



TOURO COLLEGE
Where Knowledge and Values Meet

RESEARCH DAY

MAY 3, 2016





MESSAGE FROM THE PRESIDENT

Touro College Research Day—organized and implemented by our faculty’s Touro College Research Collaborative—is a day-long embodiment of our institution’s commitment to intellectual curiosity and scientific advancement. It is through the varied and impressive work of our faculty and students that we are best able to showcase the impressive scope of Touro’s research activities and academic offerings.

Exhibited student and faculty research projects span everything from medicine and social work to law and theater. Among universities, we are one of the most authentic world microcosms, determined to explore and further develop every field of academic scholarship and all realms of applied, practical knowledge. Touro’s reach, both in terms of academic offerings and experiential, community-based learning opportunities, is unparalleled. Research Day is but a small window into the world of change we can and do effect.

Today, I am proud to invite you to engage with Touro’s faculty and students to talk about the research initiatives that fuel their professional and educational passions. I hope that this exhibition induces greater investment in our research efforts and inspires more collaboration and synergy across the entire university system.

A handwritten signature in black ink, appearing to read "Alan Kadish". The signature is fluid and cursive, written on a light-colored background.

Dr. Alan Kadish

President

Touro College & University System

WELCOME TO TOURO COLLEGE RESEARCH DAY

On behalf of the Touro College Research Collaborative, I am delighted to welcome you to our fifth annual Research Day.

We use this opportunity to showcase original research by faculty and students and to celebrate the contributions that our researchers have made in basic sciences, clinical practice, medicine, pharmacy, social work, law, economics, mathematics, business, art, theatre, philosophy, education, and public health. The scope illustrates the widespread reach of intellectual curiosity and knowledge from our Touro community that is encompassed by our many deans, faculty, and students. Today, scores of posters are on display for your viewing; you will find their abstracts at the back of this handout

The Research Collaborative group was established by motivated faculty who wished to pursue biomedical and health science related research here at the College, and who sought a supportive community of fellow scholars with a wide range of skills, knowledge, and connections. Collaboration provides not only a cost-effective strategy to do research, but enhances the many research opportunities across interdisciplinary fields of studies. A vehicle to help reach those objectives became Touro College Research Day. The Collaborative has also begun helping investigators in other ways including assistance in statistics, research design, networking, and finding consulting experts. Among the faculty involved in these developments this year are: Brian Chiswell and Nirupama Narayanan (Biology); Fabio Arcila (Law); Piotr Kozlowski, (Medicine); Maryellen Luczun and Sandra Russo (Nursing); Meira Orentlicher (Occupational Therapy); June Kume and Christopher Voltmer (Physical Therapy); Joseph Indelicato and Mary Comerchero (Psychology); Hal Wicke Jr. (Speech and Communication); and, Isabella Reichel (Speech and Language). We thank them and other colleagues among past and current members for their collegial efforts.

With the enthusiasm generated by President Alan Kadish's multifaceted research initiatives, the Collaborative continues to broaden its membership and the scope of partnerships to include researchers across disciplines at Touro. These objectives continue to be met with tremendous success. This day-long event, held at Touro College's Harlem campus (which houses the Touro College of Osteopathic Medicine and Touro College of Pharmacy) caps off ongoing research-oriented activities and events throughout our many different campuses.

While this event is organized by the faculty-driven Touro College Research Collaborative, we also want to acknowledge and give special thanks for the additional support offered from many sources, including President Kadish, Provost Patricia Salkin, and Vice President for Undergraduate Education and Dean of the Faculties Stanley Boylan, the Touro College Research Council, our hosts at the College of Osteopathic Medicine and the College of Pharmacy, and the Office of Sponsored Programs.

This booklet includes abstracts from among those posters displayed. While comprehensive, the contents cannot be all inclusive; some researchers had copyright concerns related to presenting their work in national and international research forums and asked that their abstracts not be included.

We hope you enjoy browsing through these abstracts showing the great diversity of the Touro Community and the extensive research being done both nationally and internationally—within and across specialized fields of Touro as well as in collaboration with other university, government and industry partners.

Enjoy this feast of knowledge—and drink in the energy of the day; while we may not be able to dance in the streets, we can at least waltz by some of our displays. On behalf of the Touro College Research Collaborative, we wish to thank you for participating in our fifth annual event.

Joe

Joseph Indelicato, LCSW, Ph.D.

Chair, Touro College Research Collaborative



On behalf of President Alan Kadish and all of the graduate and professional school deans, it is a great pleasure to welcome you to the Harlem Campus of Touro College for our 2016 Research Day. As Provost Dr. Kadish has charged me with implementing his vision to expand the scholarship and research footprint across our many units in New York and to foster collaborations among the faculty of Touro College at all levels and across our widespread campuses of the Touro College and University System.

Touro College is a diverse institution, with an undergraduate division, a graduate division, and professional schools. Our faculty's scholarly and research interests reflect also that diversity—as witnessed by the breadth of exciting poster presentations you will see today. We know the future offers us even greater opportunities and I look forward to contributing to those efforts.

Most important, a special thank you to the members of the faculty Touro College Research Collaborative who have coordinated today's program and to the faculty and student participants and presenters. Research Day arose out of a faculty-based initiative and that sense of initiative is a firm foundation for Touro's future success.

Patricia E. Salkin, J.D.

Provost, Graduate and Professional Divisions



With deep appreciation for the tremendous effort involved, I would like to thank all of those who have contributed to the development of this year's Research Day program. The continuing expansion of Research Day is the embodiment of the vitality demonstrated by Touro College, an institution of higher education that has at its core the undergraduate experience. Touro College was founded over 40 years ago by our late President Dr. Bernard Lander with about three dozen undergraduate students. The institution, its faculty and research contributions have grown exponentially, not only at Touro College but across the Touro College and University System!

Traditionally focused on excellence in instruction, scholarship and research has always had its place within the College. While we will continue to be primarily a teaching institution, scholarship and research takes many pathways and always enriches teaching. The challenge of research which Dr. Kadish has placed before us is invigorating—and no greater evidence of the enrichment for all involved exists than what we experience on Research Day.

Like the Provost, I want to thank all who have organized and participated today. In particular, I would like to congratulate the student researchers who are presenting. We are very proud of them and their accomplishments, which shine a bright beacon on Dr. Lander's and Dr. Kadish's visions.

Stanley L. Boylan, Ph.D.

Vice President of Undergraduate Education
Dean of Faculties

TOURO COLLEGE RESEARCH DAY

MAY 3, 2016

HARLEM CAMPUS

SCHEDULE

Luncheon - Cafeteria (4th Floor)

Program - Lecture Hall 2 (2nd Floor) &
Overflow Room 238 (2nd Floor)

Opening Remarks on Behalf of the
Touro College Research Collaborative
Nirupama Narayanan, Ph.D.
Assistant Professor of Biology, NYSCAS

Welcome
Alan Kadish, M.D.
President, Touro College & University System

Keynote Address

Introduction:
June Kume, MSPT, Ph.D.
*Assistant Professor of Physical Therapy,
School of Health Sciences*

“Outrageous Acts of Thinking”
Deborah Berebichez, Ph.D.
Chief Data Scientist, Metis

Responding Panel and Audience Q&A
Moderator:
Patricia Salkin, J.D.
Provost & Dean, Fuchsberg Law Center

“Improvisation Collage”
The Touro Improvisation Group

Introduction
Joseph Indelicato, LCSW, Ph.D.
Chair, Touro College Research Collaborative

Break

First Poster Session (various locations)

Second Poster Session (various locations)

Scholar Coffee Klatch - Room 238 (2nd Floor)

PANELISTS

Sabra Brock
*Ph.D., Interim Dean &
Professor, Graduate School
of Business*

Robert Fardon, Ph.D.
*Professor of Physics &
Science Coordinator, NYSC*

Frances Hannan, Ph.D.
*Chair, Biology Education,
Graduate School of
Education & Assistant
Professor of Cell Biology
and Anatomy, New York
Medical College*

Donne Kampel, Ed.D.
Associate Dean of Faculty

**Deborah Williams,
Ph.D., M.D., M.S.**
*Associate Professor of
Pharmaceutical and
Biomedical Sciences,
College of Pharmacy*

KEYNOTE SPEAKER



Dr. Debbie Berbichez

"Outrageous Acts of Thinking"

We are bombarded with many falsehoods about science—pseudoscientific claims, urban legends, ads—disguised as facts while many marvelous truths about the natural world are ignored or unappreciated. This talk will provide an overview of the true, the false and the just plain weird in the world of science today.

BIOGRAPHY

Dr. Berebichez is a physicist, TV host and science communicator. She is the first Mexican woman to graduate with a PhD in Physics from Stanford and engages in a variety of activities as a science, technology, engineering and math (STEM) ambassador.

Debbie currently co-hosts Discovery Channel's *Outrageous Acts of Science*, where she uses her physics background to explain the science behind extraordinary engineering feats. Debbie also co-starred on the TV show *Humanly Impossible* (2011), produced by National Geographic, and regularly appears as an expert guest on NOVA, CNN, the Travel Channel and numerous international media outlets.

Her work in science education and outreach has been recognized by the Wall Street Journal, Oprah, Dr. Oz, TED, DLD, WIRED, Ciudad de las Ideas and others. A background in theater and engaging on-screen presence helps her connect with audiences ranging from high school students to advanced professionals and politicians. She is a frequent public speaker and is passionate about empowering young people to learn science and improving the state of STEM education around the world.

Dr. Berebichez is a John C. Whitehead Fellow at the Foreign Policy Association, a winner of the Society of Hispanic Professional Engineer's STAR Award and a recipient of the Top Latina Tech Blogger award from the Association of Latinos in Social Media (LATISM). Along with co-hosting *Outrageous Acts of Science*, Debbie is currently the Principal Scientist at Thoughtworks in New York.

Debbie's doctoral advisers at Stanford University were Professor George Papanicolaou (Math Department) and Nobel Laureate in Physics Robert B. Laughlin (Physics Department). She also completed two postdoctoral fellowships in applied mathematics and physics at Columbia University and NYU, where she carried out research in the area of acoustic waves. Debbie invented a highly effective technique in the field of wireless communications that allows a cell phone user to communicate with a desired target user in a distant location.

RESPONDING PANEL

MODERATOR

Patricia Salkin, J.D.

*Provost, Graduate and Professional Divisions
Dean, Touro College Jacob D. Fuchsberg Law Center*

PANELISTS

Sabra Brock, Ph.D.

Interim Dean & Professor, Graduate School of Business

Robert Fardon, Ph.D.

Professor of Physics & Science Coordinator, NYSCAS

Frances Hannan, Ph.D.

*Chair, Biology Education, Graduate School of Education & Assistant Professor of
Cell Biology and Anatomy, New York Medical College*

Donne Kampel, Ed.D.

Associate Dean of Faculty

Deborah Williams, Ph.D., M.D., M.S.

*Associate Professor of Pharmaceutical and Biomedical Sciences,
College of Pharmacy*

“Improvisation Collage”

The Touro Improvisation Group

Hal Wicke, Director

Deputy Chair, Department of Speech & Communication, NYSCAS

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Art01: Terry-Seidenberg, R.

Graphic Editorials Fighting the Status Quo: Artists as Social Critics

One thing that can be said when speaking about politics: “the more things change, the more they stay the same.” Television pundits and social media color our imaginations with breaking news and commentaries, some of them true, but dry; other commentaries are more colorful and sometimes less truthful, but play upon the fears of the public. Over 100 year ago, before television and social media, political news was enhanced by cartoons, caricatures, and posters. These images, which ranged from humorous to down-right viscous were the graphic editorials that were often remembered after the text of the newspaper was forgotten. War posters tended to be used propaganda to stir up emotions. The most exciting and inciting images were drawn to express disdain of the Two World Wars. World War I would devastate the status quo of Europe. Artists, both European and American depicted the horrors of war that was not being written in the general press. The German loss during World War I led to the rise of the ego-maniacal Adolf Hitler and the rise of the Nazi party. Here the artist drew the unspeakable inhumane actions of one country against the world. There is also the often neglected study of black soldiers in political images and their reception not only in Europe, but also in America. This study will look at the works of political posters, caricatures, and cartoons and how the artists used their craft to make graphic editorials against the status quo.

BIOLOGY

Bio01: Beck, D., Feldman, H. R.

Teaching Paleobiology to Children with Autism

We describe the importance of using research-based instruction in science education, especially in regard to children with autism spectrum disorder. This study details various methods to address the needs and develop the strengths of children with autism through the science curriculum. We discuss methods to minimize the anxiety of individuals with autism. Our focus is on how the social, emotional, and general life skills of autistic students can be enhanced through the use of the science curriculum. Science, specifically paleobiology, can be used as a bridge to help children with autism better connect with, interact with, and understand their immediate environments. Science teachers can harness the sensory component integral to science, as well as use it to deepen students’ understanding of natural phenomena. Furthermore, incorporating effective teaching methods into paleobiology methodologies can help students with autism become more settled in their social, natural, and sensory environments. The positive effect of bottom-up instruction, task analysis, and co-operative learning/peer tutoring as well as others are explored. Multimodal teaching, especially, is vital in science classrooms, and especially for students with autism. We discuss how to build on existing strengths of children with autism and incorporate them into the science classroom. Finally, this work explores how to use the paleobiology curriculum to broaden life skills and understanding concepts such as change, accepting differences, time, and size.

Bio02: Feldman, H. R., Bartholomew, A., Brett, C. E., Vrazo, M., Rosensaft, M.

Trace Fossils from the Shawangunk Formation in the Hudson Valley Indicate an Estuarine Depositional Environment

The Middle Silurian Shawangunk Formation crops out in the lower Hudson Valley and extends toward the southwest into New Jersey and Pennsylvania. It reaches a maximum thickness around Guymard (1,400 ft.; 400m) and gradually thins toward the northeast, pinching out near Binnewater, New York. The formation consists of gray conglomerate, quartz arenite, and minor shale. Worm burrows, *Arthropycus*, *Skolithos*, *Planolites*, and a bilobed resting trace have been found at different stratigraphic horizons in the Shawangunk Formation. All traces are associated with a finer, sandy matrix and/or hematite-rich interval rather than a coarse, pebbly quartz sandstone lithology dominant in the bulk of the unit, indicating a marine influence as well an environment with less energy than the braided stream environment inferred for most of the formation. Rivers and streams moving away from the eastern Taconic Mountains flowed into a westerly situated shallow marine basin. Eurypterids have previously been found on approximately the same stratigraphic levels as the traces and may be useful for constraining the depositional environment of these beds. Silurian eurypterids, now largely considered euryhaline, suggest that the environment of deposition was a marine-influenced estuary based on recent work documenting autochthonous assemblages of similar taxa in marginal marine settings. Association of eurypterids with *Arthropycus*-dominated ichnofacies has been noted elsewhere in the Lower Silurian Tuscarora Formation in central Pennsylvania, suggesting a recurrent nearshore benthic assemblage.

Bio03: Feldman, H.R., Berger, S., Laks, S., May, R.

Sedimentology of the Northern Shawangunk Ridge in the Lower Mid-Hudson Valley

The Shawangunk Conglomerate was deposited by sediments shed from the Taconic highlands and has, according to current thought, been deposited in a braided stream environment. Flow was unidirectional toward the northwest as evidenced by axes of cross beds truncated by glacial scour. Characteristics of a braided stream environment include: a unidirectional flow regime, low sinuosity, high gradient, abundant sand and gravel and broad, shallow channels approximately 1m deep. If the amount of sediment becomes greater than the amount of water in the channel, a braided stream develops. In the Shawangunk environment the islands of bedload together with the streams, expanded and occupied the flood plain. Characteristically, the deposits are very coarse grained, often sandy and gravelly, with trough cross-bedding. A modern analog can be found in the Pilgrim and Pacific creeks and Buffalo Fork of the Snake River in Wyoming where there is abundant sand and gravel, easily eroded sediment and plane beds that are evidence for an upper flow regime. Based on field observations, the Shawangunk at the northern end of the Ridge is an estuarine and braided stream facies with both planar and trough crossbedding.

Bio04: Chowdhury, M.H., Rahmatullah, M.

