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ALACHUA COUNTY MEDICAL SOCIETY

House Calls

SPRING/SUMMER 2022

Inherited Diseases

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CONTRIBUTING AUTHORS

Jean Cibula, MD

UF Neurology-Epilepsy

Dr Cibula holds the BJ and Eve Wilder Professorship in Epilepsy at the University of Florida. She grew up in Cleveland, Ohio where she attended medical school at Case Western Reserve University. She was trained in epilepsy and behavioral neurology at the University of Florida. Dr Cibula is involved in new drug studies for epilepsy and has a particular interest in the behavioral neurology/ epilepsy overlap.

Carl Dragstedt, DO

Lake City VA, Cardiology

Dr. Dragstedt is the Assistant Chief of Medicine for Specialty Care at the North Florida/South Georgia VA Medical Center in Lake City, Florida. He received his medical degree from Nova Southeastern University, then completing an Internship and Residency in Internal Medicine, and Fellowships in Cardiovascular Diseases and Interventional Cardiology at the University of Florida.

Charles Perkins, MD

NFRMC Cancer Center

Dr. Perkins is a Radiation Oncologist at the NFRMC Cancer Center. He received his Medical Degree and PhD in Genetics and Molecular Biology at Emory University. His clinical expertise includes Intensity Modulated Radiotherapy, Image Guided Radiotherapy and Brachytherapy, as well as Stereotactic Cranial and Extracranial Radiosurgery for treating both adult and pediatric patients.

Steven Noll, PhD

UF Dept of History

Dr. Steven Noll is a Master Lecturer at the University of Florida Department of History. He teaches American History survey courses and courses on the Gilded Age and Progressive Era, the history of disability in America and Florida history. He received his BA from the College of William and Mary, followed by his M.Ed, M.A. and PhD in American History at the University of Florida.

Charles Riggs, Jr., MD

UF Health Hematology/Oncology

Dr. Riggs focuses on clinical and experimental therapeutics in head & neck, thoracic, and musculoskeletal malignancies. He is a 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 received his Medical Degree from Johns Hopkins University, followed by a Residency at the University of Florida, and a Fellowship at the University of Maryland.

Scott Medley, MD

Retired Family Physician

After graduating from the University of Kentucky College of Medicine, Dr. Medley served in the U.S. Army, completing his Residency in Family Medicine. He founded Gainesville Family Physicians, enjoying 20 years in Private Practice. He served as a Hospitalist and Chief Medical Officer at NFRMC. Dr. Medley is a Past President of the ACMS and of the Florida Academy of Family Physicians. Currently retired and volunteering at Haven Hospice, he has served as Executive Editor of *House Calls* for the past 23 years, and has authored over 102 editorials and articles for this publication.

Danielle Rogers, NP-C

NFRMC Cancer Center

Danielle Rogers is an advanced oncology nurse practitioner with over 21 years of oncology-specific experience. She graduated with her Bachelors of Science in Nursing from Georgia College and State University in Milledgeville, GA in 2000. She later entered the Georgia College and State University graduate program and received her Masters of Science in Nursing as a Family Nurse Practitioner in 2007. Danielle has worked in radiation oncology and medical oncology throughout her nursing career.

Doug Bennett

UF Medical Science Writer

Doug Bennett is a science writer and editor with UF Health. His topic areas include anatomy; biochemistry and molecular biology; molecular genetics and microbiology; pathology, immunology and lab medicine; and pharmacology. He previously served as an assistant metro editor at the Tampa Bay Times, and editor and reporter at newspapers in Fort Lauderdale, Arizona, Ohio, and Pennsylvania. He has dual undergraduate degrees in business and English writing from the University of Pittsburgh.

Times Like These....

Carl Dragstedt, DO, ACMS President

It's hard for many of us to harken back to a time in our nation's history when the mere utterance of alternative points of view can elicit, almost primitively, a complete breakdown in discourse. Of dialogue. Even of basic civility, if not some basic core tenets of our humanity. Those of us born during or after the Vietnam Conflict hear of stories of how "divided" our national discourse and psyche was during that tumultuous period in American history. Yet for many, today's geopolitical landscape may offer little solace that a return to more unifying times is even possible.

Over the past several years, and particularly accentuated during the Covid-19 pandemic, we have witnessed fiction paraded and purported to be (and believed as) fact. The promulgation of "alternative facts". The wholesale embracement of lines of thought which reason, logic, and objective evidence would, in so-called "normal times", utterly refute and render neutered.

But fortunately, we physicians collectively and uniformly cast aside our worldly biases and provide medical and scientific truth with gravitas to our patients. Facing novel and unprecedented real-world scenarios, as we would in an experiment, we always assume the null hypothesis. Even in times like these, we enshroud our analysis, decision-making, and delivery in the indifference of unflappable equipoise. By virtue of our training, we possess a unique knack for insulating our personal thoughts and biases from scientific evidence, to allow us to derive our conclusions free from conjecture, outside influences, and non-evidence-based suppositions. Our level-headed temperaments allow us to navigate the deep oceans of misinformation, even amidst the wilderness of unchecked and uncorroborated entertainment television and social media platforms. Right?!?

Surprise!

The Florida Medical Association, and its "voice" the House of physician Delegates, has the distinction of being the largest state-wide opportunity to represent the collective vision of all physicians across the state. However recently, many in our profession have viewed such actions as the FMA Political Action Committee's endorsement of the incumbent Governor's re-election efforts as a slap in the face to science, social justice, and the like. PACs operate to further the causes they represent, and the sausage-making isn't always pretty. Yet without engagement, the silent opinions and internalized beliefs we have carry no weight.

Indeed, Florida physicians have witnessed a seemingly never-ending onslaught of both formal legislation and bureaucratic proclamations coming from the Florida legislature and political appointees out of Tallahassee, respectively. Legislation which mandates what words teachers can say in schools. Proclamations which question the proven scientific benefit of vaccination for children. Innuendo from leading State health officials espousing disproven (or non-evidence-based) medical therapies. The perpetuation of positions which debase and dehumanize those comprising the diversity of our state. Legislation disallowing in-depth discussions dealing with race-related matters; anyone who's in clinical practice today caring for all of society realizes how the understanding of such matters is critical to closing the health disparity gaps that exist.

Some in our membership may loudly (or more often silently) be applauding some or most of these efforts. Yet many see such activity as egregious affronts to medical science and the social ethic itself, impairing our collective ability to discuss, analyze and care for a diverse population.

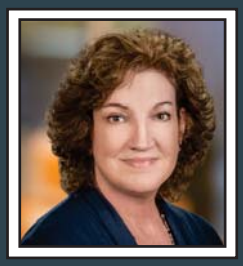
Regardless of your perspective, my challenge for everyone reading this is to engage. Join me this August 6-7 as a Delegate to the FMA House of Delegates. If you've never been a delegate before, don't worry. Your passion and presence are the most important things!

In the words of the iconic rock artists of the past 20 years, the Foo Fighters, "THIS IS A CALL...to all my past resignations." This is a call to energize and stand as a unified voice representing the physicians of Alachua County. A call to not be resigned that the voices of those who seek meaningful change is impossible or that a small minority of physicians with controversial, yet powerful political influence speak for all physicians in Florida. A call to represent what many feel (but are reticent to voice). Join me and your colleagues this August for what may be one of the most important sessions to date!

The Alachua County Medical Society represents physicians who, among our many professional callings, serve as beacons of veritas and agents of wise counsel to the population of Alachua County. We do this every day in our practices, yet the larger House of Medicine needs that same passion.

For further information about being a delegate to the FMA, please reach out to Jackie Owens, EVP at: evp@acms.net.

Inherited Diseases



Jackie Owens, Executive Vice President

This issue of House Calls is on Inherited Diseases, or Genetic Disorders as the National Human Genome Research Institute (NHGRI) refers to the body of work.

Below is a diagram illustrating genetic or inherited diseases and the chromosome with which they are associated.

