florida College of Medicine

For many of us, "biopsy" brings to mind the picture of long needles, lidocaine, a surgeon or interventional radiologist, bleeding, occasional pneumothoraces and unhappy patients, and the hope that enough tissue was obtained. With the advent, development, and application of modern molecular biology techniques, circulating tumor cells (CTCs) and circulating tumor DNA (ctDNA) can now be harvested from blood or other bodily fluids, and probed for specific molecular signals from malignant cells. The full potential of these techniques is only just being realized.

Study of blood as a window into health and disease is certainly well-venerated for hematology, biochemistry, microbiology, and - for malignancies - protein tumor markers. The area of molecular biology techniques in the identification and characterization of malignant diseases can be traced to 1960, when Nowell and Hungerford identified a unique chromosomal abnormality in 9 of 10 patients with chronic granulocytic leukemia, identified as a shortening of one arm of an acrocentric chromosome, prosaically named the Philadelphia chromosome after its city of discovery. Subsequently, Janet Rowley clearly demonstrated the translocation resulting from the loss of part of chromosome 22 onto chromosome 9, and later showed that this was a balanced translocation, resulting in neither gain nor loss of DNA. The ready identification of this genetic cancer marker was subsequently enhanced by molecular techniques, including fluorescence in situ hybridization (FISH) and polymerase chain reaction (PCR) techniques, which allowed for progressively more sensitive quantification of the abnormality in blood samples from patients.

The presence of CTCs in patients with solid tumors had been long-suspected, due to the findings of intravascular

tumor emboli at autopsy. Circulating tumor cells from humans were identified as early as 1963 by Goldblatt and Nadel, and animal models have been studied for decades to try to better understand the phenomenon of hematogenous metastases. Until the advent of sensitive flow cytometric methods, identification and quantification of CTCs was laborious and of varying accuracy, and unsuited for routine clinical use. Isolation of ctDNA (originally reported in 1948) permits the identification of tumor-derived gene sequences without the presence of whole cells, e.g., DNA released from senescent or damaged tumor cells (Figure 1).

Several lines of evidence converged to permit more facile and practical utilization of blood-based diagnostics. Ready availability of monoclonal antibodies, directed against surface and intracellular antigens, were well-suited for fluorescence-based flow cytometric analyses. Frederick Sanger developed the first practical DNA sequencing in 1977. DNA technologies involving replication of specific, disease-related nucleic acid sequences allowed then for the development of very sensitive "fingerprinting" techniques, with the additional ability to quantify the presence and/or expression of a particular gene or specific mutations. However, these original sequencing techniques were cumbersome and expensive. Since the 1990s, further refinements of techniques include high-throughput DNA sequencing, which can identify multiple cancer-associated genes from very small samples (Figure 2). Common methods employed now are multiple parallel sequencing and pyrosequencing, and numerous proprietary enterprises offer varying products for diagnosis and quantification, utilizing these technologies. Batteries of common



HEMATOLOGY/ONCOLOGY

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Figure 1



cancer-associated genes are usually included in these diagnostic packages. Average pricing for analyses is similarly widely variable, but \$2,000 for studying 150-200 gene variants is typical.

Of increasing utility in these analyses is the potential for identifying candidate targeted treatments for malignancies. The era of "designer-drug" therapeutics began with development of imatinib as targeted therapy for chronic myelogenous leukemia in the late 1990s. Imatinib targeted the ATP binding site of the Abl domain of Bcr-Abl, thus blocking the "driver" effect of this mutation in leukemia. As specific mutations were identified in similar, pivotal oncogenes for other malignancies, inhibitory molecules were likewise designed, which abrogated the autonomous functioning of these genes. Identification of driver mutations is, therefore, of interest in precision therapeutics, allowing specific targeting of the putative cause of the malignancy.

A practical application of these systems might be as follows (Figure 3). A longtime smoker presents with 4 cm right upper lobe mass and right hilar fullness; PET imaging reveals foci of tracer avidity in the liver and left adrenal gland. Bronchoscopy with EBUS returns with adenocarcinoma from right hilar lymph node, and molecular probe on the tissue reveals an EGFR mutation, exon 19 deletion. The patient is treated with erlotinib 150 mg daily, with 50% shrinkage of the right upper lobe mass, disappearance of right hilar and left adrenal metastases, and decrease in liver mass. After 15 months, however, the right hilar area shows increased mass effect, without increased tracer uptake on PET scan. Repeat bronchoscopy yields only lymphoid tissue from fine needle aspirate of the right hilar mass. A

Continued from Page 17

blood sample was obtained and subjected to testing for T790M EGFR mutation (cobas ® EGFR Mutation Test v2). This test reveals a positive result for this breakthrough mutation, and the patient's therapy is switched to osimertinib (TAGRISSO ®); he remains on treatment 8 months later. In this example, the presence of circulating tumor cells allowed for specific molecular probing with a proprietary device, thus avoiding complications from additional or more hazardous biopsies, and probably a lower overall health-care cost.