Hypoglycemic Activity of *Neolamarckia cadamba* in Mice

Ethnomedicine, a subfield of ethnobotany, deals with the study of cultural concepts of health and disease. In the subcontinent, the disease diabetes mellitus has reached epidemic status, and may afflict >80 mil people by 2030. *Neolamarckia cadamba* leaf is used in ethnomedicine of Bangladesh for the treatment of diabetes, but so far no scientific study has been done to support its use in traditional medicine. We evaluated the possible glucose tolerance efficacy of the methanolic (MeOH) extract of this

leaf using glucose-induced hyperglycemic mice. The extract, at different doses, was administered one hour prior to glucose administration and blood glucose level was measured after two hours of glucose administration, using glucose oxidase method. The statistical data indicated significant oral hypoglycemic activity at 200- and 400 mg extract per kg body weight. Maximum activity was shown at 400 mg per kg body weight, which was comparable to that of glibenclamide (10 mg/kg). The MeOH extract of *Neolamarckia cadamba* leaf had beneficial effects in reducing the elevated blood glucose level of hyperglycemic mice. The bioactive molecules like saponins may be responsible for the observed pharmacological activity. A further exploration of the bioactive molecules is under investigation. The mechanism underlying the glucose-lowering efficacy of *Neolamarckia cadamba* may be by potentiating the pancreatic secretions of insulin or increasing the glucose uptake.

Bio05: Madigan, M.B., Papetti, M.J.

Identification of Vitamin D Receptor-Interacting Proteins Required for Vitamin D-Regulated Gene Transcription in Colon Epithelial Cells

Vitamin D exerts anti-proliferative, pro-differentiation and pro-apoptotic effects in human and rodent intestinal cells, suggesting an anti-tumorigenic role. The active metabolite of vitamin D, $1\alpha,25$ -dihydroxyvitamin D₃, regulates specific target genes upon binding the vitamin D receptor (VDR), heterodimerizing with the retinoid X receptor α (RXR α), and translocating into the nucleus. Additional proteins are recruited to this complex to modulate transcription at vitamin D target genes. Identifying these VDR-interacting proteins and determining the kinetics of their assembly is critical for understanding how vitamin D regulates target genes to exert its anti-carcinogenic effects. To identify these VDR-interacting proteins, we isolated RXR α - and VDR-interacting proteins by immunoprecipitation from Caco2 human colon adenocarcinoma cells treated with 10nM vitamin D for time periods varying from 5 minutes up to 3 days. Real time PCR analysis of the vitamin D target gene, CYP24A1, in Caco2 cells during this timecourse demonstrated that CYP24A1 RNA began to accumulate at 4 hours of vitamin D treatment and peaked at 3 days. Silver staining of immunoprecipitated proteins indicated that a variety of nuclear polypeptides interact specifically with the vitamin D-VDR-RXR α complex, some transiently and others for prolonged times. Ongoing experiments are aimed at identifying these proteins by mass spectrometry, and future investigations will determine how these proteins may help to regulate expression of CYP24A1 as well as other, perhaps novel, vitamin D target genes.

Bio06: Dautaj, E., Gjerci, S., Meade, P., Narayanan, N., Hannan, F.

Effect of Sound on Learning Behavior in Fruit Flies

Studies have shown that associative learning and memory tasks depend on simultaneous activation of multiple sensory pathways. In humans it is recognized that sound can trigger recall of past events, and that it can also enhance or interfere with word recall tasks and working memory. The fruit fly *Drosophila melanogaster* shares a considerable number of genes with humans. This makes it a powerful model organism that can be used for studying development, behavior, and learning and memory. Our research was to determine the effect of different sounds such as the *Drosophila* courtship song on the response to sucrose-rewarded olfactory conditioning using repulsive odors. Conversely, punishment based conditioning uses electric shock paired with repulsive odors. Our results demonstrated that different sounds have different effects on the learning ability of wild type *Drosophila* and learning mutants, but do not affect the learning of deaf flies. Courtship sound improves the learning ability of flies, whereas agonistic noise reduces reward learning. White noise does not affect reward learning. None of these sounds affect punishment based learning. Ultimately we would like to identify the neural circuits and

biochemical pathways involved in the integration of sound context into learning and memory, using the powerful genetic tools available in *Drosophila*.

Bio07: Schiffenbauer, M., Berkowitz, S., Bronstein, Y., Girgis, S., Schur, T., Tropper, Y., Yadgaran, E., Yefimenko, O., Antonyuk, M., Farkas, P.

The Anti-Bacterial Effect of Toothpaste Infused with White Tea Polyphenol Extract

Background: White tea extract, i.e. Polyphenol, has been shown to upgrade the microbial effect of several oral agents. In the absence of this natural botanic extract, the oral agents investigated had very little or no anti-bacterial effect. In the presence of White Tea Polyphenol (WTP) the toothpaste investigated partially and in many cases totally destroyed several pathogenic bacteria. Preliminary results indicated that oral agents infused with WTP had an antiviral effect on several bacterial viruses. Method: Several toothpaste solutions were infused with a 10% white tea polyphenol extract. The polyphenol-toothpaste mixture was added to various bacterial organisms at room temperature for 10 minutes with intermittent mixing. Several experiments showing the effects of polyphenol mixture on bacterial phage T1 and T7 using a phage plaque technique were also conducted. Results: Toothpaste infused with white tea polyphenol extract was extremely effective as an anti-bacterial agent. In most cases, 99% destruction, and in some cases total destruction of pathogenic bacterial organisms (gram positive, e.g. *Streptococcus pyogenes* and gram negative, e.g. *Proteus vulgaris*) was obtained. When only 99% destruction was obtained, the colonies that grew showed abnormal growth. Regarding the bacterial viruses (a model system) a total inactivation of the viruses were achieved. Conclusion: White tea polyphenol is a powerful antimicrobial (bacterial and viral) agent. White tea polyphenol, a natural botanic extract, when added to oral agents may have wide spread implications in the treatment of potentially pathogenic bacteria and viruses. Our present results reinforce our previous findings as to the powerful and practical medicinal properties of white tea polyphenol.

BUSINESS

Bus01: Brock, S., Rowlands, S.

What Price Success? Is It Worth It? The Emotional Journey of 50 Female CEOs and Directors

Fifty female CEOs and Directors took a 17-question in depth online survey about their leadership journey revealing interesting perspectives about what makes a certain type of woman successful, the sacrifices that have to be made and the obstacles that still exist. Most female CEOs and Directors love their positions despite the sacrifices. The emotional associations are generally positive: excitement, gratitude, and pride, although there are also moments of feeling overwhelmed and frustrated. The path to leadership starts early and requires hard work, persistence, risk-taking and sacrificing family time. As one participant said, ""Female leadership is living an exhausting life balancing on a razors edge the need to be smart, but not too smart. Being tough but not a bitch. Being confident but not too full of yourself. Being vocal but not too opinionated, ambitious but not too aggressive, agreeable but not weak and the list goes on and on.""

Bus02: Malekar, S.

A Study of Emotional Intelligence Attributes for some Business Entrepreneurs

This paper describes the emotional intelligence (EI) attributes for some business entrepreneurs. Their products and services have impacted the lives of corporates, academicians and the general masses. These entrepreneurs are world's most inspirational and sector changing individuals. Their impact goes beyond a company or wealth and have changed the way business takes place today. They have an ability to reach countless consumers, or reach countless contacts with a social media platform that is professional as well. These business entrepreneurs have changed our lives so quickly that we often forget what it was like without them. This paper emphasized the EI attributes that have contributed to the success of these entrepreneurs and their businesses. EI attributes are intrapersonal ability, interpersonal ability, adaptability, stress management and general mood. Real life examples and situations have been studied to understand the impact of their EI in business related risk taking, decision making and critical thinking. The paper benefits management students as they pursue their goals of corporate work or setting up their own business ventures.

Bus03: Brock, S., Malekar, S.

Emotional Intelligence and Academic Achievement of Some Graduate Business Students in New York City

Emotional Intelligence (EI) is a subject of research and development in the last several years. Most of the studies are focused on the applications, development of models and measures that can be used in improving managerial effectiveness and leadership enhancement. It is observed from literature that a few studies are available relating to the application of EI and understanding the relationship with academic achievement among graduate business students. An attempt is to identify critical determinants of EI for some graduate business students in New York City. Such a study will be beneficial in providing feedback about the strengths of each individual and understanding the association of their academic achievement with EI. A quantitative analysis involving correlation and regression tools have been conducted.

CHEMISTRY

Chem01: Levitman, A.D.

Radiation Resistance in Deinococcus Radiodurans

The ability to maintain genomic integrity is the driving force of our survival. Virtually all organisms are subject to radiation that can induce chemical changes in DNA. The efficiency of our repair mechanisms will determine the effects of the damage. Given the extent of their extreme resistivity to radiation, Deinococcus Radiodurans is an ideal organism to study DNA repair mechanisms. Their repair abilities are almost paranormal relative to humans. Proteomic analysis of D. Radiodurans post-irradiation provides a valuable insight into how it thrives in extreme parameters. Medicinal applications of reducing oxidative stress are found studying the antioxidation protection pathways in D. Radiodurans. Analysis of D. Radiodurans extreme radiation resistance requires a rudimentary understanding of radiation physics as well as subsequent cellular response mechanisms to radiation exposure. Physiologic and metabolic pathways of Deinococcus Radiodurans do not significantly deviate from normal bacterial processes which is inconsistent with its observed radiation resistance. D. Radiodurans radiation resistance is a

direct result of efficient DNA repair mechanisms in addition to its proteomic state containing effective anti-oxidizing pathways at the time of irradiation.

ECONOMICS

Eco01: Szenberg, M., Lall, R.

American Exceptionalism: An Appraisal—Political, Economic, Qualitative and Quantitative

This paper presents categorical, functional and empirical arguments in order to appraise American Exceptionalism. First, we employ category theory to show how the structure of the arguments is related. Next, we specify functional relationships in order to specify a model based on political, moral, psychological, and institutional foundations. Then six possibilities of physical, national, tyrannical, religious, constitutional, and economic nature emerge for further analysis. The focus then shifts to measurements, which enable empirical analyses of the three branches of government. We highlight progressive and degenerating aspects of American Exceptionalism. Our investigation uses the qualitative model of Tocqueville for the evaluation of Exceptionalism. His vision is separated into socio-economic, institutional, and democratic considerations in his two volumes of Democracy in America.

EDUCATION

Edu01: Tanzeah S. S., Bellavia, T.

The Clark / Sage Doll Test

This interactive poster and research based project further explores educational policy, by using the patented Sage doll that focus' on self-perceptions in relation to race, gender, religion, creed, orientations, socioeconomic status, segregation, etc. While examining the past, present and future - participants will value the role positive self-esteem has on academic success and leave encouraged breaking the binds that hold our most vulnerable students.

Edu02: Tribuzio, L.

What Makes Middle School Meaningful: Student Voices II

As outlined in the original study, What Makes Middle School Meaningful: Student Voices (Tribuzio,2010) inviting middle school students to talk about what makes school meaningful is a benefit to the students' concepts of self and their ideas of what makes the school experience have substance and importance for them. "Language not only transmits, it creates or constitutes knowledge or reality" (Bruner,1986, p.132). "It is through narrative practices of all types that we eventually discern the character of our own self" (Muldoon, 2006, p.10). "Narrative doesn't merely describe the self and meaning but helps form them." (Muldoon, 2006, p.10). Offering an invitation to a different cohort of middle school students, teachers, and administrators to explore their perceptions of what makes middle school meaningful will assist curriculum planners in creating curricula that is meaningful to middle school students. Sonia Nieto (1999) says, "...Learning begins when students begin to see themselves as competent, capable, and worthy of learning, One way that students begin to see themselves this way is when their voices and perspectives are included in the transformation of schools" (p. 123). Four middle school students, one mathematics teacher and the principal participated in this qualitative study supported by a large city public school system.

JEWISH STUDIES

JS01: Boylan, S.

Hidden in Plain Sight: An UR-Text of Pirkei Avot Derived from Avot de Rabbi Natan (ARN)

Pirkei Avot, Chapters of the Fathers, is one of the most studied and influential Rabbinic texts of all time. The problem of the order of the Rabbinic maxims presented in Pirkei Avot is one which has been debated by commentators and scholars for many years. R. Dovid Zvi Hoffman, in his seminal work, *Mishnah Rishona*, proposed that the Chapters of Avot were put together over several generations, and did not come into its final form until a later period. The final text may also contain material that was added to the earlier text after the compilation of the Mishnah. The additions to the original text complicate the task of discerning the overall order. Avot de Rabbi Nathan (ARN) is a Tannaitic text that elaborates on the maxims of Pirkei Avot and adds additional maxims of its own. This study seeks to identify the central maxims being studied by each Chapter/Section of Avot de Rabbi Natan, and, thereby, to develop a parallel earlier version, an Ur-Text of Pirkei Avot itself. While ARN itself suffers from the same phenomenon noted above, namely, possible later interpolations, the linkages between the maxims of the Pirkei Avot Ur-Text are easier to follow, and provide insight into Pirkei Avot itself. There are two parallel but differing versions of Avot de Rabbi Nathan, denoted as Avot de Rabbi Nathan A (ARNA) and Avot D'Rabbi Nathan B (ARNB). The ARNA text, which has been more widely studied by Rabbinic commentators, including the Gaon of Vilna, has been used as the source for this analysis.

LAW

Law01: Silver, M.A.

Transforming Justice, Lawyers and the Practice of Law

Transforming Justice, Lawyers and the Practice of Law (Marjorie A. Silver, ed., forthcoming Carolina Academic Press 2016) is an anthology compiled by the editor of *The Affective Assistance of Counsel: Practicing Law as a Healing Profession* (2007). This collection of writings by participants in the Project for Integrating Spirituality, Law and Politics (PISLAP) and others actively engaged in transforming law, legal education and social justice, showcases the abundant ways in which lawyers, judges, law professors and others are employing more communitarian, peaceful and healing ways to resolve conflicts, plan legal relationships and achieve justice. It is written for those who share similar goals and are eager to learn new ways to practice law and create a legal system that fosters empathy, compassion and constructive change, a system that is collaborative rather than adversarial, that seeks to heal brokenness rather than merely resolve disputes, and that moves us toward The Beloved Community envisioned by the Reverend Martin Luther King, Jr. The book is comprised of fourteen chapters, divided into eight sections: 1) The Vision : The Spiritual Dimension of Social Justice 2) Transforming Criminal & Juvenile Justice; 3) Healing Civil Conflict; 4) Transforming the Rule of Law 5) Transforming Legal Education; 6) Transforming the Courtroom; 7) Transforming Law Practice; 8) Transforming the Earth.

Law02: Vogele, J.

The Power and Limitations of New York Municipalities to Outright Ban Medical Marijuana Dispensaries

On July 7, 2014, Governor Cuomo signed the Compassionate Care Act establishing New York's first medical marijuana program for patients with serious disabilities or illnesses. It has been criticized as overly restrictive, as it allows for only twenty dispensaries and limits the allowable forms of medical marijuana and the types of illnesses for which medical marijuana may be used. Even with these restrictions, some communities are already voicing concerns about the effects of medical marijuana dispensaries on the public health, safety, morals, comfort, and general welfare of their communities and are seeking to strictly regulate or even ban outright such dispensaries. Though municipalities generally have the power to regulate land use within their limits, the principal question that is raised is whether municipalities, when using their power to totally ban dispensaries, are actually discriminating against people with disabilities. My research has found that outright bans of dispensaries indeed may discriminate against people with disabilities because such bans force those individuals to travel greater distances to find medical marijuana elsewhere and may prevent them from accessing public services altogether. Since only patients with severe, debilitating or life-threatening conditions qualify for medical marijuana in New York, it is likely that as more and more municipalities ban and otherwise severely restrict medical marijuana dispensaries, more patients will continue to suffer without the proper medical treatment that would grant them access to public services on the same level as non-disabled persons.

OCCUPATIONAL THERAPY

OT01: Precin, P., Bardanova, N. Buencamino, S. Heinberg, E. Muskat, R.

Time Perspective and Academic Achievement in Occupational Therapy

Time perspective is the method by which individuals subjectively conceptualize time by dividing their experiences into past, present, and future time categories and is developed and modified by societal, individual, and cultural influences, in order to organize, clarify, and attribute meaning to experiences, according to Zimbardo's theory of time perspective. Literature has shown a strong correlation between different time perspectives and academic achievement. The purpose of this study was to examine the relationship between time perspective and academic achievement in occupational therapy doctoral students enrolled in online, hybrid, and classical learning environments. Researchers utilized a quantitative, cross-sectional, non-experimental, online survey design. Fifty-six students enrolled in occupational therapy doctoral programs in the United States completed the Zimbardo Time Perspective Inventory via Survey Monkey. A Pearson Correlation found a statistically significant ($p = .005$) negative correlation ($r = -.395$) indicating that students with a higher past-negative time perspective tended to have lower grade point averages (GPAs). There were no other significant correlations between GPA and other time perspectives. Results indicate that students who had stronger biases toward thinking negatively about their past and focused on the past instead of the present or future tended to be less successful academically than their peers. This may be due to their spending less time focused on learning in the present and an inattention to setting and obtaining future goals, all necessary for the occupation of being a successful student. Since time perspective can be changed through intervention, application to occupational therapy educational programs will be discussed.

OT02: Precin, P., Rapp, D., Stern, C.