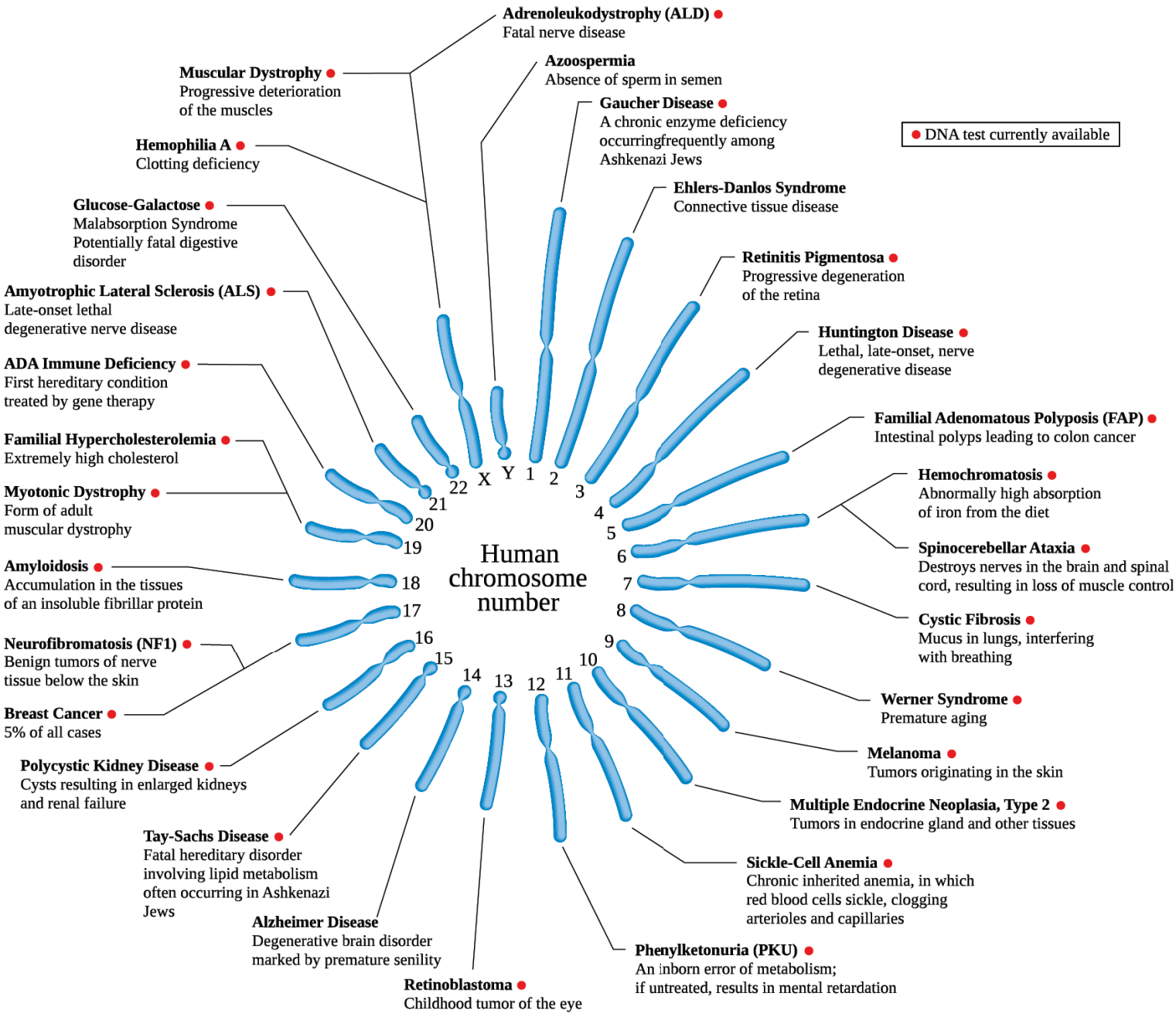


Diagram featuring examples of a disease located on each chromosome[1]

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Genetic disorders are largely caused by a change in the DNA sequence, apart from the normal sequence. They can be caused by a change in one, or multiple genes, or damage to chromosomes. As research progresses, it has become apparent that nearly all diseases have a genetic component. Some diseases are caused by inherited genetic mutations, others by acquired mutations that occur during a person's life - either randomly or from environmental exposures such as cigarette smoke.[2]

Early detection and intervention of inherited diseases vastly improves health outcomes and is highly recommended. In the past, fear of discrimination by insurance companies has hindered genetic testing due to cancellation or denial of coverage. 25% of people who declined to participate in genomic-sequencing research cited fear of discrimination by life insurance companies as their primary reason. Legislation was passed to address these fears both on the federal level – the Genetic Information Nondiscrimination Act (GINA), which applies to employment and health insurance, and on the State level in Florida – HB 1189 in 2020 – which applies to life, disability and long-term care insurance. HB 1189 bars insurers from cancelling, limiting, denying, or differing premium rates based on genetic information. Other States are expected to follow this lead, but have so far avoided the issue, passing much less restrictive laws.[3] The legislative changes in Florida have resulted in greater use of genetic testing for both medical care and by the general public.

Scientists continue to research the genetic basis of biology, studying factors that control when genes are active, how broken or damaged DNA segments are repaired, how the traits are passed to future generations and at what point these transmissions began to happen in time. This research continues to build a strong foundation for future disease-targeted studies and towards a cure as more people participate in genetic testing.[4] With surveillance, intervention, emerging Gene therapies and treatment methods, the lives of people with genetic disorders can be substantially extended.

References available upon request.

BRCA: Communicating Risk and Medical Management Regarding Hereditary Breast and Ovarian Cancer Syndrome

By: Charles Perkins, MD and Danielle Rogers, NP-C

Charles Perkins, MD

Danielle Rogers, NP-C

Hereditary cancer accounts for 5-10% of cancer occurrences. One of the more citable syndromes, Hereditary Breast and Ovarian Cancer Syndrome, was introduced in 1996 with the discovery of heritable mutations (germline mutations) in the "tumor suppressor genes" BRCA1 and BRCA2. Initially the understanding was mutations in these genes would increase a woman's risk for breast cancer and ovarian cancer. In retrospect, with exception of some, many studies were small and insufficient in estimating cancer risks and have yielded skewed estimates. Previously risk for female breast cancer associated with BRCA1/2 mutations were quoted up to 82% for BRCA2 and up to 87% for BRCA1. However, more recent data suggests a variability in risk based on age progression with estimates of 50-80% for BRCA1 mutation carriers and 40-70% for BRCA2 mutation carriers. We also know mutations can be associated with male breast cancer, pancreatic cancer, prostate cancer and melanoma.

The question remains, how do we understand risks associated with mutations in BRCA1/2 and communicate the risk to our patients after three decades of research? Is it really one size fits all? Many societal guidelines (i.e., NCCN, ACMG, USPSTF, ASCO, ACOG, ACR, ASBS, etc.) outlining medical management have been published over the years to help guide clinicians in counseling and managing at-risk patients.

The table below outlines estimated cancer risks based on the presence of BRCA1 and BRCA2 mutations; however, considerations for adjustment in stratifying risk should be based on family history of malignancies, lifestyle factors and other personal risk factors when communicating risk.

Table 1. CANCER RISKS ASSOCIATED WITH BRCA1 AND BRCA2 MUTATIONS

CANCER TYPE	AGE RANGE	CANCER RISK	RISK FOR GENERAL POPULATION
FEMALE BREAST CANCER	TO AGE 80	50-80% BRCA1 23-70% BRCA2	10-12%
OVARIAN CANCER	TO AGE 80	23-63% BRCA1 15-27% BRCA2	~1.2%
MALE BREAST CANCER	TO AGE 80	1.2% BRCA 1 6.8% BRCA2	<0.1%
PROSTATE CANCER	TO AGE 80	UP TO 16% BRCA1 UP TO 20% BRCA2	13% (1.8 TIMES HIGHER IN AFRICAN AMERICAN MEN)
PANCREATIC CANCER	TO AGE 80	ELEVATED RISK BRCA1 7% OR HIGHER IF FAMILY HISTORY OF PANCREATIC CANCER BRCA2	~1.1%

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Table 1. CANCER RISKS ASSOCIATED WITH BRCA1 AND BRCA2 MUTATIONS - continued

CANCER TYPE	AGE RANGE	CANCER RISK	RISK FOR GENERAL POPULATION
MELANOMA	TO AGE 80	NO KNOWN RISK IN BRCA1 ELEVATED IN BRCA2 (SKIN AND EYE)	1.7%

Medical management of this syndrome can at times be difficult to communicate to patients based on truncated family histories, adoption status, inaccurate knowledge of family history and variance in penetrance based on individual mutations, gene-environment and gene-gene interactions. Due to these limitations, consensus guidelines have been developed to help guide discussion and medical management. Historically, onset of BRCA associated cancers were felt to occur at earlier ages; hence recommending modifications to surveillance in young mutation carriers. A recent study also found that breast cancer risks remain higher in BRCA carriers over the age of 65, indicating considerations for continued enhanced surveillance in women who have not undergone risk-reducing mastectomies.