At this point in the evolution of noninvasive molecular diagnostics, the clinician is presented with (at least) 3 confounding issues. First, a driver-mutation gene has only been identified for a minority of tumor types, e.g., in lung cancer, only 10% of adenocarcinomas (and virtually none of other lung cancer cell types) harbor an EGFR mutation. The same is true for other primary sites of cancer. Most mutations that are uncovered by next-generation sequencing either lack a targeted treatment, or the mechanism and significance of mutation remain unknown. Second, the technology of harvesting CTCs and ctDNA reliably has not been validated across the spectrum of solid tumors that might be encountered. Reliable data exist for breast, lung, colon, and prostate cancers, which do comprise the majority of incident solid tumors. In 2014, evidence for circulating brain tumor cells has been published, and information on other tumor types is needed. Third, most solid tumors can be shown to possess 200-800 mutations. Even if one or more mutations for which a targeted therapy exists are found to be present in a liquid biopsy, an informed decision about which mutation to target awaits additional confirmatory clinical studies. On the bright side, liquid biopsies allow for relatively noninvasive, if expensive, monitoring of certain cancer patients following successful initial treatment of the primary malignancy, avoiding ionizing radiation from repeated restaging imaging, and "scan aversion" due to claustrophobia or allied medical conditions. Evolution of the disease - especially recurrent disease with breakthrough mutations - can be precisely defined and, perhaps, discovered earlier with routine noninvasive monitoring.

This expanding array of molecular targets and increasing understanding of the mechanisms underlying molecular alterations in malignancy have given rise to the concept of the "basket trial." This new design of clinical trials is predicated on the hypothesis that molecular markers may be more specific indicators of behavior of









various malignancies and their responsiveness to treatment, in contrast to the traditional, organ system-based classification of tumor types (Redig & Janne, Journal of Clinical Oncology, 2015). The National Cancer Institute has launched the NCI-MATCH (Molecular Analysis for Therapy Choice) trial to obtain a broad experience with this approach, and several disease-oriented trials are similarly assigning anticancer therapies on the basis of this testing. As further proof of concept, the NCI-MPACT study will randomly assign participants to targeted therapy or non-targeted treatment, based on specific mutations found in a variety of incident cancers being studied.

The utility of liquid biopsy is not confined to oncology. Amniocenteses for antenatal molecular screening and diagnoses are well-known, and the value of these procedures will be enhanced by application of next-generation probe techniques for rare disorders, enzyme polymorphisms, and acquired maladies in utero. Although a little more theoretical at this time, serial monitoring of systemic conditions over time, such as diabetes, nonalcoholic fatty liver disease, degenerative central nervous system conditions, and evolving cellular responses to toxic exposures, such as ionizing radiation or environmental agents (Agent Orange, pesticides) represents conceivable applications of this technology. Major impediments to more widespread utilization will continue to be the complexities of interpretation of results, especially with ctDNA, and the high cost of individual testing.

NEW STROKE CARE AT NORTH FLORIDA REGIONAL MEDICAL CENTER





GREGORY SHERR, MD, MPH & ASIF KHAN, MD

Neurosurgical Specialists Of North Florida

GREGORY SHERR, MD, MPH

ASIF KHAN, MD

There are 2 new doctors along with their team of nurse practitioners and support staff at North Florida Regional Medical Center handling stroke care. Dr. Sherr and Dr. Khan had been partners for years in Minnesota but wanted to build a new program with their leadership. The team specializes in open and endovascular cutting edge treatments for ongoing stroke. They quietly began their practice last July, 2016 when CEO Brian Cook recruited them and their staff from the Snowy North. "We didn't meet a lot of resistance in convincing our clinic staff to come with us to Gainesville. I believe it was -20° F. on the day of the discussion." states Dr. Sherr.



HCA leadership had been looking for a way to build a complete and comprehensive stroke center at North Florida Regional Medical Center. They felt convinced that the Northern side of the city was under-served. Most importantly, every year there has been an uptick in the number of Transient Ischemic Attacks and patients having outright strokes arriving in the emergency room. Given

the new endovascular techniques of cerebral clot retrieval, with its obvious increasing popularity and effectiveness, and with the aging population in the region, the service needed to be developed.

The first case was Connie Shrum-a young active wife and mother with an anterior communicating artery aneurysm rupture. She has since been in the news and on television for being the first successful aneurysm open-surgical clipping in perhaps more than a decade at the hospital. Building on this, there have now been many complex endovascular clot retrievals. These are patients that arrive at the hospital unable to move half of their bodies with speech deficits and facial weakness. A Stroke Code is called overhead and the team comes running to the ER. Dr. Khan leads this team and is an expert in assessing the ongoing stroke. He often moves that patient to the endovascular suite, places a needle and catheter in an artery in the leg, then uses x-ray guidance to localize the clot causing the stroke within the brain. He can then use very fine tools to pull that damaging clot free, all the way out through the distant artery in the leg. Among his first cases was a young Army veteran who suddenly was unable to speak, let alone use his hands. Within a day or so of his intervention, the patient walked out of the hospital speaking correctly again while giving a "thumbs up" sign to everyone on his medical team.