Relationship between Time Perspective and Occupational Therapy Level II Fieldwork Performance

Time perspective (TP) is the method by which individuals subjectively conceptualize time by dividing their experiences into past, present, and future time categories. Literature reports correlations between TP and academic outcomes; however, the effect of TP on student fieldwork performance (FWP) has not been investigated. The purpose of this cross-sectional, non-experimental study was to investigate the relationship between TP and level II FWP in occupational therapy (OT) students enrolled in a private multi-campus college in New York. Fifty participants completed the Zimbardo Time Perspective Inventory via SurveyMonkey. Fieldwork performance was measured using retrospective FWP data from level II FWP evaluations. Two-tailed Spearman Rho correlation was used to analyze the relationship between FWP and TP for each student. Students with a future TP scored significantly higher on ethics and safety whereas students with a present fatalistic TP scored significantly lower on ethics and safety when compared to students with other TPs. Students with a present fatalistic TP were less likely to utilize evidence-based practice, communicate basic tenets of OT, and collaborate than students with other TPs. It is possible that OTs in education can assess their students' TP then provide services to help those with a present fatalistic TP develop a stronger future TP before entering level II physical disabilities FW. This intervention may give these students a better chance to develop ethical, safe, evidenced-based practice and collaboration during FW.

OT03: Precin, P., Nadel, S., Voltmer, S., Zagerson, A., Zilber, A.

Time Perspective Flexibility as a Predictor of OT Level II Fieldwork Outcomes

Time perspective (TP) is the unconscious organization of experiences into different timeframes that helps people make decisions, prioritize, and respond to situations. TP flexibility is the ability to "... flexibly shift from past to present to future in response to the demands of the situation facing you so that you can make optimal decisions" (Zimbardo & Boyd, 2008, p. 297). Previous research has shown a relationship between TP and academic success. However, no research has discussed how having the ability to flexibly switch between different TPs may relate to fieldwork outcomes. This non-experimental, cross-sectional and retrospective survey study examined the manner in which TP flexibility predicts fieldwork outcomes for Level II occupational therapy (OT) students. Fifty OT students were surveyed online via Qualtrics using the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 2008). Fieldwork outcome data were retrospectively collected from the AOTA Fieldwork Performance Evaluation for OT Students (AOTA, 2002). Repeated measures t-tests revealed that there were no significant differences found between TP flexibility and FW outcomes but flexibility and its relationship to fieldwork outcomes was difficult to measure because the sample was too homogeneous with respect to TP sub-scores resulting in everyone scoring high in flexibility.

OT04: Casimano, T., Barayeva, G., Kalendarev, J., Matayeva, V., Shimunov, G., Sperber, F.

Employment Trends in Occupational Therapy

This current study aimed to explore the current trends in occupational therapy and compare the employment trends of Touro College alumni to the national trends of the AOTA Workforce study (AOTA, 2015). A convenience sampling was used to recruit participants via email. The responses were recorded through the Qualtrics software program. The survey questions consisted of multiple choice, Likert scales,

and open ended questions. Of the 93 survey participants, 62% attended the Manhattan campus, 37% attended the Bay Shore campus, and 1% attended both campuses as a transfer student. The survey found that 96% of participants (n = 88) passed the NBCOT exam within the first year of graduation from the Occupational Therapy Program, and of the 4% (n = 4) who did not pass within the first year, three participants passed within less than two years, and one did not take the exam. The survey also indicated that 97% (n = 88) of Touro College graduates were employed as an Occupational Therapist within the first year of graduation. The most reported yearly salary was \$60,000. Based on the current study, and comparison with the AOTA national survey, results indicate that the field of occupational therapy is steadily growing. Furthermore, job market perception is consistent among both studies in which majority of participants rated it as “very healthy”.

OT05: Chiariello, B., Glancz, B., Lowenthal, A., Spitzer, M.

The Transition from Expert Clinician to Novice Academician: The First Three Years

Purpose: Understanding the transition from clinical practice to academia is essential for recruiting and retaining new faculty members. Increasing the number of full time faculty members in OT programs addresses the current national OT faculty shortage. Methods: Non-structured interviews of two participants (female, new academicians) were performed to gain personal perspectives regarding their transitional experiences. Topics included attractors to academia, personal motivations, expectations, and cultural differences. Results: Similar motivating factors are found although participants differed in the challenges they faced during the transition. Both participants are satisfied overall with their new roles; however, they are dissatisfied with various environmental factors such as knowledge and comfort with technology and training, and salary. Conclusion: Current literature supports the data collected. Differences between individuals and settings are noted. More research in the area of OT and health professions is needed.

OT06: Orentlicher, M.L.

Participatory Action Research on the Experiences and Perceptions of Individuals who Receive Disability Funding through Consumer-Directed Funding

This poster describes the results of 20 in-depth interviews conducted with 17 individuals including persons with disabilities, family members, and staff about their experiences, perceptions and outcomes of participating in consumer directed budgets. Consumer-directed budgets are Medicaid HCBS Waiver programs in which persons with disabilities receive funding to purchase services or hire help to achieve desired goals in employment, independent living, education, and/or community participation. The person decides on how the budget should be utilized. Interviews were recorded and transcribed. Each interview was read and coded at least twice. The codes were grouped into categories and the categories were formed into themes. Trustworthiness was ensured by having multiple data gatherers, coding transcripts multiple times, member checks and audit trail. Three themes emerged: “It’s Given us a New Life”: participants described improvements in engagement in occupation while receiving self-directed budgets. Positive experiences included living in their own homes and having active lives in the community. They described having new experiences and generally feeling an increase in their quality of life. “Fragility”: participants described worrying about the future of consumer-directed funding programs and the political changes that continue to influence programs for people with disabilities. “Perseverance”: participants felt that the success of the program is dependent on their ability to fight the system and advocate for what is important. They described a process in which many of their resources had to be tapped into, including financial, community connections, education, advocacy skills and assertiveness.

OT07: Meira L. Orentlicher

The Experiences and Perceptions of Collaboration between Occupational Therapists and Other School Professionals

The purpose of this study was to gain an understanding about school professionals' perceptions of collaboration. Specifically, the study assessed implementation, supporting factors, and barriers for collaboration in schools. Participants included 57 OTs, 12 PTs, 5 SLPs and 15 teachers. A survey was administered through Qualtrics and asked about the participants' perceptions and experiences of collaboration and factors contributing to successful or unsuccessful collaboration in their schools. Results: • 96.7% of sample reported that they collaborate some of the time, with 35% collaborating more than 75% of the time • 97.8% of sample think that collaboration is important • Both OTs and PTs reported that they collaborate most with teachers versus with other related service providers (Pearson Chi-Square Value = 7.088, df=2, $p < 0.029$). • Those with more than 10 years of experience collaborate more than those with less experience (Pearson Chi-Square value=9.955, df=3, $p < 0.009$). • PTs valued collaboration more than all other professionals (Pearson Chi-Square value=21.952a, df=9, $p < 0.009$). • Those having positive relationships with other professionals collaborate more (Pearson Chi Square=58.628, df = 9, $P < 0.000$) • Those that value collaboration, collaborate more (Pearson Chi Square = 64.783, df = 9 $p < 0.000$) • Those that collaborate also report more positive outcomes (Pearson Chi Square = 6.267, df = 1, $p < 0.012$) including less parental complaints (Pearson Chi Square = 8.500, df = 3, $p < 0.037$), and an increase in team based IEP goals (Pearson Chi Square = 12.618, df = 3, $p < 0.006$).

OT08: Blanche Leeman, Kailene Abt, Linda Livshitz, Ally Mulcahy, Daniella Newman

The Experience of Individuals and Family Members Living with Parkinson's Disease: A Case Study

This study aims to document the experiences of an individual diagnosed with Parkinson's disease (PD) and learn about the impact of the disease on his and his spouse's occupational engagement and quality of life. There is one participant, age 76, diagnosed with PD, with whom data was collected on over two years through 3 in-person interviews, using a case study design. Interviews were one hour each, and were recorded and transcribed verbatim. Based on the case study three themes emerged: disease management, occupational engagement and quality of life. The clinical implications found based on the case study and literature review indicates that different types of intervention methods, which can be performed by OT's, positively impact an individual with PD. In this case study self-management interventions, Tai Chi and support groups were effective for this individual. The strengths of the study was the in person interviews which allowed the researchers to observe non-verbal forms of communication (ex. facial expressions, body language, gestures, motor symptoms of PD) and the ability to watch the progression of disease in this individual. However the limitations of the study were the long periods of time between interviews which may have impacted the ability to capture subtle changes in the disease progression.

OT09: Dapice Wong, S.J., Santasier, A., Denny, J., Romero-Marano, J.

The Impact of, Tender, an Earth Centered, Intergenerational, Community Based Program

This study explored the impact on participants of Tender, an Earth centered, Intergenerational program in a natural setting. Participants were an Intergenerational sample of convenience; 5-101 years old.

Qualitative research data collection and analysis consisted of 3 focus group interviews, 1 with Occupational Therapy students and 2 with older adults. Open-ended questions were used regarding actual experience, perceived impact on mental & physical health, and effect of the environment. Two Themes emerged: Meaningful Connections and Enhanced Wellbeing. Older adult and OT student participants described meaningful connections cultivated between generations and with the Earth, as well as changes in perceptions of the other generation. Participants described enhanced physical, mental, and spiritual wellbeing. In future studies, analysis of quantitative data will be conducted to further analyze the impact on perceived health and age perception. Future research will determine if intergenerational, Earth centered interventions in a natural setting reduce barriers between generations and determine if there is a broader impact on populations and population health.

OSTEOPATHIC MEDICINE

Ost01: Zagelbaum, N., Ward, M., Okby, N., Karpoff, H.

Invasive Ductal Carcinoma of the Breast with Osteoclast-Like Giant Cells and Clear Cell Features: A Case Report of a Novel Finding and Review of the Literature

Osteoclast-like giant cells (OLGCs) are a rare histologic finding within a tumor of the breast. Although there has been discussion as to the pathogenesis and prognosis related to this finding, our understanding of its significance remains inconclusive. Clear cells are another unique histologic finding in breast tumors and are typically associated with tumors arising in other organs such as renal cell carcinoma. This is a case report of a 64 year-old female who presented with 1 tumor identified as invasive ductal carcinoma with a combination of OLGCs and clear cell features. To our knowledge, this combination of findings has not been previously described in the literature and therefore represents another morphologic manifestation of breast carcinoma. We also provide a review of the literature on these rare characteristics of breast carcinoma that have been previously reported in separate studies.

Ost02: Papetti, M., Kozlowski, P.

An Inexpensive Apparatus for Maintaining a Temperature-Controlled Environment for Time-Lapse Video Microscopy of Cultured Cells

Observation of live cell dynamics by video microscopy offers a unique opportunity to investigate many aspects of cell physiology, including migration, membrane function, and cell division. This technique requires strict control over temperature, pH, gas concentrations, and humidity in order to preserve cell homeostasis for extended times on a microscope stage. In particular, temperature fluctuations common to most laboratories must be avoided to prevent focus drift in the microscope. Sophisticated, commercially-available equipment that maintains these parameters with high precision is often cost prohibitive. We have constructed a simple, low-cost (under \$410) apparatus that permits continually-focused time-lapse imaging of live mammalian cells at 37 degrees Celsius. This apparatus consists of a closed-loop, feedback-controlled system regulated by a PID controller, thermocouple, and strip heater enclosed within a 0.077 m³ insulated acrylic box. We show that humidity, pH, and proliferative capacity of colon epithelial cells in this system mimic those in a standard tissue culture incubator for over 24 hours. Using this apparatus, coupled with an inverted phase contrast microscope, a programmable digital camera, and free software to convert images into videos, we have harnessed time-lapse imaging to capture aspects of colon epithelial cell physiology not evident by static microscopy. In particular, our observations of the kinetics of normal and abnormal mitoses, membrane dynamics, novel intracellular

and extracellular vesicle movements, and cell migration will greatly enhance our understanding of colon epithelial cell function.

Ost03: Pappadakis, M., Clarke, C., Zhang, C., Tracz, M.

Hemolytic Uremic Syndrome In An Adult Complicated By Acute Pancreatitis

PA Hemolytic Uremic Syndrome, HUS, is a disease under the subset of thrombotic microangiopathies. Though different thrombotic microangiopathic diseases present clinically similar, proper and specific diagnosis can help for treatment planning. Specifically, with Shiga toxigenic Escherichia coli-HUS, early intervention can hopefully improve patient outcome. In this case, we examined a 62 year-old female in otherwise good health who contracted HUS from an unknown source, developed multiple complications towards the end of the standard of care therapy, and had a poor outcome. We believe empiric antibiotics played a crucial role in worsening the disease, and we set out to show empiric antibiotics may not be the proper course of treatment in a case that presents with frank bloody diarrhea. There were multiple factors attributing to the poor outcome, and we feel early therapy with both therapeutic plasma exchange therapy and Eculizumab, along with careful monitoring for the possibility of infarcts affecting other major organs would contribute to a lower mortality in future adult cases.

Ost04: Zeffren, N., Stern, R.

Disease Prevention: Early Public Health Measures from Jewish Tradition

Early contributions of the ancient Israelites to science and to public health have not been adequately acknowledged. Separation of the lepers from the rest of the Israelite encampment is described in the Old Testament. This is perhaps the oldest recorded public health measure in recorded world history. The ancient Israelite somehow intuited that this infectious disease could be transmitted by person-to-person contacts. This separation of the lepers was quite a remarkable measure suggesting that they understood at some level the potential of infectious diseases. Another, and entirely separate public measure was the understanding that bovine tuberculosis was hazardous to human health. According to the laws of kashrut, or kosher slaughtering, lungs are removed from the cow and immersed in water. If air bubbles arise, that animal is deemed not kosher. Air bubbles arise from disruption of the lung surface, the lung pleura, a reflection of a Ghon complex characteristic of tuberculosis. People that eat such meat are in danger of contracting bovine tuberculosis. That ancient proscription recognized the danger of bovine tuberculosis. A healthy animal has intact pleural surfaces from which air does not escape. This is another example among many, of the insights of the ancient Israelites to disease transmission, literally thousands of years before the infectious nature of disease was recognized or understood.

Ost05: Senzel, L., Kube, B., Lou, M., Gibbs, A., Ahmed, T., Hall, B.

Contamination of Patient Blood Samples by Avian RBCs From Control Material During Automated Hematology Analysis

Objectives: Atypical nucleated RBCs (NRBCs) found on several patient blood smears between 2010 and 2012 were noted to resemble avian RBCs. NRBCs are not normally found in the circulation beyond the neonatal period and may indicate hematologic disease, malignancy in the bone marrow, or other severe conditions. Our blood smears with unusual NRBCs did not contain other abnormalities that typically accompany NRBCs, such as immature cells or dysplastic granulocytes. To investigate this anomaly, we considered possibilities such as contaminated collection tubes and instrument problems. The Retic-C Cell Control used with the LH 750 Hematology Analyzer contains a mixture of human and avian RBCs.

Ost06: Lichterman, J., Post, R., Menken, L., Saad, B., Degenhardt, K.

The Sex Steroid Hormones, 17 β -estradiol and Testosterone, and Osteosarcoma Metastasis

Osteosarcoma is the most common primary bone tumor in the US, that is known to have a low survival rate and limited treatment options. As is the case for the majority of solid tumors, metastasis is the major cause of death in osteosarcoma patients. We made the clinical observation that osteosarcoma is unique in that it primarily affects adolescents going through puberty. Therefore we decided to examine whether the hormones involved in puberty are implicated in osteosarcoma progression and metastasis. The sex steroid hormones, 17 β -estradiol and testosterone, are well known players in other cancers (such as prostate and breast cancer) and have a known growth effect on normal bone. In order to study their effects on osteosarcoma metastasis, we transfected firefly luciferase into human osteosarcoma cell lines. Utilizing an intratibial orthotopic mouse model of osteosarcoma metastasis and slow release hormone pellets, we are measuring whether treatment with the sex steroid hormones increases the rate of metastasis and decreases overall survival in vivo. We monitored the mice using weekly bioluminescent imaging sessions to monitor metastatic spread. In addition to treatment with 17 β -estradiol and testosterone, we treated our mice with two drugs, tamoxifen (estrogen receptor antagonist) or flutamide (androgen receptor antagonist), to see if we could prevent or slow metastasis. This is an ongoing study and the results so far look promising. We will harvest both the primary and metastatic tumors for RNA, protein, and immunohistochemical (IHC) analysis from which we hope to gain an insight into biology of this devastating disease.

Ost07: Shah, S., Todisco, V.