It is important to note that not all BRCA carriers require the same screening, as some recommendations are based on family history (i.e., pancreatic screening); however, in situations where family history is limited or unknown or personal risk factors are present (i.e., tobacco use, alcohol use, etc.) screening may be warranted even in the absence of family history. Table 2 outlines management guidelines as recommended by National Comprehensive Cancer Network with supportive data for each screening/risk reducing strategy.

Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
FEMALE BREAST CANCER	✓ Breast self-awareness. Women should be educated about familiarity with their breasts and promptly report changes to their healthcare provider	18 years of age	N/a	Incorporating periodic, consistent breast self-examination may facilitate breast awareness. More frequent CBE may identify changes and should be performed between screening studies
	✓ Clinical breast exam (CBE)	25 years of age	Every 6-12 months	
	✓ Breast MRI with contrast and/or 3D mammogram	Age 25 for MRI, or if MRI is unavailable 3D mammogram can be considered.	Annually. *Alternate mammogram and MRI so screening is occurring every	○ Data shows increased sensitivity with breast MRI at 95.7% with lower specificity at

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Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022 - continued

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
FEMALE BREAST CANCER		Age 30 for both MRI and mammogram. Individualize to a younger age if relative has been diagnosed younger than age 30	6 months. Doubling times for breast cancers have been estimated to range from 44d for more aggressive phenotypes versus 350d for lower grade tumors. It is important to note that 70% of breast cancers found in BRCA1 carriers is triple negative phenotype indicating a more	86.7% increasing possibility of false positives. ○ Consideration of breast density as this shows decreased sensitivity of mammogram at 48-64% for women with extremely and heterogeneously dense tissue. ○ Data shows additional 12-18 cancers/1000 detected with breast MRI in high-risk populations.
	✓ Consideration for investigational screening studies	Individualized	aggressive phenotype.	○ Molecular breast imaging, accelerated breast MRI, automated whole breast US/hand held whole breast US.
	✓ Consider risk reducing bilateral mastectomy	Individualized. Manage based on ages at diagnosis in family members if indicated earlier	N/a	○ Risk reducing mastectomies have been estimated to reduce risk of breast cancer by >90% in BRCA1/2 mutation carriers.

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Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022 - continued

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
FEMALE BREAST CANCER	✓ Consider options for breast cancer risk reduction agents (i.e., Tamoxifen, Aromatase Inhibitor therapy)	Individualized	Age ≥ 35 years of age	○ Consideration for nipple sparing mastectomy in appropriate patients. ○ Tamoxifen 20mg daily for 5 years can reduce risk for invasive breast cancer by >50%. Some studies even suggest significant risk reduction even after 1 year. ○ Recent studies have even suggested lower dosing of Tamoxifen 5mg for 3 years may be as effective
OVARIAN CANCER	✓ Bilateral salpingo-oophorectomy (BSO)	• 35-40 years, upon completion of childbearing for BRCA1 • 40-45 years, upon completion of childbearing for BRCA2	N/a	○ Can reduce risk for ovarian malignancy by >96%. ○ Recent data suggest potential risk for serous uterine carcinoma and consideration for hysterectomy in BRCA1 carriers. ○ Data has shown BSO can also reduce breast

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Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022 - continued

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
OVARIAN CANCER				cancer risk by 49% in BRCA1 and 52% in BRCA2 carriers following BSO. ○ For women undergoing hysterectomy with BSO estrogen only HRT can be considered as it is associated with lower breast cancer risk as compared to combined HRT.
	✓ Consider transvaginal ultrasound (TVUS) and CA-125 testing.	30-35 years of age; or earlier depending upon ages at diagnosis	Annually. * Can alternate TVUS with annual pelvic exam to occur 6 months apart	Should be determined after shared decision making and at clinician's discretion.
		18 years of age or older	Individualized	Data shows ~>50% decreased in risk
	✓ Discuss risk-reducing agents such as oral contraceptive therapy in BRCA mutation carriers.			with OCP use longer than 5 years compared to never users.
Male Breast cancer	✓ Breast self-awareness	35 years of age or earlier depending upon ages at diagnosis	Monthly	

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Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022 - continued

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
MALE BREAST CANCER	✓ Clinical breast exam	35 years of age or earlier depending upon ages at diagnosis	Annually	
	✓ Consider mammography in men with gynecomastia	50 years or 10 years prior to youngest male breast cancer diagnosis in family	Annually	
PROSTATE CANCER	Prostate Specific Antigen (PSA) and Digital Rectal Exam (DRE)	40 years of age or earlier depending upon earliest age at diagnosis in family	Annually	BRCA2 associated prostate cancer tends to occur at earlier ages, is associated with intermediate to high grade malignancy and have a higher risk of recurrence.
PANCREATIC CANCER	ENDOSCOPIC ULTRASOUND (EUS) AND MRI/MRCP for individuals with ≥1 close relative with pancreatic cancer	Age 50 or 10 years younger than earliest age at diagnosis	Annually	○ Consider referral to pancreatic specialist for management and surveillance. ○ Recent screening trial data suggest 75-90% of screen detected pancreatic cancer is surgically resectable demonstrating an 85% 3 year overall survival benefit. ○ One study demonstrated 100% overall survival among 10 individuals

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Table 2. MEDICAL MANAGEMENT RECOMMENDATIONS FOR BRCA 1/BRCA2 MUTATION CARRIERS PER NCCN VERSION 2.2022 - continued

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY	ESTIMATED RISK REDUCTION
PANCREATIC CANCER				with screen-detected pre-cursor lesions.
MELANOMA	✓ Whole body skin and eye exams ✓ Educate about minimizing UV exposure and appropriate use of sunscreen 30SPF or higher	Individualized	N/a	○ Data shows 80% clinical accuracy for diagnosis of cutaneous melanoma by experienced dermatologist with 91% sensitivity. ○ Educate patients on self-skin exam and use of smartphone apps for photo documentation (i.e., Miiskin, MoleMapper, MoleScope, SkinVision, UMSkinCheck).

Genetic testing is becoming more common in primary care as the focus is often on prevention and risk reduction. Testing criteria has expanded over the years to help "cast the net" further and to capture unaffected, potentially at-risk individuals in an effort to offer enhanced surveillance and preventative interventions. Clinicians should be aware that obtaining a detailed family history may guide in identifying individuals appropriate for testing so that earlier screening and cascade testing can be offered to other at-risk family members. Heritable cancers are mostly preventable and we can change outcomes through early detection and enhanced surveillance. Educating patients about their risk and benefits of prevention and early detection are an important part of the testing process as well. Utilizing genetic professionals to provide this service can also improve patient adherence and engagement of recommended screening and risk reduction.

"I'd have been here sooner if it hadn't been for early detection."

Clonal Consequences of Peripheral Blood Testing for Mutations

Charles E. Riggs, Jr., MD, FACP
Hematology/Oncology NF/SGVA, UF College of Medicine

The rise in use of gene probe techniques to identify molecular abnormalities associated with certain neoplasms has resulted both in significant gains in understanding and treatment of blood disorders, and in the unintended consequence of discovering mutations of unpredictable consequence. In a previous issue of House Calls (Spring 2017), the subject of the role of liquid biopsies in next-generation sequencing was reviewed. In this update, general principles and some specific examples of the roles for such noninvasive, peripheral blood-based molecular testing in suspected blood disorders are explored.

Clonal blood disorders, such as myelodysplastic syndromes, chronic leukemias, acute leukemias, and miscellaneous leukocyte and platelet diseases, are typically suspected based on abnormal results found in standard peripheral blood counts. Often, 1 or 2 lines of blood cells, such as erythrocytes and platelets, will have reduced or elevated numbers, especially prevalent in the elderly. In years past, such abnormalities might be simply monitored, or trigger the decision to obtain bone marrow aspiration biopsy, to identify aberrant morphologies and gene probes. More commonly now, peripheral blood can be subjected to analysis for expression of telltale genetic signatures from cellular and cell-free DNA. The concept of variant allele frequency (VAF) allows for detection of clonal populations of cells. Allele frequencies so measured can both indicate the presence of disease, as well as estimation of the size of the clone. Previously, estimates of the size of the malignant clone would rely on morphology of peripheral blood or bone marrow examinations. Unfortunately, there is not agreement on the lower threshold of VAF on the presence of disease, only that a clonal population exists (e.g., is a VAF of 1% less significant than one of 10%, in attempting to ascertain whether a particular blood cell mutation represents a malignant clone or not?) For example, recent evidence lends some credence to better predictability of the presence of myelodysplastic syndromes, if there are 2 or more mutations, each with VAF >10%.