North Florida Regional Medical Center has invested heavily in this new service line. There has been an approximate \$4 Million dollar investment in a new biplane room for use *Continued on Page 21*

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by the stroke service. This service involves complex software and hardware in a special room where Dr. Khan employs the catheter retrieval system to intervene in ongoing strokes. Dr. Sherr has a very complex new microscope for open surgery that can see in infrared and similar light ranges and identify aneurysms from the surrounding normal tissue. In their first year, they have seen stunning successes helping

people who would have never had a chance to recover from a brain hemorrhage from a thrombotic carotid artery cholesterol plaque causing stroke. Their service continues to grow, adding new doctors and nurse practitioners soon to their ranks to cover the growing 24 hours a day, 365 days a year demand.

Dr. Sherr calls himself a "complex generalist" and likes to operate on the spine, brain and blood vessels. He often states that his favorite day in the operating room involves

a Lumbar fusion, a Carotid artery plaque removal in the neck and the resection of a brain tumor. Dr. Khan enjoys intently studying the blood vessels of the spinal cord, neck and brain. He deploys stents in the carotid arteries and brain and places special coils of wire within brain aneurysms to seal them off from the inside, thereby sometimes alleviating the need for open surgery by Dr. Sherr. What is interesting is the camaraderie and partnership between the two doctors and their staff. "After all, you do have to like and trust your partner a lot when he calls you up and says 'Pack your bags, North Florida needs us' and you go ahead and do it," says Dr. Khan.

The important milestone on the near horizon for the team is the opening of the new multimillion dollar endovascular suite in April 2017. The public may be given tours of the new facility in a future open

house later in the Spring. The team has just taken delivery of a new Perfusion CT scanner that can rapidly identify ongoing blood supply shortages in the brain during stroke. This CT is located next to the ER for rapid diagnosis. They are recruiting at all levels to the new program and service and physicians with experience in stroke, neuro critical care, and vascular neurology/neurosurgery are encouraged





to apply. The team is aiming to build a center of excellence in Brain and Stroke care at North Florida Regional Medical Center and will need the right talent to build upon their fast moving progress.

Either surgeon is happy to handle a direct call for advice about a patient. They are constantly on their cell phones as they reach out to the community of clinicians and build their practice. Their clinic manager Jennifer McMahon can be reached at 352-331-3583 and she will connect you.



Before Surgical Clipping

After Surgical Clipping

AN INNOVATIVE APPROACH TO

HEALING HEARTS

David E. Winchester, MD, MS

Assistant Professor, UF Division of Cardiovascular Medicine and Staff Cardiologist at the Malcom Randall VAMC

In 1955, President Dwight Eisenhower suffered a myocardial infarction (MI). At the time, the standard of care for MI patients was an extended period of bed rest followed by strict limitations on physical activity. The President received care from a visionary physician, Paul Dudley White, who felt that "carrying on" was an important part of the recovery process.

Dr. White championed a novel concept of rehabilitation specific to cardiovascular disease, writing the book <u>Rehabilitation of the Cardiovascular Patient</u> in 1958. President Eisenhower went on to have an excellent recovery and to continue to engage in his personal passion outside of leading the free world, golf.

Cardiac rehabilitation grew and spread over the next 2 decades. Eventually, MI recovery was turned into a 3-phase process-inpatient, initial outpatient, and ongoing rehabilitation. The inpatient phase consists of early ambulation and education about making the transition to being a "heart patient". In phase two, the patient participates in regular, supervised physical activity with intense and focused education on diet, exercise, medications, and risk factor modification. After this 12-week second phase is over, lessons are consolidated in a third phase where the patients continue to expand their confidence and boundaries.

The adoption of cardiac rehabilitation was initially met with skepticism. After all, everyone knows that vigorous activity could trigger a MI, so how could enrolling heart patients in an exercise program be safe? It turns out that rehabilitation programs were not only safe, not only did they improve recovery and quality of life, but they appeared to reduce recurrent MI and death.

Despite an improvement in all of these outcomes, adoption of cardiac rehabilitation has been poor. This is particularly true for "phase 2" where patients are engaged early after their discharge from the hospital. Multiple studies have demonstrated that rehabilitation is often used in less than one in ten eligible patients.

There are numerous reasons for this poor adoption. First, participation in a traditional program requires that the patient travel to the facility 3 times a week for supervised exercise with trained staff in a specialized environment. This requirement excludes most anyone who needs to be at work, has limited travel options, or lives more than 30 minutes from the facility offering the rehabilitation. Second, many physicians, especially non-cardiologists, are unaware of what cardiac rehabilitation is. Third, patients, having no more symptoms and depending on what they are told in the hospital after their MI, may believe themselves to be healthy again. They conclude that rehabilitation is not necessary. Sometimes they even stop taking their cardiac medications. Fourth, the reimbursement for cardiac rehabilitation is so poor that few facilities offer it.