Efforts to Reduce Radiation Exposure in Children by Utilizing US vs. CT for Evaluating Possible Appendicitis: A Three-year Follow-up

Computed tomography is used routinely as an accurate diagnostic tool for suspected acute appendicitis but also involves radiation exposure, which is of concern within the pediatric population. While the use of ultrasonography first reduces the radiation exposure, the appendix is difficult to find using this modality. This study looks to see if we have improved upon finding the appendix with ultrasound. According to the American College of Radiology and American College of Surgeons, suspected appendicitis in pediatric patients first involves ultrasound. If there is a high clinical suspicion, the next step would be to order a CT. We analyzed all studies performed for possible appendicitis in patients 17 years and younger between August 2011-August 2012 and August 2014-August 2015. Variables including ordering providers (MD, DO, PA, NP), reading radiologist, ultrasound technician, and clinical presentation were not taken into account. We did not account for any patients who may have undergone studies at another facility. Any studies before August 2011, between August 2012-August 2014, and after December 2014 were excluded. In 2011, 12.8% of patients were sent to CT first while 3 years later, that has dropped to 7.5%. Our results show that when the appendix is found on ultrasound, the results are accurate as to whether or not the appendix was abnormal (NPV 100%, PPD 92.3%). Of those patients in August 2011-2012 who did not receive a CT scan after an inconclusive ultrasound, only 5% returned for positive appendicitis. In August 2014-2015, 0% returned for positive appendicitis.

Ost08: Meadows, J., McQueen, K.

Benchmarking Surgical Systems 2015-2030: Applying the Lancet Commissions on Global Surgery key messages for indicator-based, real-time capacity building index

Background: Safe, timely and accessible essential surgery and anesthesia is now integral to universal health coverage with the passage of World Health Organization Resolution 68/15. In the past, hospital-based surgical assessment surveys and indices were critical for advocacy, illustrating real infrastructure deficits and needs. The Lancet Commissions on Global Surgery goals for 2030 and its indicators, targeting anesthesia, obstetrics and surgery in low-income countries, indicated the creation of a new global surgery index. Methods: Indicator thresholds and data were identified and collected from World Health Organization public data sets and available literature. Quintile categories were used to assign points and descriptive statistics were used generated indices of low-income countries, as well as illustrating data collection needs. Results: A Lancet Commissions on Global Surgery indicator-based index was generated. The Democratic People's Republic of Korea had the lowest surgical capacity index at 9.09%; Ethiopia and Sierra Leone had the highest at 81.81%. The average equaled 60.41%. 6 out of 17 indicators had no reported data; while only cesarean section rate had reported data from all LICs. Conclusion: This Lancet Commissions on Global Surgery indicator-based index can be used in real-time surgical system capacity-building (such as infrastructure planning and assessment for expanding best practices in low-income countries) to achieve safe, timely and accessible global essential surgery and anesthesia by 2030. Despite the WHA Resolution, data collection gaps may slow the pace of attaining that vision. Thus, stakeholders can use this tool to aid in assuring surgical access, quality improvement, and stronger data collection.

Ost09: Lopresto, C., Fell, D., Sripsema, N.K., Dave, S.B., Garcia, P.M., Rudrani B.

A Novel Approach to Measuring Peripapillary Retinal Perfusion in Papilledema: A Pilot Study Using Optical Coherence Tomography Angiography

Background: Optical Coherence Tomography Angiography (OCTA) is useful in imaging perfused radial peripapillary capillaries (RPCs) Objective: To assess the density of perfused RPCs in subjects with papilledema and normals. Methods: Subjects were prospectively recruited from a single institution with IRB approval. Peripapillary 4.5x4.5mm scans were obtained using 70-kHz, 840nm wavelength spectral OCT. The split-spectrum amplitude decorrelation angiography algorithm was used to identify perfused RPCs. Customized algorithms performed vessel skeletonization, generated a color-coded capillary perfusion density (CPD) map, and calculated mean whole en face and peripapillary CPD within a 0.75 mm width ring surrounding the nerve. We performed qualitative analysis of CPD maps and quantitative analysis of whole en face and peripapillary CPD values in papilledema and normals. Statistical analyses included two-tailed student t-tests. Results: Images from 14 papilledema subjects and 14 normals were included. Qualitatively, whole en face CPD maps revealed dense RPC networks in normal, and areas of decreased RPC networks in papilledema subjects. Quantitative analysis of whole en face CPD wasn't statistically significant. Mean peripapillary CPD values were decreased in papilledema (57.6%) compared to normals (62.6%) ($P<0.01$). Subgroup analysis of Frisén low (I-II) and high (III-V) grade papilledema revealed decreases of 3.3% ($P<0.01$) and 8.7% ($P=0.02$), respectively, compared to normals. Conclusions: Mean peripapillary CPD was decreased in papilledema subjects compared to normals measured by OCTA. This finding may suggest peripapillary vascular congestion secondary to raised intracranial pressure at the optic disc reduces flow. These vascular changes may be useful in understanding structural and functional relationships in papilledema.

Ost10: Fidel, J., Rosenfeld, E., Baker, I.

Microduplication of Chromosome 1q21.1 and Turner's Syndrome—A Case Report

We present a patient with Turner's syndrome and a rare duplication of chromosome 1q21.1. There is very little known about chromosome 1q21.1 microduplications but it has been associated with developmental delay, congenital anomalies, macrocephaly, autism spectrum disease, and seizures. There have been no documented cases of additional chromosomal abnormalities in patients with 1q21.1 duplications. In this case, we present a child who has both a chromosome 1q21 duplication and Turner's syndrome who presents with clinical features unique to both of these abnormalities. Her physical characteristics were classic of Turner syndrome features but she has additional characteristics not explained by this diagnosis. Seizures, autism and developmental delays are not seen in Turner syndrome but can be explained by a chromosome 1q21.1 duplication. Further research is needed to better understand the implications of this rare duplication so that we can improve diagnosis and treatment for these patients and their families.

Ost11: Fidel, J., Kohn, D., Cirignano, B.

Asymptomatic Bradycardia as a Possible Predictor of CPVT: A Case Report

Catecholaminergic polymorphic ventricular tachycardia (CPVT) is a rare inherited arrhythmogenic disorder characterized by the occurrence of life-threatening polymorphic ventricular tachycardia in times of physical or emotional stress, often causing syncope and sudden death. CPVT occurs in children or adolescent patients with structurally normal hearts and sinus bradycardia with otherwise normal resting ECG. The inherited mutation is most commonly RYR2 (autosomal dominant) or CASQ2 (autosomal recessive). We present a case of a 27-year-old male diagnosed with CPVT after presenting to the primary care office with asymptomatic bradycardia. The patient had a history of exercise-induced syncope beginning at age 9 and with a family history of sudden cardiac death. Exercise stress test showed polymorphic ventricular tachycardia and genetic testing showed the RYR2 mutation. As a result, clinicians need to consider CPVT as a cause of bradycardia in patients with a history of stress-induced syncope or family history of sudden cardiac death.

Ost12: Capozzi, B., Chez, A., Carpenter, T., Hubert, L., Hewan-Lowe, L., Ozcan, A., Sahni, S.

Osteopathic Medical Student Administered Smoking Cessation Counseling is an Effective Tool in Tobacco Use Reduction

Hypothesis: Physician use of the "7A's of Smoking Cessation" guideline from the New York City Department of Health and Mental Hygiene (NYCDoH) is thought to be effective to convey the importance of smoking cessation. We studied the efficacy of the "7A's of Smoking Cessation" guideline counseling as conducted by osteopathic medical students (OMS). Methods: Osteopathic medical students were trained to counsel smokers for 3-10 minutes on smoking cessation using the "7A's of Smoking Cessation." guidelines. Students then counseled health fair participants who were cigarette smokers for 3-10 minutes. Post counseling, participants were administered a 4 question survey to evaluate the effect on their desire to quit smoking. Survey data was collected and analyzed. IRB approval was obtained for this study. Results: 13 anonymous health fair participants who were also smokers were administered both counseling sessions and surveys. 11/13 (84.6%) participants stated that the session motivated them to quit smoking. 9/13 (69.2%) participants responded that they were now motivated to discuss smoking cessation with their doctor after being counseled. Of these

participants 12/13 (92.3%) had previously attempted to quit smoking without success. Conclusion: Participants reported an increased willingness to stop smoking and motivation to discuss smoking cessation with their physician after being counseled by OMS on the benefits of smoking cessation. These findings indicate that smoking cessation counseling administered by OMS was an effective way to encourage smokers to consider reduction or cessation of tobacco use. Due to a small sample size further larger studies are needed to confirm this study.

Ost13: Konner, L.K., Baez, R.F., Gupta, D., Sushama, R., Sakthi Velavan, S., Quinteros, C.I., Castellanos, B.

Aberrant Origin of the Azygos Vein with the Absence of Hemiazygos and Accessory Hemiazygos veins

INTRODUCTION. The azygos venous system supplies collateral circulation between the inferior vena cava and superior vena cava. The purpose of this case report is to describe the findings of a highly tortuous azygos vein that arises from the left renal vein, with the absence of hemiazygos and accessory hemiazygos veins. Embryologically, it is postulated that the supracardinal vein remained patent caudally permitting the origin of the azygos venous flow from the left renal vein. Furthermore, there are appreciable osteophytic growths apparent on the vertebrae causing a tortuous azygos vein. The entire azygos venous system is engorged due to the increased pressure endured embryologically owing to the absence of the hemiazygos and accessory hemiazygos veins. RESOURCES. During dissection of the thorax, it was observed that the azygos venous system of the cadaver arises from the left renal vein coinciding with an absence of hemiazygos and accessory hemiazygos vein. DESCRIPTION. The azygos vein originated from the left renal vein at L3 crossing the midline at the level of T11 and ultimately draining into the superior vena cava between T3 to T4 via the azygous arch. It received drainage of all the posterior intercostal veins from T3- T12 from both left and right side. SIGNIFICANCE. The azygos vein is a crucial venous connection in the thorax and therefore, variations in its drainage can have clinical consequences. Knowledge and documentation of aberrant origin of the azygos vein with varicosity is clinically significant in avoiding misdiagnosis of what could potentially be a benign vascular anomaly.

Ost14: Fidel, J., Kohn, D., Cirignano, B.

Asymptomatic Bradycardia as a Possible Predictor of CPVT: a case report

Catecholaminergic polymorphic ventricular tachycardia (CPVT) is a rare inherited arrhythmogenic disorder characterized by the occurrence of life-threatening polymorphic ventricular tachycardia in times of physical or emotional stress, often causing syncope and sudden death. CPVT occurs in children or adolescent patients with structurally normal hearts and sinus bradycardia with otherwise normal resting ECG. The inherited mutation is most commonly RYR2 (autosomal dominant) or CASQ2 (autosomal recessive). We present a case of a 27-year-old male diagnosed with CPVT after presenting to the primary care office with asymptomatic bradycardia. The patient had a history of exercise-induced syncope beginning at age 9 and with a family history of sudden cardiac death. Exercise stress test showed polymorphic ventricular tachycardia and genetic testing showed the RYR2 mutation. As a result, clinicians need to consider CPVT as a cause of bradycardia in patients with a history of stress-induced syncope or family history of sudden cardiac death.

Ost15: Becher, N., Koh, N., Rizzo, S.A., Rich, S., Sakthi Velavan, S., Baker, E.W.

Anterotracheal Right Common Carotid Artery With Retroesophageal Right Subclavian Artery.

INTRODUCTION. Although the aortic arch and the course of its branches are typically consistent, several variations exist. Aortic arch variations coupled with scoliosis can have significant clinical applications, presenting unique challenges to surgeons and general physicians alike. RESOURCES. This is a report following dissection of the neck and superior mediastinum of an 83-year-old female cadaver. DESCRIPTION. During cadaveric dissection, an anomalous origin of the right common carotid artery was found. It arose as a direct branch of the aortic arch and ascended obliquely to the right, crossing over the anterior surface of the trachea inferior to the thyroid gland, where it resumed its normal anatomic course as it ascended into the neck. Subsequent branches of the aortic arch were as follows: left common carotid, left subclavian, and right subclavian arteries. The right subclavian artery followed a retroesophageal course, the most common path of an aberrant right subclavian artery (ARSA). Severe right scoliosis was also observed, along with leftward displacement and rotation of the aortic arch and its branches. SIGNIFICANCE. An ARSA can cause dysphagia and dyspnea secondary to atherosclerosis, subclavian steal syndrome, fistula into the trachea or esophagus, and in rare cases, an aneurysm. The right common carotid anterior to the trachea can cause severe bleeding in procedures of the neck. Scoliosis-induced compression of the thorax can introduce further tension and malposition of the vessels and viscera of the thorax. Finally, ARSA is associated with a right non-recurrent laryngeal nerve, which, if damaged during surgery, can cause dysphonia or dyspnea.

Ost16: Hoang, V., Pak T., Stern, R.

Why the Flap? The Biological and Clinical Role of Hyaluronic Acid within the Paratenon during Tendon Repair: The Mechanism of the Connective Tissue Flap

Injured tendons heal through a complex series of steps composed of inflammation, proliferation and remodeling similar to other wound healing processes. However, understanding the distinct differences in tendon anatomy, physiology, and biochemistry throughout this process are crucial to understanding tendon repair. Many tendons are surrounded by loose areolar connective tissue known as paratenon. The main constituents of paratenon are collagen and elastic fibrils which function as an elastic sleeve. This connective tissue also carries blood vessels, nerves, and lymphatics to deeper portions of the tendon. The biological mechanism in which tendons heal, specifically, the intricate role of the hyaluronic acid produced by the paratenon is not well known. The inner surface of paratenon is lined by fasciocytes, cells that produce hyaluronic acid. This role of fasciocytes makes paratenon indispensable for tendon repair. Hyaluronic acid has beneficial effects on both the repair site and synovial sheath by decreasing the peripheral inflammatory response, enhancing cell proliferation, increasing collagen deposition, improving tendon structure, and decreasing intratendinous hemorrhage while promoting a contact between epitenon and endotenon cells. Additionally, hyaluronic acid reduces formation of scars and granulation tissue, while preventing adhesions and gliding resistance. The creation of a flap of paratenon during tendon repair is often used but understanding its true biological function is commonly neglected. It is the hyaluronic acid produced by the cells within the paratenon which provide the necessary molecular tools needed for excellent tendon healing.

Ost17: Capossela, E., Pinson, A., Sakthi Velavan, S.

An Aberrant Right Subclavian Artery - A Case Report

Introduction: The aberrant right subclavian artery (ARSA) is an embryologic remnant of the right dorsal aorta. It occurs in up to 2% of people, making it the most common variation of the aortic arch. The ARSA variation is commonly associated with other vascular anomalies, most often a common carotid trunk, an aortic arch diverticulum, and an ARSA aneurysm. Though the majority with ARSA remains asymptomatic, potential complications include dysphagia lusoria, dyspnea, and retrosternal pain. The purpose of this case report is to add to the findings of previous studies on ARSA and its embryological origin, providing knowledge in clinical anatomy and aiding physicians to be more aware of its possible complications. Materials and Methods: A dissection was performed of the mediastinum on a 94-year-old female cadaver as part of the gross anatomy lab. After removal of the heart and lungs, students were looking for the thoracic duct when an ARSA was discovered. It emerged as the last branch of the aortic arch and followed a retroesophageal course, crossing the midline between the levels of T3 - T4, then angled upward to enter the right subclavian triangle. Discussion: Clinicians should consider including an ARSA on their list of differentials if patients present with any of the previously mentioned symptoms. Children often present with dyspnea, dysphagia and/or increased respiratory infections due to tracheal laxity. Dysphagia is most commonly found in older adults, often secondary to vascular aneurysms or atherosclerosis of the ARSA, which increases the pressure against the esophagus.

Ost18: Lefkowitz, D., Judd, S.

Quantifying Reductions in Obesity Related Comorbidities after Laparoscopic Sleeve Gastrectomy

Background: Laparoscopic sleeve gastrectomy has become the most popularly performed bariatric procedure in the United States with only short-term qualitative reductions in the comorbidities related to obesity. Our goal is to investigate if there is a quantifiable reduction in hypertension and diabetes by evaluating systolic and diastolic blood pressures, serum blood glucose levels, and hemoglobin A1c levels. Methods: This was a retrospective analysis of patient data who had laparoscopic sleeve gastrectomy by a single surgeon in a multidisciplinary weight loss program. Date of surgery, sex, date of birth, weight, BMI, percent of excess weight loss, systolic blood pressure, diastolic blood pressure, hemoglobin A1c levels, and serum blood glucose levels were obtained for all patient recorded visits. Visits included an initial consultation, pre-operative visit, and post-operative visits at 1, 3, 6, 12, 24, and 36 months after surgery. Results: Preliminary results have 745 patients that were operated on between August 1, 2012 and February 29, 2016. 25.1% patients were male and 74.9% of patients were female. At the time of the operation the age of patients ranged from 18 to 75 years old with a mean of 44 years old with a standard deviation of 11 years. Weight, BMI, percent excess weight loss, hemoglobin A1c, serum blood glucose, and blood pressures will be analyzed using a paired t-test. And there will be a Pearson correlation that will analyze if the amount of weight lost in the program prior to surgery has an effect on patients' ability to maintain the weight loss.