Platforms for such testing include myeloid mutation panels, which can identify more commonly mutated driver genes for hematopoietic neoplasms. Some of the relevant genes for which to test are mutated epigenetic modifiers (TET2, ASXL1, EZH2), mRNA splicing gene mutations (SRSF2, SF3B1, ZRSF2), cytokine signaling (NRAS, KRAS, CBL, JAK2), transcription factors (RUNX1), and mediators of response to DNA damage (TP53, PHF6). For instance, mutations in SRSF2 and ASXL1 can be present in up to 40% of cases of chronic myelomonocytic leukemia, a disorder which is sometimes very difficult to diagnose and to characterize morphologically. Finding RUNX1 (the fusion gene product of t(8;21) translocation) in probes of suspected acute leukemia identifies absolutely the presence of the disorder, irrespective of blast counts or other indicators of acute leukemia. Cellular abnormalities from analysis of peripheral blood cells can reveal trisomy 8 and monosomy 7. Such cellular probing can demonstrate germline, in addition to somatic, mutations that are associated with acute leukemias (GATA2, DDX41, TP53, for example).

While such uses of peripheral blood gene probing have been largely diagnostic to this point, one can easily imagine the leap to therapeutic significance with the identification of small-molecule and other inhibitors of aberrant functions of mutated genes. For instance, the identification of activity of the targeted agent, tazemetostat, in cases of EZH2 mutation and overexpression has been exploited in several hematological disorders, and this agent has been recently approved for use by the FDA. Demonstrating the mRNA splicing gene variant SF3B1 in myelodysplastic disorders with ring

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sideroblasts confers activity to the erythroid/ maturation agent stimulant, luspatercept, also now FDA-approved. Likewise, mutations in isocitrate dehydrogenase isoforms in acute myeloid leukemias can direct tailored therapy with ivosidenib (IDH1) or enasidenib (IDH2). All of these are detectable by either peripheral blood cell-free DNA or cellular assays.

Clonal hematopoiesis of indeterminate potential, or CHIP, embodies the concept that individuals without a known blood disorder might yet display mutations in some important genetic signatures, as described above. Since persons with a CHIP mutation do not, by definition, have a defined blood disorder, the significance of these mutations remains a subject of intense debate and investigation. Are CHIP mutations predictive for a malignant disorder, especially, a myeloid blood cancer? There does appear to be association between VAF and the subsequent appearance of myeloid malignancy, but this must be regarded as largely observational science, at present.

While the concept of CHIP mutations as a bellwether for myeloid neoplasia, a recent publication (Nature Medicine, vol. 27, Nov. 2021, 1921-27) described the finding of candidate genes which were highly associated with future myeloid and lymphoid neoplasia. These studies were performed on banked specimens from people in the US and UK, without antecedent blood disorders, for whom a median of 10 years of monitoring was available. In addition to a large panel of myeloid genes, 235 genes often mutated in lymphoid malignancy were included in the analyses. Of interest, mutations of driver genes for both myeloid and lymphoid malignancies (primarily chronic lymphocytic leukemia/small lymphocytic lymphoma in the latter) predicted subsequent clinically detected malignancy. While only a small number of driver genes contributed to predictability of myeloid malignancies, a larger repertoire of lymphoid-associated predictive CHIP genes was encountered. Variable allele frequencies of greater than 10% correlated powerfully with subsequent lymphoid malignancy, especially in the presence of abnormal peripheral blood count parameters. Despite a potential for early detection of myeloid and lymphoid malignancies by clonal hematopoiesis analyses, the precise target population for such testing remains incompletely elucidated. Certainly, individuals with defined abnormalities of peripheral blood parameters could be recommended for next-generation sequencing, the costs and incomplete understanding of sequencing results currently limits application of the techniques.

Is CHIP a disease? From the patient's point of view, having a positive mutational analysis from peripheral blood could be likened to the situation of a BI-RADS 3 or 4 mammography result, PSA of 10, or 7 mm nodule on today's screening chest CT scan. Careful monitoring of relevant laboratory and clinical parameters is, perhaps, the best that can be done at this time. The laws of unintended consequences are certainly in play, as illustrated by a recent case from the author's personal medical practice. A 65-year-old woman had had resected primary pulmonary adenocarcinomas 5 and 10 years prior to current presentation. Monitoring chest CT imaging disclosed a new lung nodule, which was deemed to be inaccessible to tissue sampling by either bronchoscopic or transthoracic biopsy techniques. Because of the antecedent history of 2 adenocarcinomas, decision was to submit peripheral blood for analysis of candidate lung cancer gene mutations (FoundationOne CDx liquid biopsy). This testing returned with V617F mutation in the Janus kinase 2 (JAK2) gene, which is typically associated with clonal myeloid disorders, such as polycythemia vera, essential thrombocythemia, and primary myelofibrosis/ myeloid metaplasia. Her complete blood count was normal, as was peripheral smear interpretation. She did not have splenomegaly or other stigmata of myeloproliferative disorder. Although there are case reports of JAK2-positivity in differentiated lung cancers, her previous pathology specimens failed to harbor evidence for that mutation. Thus, the finding of JAK2 mutation in this patient is truly of indeterminate potential, but the patient's concerns about having yet another malignancy are quite real.

This brief review illustrates some of the evolving potential in "liquid biopsy" detection of mutated driver genes for certain cancers, and some of the pitfalls inherent in this type of testing. Because of low morbidity of liquid-biopsies sampling, and expanding understanding and detection of the candidate genes for a variety of cancers, the technique will continue to expand. Hopefully, the current high cost of such molecular probe testing and incompleteness of our understanding of the results so obtained will moderate as more clinical trials are completed.

Colorectal Cancer: Hereditary or Not?

Scott Medley, MD

Colorectal cancer is the third most common cancer in the U.S. and is the second most common cancer – related death.[1]

True Stories Too Close To Home

A close family member died from "Right-sided Colon Cancer" in 1986 at age 45. He never underwent the genetic tests required to determine whether he had Hereditary Non-polyposis Colorectal Cancer (HNPCC), very similar to "Lynch Syndrome", the most common cause of hereditary colon cancer. The colon cancers caused by Lynch Syndrome tend to be more common on the right side of the colon and develop much more quickly than in the general population—1-2 years versus 10 years. In addition, patients who have a colorectal cancer have a significantly increased risk of having a second colorectal cancer. Most colon cancers occur in the distal or "Left-side" of the colon. His older sister died years later—also of "Right-sided" colon cancer. She also was not tested for the genetic defect—mutation in DNA mismatch repair genes—which causes this devastating autosomal dominant disease.[2]

Another close relative has Crohn's Disease—regional enteritis—fortunately now controlled with periodic (very expensive) intravenous infusions of Infliximab (Remicade ®) He is certainly at-risk for colorectal cancer and undergoes periodic colonoscopies (see below). His infusions are required about every ten weeks now, and are billed as much as an astounding $26,000 (3) to his insurance companies, which, of course, pay out only a fraction of that amount....well worth it to the patient, whose symptoms are controlled and who can be confident that his risk for colon cancer is mitigated. Many patients with Crohn's disease have a first-degree relative who also has the disease. [3, 4]

An otherwise healthy and active 70-year-old life-long friend developed advanced stage 3-B colon cancer. She fought valiantly through surgery, a colostomy, and chemotherapy, but finally succumbed a few months ago to this terrible disease. She "never met a stranger" and knew and was loved by almost everyone in her small hometown. She is a great loss to her family, friends, and acquaintances. Could this tragic death have been prevented with regular screening?

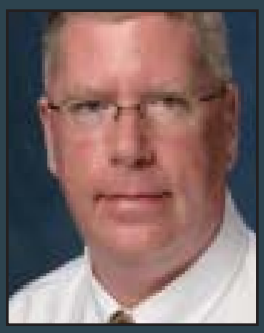
Of course, these true stories bring up the subject of preventive surveillance for colon cancer. Current recommendations from the American College of Gastroenterology (ACG) call for screening colonoscopy beginning at age 45 for people at normal risk for colon cancer, and at age 40 or 10 years before the age of the youngest affected relative, whichever is earlier, in individuals in whom a first-degree relative has had a colorectal cancer.[5] Screening should generally continue every 5 to 10 years until age 75 years. These traditional colonoscopies have about a 95% accuracy. Through a colonoscope an adenomatous polyp -"pre-cancer"- can be discovered and easily removed with a snare before it grows into an actual cancer. An alternative screening method is at-home stool DNA testing (Cologard ®) which has about a 90% accuracy.