A novel solution has emerged over the last 10 years-one which seeks to turn cardiac rehabilitation on its head. The new approach is called home-based cardiac rehabilitation. In this design, patients do not travel to the facility to exercise in a supervised environment three times a week. Instead, they exercise at their homes. This reduces the travel burden and lets people who work engage in recovery during their free time. The patient is able to develop patterns of behavior in the environment where they live day-to-day rather than trying to transfer their experience from the rehabilitation center to their home after the program is complete. Costs are reduced because the medical center does not need to maintain a rehabilitation facility. Instead of hiring trainers, nurses, and doctors to continually monitor patients, one nurse or therapist manages patients through weekly phone visits delivering individualized care, exercise goals, dietary advice, and strategies Continued on Page 23



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to reduce cardiac risk. Studies and a Cochrane review comparing traditional and home-based cardiac rehabilitation have found similar benefits with no additional risk.

The Veterans Health Administration has been a leader in adopting this model. Serving as a single provider of care for most patients, the costs of hiring a nurse to work with patients at home is easily justified. In fact, some nurses "telework" from home, making the entire

program almost invisible from a physical plant perspective. At the Malcom Randall Veterans Affairs Medical Center, we have implemented a home-based cardiac rehabilitation program with tremendous success. In less than 2 years, 169 Veterans have completed the program. Referrals span from Apalachicola to Sarasota, including far-flung patients from Puerto Rico, Indiana, and Michigan. Early data even shows a decrease in hospital readmissions compared to patients who do not complete the program.





FMA ANNUAL 2017

August 4-6, 2017

Contact Dr. Carl Dragstedt to become a Delegate for the ACMS (email carldragstedt@gmail.com) Enjoy a weekend with your colleagues and family Get a little sun and have a little fun!

> Loews Sapphire Falls Resort Universal Orlando®

Call for ACMS Delegates - 2017!

The Florida Medical Association (FMA) House of Delegates is the legislative and business body of the FMA. Its members are the officers of the FMA, the elected members of the Board of Governors, and the delegates officially elected by the component societies, specialty societies, Specialty Society Section, Young Physicians Section, Medical Student Section, Resident & Fellow Section and the FMA Alliance. This year, the House of Delegates is meeting at Universal Studios at the Loews Sapphire Falls Resort.

The House of Delegates sets policy for the FMA by acting on recommendations from the Board of Governors and resolutions presented by component county medical societies, recognized specialty medical societies, special sections and delegates. Delegates elect Officers, Board members and AMA Delegates. Alachua County is entitled to have 27 Delegates representing us this year, the second largest physician representation in the state by county.

Below are a few of the resolutions voted on by the House of Delegates in 2016:

Physician Bill of Rights Unfettered Patient Care FMA-AMA Publication Itinerant Surgery Human Trafficking Continuing Medical Education as Alternative to the Current Mandatory **Domestic Violence CME Requirement** Collective Bargaining/Negotiations Standing Retail Clinics/Clinic Responsibilities and Access to Medical Records Promoting the Successful Clinical Outcome of Primary Amebic Meningoencephalitis Advocacy for Metabolic Bariatric Surgery for Severely Obese Patients Suffering With Type 2 Diabetes Call for a Moratorium on Maintenance of Certification Physician Payment for Patient Phone Calls Ensuring Safety of Student Athletes De-linkage of Medical Staff Privileges from Hospital Employment Contracts Licensure and Oversight of Ultrasound Sonographers Florida Physician Exemption from Jury Duty **Ambulatory Surgical Centers** End the Federal Policy of Imposing Maintenance of Certification Mandates upon Physicians through Medicare Payment Models, Quality Measures, and Future Alternative Payment Systems Protecting the Right of Privacy and Access for the Medicare Patient and Preserving Solo/Small Group Practices **Rescission of MACRA Legislation** Principles for Health Care Reform Insourcing the Outsourced Health Care Insurance Call Centers

Contact Dr. Carl Dragstedt, ACMS Secretary/Treasurer to sign up (carldragstedt@gmail.com). The commitment includes travel to Orlando for two nights August 4-6, with discounted hotel rates and passes to Universal Studios. You need to be a member of the ACMS and the FMA to participate.

Join us in Orlando as a Delegate for the Alachua County Medical Society and be a part of shaping the future of medicine in the State of Florida. **26 HOUSE CALLS**



Practice Management Luncheon Napolatano's Restaurant February 2 2017



L to R: Mr. Joshua Radeker, SunTrust Bank with Mr. Jay Hutto, CPA with James Moore CPA'S.

ACMS February Dinner Meeting The Warehouse Restaurant

February 21, 2017



Sally Lawrence, PhD, ACMS EVP and Norman Levy, MD, ACMS Past President.



L to R: Ms. Jan Sims, Director of Human Resources at the Cardiac & Vascular Institute and Daniel Duncanson, MD, CEO SIMED.