Ost19: Hoang, V., Baghel, B., Pak, T.

Fiber Wire for Repair of Transverse Patella Fractures, an Alternative to Irritating Metal Tension Band Osteosynthesis: Case Report

Introduction: Fractures of the patella are difficult to reduce and achieving proper fixation of fragments is key for allowing early mobilization of the knee. Traditional methods for treatment of transverse patella

fractures include the use of metal cerclages or rigid k-wires for tension-band osteosynthesis in a figure-of-eight technique. A common complaint among patients is pain and irritation due to the propensity of the rigid wires to protrude out superficially. We present an alternative procedure in which successful reduction and fixation of a transverse patella fracture using Arthrex #5 FiberWire. Case Presentation: 80 year old female presents with right knee pain after sustaining a mechanical fall. X-rays: 100% displaced transverse patellar fracture Operative Report: Open reduction and internal fixation of a transverse fracture of the right patella was done by creating two longitudinal drill holes in the body of the patella through which two Arthrex #5 FiberWire was introduced with a suture passer. One FiberWire was taken distally to reduce the smaller, distal fragment and was tied in the superior lateral corner. The second FiberWire was tied in a figure-of-eight and also buried in the superior lateral corner. Discussion: This case demonstrates the successful use of an Arthrex #5 fiberwire, a strong suture to prevent the frequent complaint of skin irritation and fistulization commonly seen with the bent edge of the metal cerclage. The suture flexibility allows for accurate reduction of the fracture, optimizing operative time. Additionally, non-absorbable sutures reduce the need for a second procedure for wire removal.

Ost20: Lashkari, A.

Resveratrol-a Therapeutic Agent against Amyloid-beta Toxicity in Alzheimer's

Alzheimer's disease is a progressive, neurodegenerative disease characterized by memory loss and decline in cognitive function. Despite the developments made in this field, we still do not have drugs that are capable of slowing its progression. The purpose of the following study was to investigate the effects of the polyphenol, Resveratrol, on neurons from mice incubated with the amyloid beta (A β) peptide. Polyphenols are natural compounds found in fruits, vegetables and wine and have recently been known for their antioxidant effects. For the following study, we intend to perform a gene expression analysis, confocal microscopy and additional biochemical methods and expect a decline in amyloid beta peptide accumulation upon administering Resveratrol. We also expect to see an increase in mRNA and ATP levels from the protective effects of Resveratrol. If our results prove to be in accordance to our hypothesis, it would warrant Resveratrol as a potential therapeutic supplement to treat patients with Alzheimer's.

Ost21: Zhuo-Qian Zhang, Piotr B. Kozlowski

Search for Reliable Nascent Markers Capable of Distinguishing Microglia from Infiltrating Blood-Derived Macrophages in the Human CNS

Microglia are tissue-resident macrophages of the central nervous system. The diverse functions of microglia include defense against pathogens, and balancing the health and disease states of the brain. Microglia possess a wide range of receptors that allow them to respond to a large number of stimuli—making them multitasking specialists. During normal physiological states, circulating monocytes in the periphery are not part of the microglia pool, however during pathological conditions, monocytes infiltrate the brain and give rise to a population of cells that are phenotypically indistinguishable from microglia. Unlike bone marrow derived monocytes, microglia arises from myeloid progenitors in the yolk sac at day 8 of embryonic development. In order to ascertain a better understanding of specific microglia function in brain development and disease states, it is crucial to discover markers that can definitively distinguish microglia from infiltrating macrophages. Researchers have discovered several markers to distinguish microglia from peripheral macrophages. A frequently marker used to differentiate infiltrating macrophages from microglia is the chemokine receptor CX3CR1 and its fractalkine ligand. CX3CR1 is said to be active early in microglia development and are sustained in adulthood. The variable expression of CD45 is another way of differentiation, microglia are defined as

CD45^{low}, whereas macrophages are CD45^{high}. Transmembrane protein 119 is a recently discovered cell surface protein considered to be a specific marker for nascent microglia. Despite current research, further investigation is required to verify the usefulness of these markers in discriminating resident microglia from infiltrating immune cells in the human brain.

Ost22: Holt, L., Fanning, S.

Creating Polyclonal Antibodies to Camphor

Camphor is present in many over the counter cosmetics and medicinal creams and causes thousands of poisonings each year. Toxic effects from camphor occur within 5-90 minutes and consist of nausea, vomiting, respiratory depression, liver injury, kidney injury, seizures and coma. Patients with toxic camphor exposure often show up in the emergency room and are difficult to diagnose. There are no known tests for camphor ingestion or topical overdose. Current treatment is predominantly supportive and includes seizure control, charcoal administration, and hemodialysis. The goal of this project is to develop a sensitive and specific test for camphor toxicity using polyclonal antibodies. Camphor is a small lipophilic molecule that is non-immunogenic. To elicit an immune response, camphor-based haptens will be conjugated to activated bovine serum albumin (cBSA). Based on their potential to form stable bonds with the carrier protein, the haptens chosen include (3)-camphorcarboxylic acid, (1S)-(10)-camphorsulfonyl chloride, and camphor (as a baseline for comparison). Successful hapten-cBSA conjugation will be checked using a UV-Vis spectrophotometer. Once synthesized, these three immunogens will be used to generate an immunologic response in rabbits. Using the rabbit anti-serum to develop a novel ELISA, we will test whether these antibodies can be used to identify camphor. Downstream application could lead to development of a new treatment for toxic camphor exposure. If successful, this research project will reduce morbidity and mortality in the population due to toxic camphor exposure and expedite diagnosis and treatment for patients, leading to less crowding in urban emergency rooms.

Ost23: Colucci, J.

Splenic Injury after Colonoscopy: A Rare Complication

Background: A colonoscopy is a standard screening procedure recommended to nearly everyone in his or her lifetime. The pooled risk for serious adverse events during colonoscopy in 2008 was 2.8 per 1000 cases. Specifically, splenic laceration observed as a complication to a colonoscopy is an extremely rare and life threatening occurrence. The rarity of this complication makes identifying the common risk factors and symptoms difficult. This is one of few reported cases of a splenic laceration secondary to colonoscopy screening evaluation. Case Presentation: A 55-year-old woman with a past medical history of multiple sclerosis and anxiety presented with severe abdominal pain s/p colonoscopy. This patient had undergone a colonoscopy the prior day and returned to the gastroenterologist with largely nonspecific complaints. The gastroenterologist came up with working diagnosis of abdominal bloating secondary to the procedure. When the symptoms persisted over the weekend she returned to the gastroenterologist a second time with no resolution of symptoms. Now she was sent for an abdominal CT, which suggested a possible splenic laceration. The patient was immediately sent to the ER where the diagnosis of splenic laceration was confirmed. Here she was immediately admitted and eventually discharged without further complications. Conclusion: Splenic injury is a rare complication of colonoscopy. It is very difficult to identify as a clinician, which affects proper treatment. Fortunately in this case the laceration did not progress to a splenic rupture. However, it must remain in any differential of persisting abdominal pain because of its life threatening nature.

Ost24: Kamath, V.G., Ward, V.S., Hsiung, C., McKee, E.E.

Mitochondrial Purine Deoxynucleoside Salvage Pathway: Not as Simple as we Previously Assumed

Purine deoxynucleoside triphosphates (dATP and dGTP) are the building blocks for nuclear and mitochondrial DNA (mtDNA) replication and repair. However, the regulation of purine deoxynucleosides/deoxynucleotides metabolism is poorly understood due to the fact that it was widely believed to follow cytosolic salvage steps. The current investigation was designed to understand the role of exogenous purine deoxynucleosides / deoxynucleotides on the size of the mitochondrial dATP and dGTP pools and to determine if intermediates or the purine deoxynucleotides are compartmentalized in isolated intact rat mitochondria. From our previous study, we demonstrated that mitochondrial levels of dGTP were highly sensitive to exogenous deoxyguanosine (dG) concentrations while levels of dATP were insensitive to deoxyadenosine (dA) levels. In order to better understand the mechanism(s) involved in regulating levels of dNTPs, in the current study, we tested the ability of the product of the first reaction (DGK) step (deoxymonophosphates i.e., dAMP and dGMP), to support the synthesis of purine dNTPs. dGMP and dAMP were robustly phosphorylated to dGTP and dATP respectively and appeared to be phosphorylated through a synthesis pathway outside of the matrix pathway. In summary, salvage pathways supporting mitochondrial dATP and dGTP pools appear to be compartmentalized and specified to each deoxynucleoside/deoxynucleotide substrate in mitochondria.

Ost25: Sakthi Velavan, S., Rich S., Castellanos B.

Lab Videos in Anatomy Education: Effect On Students' Perception and Performance

INTRODUCTION. Anatomy education has evolved over the last millennium. The usage of audio-visual aids in medical education has always been rewarding. This study aims at evaluating the efficacy of supplementing traditional dissection based labs with video demonstration of specimens. **METHODS.** The study was conducted among first year Medical students and students of Masters Program in basic medical sciences. Demonstration videos were recorded and made available to the students. A Likert's scale based questionnaire was completed by the students. The students' performance in the Anatomy practical examinations before and after the inclusion of lab videos was compared. A follow up survey was done soon after the exam to assess the viewpoint of the students. **SUMMARY.** The students' response showed that the videos added value to their knowledge. It helped them in understanding the structures in dissection lab with ease. The students felt less stressed out and more confident about exams. The performance of the students showed significant improvement in the practical examination. **CONCLUSIONS.** The results confirm that the video demonstration of specimens has a positive impact on the traditional dissection method. The effect on the student's perspective is impressive and the positive outcome in the exam grades adds on to the significance of the teaching methodology. Integration of multimedia with dissection in the curriculum is suggested to help students combat the stress and improve their academic performance.

Ost26: Sarah Thomas, Jonathan Meadows, K. A. Kelly McQueen

Access to Cesarean Section Will Reduce Maternal Mortality in Low-Income Countries: A Mathematical Model

Background Despite global efforts to reduce the maternal mortality ratio (MMR) through the World Health Organization's (WHO) Millennium Development Goal 5 (MDG5), MMR remains unacceptably high in low-income countries (LICs). Maternal death and disability from hemorrhage, infection, and

obstructed labor may be averted by timely cesarean section (CS). Most LICs have CS rates less than that recommended by the WHO. Without access to timely CS, it is unlikely that MMR in LICs will be further reduced. Our purpose was to measure the MMR gap between the current MMR in LICs and the MMR if LICs were to raise their CS rates to the WHO recommended levels (10–15 %). Methods This model makes the assumption that increasing the CS rates to the recommended rates of 10–15 % will similarly decrease the MMR in these LICs. WHO health statistics were used to generate estimated MMRs for countries with CS rates between 10 and 15 % (N = 14). A weighted MMR average was determined for these countries. This MMR was subtracted from the MMR of each LIC to determine the MMR gap. The percent decrease in MMR due to increasing CS rate was calculated and averaged across the LICs. Results We found an average 62.75 %, 95 %CI [56.38, 69.11 %] reduction in MMR when LICs increase their CS rates to WHO recommended levels (10–15 %). Conclusions Maternal mortality is unacceptably high in LICs. Increasing CS rates to WHO recommended rates will decrease the maternal mortality in these countries, significantly decreasing the mortality ratio toward the projected MDG5.

Ost27: Post, R., Lichterman, J., Menken, L., Saad OMSII, B., Degenhardt, K.

The Sex Steroid Hormones, 17 β -estradiol and Testosterone, and Osteosarcoma Tumorigenesis

Osteosarcoma is the most common primary bone tumor in the US, that is known to have a low survival rate and limited treatment options. We made the clinical observation that osteosarcoma is unique in that it primarily affects adolescents going through puberty. Therefore we decided to examine whether the hormones involved in puberty are implicated in osteosarcoma tumorigenesis. The sex steroid hormones, 17 β -estradiol and testosterone, are well known players in other cancers (such as prostate and breast cancer) and have a known growth effect on normal bone. In order to study their effects on osteosarcoma tumor growth, we utilized a subcutaneous xenograft mouse model of tumor growth and slow release hormone pellets. We are measuring whether treatment with the sex steroid hormones increases the rate of increases in vivo tumorigenesis. Mice were monitored weekly for tumor formation via caliper measurements. In addition to treatment with 17 β -estradiol and testosterone, we treated our mice with two drugs, tamoxifen (estrogen receptor antagonist) or flutamide (androgen receptor antagonist), to see if we could prevent or slow tumor growth. Our data demonstrates for the first time in vivo that 17- β estradiol and testosterone increases osteosarcoma tumorigenesis. In addition, we are able to show that we can reverse the effects of these hormones with the drugs, tamoxifen and flutamide. We are currently analyzing the tumors from this experiment with qPCR (RNA expression analysis), western blots (protein expression), and immunohistochemistry.

Ost28: Degenhardt, K., Balagot, K., Choi, C., Duque, A., Gomez, C., Malhotra-Gupta, G., Sam, R

Inhibition of Carcinogen-Mediated Transformation by the Bowman-Birk Protease Inhibitor

Cancer rates vary between countries and have been attributed, at least in part, to differences in dietary intake. The lower rate of breast, colon and prostate cancer in China and Japan have been linked to the consumption of soy products. Soybeans are a major source of anticarcinogenic agents, including saponins and isoflavones. These agents are non-toxic, affordable, and can be incorporated easily into diet, making them prime candidates for novel cancer therapy. Cellular functions such as lysosomal degradation, proteosomal degradation and intracellular signaling cascades are mediated by proteolysis. Although not completely understood, misregulation of these proteolytic functions result in carcinogenic

activity. Thus, enhanced proteolytic activity is a marker of cellular transformation and is seen when the carcinogens in chewing tobacco cause transformation of normal cells into malignancy, resulting in oral cancer. Previous research conducted on cultured mouse fibroblasts found that the Bowman-Birk protease inhibitor (BBI), a soybean-derived serine protease inhibitor, was found to significantly suppress in-vitro transformation and in-vivo carcinogenesis induced by B-propranolol (BPL) carcinogen, benzo(a)pyrene and gamma-rays. This study examines the role of the BBI on the transformation of fibroblast cells in the presence of chewing tobacco carcinogens, and its potential in reducing the risk of tumor initiation. Balb c3T3 cells were transformed different concentrations of procarcinogens Nicotine-derived nitrosamine ketone (NNK) and N-nitrosornicotine (NNN). Study controls were untreated cells, cells with methanol, and cells with BPL. Transformation induced by carcinogen was assessed by the cell's loss of contact inhibition and formation of foci. Data is being collected to show that BBI may be able to reduce transformation of cells caused by chewing tobacco carcinogens.

PATHOLOGY

Path01: Brothers, J. L., Mikhitarian, M. A., Fleischer, F. S.

Asymptomatic Metastatic Carcinoid Tumor Discovered by Routine Screening Mammography

Carcinoid tumors of the breast are extremely rare, with fewer than 30 cases reported in the literature. Of reported cases, most have been shown to be metastases from a primary site including the gastrointestinal tract and bronchopulmonary system. Very few cases have been documented in which a patient presented with bilateral breast metastases, and all patients were symptomatic or had palpable breast masses on physical examination. We present a case of asymptomatic carcinoid metastatic to bilateral breasts detected via routine screening mammography. Recognition of carcinoid metastasis to the breast is important to avoid delays in treatment and detection of the primary tumor, as carcinoid metastases have been misdiagnosed as primary breast malignancies. Distinguishing metastatic carcinoid to the breast from primary breast tumors is difficult to do clinically, radiographically and morphologically. Furthermore, management is not standardized, so the decision for surgical intervention is varied and chemotherapy is reserved for symptomatic patients or on an individualized basis. In this case report, we discuss the unique presentation of metastatic carcinoid to bilateral breasts, the diagnostic challenges and management considerations.

Path02: Brothers, J.L., Mikhitarian, M.A., Fleischer, L.S.

Asymptomatic Metastatic Carcinoid Tumor Discovered via Routine Screening Mammography

Carcinoid tumors of the breast are extremely rare, with fewer than 30 cases reported in the literature. Of reported cases, most have been shown to be metastases from a primary site including the gastrointestinal tract and bronchopulmonary system. Very few cases have been documented in which a patient presented with bilateral breast metastases, and all patients were symptomatic or had palpable breast masses on physical examination. We present a case of asymptomatic carcinoid metastatic to bilateral breasts detected via routine screening mammography. Recognition of carcinoid metastasis to the breast is important to avoid delays in treatment and detection of the primary tumor, as carcinoid metastases have been misdiagnosed as primary breast malignancies. Distinguishing metastatic carcinoid to the breast from primary breast tumors is difficult to do clinically, radiographically and morphologically. Furthermore, management is not standardized, so the decision for surgical

intervention is varied and chemotherapy is reserved for symptomatic patients or on an individualized basis. In this case report, we discuss the unique presentation of metastatic carcinoid to bilateral breasts, the diagnostic challenges and management considerations.