Globally, diagnoses and deaths from colorectal cancer have more than doubled over the past 30 years, especially in people younger than age 50.[6]

The point is: please get a colon cancer screening test as indicated BEFORE this dreaded disease strikes. It may be "Too Close To Home".

References available upon request.

Genetic Mutation Could Play a Role in Improving Leukemia Treatment



Doug Bennett
UF COM Medical Science Writer

In the battle against one type of leukemia, a genetic mutation could hold the key to more effective, lower-dose treatments. The new, early findings by University of Florida Health researchers and their colleagues are especially relevant for older or frail patients who may not be able to tolerate high-dose chemotherapy.

The findings center on acute myeloid leukemia, or AML — a blood and bone marrow cancer that is one of the most common types of leukemia. About one-fourth of AML patients carry a mutation in a gene known as DNMT3A. That mutation can make patients less responsive to certain chemotherapy treatments.

Working in cell and preclinical models, a UF Health-led research team has made an important discovery: Those who carry the genetic mutation might benefit from anti-cancer drugs that interfere with the way AML cells replicate. The researchers also have early evidence that the anti-cancer effect can be amplified with novel drug combinations.

The findings published in the journal Clinical Cancer Research are a potential breakthrough in personalized medicine for AML patients, said Olga Guryanova, M.D., Ph.D., an assistant professor in the UF College of Medicine's department of pharmacology and therapeutics and a UF Health Cancer Center member. The idea is to match patients' individual genetic profile to a potentially more effective chemotherapy regimen. The researchers also found a way to perhaps make patients of all ages more responsive to lower-intensity treatments.

"High-intensity leukemia treatments can be very hard on patients. So, if we can find a way to take a lower-intensity treatment and sensitize the cancer to it, that would also be beneficial to patients," she said.

The researchers found that compared with non-mutant cells, human leukemia cells with the DNMT3A mutation were more sensitive to a chemotherapy medication (cytarabine) that stalled the disease. In a group of mice with a similar genetic mutation, the same medication was found to reduce the number of leukemic blood and bone marrow cells compared with animals that did not receive the treatment. Taken together, the results suggest a therapeutic avenue for slowing down the replication of acute myeloid leukemia cells, the researchers determined.

"This type of research, understanding the mechanisms underlying acquired mutations in cancers like leukemia and exploiting these mutations for therapeutic benefit, is an exemplar of the type of research the UF Health Cancer Center promotes," said Jonathan Licht, MD, a co-author of the paper and director of the UF Health Cancer Center. "Dr. Guryanova's findings suggest specific personalized approaches to patients with DNMT3A mutations and are stimulating the development of new clinical trials."

"Because cancer cells can grow quickly, interfering with the way AML cells synthesize their genetic material is one way to stop or slow the disease," Guryanova said.

"If the cells that regrow the cancer can be inhibited, then there is a higher potential for success for the patient," she said.

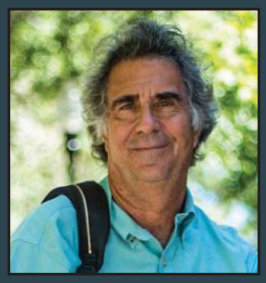
The research team also wants to know more about combining the chemotherapy medication with another substance that keeps cancer cells from repairing their damaged DNA, causing them to die. "The next step is to secure funding and approval to conduct a clinical trial in humans. Ideally, that could lead to a personalized, low-intensity chemotherapy regimen that might be available mostly on an outpatient basis," Guryanova said.

Funding for the research was provided by the National Institutes of Health; the Ocala Royal Dames for Cancer Research; the Harry T. Mangurian, Jr. Foundation; the Leukemia & Lymphoma Society; and the Thomas H. Maren Junior Investigator Fund. Scientists from the Austrian Academy of Sciences and the Medical University of Vienna collaborated on the work.

Lighting a New Fire:
Tacachale's First 100 Years

By: Jean Cibula, MD and Steven Noll, PhD

Jean Cibula, MD



Steven Noll, PhD

The oldest and largest community for Floridians with developmental disabilities, Tacachale opened 11/1/1921 as the Florida Farm Colony for the Epileptic and Feeble Minded with 240 residents ages 6-21 yrs. Planning had started in 1915, construction in 1919 and the campus covered 3000 acres. Most of the original residents were from Duval County; by 1940, half were from Duval, Hillsborough & Dade Counties. The name was changed to Sunland Training Center in 1957, reflecting the desire to provide more educational opportunities for the residents.

In 1990, the center's name changed to Tacachale. The name was taken from a Timucuan word that describes the lighting of a new fire in times of transition, the making of a new beginning. The state's other facilities have gradually closed, with the only other remaining center in Marianna (Sunland). Tacachale serves the most vulnerable population within the state, employs nearly 800 people, and is administered by the Florida Agency for Persons with Disabilities, which became an independent agency in 2005 (formerly part of the Department for Children and Families).

The residents of Tacachale suffer from a number of genetic and acquired conditions, including Down Syndrome, tuberous sclerosis, Sturge Weber syndrome, fragile X, and Prader-Willi syndrome. Many are reported to have "birth injuries", cerebral palsy, spina bifida and brain cortical developmental abnormalities (schizencephaly, agenesis of the corpus callosum). In the era of COVID, where part of the population is vaccination skeptical, the residents born with sequelae of congenital rubella and measles stand witness to the incredible public health progress over the last 75 or so years.

Tacachale Hospital

The first epilepsy colonies in the US were in Gallipolis, Ohio & Sonyea, New York, opening in the mid-1890s and modeled on Bethel, near Bielefeld, Germany, which opened in the 1860s as a religious community. Southern institutions developed later with the encouragement of Northern philanthropy and were modeled on Northern institutions, but initially served whites only. The first Black resident was not admitted to Tacachale until 1952. When asked to commit a Black child whose family could no longer care for him, a judge said "[they] did not concern [themselves] with black families' needs".

Epilepsy was often equated with insanity & feeble-mindedness, and the term "asylum" was used to convey the idea of refuge, protection, and sanctuary. From the 4th century CE, European religious communities ran hospitals & hospices. After the Black Plague, healthcare communities gradually became more secular and government run. As Dorothea Dix advocated for the care of the "indigent insane" in the US, almshouses & hospitals were designed as familial communities with staff living in. The utopian dream of "moral therapy" in the 19th century emphasized light, space & air in peaceful environments, often in elegantly landscaped settings. There were regimented activities & the colonies were meant to be self-supporting by engaging residents in farming, carpentry, and crafts.

The beneficent & paternalistic model for care colonies in the US gradually deteriorated as state budgets became more restrictive and philanthropy declined. By the 1950s, conditions had declined, and the US residential population peaked around 634,000

Continued on Page 18

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Figure 1:

Costs, Then & Now (US Dollars)

	1920	2022- level 7	2022- Level 8-9
Daily		385	553
Monthly	25	11550	16,590
Yearly	300	138,600	199,080
Description of care levels		Individuals who have a developmental disability and are in need of ICF/DD placement and are ambulatory or self-mobile using a mechanical device such as canes, walkers, or wheelchairs. These individuals also are able to transfer themselves without human assistance.	Individuals who have a developmental disability, are in need of ICF/DD placement and are capable of mobility only with human assistance or need human assistance in order to transfer to or from a mobility device (level 8) & individuals who are non-ambulatory and capable of mobility only with human assistance and require continuous medical/nursing supervision for chronic health problems. (level 9)

individuals. Thorazine and other medications were introduced, allowing some residents to be discharged to the community. Social Security revisions increased federal funding for elder care in skilled nursing facilities, while the Kennedy administration advocated for community care. By the 1980s, deinstitutionalization increased dramatically, and residential censuses decreased, leaving the most impaired and complex. Costs also climbed (figure 1).

Tacachale has served a wide variety of residents throughout its history. In 1923-24, 31% of the 262 residents were born outside Florida, and in the first decade, 1159 residents were admitted, including 68 readmissions. By 1959, the census included 1400 children and had more than 800 on the waiting list. The peak was in 1966 with 2041 individuals, with the youngest resident at 3 months old and the eldest at 70 yrs. old. (The food services team prepared 7000 meals daily). The current (as of 12/1/2021) census is 265 intermediate care residents plus 3 forensic residents, and new residents are no longer being admitted. There are mostly older adults as seen in figure 2, with significant intellectual disabilities.

Jasmine Residential Building

Tacachale Chapel with Cafeteria

Prior to the pandemic, residents participated in a wide variety of activities including Special Olympics events, crafting, cultural events, and OT/PT/ Speech. Break time at the canteen was a particular favorite, and a frequent reward for trips to the clinic! Some residents had paying jobs on the campus, including processing 7000 lbs. of paper & cardboard at the recycling center each week and assembling over 100,000 brackets each week for Closet Maid.