L to R: John Katapodis, MD, Keynote Speaker and FMA President-Elect; David Winchester, MD, ACMS President; Mark Panna, MD; Carl Dragstedt, DO; and Steven Reid, MD.



Forrest Clore, MD and Christopher Vihlen, MD.



Carl Dragstedt, DO announcing the FMA Call for Delegates.



L to R: Ms. Sandy Fackler; Justine Vaughen, MD; and Mrs. Pat Toskes.

ACMS February Dinner Meeting The Warehouse Restaurant February 21, 2017



Scott Medley, MD, *House Calls* Executive Editor and Carolyn G. Carter, MD, ACMS Past-President.

Walk Alachua County 2017 Santa Fe College, March 4, 2017



Matthew Ryan, MD, PhD, ACMS Treasurer and David Winchester, MD, ACMS President.



L to R: Howard Noble, MD; Richard Sadove, MD; Ms. Rae Drake; Mrs. Roslyn Levy, Past Alliance President; Norman Levy, MD, Past ACMS President; and Mr. Kenneth Levy.





Panel L to R: Robert "Hutch' Hutchinson, Alachua County Commissioner; Livia Sura, Clinical Coordinator of the RAHMA Mercy Clinic; Vishal Goswami, MD, Director of the Equal Acces Clinic Network; Marina Cecchini, Administrator of UF Health Shands Psychiatric & Rehab Hospital; and Chris Larson, Executive Director of Three Rivers Legal Services.



L to R: Jean E. Cibula, MD; Kate Ednie, MD; and Jacqueline Williams, MD.



John Colon, MD, MPH, Past ACMS President Celebrating Doctors Day at Florida State Senate in Tallahassee. March Dinner Meeting Hilton UF Conference Center March 14, 2017



Celeste Phillip, MD, MPH, State of Florida Surgeon General and Secretary of the Florida Department of Health with John Colon, MD, MPH, ACMS Past President.

Doctor of the Day Tallahassee, State Capital, March 21, 2017



Sally Lawrence, PhD, ACMS EVP and Mrs. Roslyn Levy, Past Alliance President, accepting the Alachua County Commission's Proclamation for Doctors Day.



Steven Reid, MD and Mrs. Reid.



Arlene Colon, ACMS Alliance President and Florence Van Arnam, Curator of the Robb House Museum.

Doctors Day Celebration Robb House April 2, 2017



Caroline Rains, MD, ACMS Past President and Mr. Doug Rains.



Priyanka Vyas, MD and Jyoti Budania, MD.



L to R: Norman Levy, MD, ACMS Past President; Mark Barrow, MD, ACMS Past President; Leonard Furlow, MD; and John Colon, MD, MPH, ACMS Past President.



Billy Brashear, MD and Mrs. Florence Van Arnam, Robb House Museum Curator.

ACMS PPENINGS



Charles Riggs, MD and Mrs. Chris Riggs.

ACMS May Dinner Meeting Mark's Prime Steakhouse May 9, 2017



L to R: David Winchester, MD, ACMS President honoring Oscar DePaz, MD; and Daniel Duncanson, MD of Southeastern Integrated Medicine with the ACMS 2017 Outstanding Clinical Practice Award. Congratulations, SIMED!



R to L: Matheen Khuddus, MD, incoming President thanking David Winchester, MD for his outstanding service and dedication as ACMS President 2016-17. Thank you, Dr. Winchester!



Evelyn Jones, MD; Brendan Shortley, Director, Helping Hands Clinic and Beth Farabee. Helping Hands Clinic received the ACMS 2017 Health and Wellness Advocacy Award.



Susan Knowles and Timothy Elder, MD.

Mrs. Mary Barrow and Mark Barrow, MD,



L to R: David Winchester, ACMS President inducting the incoming officers: Matheen Khuddus, MD (President); Matthew Ryan, MD, PhD (Vice-President), and Carl Dragstedt, DO (Secretary/Treasurer).

ACMS May Dinner Meeting

Mark's Prime Steakhouse May 9, 2017



L to R: Arlene Colon, ACMS Alliance President; John Colon, MD, ACMS Past-President; James Gershow, MD; Mrs. Ellen Gershow; Norman Levy, MD, ACMS Past President and Roslyn Levy, ACMS Alliance Past President.



Jesse Lipnick, MD and Sally Lawrence, PhD, ACMS EVP.

ALACHUA COUNTY MEDICAL SOCIETY



David E. Winchester, MD, MS, FACP, FACC

For his leadership as ACMS President, 2016-17



ACMS is pleased to announce Officers for 2017-18



President Matheen A. Khuddus, MD

Matheen A. Khuddus, M.D. is a native of South Florida and is a graduate of the University of Florida College of Medicine, Junior Honors Medical Program. He completed his Residency in Internal Medicine as well as his Fellowship training in Cardiology and Interventional Cardiology at the University of Florida. He previously served as the Medical Director at The Cardiac and Vascular Institute and currently serves as the Director of Cardiovascular Research.