PHARMACY

Phm01: Pokotylyuk, I., Sullivan, M., Loewy, Z., Kumar, P.

Assessment of the Effect of μ -opioid Receptor A118G Polymorphism in Analgesia

Opioids medications are considered essential in providing analgesic effect for patients experiencing acute or chronic pain. Opioid dosing varies greatly amongst patients and has to be monitored in order to maintain analgesia and prevent side effects due to opioid treatment. One factor that may contribute to the dose variations and the level of analgesia is a single nucleotide polymorphism (SNP) found on μ -opioid receptor. A literature review was performed to assess the relevance of SNP to opioid pain relief. Studies show that individuals with a G allele tend to react different to opioid treatment compared to wild type A118A. A118G, a frequently occurring SNP found on μ -opioid receptor is located on exon 1 of μ -opioid receptor gene (OPRM1). This polymorphism exchanges adenine to guanine, which in turn leads to asparagine substitution for the aspartic acid. This SNP seems to alter how patients respond to opioid treatment because their μ opioid receptors have decreased sensitivity to opioids, which in turn leads to decreased analgesic effect. Genetic testing of patients who report low levels of pain relief with optimal opioid doses may be warranted to achieve appropriate patient outcomes.

Phm02: Sullivan, M., Assefa, H.

The Effect of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms on Maternal Folic Acid Metabolism and its Association with Congenital Diseases

Maternal folate supplementation is critical for fetal development. Women with MTHFR (methylenetetrahydrofolate reductase) gene polymorphisms may not be getting the proper folate form to support fetal development. The purpose of this literature search was to examine the efficacy of current folic acid supplementation in women with the MTHFR gene polymorphism and provide a recommendation on the proper supplementation of folic acid and active derivatives to decrease adverse pregnancy and fetal outcomes. Our assessments show that women with MTHFR gene polymorphism cannot efficiently convert folic acid to L-5-methyl-tetrahydrofolate, the predominant active form of folic acid, due to reduced MTHFR enzymatic activity. L-5-methyl tetrahydrofolate is currently commercially available under several brand names. Based on our comprehensive review and knowledge of the biochemistry of the folates, we recommend that L-5 methyltetrahydrofolate be given in combination with folic acid to women with MTHFR polymorphism that are pregnant or planning to become pregnant. Further study is needed to determine the optimal dose.

Phm03: Dym, S., Kploanyi, S., Barron, S., Zino, V., Jones, S., Milan, C., Jani, R., Mahmood, M., Bui, M., Nguyen, C., Askari, B., Loh, F.

Patient Knowledge of Over-the-Counter Pain Medications and their Perception of Pharmacists: A Survey of the Harlem Community

Background: Studies have shown that the inappropriate use of over-the-counter (OTC) analgesics is due to lack of knowledge of the indications, dosing, or associated adverse effects. Therefore, there is an opportunity for community pharmacists to assist with selection and appropriate use of OTC analgesics,

particularly in low-income areas. Objective: The primary objective of this study was to assess Harlem residents' knowledge of OTC analgesics. The secondary objective was to measure patients' perception of pharmacists' roles in assisting with appropriate use of OTC analgesics in the Harlem community. Methods: A 22 multiple-choice question survey was administered throughout Harlem, NY to evaluate use of OTC analgesics, knowledge of associated side effects, perception of pharmacists' roles in assisting with appropriate use of OTC analgesics, and patient demographics. Results: The study consisted of 129 respondents. Approximately 90% of the respondents were OTC analgesic users. Sixty-seven percent of the respondents knew that acetaminophen misuse could cause liver damage. About 60% were aware of the possible renal and gastrointestinal side effects of ibuprofen, naproxen, and aspirin. Only 30% of respondents knew that aspirin could worsen asthma symptoms. Sixty percent of the respondents have ever asked their pharmacist for information about OTCs, of which 94% had positive experiences. However, only 28% of the respondents perceived pharmacists as the most trustworthy source of information about OTC analgesics. Conclusion: Community pharmacists should play a more active role in the selection and appropriate use of OTC analgesics in the Harlem community.

Phm04: Berrios-Colon, E., Mehta, M.D., Rumore, M.M., Millares-Sipin, C.A.

Pharmacy Legislative Day- Advocating for the Profession

The TCOP has participated in the Pharmacy Legislative Day in Albany for several years. This study aims to evaluate factors that motivate pharmacists and student pharmacists to participate in New York State Pharmacy Legislative Day activities. Two separate surveys were developed and distributed to NYS Council of Health-system Pharmacists (NYSCHP) members and to pharmacy students at TCOP. Of the over 1000 NYSCHP members and 62 TCOP pharmacy students contacted. 36 students and >100 pharmacists completed the survey. When asked to choose motivators for attending legislative day a majority of students selected a desire to impact legislative change and a curiosity about what is needed to influence change in the profession. Only 12 (33%) attended to obtain class points. 92% of students thought their meetings with legislators influenced them to support pharmacy -related bills. Close to 3/4s of NYSCHP members who responded stated that their motivation was legislative change; 63% had first attended as a student. This research provides a descriptive overview of pharmacists and student attitudes and perceptions regarding Legislative Day and advocating for the profession.

Phm05: Rumore, M.M.

The Course Syllabus- Legal Contract or Operator's Manual?

The syllabus provides a roadmap for pharmacy students to achieve course learning objectives and develop life-long learning skills. For several decades the literature has referred to syllabi as legal documents and/or contracts between students and professors. A review of the legal precedents reveals that syllabi are not considered contracts, because the courts refuse thus far to recognize educational malpractice or breach of contract as a cause of action. Syllabi do, however, represent a triggering agent for instructional dissent and grade appeals, may be binding in student appeal proceedings, and are used in judicial hearings. Pharmacy faculty should review their syllabi and follow process improvement strategies to construct legally sound syllabi that can both enhance learning and minimize risks of student grievances and appeals.

Phm06: Patel Y., Guber H., Giunta J., Rodriguez-Figueroa G., Rumore M.M.

Retrospective Analysis of Statin Titration versus Initiation at High-Moderate Intensity Dosing to Achieve Low Density Lipoprotein (LDL) Goals in the Veteran Population

Objectives: To evaluate whether patients titrated on statin therapy using ATPIII algorithm with an LDL goal of <100mg/dL also met the 2013 ACC/AHA Guideline for Management of Blood Cholesterol goal of $\geq 40\%$ LDL reduction from baseline compared to inpatients initiated on high-moderate intensity statin (HIS). Other objectives included comparison of algorithms to lower LDL $\geq 40\%$, final dose, adverse drug events (ADEs), clinic visits to goal, and cardiovascular event occurrence. Methods: Statin-naïve patients with documented LDLs prescribed a statin were randomized for inclusion. Exclusions included patients on other lipid-lowering medications, immunocompromised patients, hepatic/renal impairment/failure, triglycerides ≥ 400 mg/dL, fibromyalgia or autoimmune arthropathy. Results: 981 patients were included-43% were titrated and 57% achieved LDL<100; 38% achieved both LDL <100mg/dL and LDL $\geq 40\%$ reduction; 58% received HIS and 53% achieved LDL <100; 43% achieved both LDL <100mg/dL and LDL $\geq 40\%$ reduction. Initiating patients on HIS was not more effective than dose titration in achieving <100mg/dL and $\geq 40\%$ LDL reduction; $\chi^2=0.006, N=159, p=0.938$. A 50% LDL reduction in patients that also achieved an LDL <100 was 54% and 48%, in titration and HIS groups, respectively; $\chi^2=0.611, N=159, p=0.434$. The titration group required an average of 4.3 clinic visits to achieve goal, compared to 3.1 visits for HIS; $p=0.309$; 95% CI(-1.36,1.06). Conclusions: Not all patients require HIS, nor do all patients require a 40-50% reduction to achieve LDL <100mg/dL, and not all HIS patients achieve either LDL <100mg/dL or 50% reduction. It remains uncertain whether the new ACA/AHA Guidelines provide additional benefit compared to previous ATPIII guidelines.

Phm07: Rumore M.M., Assefa H., Basu P., Kumar P., Patel Y., Venjara S.

Analysis of MedWatch Quality Alerts 2009-2015

Objectives: Quality issues have been a major cause of medication shortages. The objective of this study was to analyze MedWatch Quality Alerts identifying quality issues over the previous seven years. Methods: We performed a retrospective review of the FDA MedWatch Alerts from January 2009 to September 2015 for product quality issues. Excluded were Alerts not pertaining to medications, such as those pertaining to medical devices. Medications involved were categorized as injectable or oral, brand or generic, and as marketed ≤ 3 , 4-10, or >10 years. For each Alert information was collected on the year and were categorized as: particulate matter, microbial contamination, product mix-up, labeling, ingredient, packaging error, counterfeit product, product deterioration, and miscellaneous. We also reviewed if the Alert was associated with a product recall and if, so what class of recall. Results: Since 2009, 147 Alerts were issued with, 73% occurring over the last 4 years. The greatest number (32) occurred in 2014, followed by 27 and 25 in 2012 and Jan-Sept 2015, respectively. Extrapolating to year-end, the highest number of Alerts may be issued in 2015. Particulate matter accounted for 53% of Quality Alerts, followed by 19% for microbial contamination/sterility issues. The least amount of MedWatch Quality Alerts occurred for reasons of product deterioration (5/147), counterfeit product (4/147) and packaging error (3/147). Injectable generic products were most likely to be involved in MedWatch Quality Alerts. Most Alerts resulted in Class III recalls, although several did involve Class I recalls. Often, the medications involved subsequently appeared on the AHSP Drug Shortage Website. Implications/Conclusions: Pharmacists should regulatory check MedWatch Alerts as an important instrument for identifying medication quality issues and proactively addressing potential product shortages, educating accordingly, and monitoring a product's use.

Phm08: Huggins, C., Basu, P., Senhaji-Tomza, B., Warwick, S., Anthony, M.E.

Steps Taken to Implement a Joint Interprofessional Education Program between a Pharmacy College and an Osteopathic Medical College: A Case Study

This case study describes a joint pilot project to implement interprofessional education (IPE) between a college of osteopathic medicine and a college of pharmacy co-located on one campus. The pilot was intended to address the Interprofessional Education Collaborative (IPEC) domains and competencies and to serve as a first step and bridge toward future multidisciplinary endeavors. We describe the process of creating an IPE team, developing a workshop and gathering feedback. The key elements for a successful IPE program are identified as: administrative support, faculty engagement, and long-term planning.

PHILOSOPHY

Phil01: Grenadir, A.

The Logic of Concessive (Even-Though) Statements

A concessive statement is a compound statement whose dependent clause begins with the words 'although' or even though' or whose main clause is introduced by the word 'nevertheless' (or similar marker terms). It has the following form: 'Even though A is true, which usually implies C, nevertheless not-C, because B', where A, B and C are statements. There are two distinct types of concessive statement: 'rejection of hava-amina', called 'denial of expectation' in the literature (statements 1 and 2) and 'override', called 'concessive opposition' (statement 3): (1) Although he studied diligently, he failed the exam. (2) Although he couldn't really afford it, he bought me a beautiful gift. (3) Although it is early and I am still tired, I get out of bed to go to synagogue to pray with a minyan. A concessive statement asserts two points: first, that the main clause, not-C, is true; and second, that in light of the circumstance in the dependent clause, it is surprising that the main clause is true. Concessive statements cannot be modeled in First Order Predicate Logic for two reasons: first, because the 'although – nevertheless' sentential connective is not truth-functional; and second, because the inferential link 'A implies C' is a defeasible implication. This research analyzes examples of concessive statements from the Talmud and later commentaries using the aspects of presupposition (hava-amina) and conclusion (ka mashma lan) and the analysis of weighing the reasons for and against a conclusion. We offer a categorization of concessive statements based on this analysis.

PHYSICAL THERAPY

PT01: Weiner, S., Biegeleisen, L., Datta, K., Friedman, D., Jung, G., Levy, R., Vy, J.T.

The Relationship between the Knowledge, Attitudes and Beliefs of Doctor of Physical Therapy (DPT) Students and their Faculty on Low Back Pain

BACKGROUND/PURPOSE: Low back pain (LBP) is a prevalent condition. Evidence shows that patient fear avoidance beliefs (FABs) are influenced by clinician FABs. It is unclear how PTs form their LBP beliefs. This study compared DPT student and faculty FABs. We hypothesized there would be no significant difference in beliefs between faculty and students or among students in different years of study. PARTICIPANTS: DPT faculty and students at different points in their six-semester training at three campuses (Manhattan, Bay Shore, NY Medical College). MATERIALS/METHODS: All eligible subjects were invited to complete an online anonymous 14-item survey to assess LBP FABs. Responses to each

question were on a six point Likert scale (1= do not agree at all; 6= completely agree). Data were analyzed using descriptive statistics. Mean scores were compared between faculty and students in each year of training. RESULTS: The response rate was: faculty 62.2% (28/45) and students 52.9% (199/376). The results showed statistically significant differences between faculty and student responses for ten questions (semester 1) and one question (semester 6). CONCLUSION: DPT students express greater LBP FABs than faculty early on, which are modified as a result of training. Faculty has a strong influence on student beliefs. Ensuring that DPT faculty is well versed in best evidence LBP care is crucial as they have a strong influence on student beliefs. CLINICAL RELEVANCE: Clinicians with higher FABs are more likely to follow a biomedical model of care than those practicing a biopsychosocial approach, associated with better patient outcomes.

PT02: Hayes, J., Sofer, R., Cilla, E., Lange, S., Ogunkorode, M., Sowinski, M., Virobyan, A., Ward, J.

Comparison of the Brief BESTest, Four Square Step, 360 Degree Turn, and the Activities Balance Confidence Tests to Screen for Fall Risks in the Outpatient Setting

Background: Falls are an ongoing concern in healthcare due to the costs and devastating effects of falls-related injuries. Purpose: This study screened patients for falls risk not typically assessed in outpatient settings. Concurrent validity for the newer Brief BESTest (BBT) scores were compared with other balance measures. Subjects: Participants were between 21-89 years old who were being treated for musculoskeletal impairments and had no known falls risk. Materials/Methods: This Touro SHSIRB approved study assessed the BBT scores of patients receiving physical therapy outpatient services and compared them to other balance measures (e.g. Four Square Step[FSST]; Tandem Stance; 360degree turn; and the Activities Balance Confidence scale. In addition, numeric pain rating scale and demographic information (age, gender, diagnoses) was collected. Spearman correlation between outcome measures and comparisons between diagnoses (upper; lower extremity; trunk) for the BBT. Results: Strong associations between BBT and FSST ($r = -0.732$ (45), $p < 0.001$), and BBT and 360o turn ($r = -0.598$ (45), $p < 0.001$) were noted. Age correlated moderately with BBT scores ($r = -0.514$ (45), $p < 0.001$), although more in females ($r = -0.619$ (22) $p = 0.002$) than in males ($r = -0.418$, $p = 0.47$). Conclusions: There is a particular need to screen women for falls risk in the outpatient orthopedic clinic, as suggested by BBT and FSST scores. There is a strong to moderate/good association between BBT/FSST and for BBT/360o turn, respectively. Clinical Relevance: Physical therapists in outpatient orthopedic clinics should screen women aged 65+ for falls risk, independent of diagnosis. The BBT & FSST are appropriate assessments to identify this population.

PT03: Andersen, E., Biala, O., Blackwell, S., Irace, R., Nair, K., Pakter, A., Troiano, R., Corio, F.

Effects of Metronome on Gait Symmetry in Subjects with Lower Limb Loss

Purpose/Hypothesis: This study investigated the use of a metronome to facilitate a more symmetrical gait for individuals with lower limb loss. Subjects: Snowball sampling recruited 8 subjects between 18-80 years old with lower limb loss who had been wearing their prosthesis for at least six months. Materials/Methods: This IRB-approved Touro study assessed gait of individuals divided into three groups: a) a control group (n=3) with unchanged walking routines, b) an experimental group that walked 15 minutes, 4 times/week (WGNM, n=2), and c) an experimental group that walked with a metronome using the same schedule (WGWM, n=3). Gait characteristics (including step time, cycle time, step length, and swing phase) were assessed using the GaitRite System at pre- and at 6 weeks post-intervention.