Residents are cared for by a medical team composed of physicians, advanced practice providers and nursing staff as well as many long-term support staff who may provide 1:1 care for some individuals.

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Tacachale's First 100 Years

Census Information (as of 12/1/2021):

	Tacachale	Forensic (Gainesville)	Sunland (Marianna)
Ages 18-39	4	0	30
40-54	44	1	50
55-62	69	1	52
63+	148	1	73
M:F	2:1		70:30
# homes	23	1	18

Level of intellectual Disability	IQ	Tacachale	Forensic	Sunland
Mild	55-70	5	1	65
Moderate	40-54	34	2	43
Severe	25-39	40		25
Profound	Below 25	186		72
		265	3	205

Tacachale Dental Clinic

The Tacachale Dental Clinic, run by Timothy Garvey, DMD, not only provides dental care on campus to residents, but was also available for other North Florida special needs individuals prior to the pandemic. Dr Garvey was recognized as one of 12 National Health Equity Heroes in 2020 by DentaQuest, which manages dental and vision plans for 30 million Americans.

The neurology clinic has been run by several providers over the years, with the epilepsy clinic managed by Dr B.J. Wilder and Edrick Bates, Pharm. D, for many years with pioneering database tracking of antiseizure medications and levels. Dr. Cibula succeeded Dr. Wilder in 2016, and provides general neurological care and complex medically resistant epilepsy care in an on-site clinic for UF Neurology.

The on-campus clinics such as the neurology clinic were suspended several times during the pandemic surges and were transitioned to telephone conferences during these times. Although respiratory isolation affected homes intermittently, and many patients were high risk due to aging & pre-existing illnesses, only 3 resident deaths were reported to be directly attributable to COVID. As of this writing, clinics are back in-person at the Tacachale Health Center.

Going forward, Tacachale faces many challenges with its aging medically complex & fragile residents, retiring medical staff and replacing longtime caregivers who have retired or moved to better paying jobs. In addition, the infrastructure is aging, and the state budget has many demands. The remaining 400 acres of land is in a prime location in East Gainesville, close to the airport & the UF East Campus.

The story of Tacachale is a typical one for similar institutions in the US and time will tell how the "new fire" leads the way in their second century.

Further Reading/ Resources available upon request.
All images by Jean Cibula, MD.

Tacachale Auditorium

ACMS HAPPENINGS

ACMS Poster Symposium 2021

Celebration Pointe Promenade

December 14, 2021

Brittany Bruggeman, MD, ACMS Secretary/Treasurer; and Brad Bruggeman, MD; with their daughter.

L to R: Carl Dragstedt, DO, ACMS President; Nausheen Khuddus, MD; Alexey Minevskiy, MD; and Sean Benoit, MD, NFRMC Chief Medical Officer.

L to R: Carl Dragstedt, DO, ACMS President; Xiaolan Tang, MD; Anthony Nanajian, MD, PhD; and Sean Benoit, MD, NFRMC Chief Medical Officer.

L to R: Althea Tyndall-Smith, MD; and Michele Emery, MD.

L to R: Jay Hutto, CPA/ABV/CFF, CVA; Julie Kniseley, SHRM-SCP; Rebeca Denahan; and Erin Spiwak, CPA. Thank you for sponsoring our event!

Thanks to Jim Neshewat, JD; and Karen Lalonde of St. Johns Asset Management, our Flagship Sponsor.

HAPPENINGS

ACMS

ACMS Poster Symposium 2021

Celebration Pointe Promenade

December 14, 2021

L to R: Sean Benoit, MD, NFRMC Chief Medical Officer; George Cockey, MD; Andrew Slater, DO; and Carl Dragstedt, DO, ACMS President.

L to R: Andrew Tran, MD; and guest (left); and Selina Imboywa, MD.

L to R: Nidza Marichal, PhD; and Consuelo Soldevila-Pico, MD.

L to R: Aileen Colucci; Kristy Rowland;l and Thomas Buss of the ACMS Health Insurance Trust. Thank you for sponsoring our event!

L to R: Norman Levy, MD, PhD, ACMS Past President; and Roslyn Levy, ACMS Alliance President.

L to R: Andrew Tran, MD; Selina Imboywa, MD, Rayna Saint-Jean; Sean Benoit, MD, CMO; Brenda Maya; Kipson Charles, MD, Bassi Raghav, MD; Katy Robinson, Division Research Director; Christopher Bray, MD, IM PD ; Keith Molinary, GME Director; Zeeshan Ismail, MD, Alexey Minevskiy, MD; Xiaolan Tang, MD; Cristobal Cintron, Research Coordinator; Andrew Slater, DO; and Anthony Nanajian, MD, PhD of the NFRMC/UCF GME Program. Thanks for participating in the 2021 ACMS Poster Symposium.

HAPPENINGS

ACMS

ACMS Poker Run and Spring Vendor Show

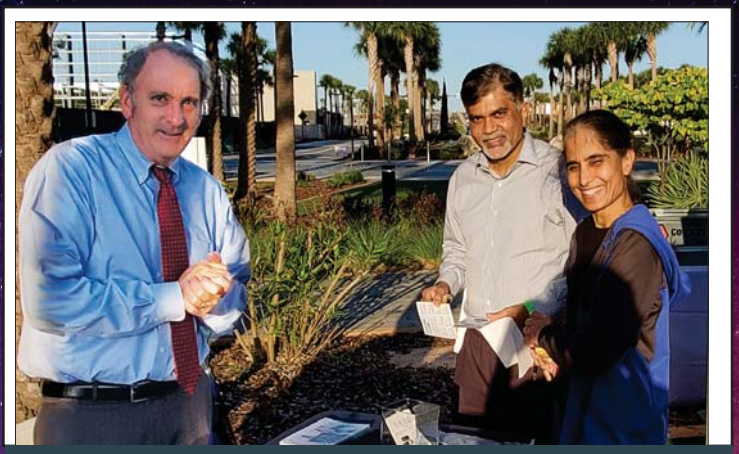
Celebration Pointe Technology Park

April 19, 2022

L to R: Judith Lightsey, MD; Lloyd Alford; and Coy Heldermon, MD.

L to R: Karina Quinn; Tammy Lindsay; James Andrisin; Kimberly Clawson; and Phoebe Howard; of UF Health, one of our generous event Sponsors.

L to R: Wendy Crews, Community Rep; Billie Adkins, Dodd Regional Director; Charlene Stefanelli, Health Care Relations; and Kristine Skelley, Health Care Relations; with Community Hospice & Palliative Care, one of our event Sponsors.



L to R: Staige Hoffman, of Mag Mutual, our event Sponsor; with Siddharth Thakur, PhD; and Jyoti Budania, MD.

Daniel Duncanson, MD; and Lisa Duncanson.

L to R: Althea Tyndall-Smith, MD; and Faye Medley, RN-BSN, MSN.

L to R: George Thomas, MD; with guest Melanie (left); Henna Ahsan, MD; Kiera Parrish, MD; and Mia Choi, MD.

HAPPENINGS ACMS

ACMS Poker Run and Spring Vendor Show

Celebration Pointe Technology Park

April 19, 2022

L to R: Rupa Lloyd, JD; Jordan Ross; Julie Zolty; and David Allen; all of Gray|Robinson. Thanks for Sponsoring our event!

L to R: Kristine Skelley; Selina Imboywa, MD; Asad Haider, MD; and Eason Balakrishnan, MD.

L to R: Faye Medley; Scott Medley, MD and Greg Huffman of the band Second Nature.

L to R: Wendy Crews; and Charles Riggs, Jr., MD.

L to R: Katie Comfort; Blanca Millsaps; and Rhonda Gillon Means, with the ACMS.

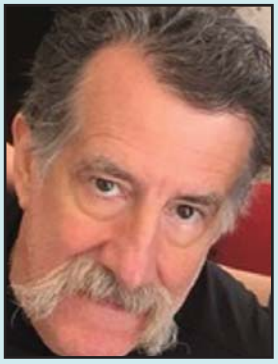
L to R: Steven Reid, MD; Carl Dragstedt, DO, ACMS President; and Rupa Lloyd, JD.

L to R: Melissa Laliberte, Assistant Director of We Care; Amanda "Mandy" Ledwith; Sophie Maloney; with Patricia Hess, MD; and Marc Andreozzi at the We Care Table.