Vice President Mathew F. Ryan, MD, PhD

Matthew Ryan, MD, PhD is an Associate Professor of Emergency Medicine at the University of Florida. He joined the faculty in 2008 after completing his residency training in Emergency Medicine at Orlando Regional Medical Center. He received his MD from Indiana College of Medicine and his PhD from the University of Florida. Dr. Ryan also serves as the Emergency Medicine Clerkship Director, Associate Residency Program Director and Director of the Fourth Year for UF College of Medicine.



Secretary/Treasurer Carl Dragstedt, DO

Born in Germany to a military family, Dr. Dragstedt spent much of his younger life growing up in New England. He earned a Bachelor of Arts in U.S. History from Bates College before enrolling in pre-medical studies at Harvard University. He Completed his medical education at Nova Southeastern University College of Osteopathic Medicine. His residency followed in Internal Medicine with fellowships in Cardiovascular Diseases and Interventional Cardiology at the University of Florida. He currently practices clinical cardiology for the North Florida/South Georgia Veterans' Health Administration. He enjoys travel, music, and above all spending time with his wife, Alissa, and his two children, Quinten and Alivia.

ACMS Board Highlights

Alachua County Medical Society - Board of Directors Meeting Minutes, January 10, 2017

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, January 10, 2017 at the Cardiac and Vascular Institute

Treasurer's Report: Dr. Ryan presented the 2016 year-end balance sheet and P & L statements. Revenue was 118% of projected; and expenses were 105% of projected. The 2017 projected budget was also presented.

Secretary's Report: Dr. Khuddus presented the following names for membership: Olga Nin, MD, UF Department of Anesthesiology; Kamal Singh, MD, SIMED Primary Care; and Fan Ye, MD, Ph.D., NFRMC Resident.

President's Report: Dr. Khuddus, reporting for Dr. Winchester, reported on the status of the following:

<u>ACMS Promotion with Home Magazine</u> - The ACMS will begin contributing original health-related content to Home Magazine in April. Each piece will be written by local ACMS member physician(s). The articles will match themes for various health promotion months. The first piece will run in the April issue of the magazine which will focus on "Sexual Assault Awareness."

<u>New Member Program</u> - The New Member Program has been initiated with flyers being distributed to all current members. Distribution to non-members is being considered in phase two of the campaign. <u>Programming with the Judicial Bar</u> - Dr. Winchester and Mr. Ray Brady have lined up a panel of speakers for the March Dinner event titled "Collaborating to Meet the Legal and Medical Needs of Our Local Under-Served Populations." It will be held at the Hilton UF Conference Center.

<u>Doctor of the Day</u> - Dr. Dragstedt gave an overview of the experience of serving as "Doctor of the Day" during the legislative session. He has agreed to write an appeal to volunteers for the 2017 "Doctor of the Day" to be held in Tallahassee in March.

Committee Reports:

EVP Search - The ACMS EVP Search Committee is currently accepting applications for the permanent replacement of Dr. Lawrence. . ACMS Awards - The ACMS Awards Committee is in the process of establishing categories for awards and rules for nominations/ applications. The Awards ceremony will be held in conjunction with the installation of the new officers at the May dinner. Bylaws - The Bylaws Committee is currently working on revisions to the Bylaws. Recommended changes will be presented to the membership later this year for approval.

EVP Report: Dr. Lawrence reported on the 2017 ACMS CME dinner meetings.

Alachua County Medical Society - Board of Directors Meeting Minutes, February 7, 2017

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, February 7, 2017 at the Cardiac and Vascular Institute

Treasurer's Report: Dr. Winchester presented the YTD balance sheet and P & L statement. Revenue was 37% of projected; and expenses were 16% of projected.

Secretary's Report: Dr. Winchester presented the following names for membership: Henry D. Storch, MD, Retired Cardiologist; Noel R. Braseth, MD, NFRMC Emergency Medicine; and K. Nicole Scogin, MD, All About Women, OB/Gyn.

President's Report: Dr. Winchester, reported on the status of the following:

<u>ACMS Promotion with Home Magazine</u> - The ACMS will provide medical content for various health promotion topics. The magazine will list ACMS member specialists in the area of focus. This will be free publicity for ACMS members.

<u>ACMS Policy for promoting events</u> - An on-line calendar will be created with links to events on social media for those events not

sponsored by the ACMS. The ACMS will develop a policy on what items will be promoted on ACMS communication venues.

Committee Reports:

<u>ACMS Awards</u> - Dr. Dragstedt reported that the committee decided to create two categories: 1) Outstanding Clinical Practice award; and 2) Health and Wellness Advocacy award.

<u>Bylaws</u> - Dr. Marichal said he and Dr. Riggs will meet in the next month to discuss the bylaws changes. They need to be ready for the March meeting.

EVP Report: Dr. Lawrence and Ms. Owens reported that the Florida Dept. of Agriculture now requires board members to sign a conflict of interest disclosure form. The ACMS will modify/edit the FMA's policy for this purpose. Ms. Owens reported that we will be updating the web site. The board was asked to submit ideas or items for the Gator Caucus meetings at the FMA annual meeting.