Symmetry was measured by taking the difference between prosthetic and sound extremity parameters and then compared at pre- versus post- intervention and assessed via nonparametric methods (Wilcoxon, 95% probability, 2 tailed). Results: WGWM group had a modest albeit not significant improvement (243 msec difference) in the symmetry of cycle time compared to the WGNM and control groups. No other notable changes were noted among groups. Conclusions: Mean changes in cycle time but no other gait parameter assessed appeared to be changed with metronome use as part of a walking program. Clinical Relevance: This pilot study does not strongly support the use of a metronome as a facilitative auditory cueing device to improve gait symmetry in individuals with lower limb loss.

PT04: Neumann, C.E., Baumgardner, M., Bussiere-Mongeau, N., Dyckman, S.L., Park, J., Quinn, J.M., Volmar, V.

Clinical Instructors' Perceptions of Key Learning Behaviors in Geriatric Settings

BACKGROUND: Five student behaviors: communication/interpersonal skills, professionalism, clinical competence / excellence, safety, and intrapersonal skills have been suggested to be key attributes that clinical instructors (CIs) wish physical therapy students to adopt (Neumann et al. 2011). PURPOSE: The current study expanded this inquiry to a larger pool of geriatric-based CIs to identify consensus among other CIs in the same clinical setting. SUBJECTS: Subjects were chosen by convenience sampling from Touro College's DPT clinical affiliation database and APTA geriatric listserv. Inclusion criteria required experienced CIs in the geriatric setting to complete at least 80% of survey. METHODS: Respondents were asked to rank the five key determinants in order of importance, as well as to rate their level of agreement to statements incorporating operational definitions for each determinant. Friedmans test was used to compare summated ranked responses. Distribution curves of responses grouped by thematic subdomains were assessed. Left skewed responses indicated greater agreement with definitions. RESULTS: Survey responses ranked safety as the most important theme (30 out of 55 total, $p < 0.001$). All 15 statements demonstrated a left-skewed distribution (clinical competence= -16.39, communication= -20.00, intrapersonal skills= -16.41, professionalism= -20.56, safety= -10.30). 58.2% of participants agreed that their practice setting influenced their responses. DISCUSSION/CLINICAL RELEVANCE: The current results support earlier pilot findings that specific learning behaviors are held in higher regard than others unique to the geriatric clinical experience. Educational emphasis of these concepts, such as safe methods when working with the older patient population, will better prepare students for these settings.

PT05: Hamilton, H., McIlvaine, C., Michielutti, P., Stanley, J., Williams, L., Reddin, V.

Learning the Skeleton: Is the Jigsaw Method of Peer Teaching an Effective Way for Students to Learn the Human Skeleton

In the face of an ever-growing health care field and continually advancing technology, it is necessary to examine the knowledge base of future health care workers and ensure the education being provided at entry-level is adequate. Lecture learning is the most common method used by university and college professors for disseminating information to students. However, this teaching style does not address the needs of all learners. Previous studies showed collaborative learning to be as effective as lecture based learning. Peer teaching Jigsaw method specifically is reported to provide a collaborative group work experience and comparable grades to traditional methods in primary education, university level, and entry level settings. The purpose of this study was to determine the effectiveness of the Jigsaw method in teaching health care students the human skeleton. To determine this, the Osteology Exam scores of

PT and OT students who learned using the Jigsaw method were collected and compared to students who learned via traditional lecture in previous years. Data was collected during the Fall semester of 2013, 2014, and 2015 for students enrolled in HS 402/305: Anatomy at Touro College. Data was analyzed using SPSS software. Mean scores of 85.24(n=62) and 89.47(n=121) on the Osteology Exam were found for the Jigsaw group and the traditional lecture group, respectively. A Mann-Whitney U test was used to analyze the means of each group, and a significant difference was found; $z=-2.792$, $p<0.05$; indicating lecture to be a more effective way of learning health care students the human skeleton.

PT06: Chan, V., Hudson, L., Petroski, L., Ramnarain, B., Tennie, T., Viets, N., Trebbing, S., Burke, C., Voltmer, C., Kume, J.

Large Amplitude Movement Interventions for Adults with Parkinson's Disease to Improve Functional Outcome Measures in Ambulation and Balance

Purpose/Hypothesis: Intensive physical therapy interventions focused on large amplitude movements (LAM) have been indicated to combat gait and balance deficits associated with Parkinson's Disease (PD). Often intensive physical therapy regimens are unrealistic for a PD population. This study examines the efficacy of a LAM protocol that is performed twice per week for 4 weeks. Methods: Subjects with PD were recruited via convenience sampling (N=7). Inclusion criteria required a diagnosis of PD; subjects received physical therapy services at the facility, and subjects were cognitively capable to understand simple directions. Pre and post intervention assessments were conducted at evaluation and the final visit and included the Timed Up and Go (TUG), the Mini-BESTest, the activities based confidence scale (ABC) and gait characteristics (GAITrite™). Patients were classified using Hoehn and Yahr (H&Y) stages to discern results based on disease severity (Stage 2, n=1; stage 3, n=5; stage 4, n=1). A typical treatment incorporated balance exercises, lower quarter stretching and strengthening, LAM functional exercises and treadmill training. Data analysis was performed using SPSS. Results: Participants saw no statistically significant post-treatment improvements in gait characteristics or TUG, Mini-BESTest and ABC scale scores. Conclusion: This study suggests conservative LAM physical therapy protocol is unable to elicit significant improvements in gait and balance in patients with PD. Clinical Relevance: Although not statistically significant, improvements were noted in mean velocity, step length, Mini-BESTest scores and ABC scores in more severely presenting participants (H&Y stage 3), suggesting that a LAM protocol may be indicated for patients with severe PD.

PT07: Lopez, A., Kume, J., Marckesano, P., Passeri, K., Perrino, M., Schwartz, S., Torre, K., Wahl, A.

Efficacy of a Composite Exercise Program on Functionality of Children with Autism Spectrum Disorder

PURPOSE/HYPOTHESIS: This study examined if a structured 12 week composite functional exercise program would improve the fine and gross motor skills of adolescent and teenage children with ASD. SUBJECTS: Children (aged 8-16) were recruited through snowball sampling. Inclusion criteria included having a diagnosis of ASD. Exclusion criteria included inability to ambulate 25 feet, to follow brief commands, and pre-existing contraindicated medical condition(s). MATERIAL/METHODS: Children with ASD (N=6) were recruited from 2014-2015 via snowball sampling to complete a 12 week after-school exercise program on the premises of Inclusive Sports Fitness. The program consisted of five activities including sports, yoga, social skills group, and a metronome program offered twice a week (1.5h per session). Pre- and post- assessment was done using all 8 subtests of the Bruininks-Oseretsky, version 2 (BOT-2) and raw scores were converted to standard scores using a conversion software (Pearson™).

Data analysis using Wilcoxon (2 tailed, 95% probability) for individual subtests, composite fine, gross, and total motor standard scores was performed; similar analyses using the raw point scores from the same trial was reported previously. RESULTS: Total composite BOT-2 standard scores did not show significant improvement following intervention despite the 9% increase in the pooled dataset. When assessed separately, significant (23%) improvement in composite gross motor standard scores were demonstrated ($p < 0.05$); significantly for the “strength and agility” subtest ($p < 0.05$). CONCLUSIONS/CLINICAL RELEVANCE: This composite exercise program significantly improved gross motor function for children diagnosed with ASD suggesting this type of program may be an effective strategy for improving functional task performance in children with ASD.

PT08: Horbacewicz, J., Barresi, J., Bronchtain, R., Genuth, A., Gordon, Y., Rosen, E., Shmidman, H., Bensinger-Brody, Y.

The Effects of the Educate 2B Classroom Yoga and Mindfulness Program on Children with Autism Spectrum Disorder in the School Setting

PURPOSE/HYPOTHESIS: Children with autism spectrum disorders (ASD) have deficits in motor performance, and behavior which may impede ability to function in the classroom. The purpose of this study is to examine the effect of a yoga and mindfulness program on motor performance and behavior in children with ASD. SUBJECTS: Twenty participants (18M, 2F) with varying levels of ASD were recruited from 4 classrooms. METHODS AND MATERIALS: Two classrooms were assigned to the experimental group and 2 were the control. Teachers in the experimental group were instructed in 15 Educate2B Yoga and Mindfulness techniques. The experimental group partook in 2 minute yoga/mindfulness interventions 3 times a day for 11 weeks. Participants were assessed using the Devereux Student Strengths Assessment (DESSA) mini to assess psychosocial functioning and the Motor Assessment Battery for Children (M-ABC-2). RESULTS: The Mann Whitney U Test determined group equivalence. For the MABC-2, there was no significant difference in pre-test scores but a significant difference in post-test scores ($p < 0.05$), with the experimental group showing greater improvement. For the DESSA-mini, there was no significant difference for both pre and post scores. The Wilcoxon Signed Rank Test determined within group differences. For the DESSA-mini, there was a significant improvement ($p < 0.05$) within the experimental group from pre-test to post-test. CONCLUSIONS: Children with ASD receiving the yoga and mindfulness program demonstrated improvements in DESSA-mini and MABC-2 scores. CLINICAL RELEVANCE: The Educate 2B Yoga and Mindfulness Program is a practical 2 minute intervention that can be incorporated into the school day to improve motor performance and behavior.

PT09: Horbacewicz, J., Banner, S., Chung, R., Katz, D., Marcus, R., Powers, L., Salamon, A., Yu, J.

The Association between Non-Traumatic Overuse Injuries and External Factors in Recreational Cyclists

PURPOSE/HYPOTHESIS: The repetitive nature of cycling may put recreational cyclists at risk for overuse injuries. The purpose of this study is to identify common overuse injury sites and establish the association between external factors and overuse injuries. SUBJECTS: 983 respondents participated. 82 (51 M, 31 F) met the inclusion criteria. METHODS: Participants completed a survey about cycling-related pain, hours cycled per week, age, gender, height, BMI, indoor vs. outdoor cycling time, participation in other sports and shoe wear. Chi-square tests were conducted to determine associations between pain regions and external factors. RESULTS: 56 percent reported cycling-related pain. Knee pain was most common (32.6 percent) followed by mid-thigh/quadriceps (24 percent). Respondents with knee pain

also all reported playing another sport. Of the 8 respondents cycling 8-14 hrs/wk, half reported buttocks pain. There was a significant association ($p=0.001$) between calf pain and height of 150-159cm and calf pain and female gender ($p=0.009$). Elbow pain was significantly associated with BMI of 25-29.9 ($p=0.003$). Quadriceps pain was significantly associated with BMI > 30 ($p=0.001$). CONCLUSIONS: For the majority of respondents, recreational cycling did not cause significant overuse pain in any one area nor were external factors studied associated with that pain. Gender, height, BMI, playing another sport and hours cycled per week may play a role in cycling-related overuse pain in certain body regions. CLINICAL RELEVANCE: Recreational cycling appears to be a relatively safe form of exercise with low risk of overuse injury. For those that did experience overuse pain, most external factors studied were not associated with that pain.

PT10: Schreyer, R., Ajifowobaje, O., Ackerman, Y., Lam, V., Natanov, R., Owusu, Y., Wu, A., Garcia, R.K.

The Effects of Physical Therapist Motivational Styles on Motor Output in Healthy Individuals and Individuals with Parkinson's Disease

PURPOSE/HYPOTHESIS: Different motivation styles affect people in various ways. The purpose was to examine the effects of high energy motivation (Hm) versus low energy (Lm) motivational styles on grip strength in individuals with Parkinson's Disease (PD) and an age-matched healthy population. We examined the differences between motivational styles within groups and between groups. We hypothesized that there will be significant differences in grip strength when comparing Hm motivation versus Lm in healthy individuals and individuals with PD. There will be a difference in grip strength between individuals with PD and healthy individuals. SUBJECTS: 101 healthy participants and 13 participants with PD were recruited. MATERIALS/METHODS: Participants squeezed a JAMAR handheld dynamometer for 5 seconds under 4 different conditions (pre-test, Hm, Lm, post-test) for 3 trials with a 30 second break in between trials. Motivational styles were randomly assigned by a coin flip. RESULTS: No significance was seen between aged-matched healthy individuals with individuals with PD. Both the healthy individuals and individuals with PD mean grip strength (lbs) scores (28.88, 23.06) increased with high motivation. Significance was found in Hm vs Lm in healthy individuals ($p<.012$) and pre-test vs Hm in individuals with PD ($p = .008$). CONCLUSION: High motivation was found to be more effective in increasing motor output in healthy individuals and individuals with PD. Individuals with PD showed no fatigue when compared to healthy individuals. CLINICAL RELEVANCE: High motivational encouragement can increase processing speed and motor output in individuals with PD.

PT11: Euaparadorn, E., Cherne, V., Mieszkowski, J., Park, J., Pohl, A., Rubanyuk, T., Vouyiouklis, S., Garcia, R.K.

A Clinical Prediction Rule (CPR) to Identify Subjects with Ankle Eversion Weakness most Likely to Benefit from a High-Velocity Low-Amplitude Technique (HVLAT)

PURPOSE/HYPOTHESIS: This study's purpose was to derive a CPR to predict the probability of subjects with ankle eversion weakness most likely to benefit from a HVLAT. SUBJECTS: 38 subjects recruited from Touro College School of Health Science and Aspire Physical Therapy. MATERIALS/METHODS: Prior to receiving a HVLAT, ankle and hip ROM were measured with a goniometer. Ankle eversion and hip strength were measured with a hand-held dynamometer. Lumbar ROM was measured with a valid and reliable iPhone app inclinometer. Multifidus strength was assessed via palpation by an expert physical therapist. Following the HVLAT, ankle eversion strength was re-measured. RESULTS: After assessing pre and post ankle eversion strength, subjects were divided into a success or failure group. A correlation for

right and left ankle strength as well as differences between groups for right ankle eversion strength yielded no significant findings. Therefore, no variables could be retained as potential prediction variables. An independent t-test showed significant differences between the success and failure groups for the means of left hip flexion strength (success = 28.74 ± 7.02 ; failure = 22.91 ± 8.31), right hip flexion strength (success = 29.36 ± 7.33 ; failure = 23.46 ± 8.87), and right hip extension strength (success = 29.88 ± 7.99 ; failure = 22.44 ± 6.32). CONCLUSION: Though a CPR could not be developed, significant differences between variables for outcomes on the left side compared to the right side indicate the need for further research. CLINICAL RELEVANCE: Weakness of bilateral hip flexors and left hip extensors may be an indication to perform a HVLAT for those with ankle everter weakness.

PT12: Marks, T., Berger, C., Calamonic, J., Gindi, D., Nefas-Kalimi, S., Parmar, A., and Garcia, R.K.

The Effect of Body Position on Incentive Spirometry Values in Healthy Subjects

PURPOSE/HYPOTHESIS: The purpose of this study was to determine the effect of body position on incentive spirometry (IS) values in healthy participants. We hypothesized that sitting supported will achieve IS values higher than any of the other positions tested. SUBJECTS: A sample of convenience included 81 (50 female, 31 male, age 27.6 ± 8 years) healthy participants. METHODS: Participants were tested in five positions: Fowler's (F), right side lying (RSL), left side lying (LSL), seated unsupported (SU), and seated supported (SS). Participants performed five trials of IS in each position in a randomized order. The IS values (mL) were recorded and averaged for data analysis. RESULTS: A significant difference in IS values was observed between the SU position and LSL and RSL positions ($p < .018$). All other testing positions had a significant difference only when compared to LSL ($p < .002$). The SU position had the greatest mean IS value (2459.88 ± 101.4 mL), followed closely by F (2439.51 ± 95.5 mL) and SS (2433.33 ± 100.4 mL), respectively. The SU position was described by the most participants as the most comfortable position to perform IS (34%). CONCLUSION: The findings of this study seem to imply that the SU position is most optimal for IS performance. All seated positions and F position yielded better results than side lying. Further research is necessary to assess the effects of body position on postoperative patients. CLINICAL RELEVANCE: When using IS in clinical practice, upright positions, especially SU, may yield higher IS values.

PHYSICIAN ASSISTANT

PA01: Felton, H.A.

A Comparison of Cadaver and Computer Learning Techniques in Teaching Anatomy to Physician Assistant Students

The purpose of this study was to determine the effectiveness of computer-assisted learning in teaching clinical anatomy to Physician Assistant (PA) students at Touro College. Study participants were students enrolled in the PA program. Hypothesis- Student performance will not decrease secondary to the use of computer assisted software in order to teach anatomy. Methodology- There were 179 students that participated in the study. Each participant completed the course either with anatomical instruction by cadaver dissection or by utilizing anatomical dissection software. The design that this researcher felt would most benefit the project was the post-test only control group design. Results-There was a significant difference in the student's course grades which was dependent on the type of learning method utilized. Conclusion- The use of dissection anatomical software appears to be more effective for teaching and understanding clinical anatomy than cadaver dissection.

PA02: Felton, H.A., Gould, J.S.

Remediation: A Path to Success?