In Memoriam

James "Jim" Caridi, MD

(1953 - 2021)



James Caridi, MD, passed from this life on November 23, 2021, at the age of 68, after fighting a 10-year battle with cancer. After graduating medical school, and completing a residency in Radiology, and a fellowship in Interventional Radiology, Jim went into private practice in Leesburg, FL. He then became a Professor of Radiology at University of Florida, and in 1996, was appointed as Chief of the Division of Interventional Radiology for 16 years. In 2013, he accepted an Interventional Radiology faculty position at Tulane University College of Medicine in New Orleans where he later became Chief of Radiology, and served in this capacity until his death. Dr. Caridi is survived by his wife Rhona Caridi, and children Joseph, Theresa, James, Angela and Nicco.

C. Richard Conti, MD

(1934 - 2022)

Dr C. Richard Conti, age 87, died suddenly at home on February 21, 2022, in Gainesville Florida. He graduated from Medical School at Johns Hopkins University in 1960 and subsequently pursued his lifelong passion for cardiovascular disease. He served as Captain in the United States Army Medical Service from January 1962-1964. In 1974, at the age of 40, he moved to Gainesville Florida to become Chief of Cardiology for the University of Florida. While there he developed a division with an international reputation for excellence. He was named President of the American College of Cardiology in 1989. He is survived by his wife Ruth, his children Jill, Jamie, Jennifer, and Richard, five grandchildren and two great grandchildren.

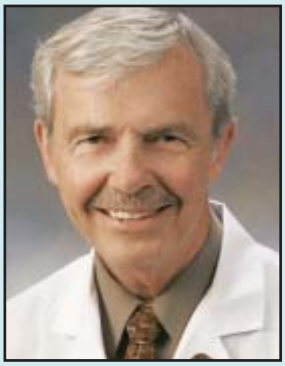
Selden Longley, III, MD

(1941 - 2022)

Dr. Longley passed away on March 3, 2022 in Gainesville, FL. He received his Medical Degree from Vanderbilt University, followed by an Internship, Residency, and Fellowship at the University of Florida (UF). He served as an Air Force Flight Surgeon in Vietnam and later as part of the Presidential Support Team at Andrews Air Force Base, Washington, DC, retiring from the military in 2003 with the rank of Colonel. Dr. Longley served at UF, in Clinical Immunology, Allergy, and Rheumatology, before entering private practice in 1991. He held multiple leadership roles, including President, Alachua County Medical Society; and Chief of Staff, North Florida Regional Medical Center. He is survived by his wife Anne, children Selden and David, and four grandchildren..

Edward J. Wilkinson, MD

(1938 - 2021)



Dr. Wilkinson passed away December 21, 2021 at the age of 83. He was a role model for several generations of trainees and peers in pathology and a lifelong advocate for women's health. He recieved his Medical Degree from the Medical College of Wisconsin (MCW), Interning at the University of Illinois, followed by his Residency in Obstetrics & Gynecology at Milwaukee County General Hospital, and a Fellowship at Harvard University. Following a Residency in Pathology at MCW he was appointed to a faculty position in Pathology. He joined the University of Florida in 1980 with dual appointments in the department of Obstetrics and Gynecology and as Professor of Pathology. He remained in this position until 2017 when he retired as Professor Emeritus. He is survived by his wife Kathleen, children Amy, Kim and Heather, and two grandchildren.

ACMS Board Highlights

Alachua County Medical Society - Board of Directors Meeting Minutes, November 9, 2021

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, November 9, 2021, virtually on Zoom.com.

Treasurer's Report: Membership Dues are on an upward trend from the previous year with increases in Private Practice and UF membership dues. Publication Dues are also increasing as ad revenues are beginning to return to pre-pandemic levels. Net Income is $32K for the 3 months under review. Expenses are in line with prior periods with a Total Net Loss of $560 as of October 31, 2021. ACMSF had total Grant Income of $44.9K for the 3 month period, with total Grant Disbursements of $24K. Total Current Assets (grant funds and endowments) are $96K with Total Assets of $121K. The roof on the Robb House has been replaced with interior work (sheetrock replacement) to be completed in November.

President's Report: Dr. Dragstedt focused on three of our strategic initiatives for 2022 including: Increasing Membership; Hosting in-person meetings and integrating new technology into our services. Dr. Dragstedt, Dr. Riggs and Dr. Balamucki have been circulating the ACMS New Member flyer around the various hospital listserv systems to recruit new members to the organization, replacing those who have retired over the last two years. Dr. Dragstedt also mentioned several outdoor venues that should be considered for future ACMS events. Dr. Ryan recommended contacting Dr. Julia Close, who is the director of the UF GME programs, to distribute the invite for the upcoming Poster Symposium Awards at Celebration Pointe. Dr. Ryan inquired as to the status of our position on the appointment of Dr. Joseph Ladapo as Florida Surgeon General. Ms. Owens reported that the FMA and other medical societies around the state decided not to address the issue as they were focusing on other legislative issues for approval this session (abortion bill, and Medicare reimbursements). Dr. Tyndall-Smith felt we should not misguide people by not saying anything. Agreeing, Dr. Dragstedt emphasized that the ACMS should continue to be a science and knowledge-based organization regardless of the governor's appointments. Dr. Levy concurred with Dr. Tyndall-Smith and Dr. Dragstedt and felt we should continue to weigh in on local issues as needed, such as the Alachua County School Board masking mandate.

The nominations for the open NFRMC Resident Board positions were voted upon with Dr. Selina Imboywa and Dr. Manna Varghese receiving the most votes. The Board unanimously motioned their approval as new Board Members.

EVP Report: Ms. Owens reported on the completion of the roof replacement at the Robb House and upcoming ACMS events.

Alachua County Medical Society - Board of Directors Meeting Minutes, January 4, 2022

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, January 4, 2022, virtually on Zoom.com.

Treasurer's Report: Membership Dues are on an upward trend from the previous year with increases in Private Practice and UF membership dues. Publication Dues are also increasing as ad revenues are beginning to return to pre-pandemic levels. Gross Profit is $129K for the 12 months under review. Expenses are in line with prior periods with a Total Net Income of $6.6K as of December 31, 2021. ACMSF had total Grant Income of $95.9K for fiscal year 2021, with total Grant Disbursements of $47.7K. Total Current Assets (grant funds and endowments) are $109K with Total Assets of $160K. The roof on the Robb House and interior sheetrock replacement have been completed.

President's Report: Dr. Bruggeman and the Board discussed in-person meetings beginning as early as March if possible. The EVP agreed to look into outdoor venues so that another in-person meeting could be scheduled for the spring.

EVP Report: Ms. Owens reported on a request for advice concerning a complaint a physician filed with the Florida Board of Medicine against another physician and what venues to pursue as the FBOM did not take action on the complaint. Dr. Riggs mentioned that members of the FMA can petition the Council on Ethical & Judicial Affairs to determine if the complaint should go further. Ms. Owens agreed to contact the requesting party and convey the information.

ACMS Board Highlights

Alachua County Medical Society - Board of Directors Meeting Minutes, February 8, 2022

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, February 8, 2022, virtually on Zoom.com.

Secretary's Report: Dr. Bruggeman presented the New Members Report which included: Robert Roseman, MD; Kaushik Hazariwala, MD; Christine Nichols Kay, MD; Eric Catlin, MD; and Anubha Gupte, MD. Following discussion, Dr. Balamucki motioned approval of the new members, seconded by Dr. Riggs.

Treasurer's Report: While Membership Dues were consistent with the prior year, Publication and Sponsorship Income increased, resulting in Gross Profit of $20K for January 2022. Expenses totaled $8.7K, with a Net Income of $11K for the period under review. The Foundation disbursed $3.6K in grants during January 2022, with no additional grant income during this period. Total Assets are $156K, with $0 liabilities.

President's Report: The Board reviewed a request to sign an open letter against political interference in medicine from the American College of Obstetricians and Gynecologists. After considerable discussion, the Board recommended that the EVP send the letter to the ACMS members, allowing them to decide if they choose to sign the letter individually. Dr. Levy recommended that we send this to non-member physicians as well.

Dr. Dragstedt discussed a request from the State of Florida Medical Examiners Commission on the gubernatorial appointment of the District Eight Medical Examiner. The Board was asked to review the existing Medical Examiners performance (William F. Hamilton, MD) and determine if we would recommend him for re-appointment. Dr. Stechmiller reported a highly favorable recommendation for Dr. Hamilton, as did Dr. Dragstedt, and Dr. Riggs. Dr. Balamucki motioned to recommend Dr. Hamilton's re-appointment, seconded by Dr. Rosenberg, the motion was unanimously carried by the Board. Board members also expressed an interest in asking Dr. Hamilton to speak at a future meeting on the topic of forensic medicine.