ACMS Board Highlights

Alachua County Medical Society - Board of Directors Meeting Minutes, March 7, 2017

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, March, 7, 2017 at the Cardiac and Vascular Institute

Treasurer's Report: Dr. Ryan presented the YTD balance sheet and P & L statement. Revenue was 40% of projected; and expenses were 25% of projected. A suggestion was made to eblast our membership reminding them to pay their 2017 dues if they have not already done so.

President's Report: Dr. Winchester, reported on the status of the following:

<u>Tap Room Tuesdays</u> - The second event was held on February 28th. It was a success with approximately 30 people in attendance.

Committee Reports:

<u>ACMS Awards</u> - Deadline for applications will be April 2nd; the winners will be announced during the third week of April and the awards will be presented at the Annual ACMS meeting in May. <u>Bylaws</u> - Dr. Riggs presented the modified by-laws on behalf of his committee (Includes Drs. Hayes, Marichal and Taylor). The Board voted to focus on Article 4 (pages 10-11) which addresses changes in officers and terms. The following note will be sent to the membership via e-blast. It will be presented at the March 14th dinner meeting and voted on at the April 11th dinner meeting. "The Board of Directors propose the following changes to Article 4 of the By-Laws. These changes are intended to help the Society run more effectively by 1) allowing business to be conducted between Board meetings and 2) allowing officers greater time to understand their roles and be successful in running the Society. The effect of these changes would be to extend the duration of being an officer from 4 to 6 years. The summary of changes is as follows:

- 1) Merge the Secretary and Treasurer offices into one
- 2) Extend the term of office from 1 to 2 years
- Establish an Executive Committee to act on an urgent basis, if needed, between Board meetings

We will conduct the vote by secret ballots that which will be cast at the time you arrive for the April Dinner meeting and pick up your name tag. Copies of the changes will be made available at the check in desk if you do not have time to review prior to the meeting."

EVP Report: Dr. Lawrence reported that the RSVP numbers are low for the upcoming March 14th combined dinner with the Bar Association and asked Board members to encourage their colleagues to attend.

Alachua County Medical Society - Board of Directors Meeting Minutes, April 4, 2017

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, April 4, 2017 at the Cardiac and Vascular Institute

Treasurer's Report: Ms. Owens presented the YTD balance sheet and P & L statement. Revenue was 46% of projected; and expenses were 28% of projected. A suggestion was made to separate the ACMS Foundation financial statement from the ACMS financial statement in the future to more accurately reflect the financial condition of both entities.

President's Report: Dr. Ryan, reported on the status of the following:

<u>Family Fling:</u> Ms. Owens reported that the originally proposed sponsor preferred to sponsor the ACMS Annual Meeting in May as it better fit their business model. She proposed that we cancel the event until a time that a sponsor could be secured. The venue (Haile Plantation Hall) will be the site of the November Dinner Meeting.

<u>Doctor of the Day</u>- March 7th - May 5th. The Board thanked Dr. John D. Colon, ACMS Past President, for representing the ACMS on March 21st in Tallahassee.

Committee Reports:

<u>ACMS Awards:</u> Dr. Ryan announced that we are currently accepting applications for: 1) Outstanding Clinical Practice award; and 2) Health and Wellness Advocacy award. This was e-blasted to the ACMS members requesting nominations. Deadline for applications will be April 17th; the winners will be announced April 25th. The awards will be presented at the Annual ACMS meeting in May. <u>Bylaws:</u> Dr. Riggs discussed the by-laws revisions process and that ballots will be available for all members to vote at the April Meeting. The proposed revisions have been emailed to members and copies will be available at the dinner meeting for those who have not had a chance to review them.

<u>EVP Search</u>: Dr. Riggs stated that they are in the process of conducting telephone interviews for the permanent EVP position and have narrowed the application pool to three candidates.

EVP Report: Ms. Owens announced that the FMA will be sponsoring the July Tap Room Tuesdays event and that President Elect Dr. Katapodis plans to attend (schedule permitting).



Dr. Medley is currently retired and Volunteers at Haven Hospice

A Note from our Editor

Even Yet Still More "Drug Name Scrabble"

Scott Medley, MD House Calls Executive Editor

- A Brief Story History -

As our loyal readers know, we have written before in House Calls about the mysteries surrounding the brand naming of drugs. (Spring 2001, "As Simple as XYZ"; Summer 2007, "More XYZs" and Winter 2015, "Even More Drug Name Scrabble.") Since we last wrote about this topic, 2 years and 8 issues ago, many new drugs with interesting names have "hit the market". As indicated in the titles above, we have been intrigued by the proliferation in drug brand names of otherwise rarely used letters—X,Y, and Z. Old favorites are XANAX, XOPENEX, ZOLINA, and ZORVOLEX. We have also previously pointed out that these words would have high point values in the board game "Scrabble". (BTW "Scrabble" was invented by Mr. Alfred BUTTS – a colorful last name, but worth only 7 "Scrabble points".) So herein lies an update about some new (and old) names of drugs with some (hopefully) interesting insights. Some of these drugs were cited in previous Editorials.