The purpose of this study was to determine the effectiveness of a remediation program in the clinical year for Physician Assistant (PA) students at Touro College who were struggling academically. Study participants were students enrolled in the Manhattan PA program. Hypothesis- Remediation will improve student performance in future rotations as evidenced by improvement in end of rotation and comprehensive examination scores. Methodology- There were 24 student's records that were involved in this study. Each participant completed remediation. The student areas of weakness were determined by evaluation of past examinations and a review program was designed around their individual weaknesses. The design that this researcher felt would most benefit the project was the pre and post-test group design. Results-There was a significant difference in the student's end of rotation and comprehensive exam grades after completing the five week remediation cycle. Conclusion- Remediation provided academic challenged students that were in danger of failing a chance to improve and strengthen their deficiencies. The five week period did not affect their graduation date. The program also improved their self-confidence, test taking and presentation skills.

PA03: Felton, H., Middleton, S.

Instant Gratification: Help or Hindrance? PA Students Attitudes towards Immediate Grade Results

The purpose of this study was to determine Physician Assistant (PA) students at Touro College Manhattan Campus attitudes towards instant grade notification. Study participants were senior students enrolled in the PA program. Traditionally, PA students had to wait up to one week to receive their end of rotation exam (EORE) grade. Hypothesis- Student satisfaction will increase secondary to the use of computer assisted testing software in order to give instant grading feedback of their exams. Methodology- There were 45 students that participated in the study. Each participant completed the examination and then received an instant exam results once the exam was completed. The design that these researchers felt would most benefit the project was the post-test only control group design. Results-There was a significant difference in the student's satisfaction in the reporting of their exam grades. Conclusion- The use of exam software appears to increase the favorability rating of the majority of student's exam experience and feedback.

POLITICAL SCIENCE

PS01: Pacht, L.

Correcting Corrections

Since the 1960s, class action litigation and consent decrees have played important roles in correcting unconstitutional prison conditions. Beginning in the 1970s, prison systems throughout the country were placed under court order, with courts overseeing the overhaul of unconstitutional conditions. While the 1996 Prison Litigation Reform Act (PLRA) decreased the number of inmate suits and consent decrees, it also institutionalized litigation as a government-sanctioned compliance mechanism to deal with ongoing constitutional violations at prisons. Current prison problems suggest that although conditions have improved since the 1960s, non-compliance in prisons remains a problem today. Several characteristics of prison administration and corrections departmental culture inherently impede compliance, making it easy for violations to arise and difficult for violations to be cured. Additionally, weaknesses in the

management structure render prisons unable to reliably achieve constitutional compliance. Corrections reform tends to be submerged by the broader political process, providing that legislators are not motivated to promote compliance. Therefore, judicial involvement has become a crucial part of prison reform. Establishing a compliance system independent of the executive branch would allow the judiciary to minimize violations before they become systematic and promote overall constitutional compliance in prisons.

PSYCHOLOGY

Psy01: Indelicato, J., Treybich, S., Herman, S.

Race and Age as Factors in Breast Cancer Assessment

Nearly 1.7 million new breast cancer cases were diagnosed in 2012 in the United States. Breast cancer is the second most common cancer in women and men worldwide. In 2012, it represented about 12 percent of all new cancer cases and 25 percent of all cancers in women. The purpose of this study is to examine the connection between race, age, and breast cancer assessment. The study involved 11,414 women who were going for mammograms. Of these women 63.9 percent were earning over 70,000 a year, and 61.8 percent had graduated college. A government breast cancer assessment tool was used to evaluate the risk of breast cancer in the next five years (<http://www.cancer.gov/bcrisktool/>). 40% of White women had biopsies done, and 5.1% were positive, while 32.4% of African American Women had biopsies, and only 3.0 % were positive, and was an even lower rate of positive biopsies with Hispanics (2.2%). Since race plays a role in getting Breast Cancer assessment by biopsies. This screening could lead to early detection which may be a reason why survival rates are much higher in whites. Late detection increases risk of death. White women are likely getting a higher rate of positive biopsies because of early examination and gene screening which leads greater likelihood of positive biopsies. African American women are more likely diagnosed at a later stage because of their higher risk of Triple Negative Breast Cancer which leaves doctor with less awareness of their risk of breast cancer.

Psy02: Khan, N.

Psycho-Stimulant Drug Abuse among College Students

This literature review will investigate recent research on college student's usage of non-medical psycho-stimulant drug and examine the sources of getting these drugs. . The non-medical use of prescription drugs (NMUPD) is a growing public health concern. College students have been identified as a particularly at risk population for engagement in NMUPD. Across all prescription drug classes, stimulants show the highest ratio of illicit to medical use and are key to examine within this population. In this investigation the medical use, illicit use, and diversion of stimulant prescription medication was examined. This study is looking at articles from 2006 through February, 2016, Studies indicate that the prevalence rate for illicit use within the past year was highest for pain medication, followed by stimulant medication, sedative or anxiety medication, and sleeping medication. Women generally reported higher past-year medical use rates. However, undergraduate men reported higher illicit use rates. The illicit use-medical versus the use ratio for stimulant medication was the highest among the 4 classes of prescription drugs. Medical users of stimulants for attention deficit hyperactivity disorder were the most likely to be approached to divert their medication. Multivariate results indicated that illicit users of prescription drugs were more likely to use other drugs than were students who did not use prescription drugs illicitly. The studies provide evidence that psycho-stimulant prescription drug abuse is a problem among college students and a major contributor are relative and friends.

Psy03: Aleman, S., Indelicato, J.

Community Attitudes Toward the Mentally: Comparison of Students in the Programs, of Nursing, Physical Therapy, Occupational Therapy, and Undergraduates

The Community Attitudes Towards the Mentally Ill Scale (CAMI) aides in understanding a populations' attitudes, and views toward the mentally ill and their health care treatments. Individual's attitudes and knowledge toward those with intellectual disabilities, mental disturbances or other disorders classified under the category of mentally ill, can be very limited. Some mentally ill people are not receiving the proper services or care needed. This limited or lack of care can be traced to biases or professionals towards them. These biases affects their treatment within the community, and neighborhoods but it goes as far as reaching the health care system, insurance coverage, and our societies further stigmatizing them and making them outcasts. This study compares health science students interested in in professions like Occupational Therapy, Physical Therapy, and Nursing. It compares students views in four sub-tests; authoritarianism, benevolence/compassion, social restrictiveness and Community Mental Health Ideology which in turn may affect short and long term treatments of individuals with any kind of mental illness. Results like this are important because we need to see where we need to educate students, and how to target areas of prejudice. Targeting students' may help educators reduce the stigma of future professions early on to lessen stigma, authoritarian views, and encourage a more compassion and understanding viewpoint once they are practicing professions. This pilot study will aide educators to improve the treatment of the mentally ill, and give positive results in within the individual, families, schools, and communities, by establishing a baseline.

Psy04: Fleuranvil, K, Indelicato, J.

Physicians Attitudes toward Female Patients

This paper is to examine the different attitudes, behavior, and knowledge that gender of physicians display in regards to female patients, specifically in the role that it may play in obesity control. Physicians' knowledge and attitudes plays a major role in their rapport with their patients, and that affects their practices towards obesity prevention and management. Male physicians hold different attitudes and priorities when it comes to female patients; in regards to weight issues, ovarian and breast cancer which are different than their female colleagues. In addition these relations to their females patients depend on the age, social class, and physical attributes of the patients. The attitude of physicians towards female obese patients has been reported to be one main source of weight stigma. 682 health care professionals of a large German University hospital were asked to fill a questionnaire on stigmatizing attitudes of obesity, 25% graded current health care obese patients to be good, and however 63% strongly believed that it was often difficult to get the resources needed. They generally viewed the females negatively due to their obesity, seeing them as responsible. Physicians are often concerned with other medical issues that are far less common than obesity in women such as breast cancer, and ovarian cancer. The attitude of those physicians who participated in the survey showed a reasonable level of interest in their attitudes to help women overcome obesity.

Psy05: Butler, S.

Observation of Staff Communication with Cognitively Disabled Adults

Recent studies in the United States discover that about one in six adolescences ages of 3 to 17 years old have one or more developmental disabilities. These developmental disabilities are most commonly involving impairment in physical, learning, language, or behavior areas. These disabilities can at times be

detected at an early age and with modern medical techniques, some can be predicted before birth. It impacts a person's lifestyle on daily basis and generally lasts throughout a person's lifespan. There is a lack of knowledge full spectrum of staff communication with individuals with cognitive and physical disabilities. Research has typically focused only on verbal communication and not examining, body language, and tone. These other forms of interaction, affect the individuals with disabilities. This study looks into the both verbiage being used, and non-verbal techniques to address these individuals. While the effect of training supervisors to use positive verbal reinforcement on employee job satisfaction in occupational fields, it is one of the commonly researched area, looking in the same area with mentally disabled is rare. This study looks at the nexus of the communication between frontline staff and these individuals.

Psy06: Grieco, M.

Can Sports and Physical Activity Treat Autism

While there has been a great deal written about the effects of Physical Activity on children with Autism, there remains a lack of consensus on the topic. Studies have been conducted using swimming, golf, karate, yoga, and surfing. There has been some research indicating that focused physical activity requiring both physical stamina and mental focus may aid those diagnosed with autism. This study will examine areas of cognitive focus in different sports and physical activities looking for commonality to better understand the mechanisms involved in the interventions. This paper will examine the research literature focusing on peer review articles from 2005-2015 which involve experiments with the individual with autism of 18 and younger describing where an intervention involving sport or significant physical activity was involved. There have been a number of different measures used to evaluate success. This poster will focus on those articles which use objective measure as criterion, and experimental designs. This researcher reviewed Google/Scholar, and Proquest, under peer review articles only. Key words used in the search are autism, sports, focus, concentration, and vestibular stimulation. Studies will be compared using meta-analytical techniques, which will compare dependent measures across the studies where applicable.

Psy07: Pak, T., Hoang, V., Franco, S.

Treatment of Psychogenic Dysphonia

Psychogenic dysphonia (PD) is a psychiatric disorder with an inability to speak in the absence of an organic cause. Despite its significant morbidity, there is no standard of care. Frustrations stem from alleviating physical symptoms that are rooted in non-organic causes. We discuss treatment modalities that have shown success in the literature and novel treatment approaches. Psychogenic movement disorders (PMDs) often have comorbid psychiatric disorders. Treating comorbid psychiatric disorders may be beneficial. This is promising as while there is no specific pharmacotherapy for PMDs, pharmacotherapies with known efficacies may improve morbidity, if not cure the potentially underlying etiology altogether. A review of the literature suggests psychotherapy is the most extensively studied treatment modality for PMDs. In one study of PD, the treatment group that received a combination of psychotherapy and voice therapy saw the greatest benefit. The improvement of symptoms with voice therapy hints at increased suggestibility in PMDs. Voice therapy may function like a placebo. Pursuing placebo treatment may be fruitful as some propose there are neurobiological similarities between PMDs and highly suggestible states. There are alternative approaches to psychotherapy. Transcranial magnetic stimulation has shown promising results in psychogenic tremor and paralysis. Additionally, transcutaneous electrical nerve stimulation has also been shown to improve symptoms in PMDs. These therapies are promising as they are minimally invasive and safe alternatives to psychotherapy. However,

whether these therapies physically alter neurologic pathways involved in PMDs or if they act as a placebo in already highly suggestible patients remains yet to be determined.

SOCIAL WORKER

SW01: Chen, F., Samet, S., Gorroochurn, P., O'Hara, K.M.

Characterizing Factors of Employment Status in Persons with Major Depressive Disorder

Background: Employment is fundamental to mental health recovery. Despite this, studies show that most consumers of mental health services express the desire to work, but receive less employment guidance compared to guidance in other domains. Aim: To construct a parsimonious profile indicating employment potential of people with major depressive disorder (MDD) to inform assessment of employment readiness and service delivery. Methods: Data were drawn from a national longitudinal study. Face-to-face interviews were conducted in 2001-2002; follow-up was conducted in 2004-2005. We included participants with baseline MDD who were interviewed at follow-up (N=2,864). Classification and Regression Trees (CART) analysis of 32 risk and protective factors was used to identify key predictors of employment at follow-up. Results: There were significant differences in 27 of the 32 factors between the employed and unemployed groups at follow-up. The most important predictors of employment at follow-up were employment at baseline, motivation to work shown in active work-seeking, and functional health status. Among those unemployed at baseline, 51% of those motivated to work were likely to be employed at follow-up, compared to 17.1% of those not motivated to work. Among those unemployed and motivated to work, better functional mental health was predictive of employment. Conclusions: At the practice level, results highlight the importance of considering motivation to work, shown in active work-seeking, when assessing readiness to work. For programming and service provision, we recommend vocational services for higher functioning mental health consumers with a stated interest in employment or engagement in work-seeking, despite clinical conditions.

SW02: Kwong, K.M.K.

The Effects of Poverty, Parental Immigration Status, and Reverse-Migration Separation on the Developmental Challenges of Young Children in Chinese Immigrant Families

The present study assessed the effects of poverty, parental immigration status, and disrupted relocation circumstances on child development and psychological well-beings of Chinese immigrant families in New York City. Focus groups and key informant interviews were conducted with a total of 20 participants including healthcare providers, teachers, guidance counselors, mental health clinicians, and child and family service practitioners. Thematic analysis approach was used to analyze and encoding qualitative information to discover pattern and develop themes. The analytical process was based on immersion in the narrative data, making notes, and sorting data into codes and categories. Findings revealed specific themes that included (1) level of stress Chinese immigrant parents experienced when raising young children; (2) possible effects of circumstances surrounding separation and reunification, parental immigration status, and availability of resources, on child behaviors and family well-beings; and (3) possible interventions, services, or practical tools that service providers can use to help these vulnerable families. This study adds to the much needed literature on specific needs of these hard-to-reach vulnerable immigrant populations by looking specifically what unique circumstances related to reverse-

migration separation, parenting practice, and related family risk factors that may impact on parent-child relationship, child behavior, and parent well-being.

SW03: Kheyson, A.

Transgenerational Trauma Theories of Transmission

Working with the Holocaust Survivor's, family interaction is commonly present in clinical practice. The transmission of trauma can be traced through Holocaust survivor's relations with their family members and family dynamics. Parental transmission of trauma in the Holocaust Survivor population has been discussed in the literature. Theories of transmission suggest two distinct forms "direct and specific" and "indirect and general". Direct transmission of trauma has been observed in offspring born between 1945 and 1955, particularly among only child born to Holocaust survivors, replacement children, and children who's parents were severely traumatized in displacement or hiding. Studies reveal that transgenerational trauma has been seen in 2nd and 3rd generation offspring. This study will explore trauma transmission through multiple theoretical lens (1) psychodynamic theory- emotions that could not be consciously experienced by the first generation are given over to the second generation, (2) sociocultural - passing down of social norms and beliefs from one generation to generation is well described in social psychology, (3) family systems- unconscious and conscious transmission of parental traumatization always takes place in a certain family environment, which is assumed to effect a major impact on the children, and (4) biological theory – perspective that genes transmit constitutional elements from parent to child and mental illness seems to have a clear hereditary etiology. The mitigating and aggravating factors of psychopathology are examined along with possible interventions that can be implemented by social workers.

SPEECH

Sp01: Yang, S., Van Lancker Sidtis, D.

Formulaic Language Performance in Left- and Right-Hemisphere Damaged Patients: Formal Testing

Purpose: Formulaic expressions - conversational speech formulas, idioms, pause fillers, conventional phrases, proverbs, expletives, and so on, constitute a considerable proportion of everyday communication. While some clinical and experimental studies have implicated a right hemisphere involvement, controversy remains surrounding cerebral processing with respect to comprehension and production of formulaic expressions. The purpose of this study was to further investigate hemispheric specialization for production and comprehension of formulaic and matched literal expressions by examining performance of individuals with unilateral brain damage compared with matched healthy controls (HC) utilizing structured tasks involving repetition, elicited speech, and comprehension. Methods: Individuals with unilateral brain damage (RHD or LHD) due to cerebro-vascular accident and matched HC participants completed five different tasks (Repetition, Multiple choice sentence completion, Free form sentence completion, Picture-matching completion, and Written multiple choice) involving conversational speech formulas, idioms & proverbs, and matched literal expressions. Results: The LHD and RHD groups showed significant differences between two types of sentences (formulaic versus literal expressions) in the free form sentence completion and picture matching tasks, but not in the repetition or multiple choice (spoken or written) tasks. Conclusions: The findings lend support to the dual process model of formulaic and literal expressions, implying a right hemisphere involvement in processing of formulaic expressions when an elicitation task for production and picture-matching for

comprehension were utilized. Despite fine-granular measures applied to the repeated exemplars, subjects did not differ in articulation or prosody in the repetition of formulas, idioms, and matched novel expressions. The results suggest the important role of task and reveal the limitations of formal testing of formulaic language.