EVP Report: Ms. Owens discussed upcoming ACMS meetings for March, April and May, indicating that the April meeting would be an in-person Vendor Show. The Board recommended several venues which could be considered for the meeting.

Alachua County Medical Society - Board of Directors Meeting Minutes, March 8, 2022

Pursuant to notice, the Board of Directors of the Alachua County Medical Society met on Tuesday, March 8, 2022, virtually on Zoom.com.

Secretary's Report: Dr. Bruggeman presented Phalyka Oum, MD, with Florida Skin Cancer & Dermatology as a New Member. Following discussion, Dr. Bruggeman motioned approval of the new members, seconded by Dr. Carter.

Treasurer's Report: Membership dues collected in the first two months of the fiscal year are lower, as one of our larger private practices paid their dues in December 2021. Total dues collected for the 2022 cash flow cycle year to date (August 21 – Feb 22) are $63,8K, compared to $43.4K for 2021, showing an upward trend in Membership Dues Income overall. Publication and Activities Income are returning to pre-covid levels resulting in a Gross Profit of $22.7K for the period. Publication expenses have declined in 2022, as we have converted much of our readership to electronic versions, resulting in a Net Income of $4.1K for the two months of 2022. The Foundation disbursed $16.3K in grants during the two months under review – going to FIT Kits for the We Care Clinic and Salaries for We Care Clinic support staff. Grant Income was $4K. Total Assets are $156K, with $0 liabilities.

President's Report: The Board discussed the Florida Surgeon General's recommendation against children receiving the COVID vaccine. The Board consensus was that the ACMS supports science over politics and recommends that children receive the COVID vaccine. Dr. Dragstedt agreed to compose a letter to the Gainesville Sun stating our position on the subject. The EVP would circulate this letter to all physicians who would like to be included as signors in the final version.

Dr. Dragstedt announced openings for the position of UF Resident Representative on the Board and requested that the EVP obtain recommendations from the UF COM.

EVP Report: Ms. Owens requested the Board's opinion concerning renting space at the Robb House to a third party vendor. The Board would like to visit the Robb House at a future date to determine in-person the viability of the idea. The EVP agreed to arrange a visit when we resume in-person meetings.

Hemochromatosis Blood Donors - A Sustained Win-Win

By Scott Medley, MD

In this issue of HOUSE CALLS featuring inherited diseases, we felt we must include an article on Hereditary Hemochromatosis (HH), the most common inherited blood disorder among Caucasians Globally, especially those of Northern European origin. I am one of the 85-90% of HH patients Homozygous for the C282Y gene mutation which causes the disease. Following is my Editorial --"From A Bloody Shame To An Actual 'Win-Win'"—printed in HOUSE Calls, Winter, 2016.

As I sat in the comfortable recliner in the "chemotherapy room", I watched the wonderful, dedicated "oncology nurses" scurrying about, with efficient, purposeful movements. As always, they were quite busy, but somehow maintained their air of professionalism and cheerfulness. After my regular phlebotomy was finished, I looked on with dismay as the nurse discarded the 500 cc. of healthy, iron-rich blood which she had just extracted through a large-bore needle from my antecubital vein.

What made matters worse, was that I glanced around the "chemo room" at lots of patients more unfortunate than I, many receiving anemia-causing chemotherapy, and other pale, anemic-appearing folks receiving blood transfusions. "Quite sad and ironic", I pondered, "that my healthy blood is being discarded while these patients are receiving their blood from another source. This is, indeed, a bloody shame," I thought.

Hereditary Hemochromatosis (HH) is the most common genetic blood disorder in America. It occurs when the body absorbs too much iron from the gut, allowing the toxic iron to be deposited in many organs and tissues. When left undiagnosed, HH can cause diabetes, liver failure, liver cancer, arthritis, and many other complications. My HH was diagnosed early in 1999, fortunately before I had developed any serious complications. One of the diagnostic features is an elevated blood iron level, or ferritin. A normal blood ferritin level is less than 150. At the time of my diagnosis, my blood ferritin level was above 3,000! The mainstay of treatment for HH is to remove the excess iron from the body by a series of phlebotomies. During my initial "iron reduction phase", I underwent a phlebotomy every week for a year! (I also could not drink a single drop of alcohol during that year, but that's a different story!) After this "iron reduction phase", my ferritin level returned to normal. I then entered the "long –term maintenance phase", during which I shall undergo a phlebotomy about every three months for the rest of my life. During this period from 1999 to 2014, I underwent about 104 phlebotomies, which means that about 13 gallons of my good, iron-rich blood was discarded. Thus my story of sitting in the "chemo room" watching my blood being thrown away.

Aware of the ongoing shortage of donor blood across the nation during some of this time, I was having discussions with the great professionals at Life South Community Blood Centers about better uses for my blood. Up until this time, many blood centers had been reluctant to procure blood from HH donors for transfusions into other persons because of some questions about the safety of HH blood, and, of course, because of the omnipresent crushing concerns about liability. Additionally, to add to the confusion, the American Medical Association (AMA) in 1999 published a misguided (in my opinion) recommendation against using HH blood for transfusion because there might not exist an "altruistic intent of the blood donor with HH". Fortunately, in 2001 the National Institutes of Health (NIH) issued a News Release proclaiming: "Study Finds That Hemochromatosis Patients' Blood Is As Safe As Other Donated Blood".

Now, other blood centers were starting to accept HH patients as voluntary blood donors. A landmark article, again from the NIH, entitled: "Hemochromatosis: The New Blood Donor"

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appeared in a 2013 issue of the journal HEMATOLOGY. This article strongly advocated that HH blood be used for donations in blood centers. The article went on to state that HH donors in the U.S. could contribute to the national blood supply an astounding 1,380,000 units of blood per year! Armed with figures like these, I was able to continue to work with Life South to develop a program for HH donors.

In June of 2014, I proudly became the first HH blood donor in the large, multistate, excellent Life South system. Life South has done a great job of promoting this new initiative throughout their system, so that, as of this writing, they have nearly 300 HH donors who have thus far collectively donated almost one thousand units of safe, iron-rich, life-saving blood! And, to serve another group of patients and to further increase their blood supply, Life South has recently announced that their centers will accept blood from patients receiving Testosterone Replacement Therapy (TRT) who have polycythemia caused by the TRT.

The term "Win-Win", I believe, has become an overused cliché. I have now donated seven units – almost a gallon- of my blood which can be transfused into needy individuals, instead of having my blood discarded, I plan to do so four times a year for the rest of my life. The fact that many other HH (and TRT) donors can do the same (at no cost, by the way) is an actual "Win-Win" for everyone!

Since that first HH Blood donation in 2014, I have continued to donate blood at Life South Blood Centers 3-4 times a year. This means that I have donated about another FOUR GALLONS of good, usable blood over the past 8 years. And Life South has hundreds of HH patients donating thousands of units of blood every year. Again, a sustained "WIN-WIN" from a potentially bad inherited disease.

Complications of Hemochromatosis

Untreated, hereditary hemochromatosis can lead to a number of complications, especially in your joints and in organs where excess iron tends to be stored including:

- **Liver Problems:**

  Cirrhosis- permanent scarring of the liver. Cirrhosis increases your risk of liver cancer and other life-threatening complications.

- **Diabetes:**

  Damage to the pancreas can lead to diabetes.

- **Heart Problems:**

  Excess iron in your heart affects the heart's ability to circulate enough blood for your body's needs, resulting in congestive heart failure. Hemochromatosis can also cause abnormal heart rhythms (arrhythmias).

- **Reproductive Problems:**

  Excess iron can lead to impotence and loss of sex drive in men and absence of the menstrual cycle in women.

- **Skin Color Changes:**

  Deposits of iron in skin cells can make your skin appear bronze or gray in color.

Source: MayoClinic.org; Hemochromatosis Disease and Conditions - 2022

MCMS, Inc. Insurance Trust

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Created by Physicians, for Physicians and their Staff

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Background: The Medical Society Insurance Trust was established in Marion County over 40 years ago.

Purpose: Created by physician employers in the private practice of medicine as a way to provide comprehensive medical coverage to their employees and families.

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For a Proposal of Insurance, please email:

Kristy Rowland at **Ocala.GBS.TrustBenefits@AJG.com**

For more information regarding the MCMS, Inc. Insurance Trust, Alachua County Associate Members, visit:

www.TrustACMS.com

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