- XY and Z Still Rule -

Ladies and Gentlemen—we have a new champion! KOMBIGLYZE XR (metformin for diabetes) is worth an amazing 40 "Scrabble points." This drug edges out our previous champ, XELJANZ-XR (for rheumatoid arthritis, 30 points). These current and previous champions are followed closely by AFREZZA (for diabetes, 28 points) and ZORVOLEX (for osteoarthritis, 27 points) which STILL sounds to me like Superman's home planet! Others continuing the obsession with X,Y, and Z include XIFAXIN (for irritable bowel syndrome) and XYZAL (an antihistamine).

-The Rise of The "Q"-

Another interesting phenomenon is the markedly increased usage of the letter "Q" in drug names...the lowly "Q", a letter which almost always requires propping up by a following "U", and which is ordinarily so rarely used that it counts for 10 "Scrabble points." There is SOLIQUA (insulin) and ELIQUIS (anticoagulant) and QUILLIVANT-XR (for ADHD) and QYSIMIA (weight management) and EQUETRO (Bipolar disorder) and CINQAIR (severe asthma) and even QUELL (for pain), the latter not to be confused with KWELL, which we old docs used to treat scabies!

Perhaps even more puzzling is the incredible rise of the "terminal Q"-that is drug names ENDING in "Q". Here we have BELVIQ (for weight loss), MULTAQ (atrial fib), MYR-BETRIQ (overactive bladder), TRIUMEQ (HIV infection), and PRISTIQ (depression). We wonder whether any of these drugs can be administered "subq"? And what's this "terminal Q" all about, anyway? Please pause and think of how many other words you can think of which end in "Q"? Well, we found three "Scrabble-approved words" ending in "Q". All are actual variants of other words: SUQ (SOUK- a Middle Eastern marketplace); TRANQ (short for tranquil); and UMIAQ (Inuit term for an Eskimo boat). Continued from Page 35

-Are We O"K" or At a LuLL?

Other letters seemingly used with increasing frequency are "K"-KEYTRUDA (for advanced melanoma), KAZANO (diabetes), KYNAMRO (lipid-lowering), KOMBIGLYZE (our new champ!), and INVOKAMET (diabetes); and "L"-LIVA-LO (lipid-lowering), TRINTELLIX (depression), and QUELL (as above).

-OPIODS and IBS-

The new opioid drug XARTEMIS-XR will earn one 26 "Scrabble points". And perhaps as an indication of "The Opioid Crisis", which was a Cover Story recently in Medical Economics (1), there are two new drugs specifically indicated for "opioid induced constipation"-RELISTOR (another "L") and MOVANTIK (another "K"). And for "chronic IDIOPATHIC constipation" there is LINZESS. (No old jokes, please, about the definition of "IDIOPATHIC" being that the doctor is an idiot and the patient is pathetic.) To "balance out" these new drugs for constipation there is XIFAXAN (mentioned above, 24 points) and VIBERZI (21 points) for IBS-associated diarrhea.

-CONFUSING NAMES-

We already mentioned above the potential confusion between QUELL and KWELL. We are also puzzled by the drug PEGASYS (for chronic Hepatitis C), not to be confused with PEGASUS, the winged horse of Greek mythology. And furthermore, even though we do not follow

politics much these days, doesn't the new diabetes drug INVOKANA have the same name as President Donald Trump's daughter???

And, speaking of new diabetes drugs-the most common indication for the new drugs we encountered is, indeed, diabetes mellitus. This observation is not surprising, in that more money is spent per year in the U.S. on diabetes (\$101.4 Billion in 2013) (2) than on any other disease

-"An Anonymous Source"-

We have explored in previous issues, without resolution, how and why these drugs are "brand-named" as they are. Well, we recently had an actual conversation with an actual pharmaceutical company executive about this question. She shall remain, of course, as "an anonymous source". Her explanation-(drumroll, please)is that "somehow the people in Marketing come up with these names. They have always loved X,Y, and Z, and now for some reason, they're stuck on 'Q'". When we went on to ask her (in a very clandestine fashion) whether the brand-naming of these drugs had anything to do with "Scrabble points", her reply was a very pleasant but terse, "No comment".

So stay tuned-the pharmaceutical companies will continue, we're sure, to come up with new names which we can analyze and with which we can have a bit of fun!

(Editor's note: As with our previous related Editorials, we again chose not to use the Registered Trademark [®] symbol by each of these brand names in order to prevent even more excessive cluttering and confusion-ESM)

References: 1. Medical Economics, June 25, 2016. 2. Medical Economics, Feb 25, 2017.

Dennis A. Fried, M.D., J.D.

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Contact Jackie Owens, Executive Vice President with the Alachua County Medical Society, or Jay Hutto, CPA and Partner at James Moore & Company, to find out more about the Practice Management Network and sign up to be notified about our next luncheon!

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